From the Cradle to the Grave:
Infectious Disease in the Twentieth Century American Home

By

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Abstract

This dissertation focuses on the prevention and treatment of illness that occurred in American homes in the first half of the twentieth century, especially by women as part of their housekeeping and mothering roles. Since domestic medicine can be as routine as grocery shopping and as extraordinary as treating a patient with an infectious and fatal disease, this focus does not preclude the study of health care professionals, such as physicians, nurses, and social workers, as they often visited the home and directed women in their care giving roles. In fact, the practice of domestic medicine can reflect public opinions of medical authority, such as the growing acceptance of it, or, alternatively, its continued negotiation. Thus, in order to explore the centrality of women's care giving to the history of infectious disease, I focus on the advice that women received from public health departments, physicians, nurses, prescriptive literature, and other experts in an attempt to understand how they translated that into practice. Women have always been practicing domestic medicine, but the early twentieth century mortality transition highlights the ways in which domestic medicine remained both constant and constantly changing.

Acknowledgements

A dissertation that has taken as long as this one to complete owes a great debt to many people, but I will attempt express my gratitude in this criminally brief medium.

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My years in residence at the University of Wisconsin-Madison History of Science Department were full of camaraderie and fellowship that were deeply missed when finishing the dissertation halfway across the country. Despite living in several other states while finishing my dissertation, my major advisor, Judy Leavitt, never gave up on me. Her emails (usually entitled "hello out there!") always came at just the right moment to motivate me and while she should have been enjoying her retirement, she always provided thorough feedback that left me confident in the final product. Sue Lederer, as my advisor of record, always made sure the paperwork was filed and I was allowed to continue in the program, despite its transformations in the past few years. I want to include a special thanks to the memory of Ron Numbers, who encouraged me to pursue rheumatic fever as a case study. Similarly, I must thank Janet Golden, who alerted me to the collection of baby books at UCLA, which proved to be an essential source for this project. Finally, Judy Houck, Nan Enstad, and Claire Wendland stepped into the dissertation committee without a second thought and made my defense the pleasurable conversation that my advisors had promised it would be. To all of you, I want to reiterate what I said at the defense; you have been generous in your time, energy, and cheerleading to a degree I often felt like I didn't deserve.

As my father often says, "I don't know what you're doing, but I know I'm so proud of you, Bridge." Being a first-generation college student wasn't always easy, but I was brought up

knowing that not going to college was never an option. I received financial support to obtain my degrees from both friends and family. Special thanks go to Dorothy and Larry Gordon, Jack Collins, Kathryn Loup, and in the memory of my late brother Wayne Glynn Jr. I have no doubt that he would be proud to know that his legacy helped me to obtain my doctorate. I don't even know where to start thanking my amazing husband, Nick Basill. You were always just the right balance of problem solving and a shoulder to lean on – and you never let giving up be an option. When I began this project, I had no intention of becoming a mother myself, but finding a truly equal partner made me realize that being a parent was something I wanted. This dissertation is dedicated to our daughter, Hazel, for whom the thought of giving her *two* parents who were doctors was my driving force in the final months of completing this.

Introduction

In 1911, the mother of Charles Rufus Gates jotted a note at the bottom of a free baby book that her life insurance company had given her. Responding to the advice that "baby should sleep alone" she wrote "didn't know this then – but son thrived on his mother's arm and was never smothered."[1] Finding evidence, such as this, of whether someone took the advice of prescriptive literature is an uncommon occurrence, especially when the advice centered on routine household or childrearing tasks performed by women. For whatever reason, Charles' mother decided this particular piece of advice deserved a response. Over one hundred years later, the co-sleeping debate is alive and well, with the American Academy of Pediatrics warning against it, while some experts argue that co-sleeping has medical benefits to both parent and child.[2] Mrs. Gates's experience with little Charles epitomizes so many mothers' experiences throughout time, as she relied on both intuition and advice to keep her baby healthy, but it also represents a significant shift in the history of domestic medicine, as advice was increasingly professionalized and lauded as better than mother's instincts. This dissertation argues that if we go beyond prescriptive literature – to the little notes in the margins – we will discover that mothers continued to be vital to medicine in the twentieth century, including working in conversation with professional medicine and expanding their influence beyond the home.

For most of human history the prevention and treatment of disease did not require specialized education, institutions, or credentials. Even as the field of medicine professionalized,

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[1] *Congratulations* (St. Paul, MN: Brown & Bigelow, [not after 1911]) UCLA HQ779.C749 1911.

[2] https://www.aap.org/en/patient-care/safe-sleep/; James J. McKenna, *Sleeping with your Baby: A Parent's Guide to Cosleeping* (Washington D.C., Platypus Press, 2007).

it still overlapped significantly with medical practices we now call “lay” or “folk.” Many historians of medicine prefer the term “domestic medicine” to describe this category of medical practice. In 1977 historian Guenter Risse defined domestic medicine as “the diagnosis, care, and even prevention of disability and illness without direct professional medical assistance... [which] takes place most often in the privacy of one’s home.”[3] While we find examples throughout history that expand this definition, it largely holds true. It is important to remember that Risse’s definition does not define domestic medicine as not requiring expertise, but rather emphasizes that domestic medicine operates without the supervision of professional medicine. In recent years, for example, historians have found evidence of experimental science, pharmacology, and theoretical engagement within domestic medicine.[4] In addition, Risse did not preclude male domestic medicine practitioners or, for that matter, professional female healers, but rather emphasized the home as the defining characteristic.[5] Even scholarship that explores the

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[3] Guenter Risse, *Medicine Without Doctors: Home Health Care in American History* (New York: Science History Publications, 1977), 2.

[4] Elaine Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England* (Chicago: The University of Chicago Press, 2018); Edith Snook, “English Women’s Writing and Indigenous Medical Knowledge in the Early Modern Atlantic World,” in *A History of Early Modern Women’s Writing* ed. Patricia Phillippy (London: Cambridge University Press, 2018); Sharon T. Strocchia, *Forgotten Healers: Women and the Pursuit of Health in Late Renaissance Italy* (Cambridge, M.A.: Harvard University Press, 2019); Hilary Rose, “From Household to Public Knowledge, to a New Production System of Knowledge,” in *Women, Science, and Medicine, 1500-1700* eds. Lynette Hunter and Sarah Sutton (Phoenix Mill: Sutton Publishing, 1997); Lynette Hunter, “Women and Domestic Medicine: Lady Experimenters, 1570-1620,” in *Women, Science, and Medicine, 1500-1700* eds. Lynette Hunter and Sarah Sutton (Phoenix Mill: Sutton Publishing, 1997).

[5] Montserrat Cabré, “Women or Healers? Household Practices and the Categories of Health Care in Late Medieval Iberia,” *Bulletin of the History of Medicine* 82, no. 1 (Spring 2008): 18-51; Monica H. Green, “Women’s Medical Practice and Health Care in Medieval Europe,” *Signs* 14 (1989); Monica H. Green, "In Search of an ‘Authentic’ Women’s Medicine: The Strange Fates of Trota of Salerno and Hildegard of Bingen," *Dynamis: Acta Hispanica ad Medicinae Scientiarumque Historiam Illustrandam* 19 (1999); Lori Lyn Price, “Gender and Domestic Medicine: Analysis of a Seventeenth-Century Receipt Book,” (MA Thesis, Harvard University, 2016).

extension of domestic medicine to political activism, consumer activity, and health care advocacy, argues that statehouses and grocery stores were extensions of the home.[6]

Risse's essay on domestic medicine appeared as an introduction to collection of essays on "Home Health Care in American History," which was particularly focused on self-help and health reforms movements of the nineteenth century. While gender played an important role in these movements, Risse did not engage with it as a lens of analysis. This dissertation builds on his definition of domestic medicine and adds this lens of analysis, arguing that domestic medicine is, in addition to all the characteristics that Risse laid out, caregiving that has been socially constructed to be part of regular domestic labor performed by women. It can be as simple as making chicken soup and as complex as operating medical equipment. While men can perform these tasks, they are gendered female. It can happen in the doctor's office, the ballot box, or even the shopping market – but it is still socially constructed to be part of a woman's caregiving duties in protecting her family, even if indirectly as a mediator, advocate, or consumer. Voting and shopping may seem unlikely caregiving duties, but they help emphasize that domestic medicine is not ahistorical – what we believe counts as caregiving changes over time and is shaped by place.

Domestic medicine has never been a static practice, but, overall, it has enjoyed large periods of consistency and authority. This dissertation argues that women have always and continue to be the primary health care provider for their families, even into the twentieth century,

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[6] Troy Bickham, "Eating the Empire: Intersections of Food, Cookery and Imperialism in Eighteenth-Century Britain," *Past & Present* 198, no. 1 (2008): 71–109; Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge: Harvard University Press, 1998); Leslie J. Reagan, *Dangerous Pregnancies: Mothers, Disabilities, and Abortion in Modern America* (Berkeley: University of California Press, 2010).

when advances in medicine and public health changed Americans experience of health and disease. Many historians point to the first half of the twentieth century as a watershed moment in the history of medicine because the United States and other Western countries experienced significant advancements in professional medicine, a dramatic decline in mortality, and the development of new treatments that offered hopes of a "magic bullet" that could cure even the most persistent of diseases. Physicians enjoyed widespread trust and respect from their patients and, for the first time ever, Americans saw hospitals as a safe and efficacious place to seek treatment.[7] Yet, despite these changes, I argue that Americans still needed and relied on domestic medicine. Mothers continued to prevent and treat the majority of everyday health care needs, from minor wounds to home nursing.

While this dissertation emphasizes the continuity that domestic medicine has enjoyed, it also argues that women's contributions to health care have also changed in response to new theories, technologies and institutions. Domestic medicine adopted new standards of cleanliness, developed new rationales for treatments, and embraced new ways to keep families healthy. Moreover, mother's work was made even more necessary to health care due to advancements in medicine because the application of new disease prevention and treatments relied on female labor within the home. In particular, the adoption and application of the germ theory of disease depend upon mothers enforcing quarantines, acquiring vaccines, purchasing sanitary products, and replicating hospital level standards of bedside nursing. Furthermore, by examining the

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[7] Charles Rosenberg, *The Care of Strangers: The Rise of American's Hospital System* (New York: Basic Books, 1987); John C. Burnham, "American Medicine's Golden Age: What Happened To It?" *Science* 215 (1982): 1471-9; 8 Stephen Hilgartner, "The Dominant View of Popularization: Conceptual Problems, Political Uses," *Social Studies of Science* 20 (1990):519–530; Roger Cooter and Stephen Pumfrey, "Separate Spheres and Public Places: Reflections on the History of Science Popularization and Science in Popular Culture," *History of Science* 32 (1994):237–267; Paul Starr, *The Social Transformation of American Medicine* (New York: Basic Books, 1982).

relationship between domestic medicine and medical professionals we can see how knowledge was exchanged in both directions and was not just a top down transmission of information.

Finally, this dissertation seeks to highlight the ways domestic medicine, while centered in the home, expanded beyond those boundaries to political and social realms. Caregivers increasingly participated in domestic medicine by purchasing sanitary products that prevented infectious disease from finding a foothold in their homes. As women began to participate in a new health consumer revolution, they also saw their role as caregiver shift to that of advocate, both at the doctor's office and at the ballot box. This point is especially emphasized in the second half of this dissertation, as chronic disease and disability replace acute infectious diseases as a primary concern of health care. As women gained the right to vote, for example, choosing candidates that supported welfare policies could be a caregiving activity. A candidate that supported aid for families of sick children could mean the difference between keeping a disabled child at home or being forced to institutionalize them. As caregivers became health care consumers and the welfare state increasingly defined health care as a right, that consumerism could be leveraged for activism.

Each chapter of this dissertation provides evidence for continuity, change, and expansion beyond the home within domestic medicine. Chapter One focuses on a scarlet fever epidemic in Milwaukee, Wisconsin in the winter of 1935. The city responded with prevention and control methods informed by the increasingly accepted germ theory of disease, including quarantine and attempts at immunization. In particular, the city responded to rapidly increasing cases with school closures, which sent well and sick children alike home for weeks. I argue that the scale and length of the epidemic help demonstrate that new ideas about disease transmission made domestic medicine practices just as important, if not more so, than they had been just a century before. It was mothers who carried out both older remedies, such as invalid cooking and symptom relief, as well as new practices, such as hygienic cleaning and strict quarantine. They did all of this under increasing government surveillance and during the economic hardship of the Great Depression. They even negotiated novel solutions to problems, such as using the radio to home school quarantined children.

In Chapter Two I argue that the domestic medicine practices of American women, especially sanatorium practices that they implemented in the home, helped contribute to the decline of tuberculosis in the first half of the twentieth century. Unlike the 1935 scarlet fever epidemic, which lasted one winter, tuberculosis treatment could last years, and many American households adopted preventive measures to avoid the disease. In fact, the prevention of tuberculosis was so pervasive it contributed to popular decorating and architectural styles. The treatment and prevention of tuberculosis also demonstrates the persistence of older ideas about disease transmission that existed alongside bacteriological explanations. The majority of this work happened in the home, as most communities lacked the resources to offer a sanitorium bed for every patient that needed it. As a result, domestic medicine practices responded by melding the two in ways as varied as implementing sanitorium practices in the home and consumer habits.

Chapter Three addresses the transition from acute to chronic and disabling diseases that occurred in the mid twentieth century America. For American mothers this meant that they had to add rehabilitation and advocacy to their domestic medicine practices. As with tuberculosis, an intermediary institution emerged that combined domestic medicine practices with new scientific expertise, as convalescent homes helped children recover from the acute phase of rheumatic fever. As children returned to their homes, they faced lifelong disability and mothers responded to this shift in disease morbidity to add political advocacy to their domestic medicine practices. I argue that rheumatic fever, in particular, played a crucial and understudied role in the creation and the expansion of the welfare state as it applies to disability. As a disease that primarily affected children, rheumatic fever extended the perception of health care as a right for the disabled beyond veterans, which, in turn, allowed for a conceptualization of entitlements for everyone.

The disease perhaps most associated with disability in United States history, polio, is the focus of my fourth and final chapter. While images of iron lungs, hot springs, and vaccines most often come to mind when Americans think of polio, the typical experience of a polio patient involved just as much domestic medicine as any other intervention. Mothers still dealt with school closures, cared for permanently disabled children, and learned new treatments. One of the most popular treatments, the Kenny Method, was both a revolutionary treatment and one that would seem familiar and attainable for mothers. One important difference between polio and previous childhood diseases was the funding, development, and massive deployment of an experimental vaccine to so many children. Rather than focus on the "great men" who invented the polio vaccine, I argue that without the assistance of mothers the funding of and participation in the polio vaccine rollout would not have been as successful as it was.

I chose these four diseases because they are all infectious diseases that reached pivotal stages during the mortality transition of the mid twentieth century in America. If domestic medicine did decline, it would have been at this exact time. Scarlet fever is both common in its prevalence and distinctive its resistance to attempts by experts to find an immunization for it. The fight against tuberculosis mobilized a nation to build institutions and pass laws, yet those two responses could never meet demand and home care and consumer choices played a larger role that previously considered. Rheumatic fever is a largely unstudied disease within the history of medicine, but its role in shaping disability policies within the welfare state is significant. As a secondary infection that often occurred after a scarlet fever infection, it also allows this study of domestic medicine to follow infectious diseases as they transitioned from acute to chronic. Finally, polio represents the triumph of expert professional medicine informed by germ theory, as a vaccine saved millions of lives. While this seems, at face value a story of ascent of professional medicine and a symbol of the decline of domestic medicine, it also demonstrates how central mothers were to health care. Other infectious diseases can and should be considered, but these four were prevalent across the United States in the first half of the twentieth century.

This dissertation, while always situating its case studies within a national story, focuses on the state of Wisconsin. Firstly, this served a purpose by allowing for control over population, place, politics, and economics. The same laws that the Wisconsin legislature passed in the 1890s for scarlet fever were relevant to parents caring for their children sick with polio in the 1950s. In some cases, the very same buildings that a city used to house children sick with tuberculosis were later used to house children with rheumatic fever. Secondly, Wisconsin participated in matching programs with the federal government that not every state did. A case study that actively engaged with federal policy, while also carrying out local policies, was necessary for understanding how domestic medicine affected social policy. By focusing on one state, this dissertation can demonstrate how the history of public health is both a national and a local story.

Literature Review

The history of domestic medicine intersects with so many other fields of history that it would be impossible to engage with all of them. In this dissertation, I focus on the place of domestic medicine within the broad historical fields of gender, medicine, and American social policy. By using gender as a lens of analysis, my work adds to previous histories of domestic medicine, which, with several notable examples, focused on other aspects of its history, especially place and literacy.[8] This dissertation also engages with the broader field of the history of medicine by arguing that domestic and professional medicine are not separate and distinct medical practices, but rather are in a dynamic relationship with each other. Finally, the history of social policy has focused on the role of women, especially maternalist politics, but this work argues that domestic medicine informed these politics as well.

I owe the greatest debt to the work of Emily Abel, whose *Hearts of Wisdom: American Women Caring for Kin, 1850-1940* is one of the few historical works devoted solely to the practice of domestic medicine by women in the United States.[9] In it, Abel argues that the rise of scientific medicine did not eliminate traditional, home and family-based care giving, but rather, the nature of care giving changed in response to increasingly professionalized medicine. She pays particular attention to how care giving responsibilities could both limit and enrich women's

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[8] Risse, *Medicine Without Doctors*; Lamar Riley Murphy, *Enter the Physician: The Transformation of Domestic Medicine, 1769-1860* (Tuscaloosa: University of Alabama Press, 1991); Thomas A. Horrocks, *Popular Print and Popular Medicine: Almanacs and Health Advice in Early America* (Amherst, MA: University of Massachusetts Press, 2008); Charles E. Rosenberg, *Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene* (Baltimore: Johns Hopkins University Press, 2003); Norman Gevitz, "Domestic Medical Guides and the Drug Trade in Nineteenth-Century America," *Pharmacy in History* 32, no. 2 (1990): 51-56.

[9] Emily K. Abel, *Hearts of Wisdom: American Women Caring for Kin, 1850-1940* (Cambridge: Harvard University Press, 2000).

lives. Abel argues that as diagnosis and treatment moved to hospitals women more often interacted with institutions to obtain the best care possible for their family. This dissertation builds on Abel's argument by expanding it to understand how this transition within domestic medicine also changed expert medicine, especially the creation of allied health fields, such as occupational therapy and physical therapy.

While *Hearts of Wisdom* was one of the first historical works to focus solely on the practice of domestic medicine by women in America, it built upon a rich body of historiography related to women as both patients and practitioners of medicine. Scholarship on women and medicine primarily began in the 1970s and was overtly political, attempting to dispel the belief that female healers were inferior to physicians and focused on a narrative of exposing sexism in treatment. This often took the form of detailing the history of how obstetrics and gynecology was taken over by male physicians and female practitioners labeled as witches.[10] Soon after, however, another generation of scholars made much more nuanced arguments, including, but not limited to, documenting the history of female physicians in the United States and complicating the role that female patients played in the transformation of medical experiences, especially childbirth, in America.[11] As childbirth had occurred in the home for centuries, this scholarship was some of the first to consider medicine practiced by non-experts within the home. Judith Walzer Leavitt's *Brought to Bed: Childbearing in America, 1750-1950* focused on the role of mothers in not just their experience of childbirth, but also their role in changing medical

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[10] Deirdre English, *Witches, Midwives, and Nurses: A History of Women Healers* (Old Westbury, N.Y.: Feminist Press, 1973); Barbara Ehrenreich and Deirdre English, *For Her Own Good: 150 Years of the Experts' Advice to Women* (Garden City, NY: Anchor Press, 1978).

[11] Regina Markell Morantz-Sanchez, *Sympathy and Science: Women Physicians in American Medicine* (New York: Oxford University Press, 1985); Ellen Singer More, *Restoring the Balance: Women Physicians and the Profession of Medicine, 1850-1995* (Cambridge, Mass: Harvard University Press, 1999).

practices related to childbirth.[12] This work was also a part of the transformation of the history of medicine from a focus on "great men" and "great discoveries" to an expansion emphasizing the social and economic context of the practice of medicine.[13] As such, these scholars also engaged with the histories of gender and social policy, informed by the scholarship of historians of like Linda Kerber's work on Republican Motherhood and Barbara Welter's on the Cult of True Womanhood.[14] This dissertation also uses gender and social policy as lenses of analysis, while expanding the objects of study from professional female practitioners and patients, to female lay caregivers.

As Guenter Risse argued, the two of the defining characteristics of domestic medicine were its location within the home and the expertise level of the practitioner. This combination is significant because historians of medicine have thoroughly documented that, up until the twentieth century, the majority of professional medicine also occurred in the home. Laurel Thatcher Ulrich's classic, *A Midwife's Tale*, is an excellent example of how the study of female medical practitioners intersects with the history of domestic medicine.[15] By focusing on the eighteenth-century diary of a midwife in rural Maine, Ulrich recreated the complexity of medicine in the colonial world, which included both expert and lay healing occurring primarily in the home. In addition, Stephen Stowe's *Doctoring the South: Southern Physicians and Everyday Medicine in the Mid-Nineteenth Century* and Judith Walzer Leavitt's article "'A

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[12] Judith Walzer Leavitt, *Brought to Bed: Childbearing in America, 1750 to 1950* (Cambridge: Oxford University Press, 2016).

[13] Charles Rosenberg, *The Cholera Years: 1832, 1849, and 1866* (Chicago: University of Chicago Press, 1962).

[14] Linda Kerber, *Women of the Republic: Intellect and Ideology in Revolutionary America* (Chapel Hill: The University of North Carolina Press, 2014); Barbara Welter, "The Cult of True Womanhood: 1820-1860," *American Quarterly* 18, no. 2 (1966): 151–74.

[15] Laurel Thatcher Ulrich, *A Midwife's Tale: The Life of Martha Ballard, Based on Her Diary, 1785-1812* (New York: Alfred A. Knopf, 1990).

Worrying Profession': The Domestic Environment of Medical Practice in the Mid-Nineteenth Century," emphasize how sympathy, respectability, and morality all played an important role for male physicians just as they did for female healers like Martha Ballard.[16] This dissertation builds on this scholarship to demonstrate how permeable the divide between genders and expertise level was, from how domestic medicine became more scientific to how professional medicine adopted domestic medical practices.

While medical professionals practiced primarily in the home until the twentieth century, perhaps the most common place for professional medical advice within the home in the past 300 years has not been a physician or midwife, but the domestic manual. Many nineteenth- and early twentieth-century homes often relied upon these published guides, written by physicians and lay people, for household and medical advice. Armed with a domestic manual anyone could carry out the advice contained within, which held especial value for anxious parents at the first sign of illness or for families with no access to physicians. This dissertation relies heavily on domestic manuals as a source of expert advice, with the assumption that their popularity speaks to how useful their readers found them. While most of these manuals were prescriptive and sometimes dismissive of women's traditional caregiving practices, their ubiquitousness suggest how useful American households deemed them. The variety, volume, and longevity of domestic manuals makes them an excellent source for understanding change and continuity in both advice and practice over time.

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[16] Steven M. Stowe, *Doctoring the South: Southern Physicians and Everyday Medicine in the Mid-Nineteenth Century* (Chapel Hill: University of North Carolina Press, 2004); Judith Walzer Leavitt, "'A Worrying Profession': The Domestic Environment of Medical Practice in Mid-Nineteenth Century America," *Bulletin of the History of Medicine* 69, no. 1, (1995): 1–29.

Much of the existing scholarship on the history of domestic manuals focuses on their role in alternative health movements, the growth of literacy in America, and the reactions of physicians to their popularity.[17] This dissertation adds to these analyses by exploring how domestic manuals reveal everyday health practices and beliefs, especially as experienced by women. They show, for example, that even if there had been more trained physicians in colonial America, what those physicians did and how the average housewife might treat an ailment differed little.[18] As physicians professionalized and their numbers grew throughout the nineteenth century, Americans called on them more often, but not exclusively.[19] This dissertation also focuses on a later period than most histories of domestic manuals have, but demonstrates that health advice in the form of manuals, pamphlets, and advice columns was still very popular with Americans well into the twentieth century.

In particular, guides written by women increasingly transitioned into household manuals that included medicine, rather than strictly medical guides. This reflects larger trends in both the

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[17] Toby Appel, "The Thompsonian Movement, the Regular Profession, and the State in Antebellum Connecticut: A Case Study of the Repeal of Early Medical Licensing Laws," *Journal of the History of Medicine and Allied Sciences* 65, no. 2 (2010): 153-186; Ronald L. Numbers, "The Fall and Rise of the American Medical Profession," in *Sickness and Health in America: Readings in the History of Medicine and Public Health*, eds. Judith Walzer Leavitt and Ronald L. Numbers (Madison, WI: University of Wisconsin Press, 1997); Richard Harrison Shryock, *Medical Licensing in America, 1650-1965* (Baltimore: Hopkins, 1967); Norman Gevtiz, *Other Healers: Unorthodox Medicine in America* (Baltimore: Johns Hopkins Press, 1988).

[18] Rebecca J. Tannenbaum, *The Healer's Calling: Women and Medicine in Early New England* (Ithaca: Cornell University Press, 2002), 3; James H. Cassedy, "Why Self-Help? Americans Alone with their Diseases 1800-1850," in *Medicine Without Doctors: Home Health Care in American History* eds. Guenter B. Risse, Ronald L. Numbers, and Judith Walzer Leavitt (New York: Science History Publications, 1977).

[19] Murphy, *Enter the Physician*; Norman Gevitz, "'But All Those Authors are Foreigners': American Literary Nationalism and Domestic Medical Guides," in *The Popularization of American Medicine, 1650-1850*, ed. Roy Porter (New York: Routledge, 1992); Horrocks, *Popular Print and Popular Medicine*; C.J. Lawrence, "William Buchan: Medicine Laid Open," *Medical History* 19 (1975): 20-35; Charles E. Rosenberg, "Health in the Home: A Tradition of Print and Practice, " in *Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*, ed. Charles E. Rosenberg (Baltimore: Johns Hopkins University Press, 2003).

consumerization of health care and the systemization of domestic work. There had been some successful domestic manuals written by women in the early nineteenth century, but female authors found their niche in domestic manuals that focused on managing the household as a whole and not solely medicine.[20] Manuals such as Lydia Maria Child's *The American Frugal Housewife* and Catherine Beecher and Harriet Beecher Stowe's *The American Woman's Home* inspired many others that focused on how to run a healthy home, from frugal but nutritious recipes to decorating advice. As Sarah Leavitt argued in *From Catherine Beecher to Martha Stewart*, these types of manuals presented the home as the representation of a woman's character, as a clean, healthy, and Christian home nurtured both the family and a nation. [21] Other historians, especially Rima Apple, Ruth Schwartz Cowan, and Janet Golden, have documented the contribution these types of manuals would make to the field of home economics in the twentieth century, as science replaced morality in what an orderly home should be organized upon to be a redemptive influence on its occupants and the nation.[22]

For the most part, domestic manuals and domestic medicine is associated with routine health care, such as treating minor wounds or ailments, rather than epidemics. This dissertation connects these routine aspects of care giving with the history of infectious disease and the mortality transition of the twentieth century. I focus on infectious diseases because it was during

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[20] Kathleen Brown, "The Maternal Physician: Teaching American Mothers to Put the Baby in the Bathwater," in *Right Living: An Anglo-American Tradition of Self-Help Medicine and Hygiene*, ed. Charles E. Rosenberg (Baltimore: Johns Hopkins University Press, 2003).
[21] Sarah Leavitt, *From Catharine Beecher to Martha Stewart: A Cultural History of Domestic Advice* (Chapel Hill: The University of North Carolina Press, 2002).
[22] Rima Apple, *Perfect Motherhood: Science and Childrearing in America* (New Brunswick: Rutgers University Press, 2006); Janet Golden, *Babies Make us Modern: How Infant Brought America into the Twentieth Century* (New York: Cambridge University Press, 2018); Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

this period, the first half of the twentieth century, that mortality rates from infectious diseases declined. Best described by Thomas McKeown in his 1976 work *The Modern Rise of Population*, populations began to grow in the 1700s due to socio-economic changes, not medical advancements.[23] Historians have since complicated McKeown's argument and attribute this decline to a variety of causes, including improved public-health measures, genetic mutations, surgical interventions, and improved nutrition.[24] These explanations have together explained much of what accounts for the observed declines, but, I argue, they ignore the fact that at the turn of the twentieth century the home was an important site of prevention and treatment. Indeed, as Richard Meckel argued in *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality, 1850-1929*, maternal and, especially, infant mortality were the bellwethers of a nation's health.[25] Meckel and others have successfully documented the role that experts played in this transition, but this dissertation argues that family members treated infectious disease patients in their own homes and countless others employed preventive measures. Thus, whatever the cause for the decline of infectious disease, domestic medicine, in both prevention and treatment, played a central role.

The history of public health, especially the history of how public health has dealt with infectious diseases, is a rich and prolific field within the history of medicine. Historians have successfully argued that epidemic disease has been present and central to the United States from

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[23] Thomas McKeown, *The Modern Rise of Population* (New York: Academic Press, 1976).
[24] Gretchen Condran, Henry Williams, and Rose Cheney, *"The Decline in Mortality in Philadelphia from 1870 to 1930: The Role of Municipal Services,"* *The Pennsylvania Magazine of History and Biography* 108 (1984).
[25] Richard Meckel, *Save the Babies: American Public Health Reform and the Prevention of Infant Mortality, 1850-1929* (Baltimore: Johns Hopkins University Press, 1990).

the first contact to the AIDS epidemic and beyond.[26] There has been an especially robust interest in how public health policies regarding infectious disease reflect both biases and regional variation.[27] Furthermore, some diseases, especially tuberculosis and polio, have been the subject of more study than other infectious diseases.[28] Finally, many historians of public health engage with the question of whether the emergence of bacteriology "narrowed" public health efforts.[29] This dissertation attempts to use this robust scholarship to understand how infectious disease was experienced in the home. I argue that while national trends influenced domestic medical treatment of infectious disease, local factors especially affected everyday practices for caregivers. I focus chapters on tuberculosis and polio because these diseases had such a massive impact on public health departments, laws, medical science, and American culture, but I also devote chapters to lesser studied diseases, such as scarlet fever and rheumatic fever. It is by

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[26] Elizabeth A. Fenn, *Pox Americana: The Great Smallpox Epidemic of 1775-82* (New York: Hill & Wang, 2001); Allan M. Brandt, *No Magic Bullet: A Social History of Venereal Disease in the United States since 1880* (New York: Oxford University Press, 1987); David McBride, *From TB to AIDS: Epidemics and Urban Blacks since 1900* (Albany: Sate University of New York Press, 1991).

[27] Margaret Humphreys, *Yellow Fever and the South* (New Brunswick: Rutgers University Press, 1992); Howard Markel, *When Germs Travel: Six Major Epidemics that have Invaded America since 1900 and the Fears they have Unleashed (*New York: Pantheon Books, 2004); David Rosner, *Hives of Sickness: Public Health and Epidemics in New York City* (New Brunswick: Rutgers University Press, 1995); Alan M. Kraut*, Silent Travelers: Germs, Genes, and the "Immigrant Menace"* (Baltimore: Johns Hopkins University Press, 1995); Judith Walzer Leavitt, *Typhoid Mary: Captive to the Public's Health* (Boston: Beacon Press, 1996); Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco's Chinatown* (Berkeley: University of California Press, 2001).

[28] Barbara Bates, *Bargaining for Life: A Social History of Tuberculosis, 1876-1938* (Philadelphia: University of Pennsylvania Press, 1992); Georgina D. Feldberg, *Disease and Class: Tuberculosis and the Shaping of Modern North American Society* (New Brunswick: Rutgers University Press, 1995); Barron H. Lerner, *Contagion and Confinement: Controlling Tuberculosis along the Skid Road* (Baltimore: Johns Hopkins University Press, 1998); Sheila M. Rothman, *Living in the Shadow of Death: Tuberculosis and the Social Experience of Illness in American History* (Baltimore: Johns Hopkins University Press, 1995); Barbara Gutmann Rosenkrantz, *Public Health and the State: Changing Views in Massachusetts, 1842-1936* (Cambridge: Harvard University Press, 1972); David M. Oshinsky, *Polio: An American Story* (New York: Oxford University Press, 2005); Naomi Rogers, *Dirt and Disease: Polio before FDR* (New Brunswick: Rutgers University Press, 1992).

[29] Judith Walzer Leavitt, *The Healthiest City: Milwaukee and the Politics of Health Reform* (Princeton: Princeton University Press, 1982); Stuart Galishoff, *Newark, the Nation's Unhealthiest City, 1832-1895* (New Brunswick: Rutgers University Press, 1988); Susan Craddock, *City of Plagues: Disease, Poverty, and Deviance in San Francisco* (Minneapolis: University of Minnesota Press, 2000).

looking at the failed scarlet fever immunization campaign in Milwaukee that we can see how even public health commissioners could be opposed to strictly bacteriological solutions. The least studied disease included in this dissertation, rheumatic fever, reveals the importance of local politics to the application of public health policy.

Central to any history of infectious disease is how germ theory was discovered, implemented, and accepted. Nancy Tomes's *The Gospel of Germs: Men, Women, and the Microbe in American Life* shifted the focus of historians of public health from the scientists who articulated it and the physicians who came to accept it as a theory of disease transmission to how the public perceived germ theory.[30] Central to her argument is the role that consumerism played in public understanding and acceptance of disease. Far from a contentious process, Tomes argued that it was not difficult for the public to shift from understanding disease as transmitted by poisonous air (the miasma theory of disease) to understanding disease as transmitted by the germs in that air. Tuberculosis was the disease central to this process, as it was both prevalent and more easily controlled through sanitary measures than other diseases. As health consumerism expanded beyond cleaning products to decorating trends, a caregiver's acceptance of germ theory could be signaled by their curtain choices just as much as their cleaning products.[31]

This dissertation attempts to bridge the work of historians of medicine like Tomes with labor and social policy historiography, specifically, how consumerism could inform politics and advocacy. Historians of social policy have explored how Progressivism grew to dominate the

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[30] Bruno Latour, *The Pasteurization of France* (Cambridge, Mass: Harvard University Press, 1993).

[31] Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge: Harvard University Press, 1998); Katherine Ott, *Fevered Lives: Tuberculosis in American Culture Since 1870* (Cambridge, Mass: Harvard University Press, 1996).

political landscape in the first few decades of the twentieth century. Central to this was maternalist politics. As Daniel Rodgers argued in *Atlantic Crossings: Social Politics in a Progressive Age*, public health was central to the emergence of Progressive politics, not just in the application of scientific principles to social problems, but also the emphasis on public good as a right.[32] Other historians of this era have further emphasized the role that women played in the Progressive Movement, especially Maternalist politics, which functioned to both bring attention to the needs of female caregivers while also reinforcing gender roles that narrowed possible solutions.[33] This dissertation furthers these conversations by exploring how the creation of the Children's Bureau helped shape domestic medicine by necessitating advocacy as caregiving for American women.

This dissertation also draws from histories of American labor, especially as it relates to the role consumerism has played in American culture and politics.[34] As part of the New Labor History, historians began to explore how working-class identity was increasingly a cultural process and no longer strictly defined by occupation. Material objects could be part of self-perception and group identity, participating in and contributing to an American mass culture. As Lizabeth Cohen argued in *Making A New Deal: Industrial Workers in Chicago, 1919-1939*, the

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[32] Daniel Rodgers, *Atlantic Crossings: Social Politics in a Progressive Age* (Cambridge: Harvard University Press, 1998), 114.

[33] Theda Skocpol, *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States* (Cambridge, M.A.: Belknap Press, 1992); Linda Gordon, *Pitied But Not Entitled: Single Mothers and the History of Welfare, 1890-1935* (Cambridge: Harvard University Press, 1994); Kathryn Kish Sklar, *Florence Kelley and the Nation's Work: The Rise of Women's Political Culture, 1830-1900* (New Have: Yale University Press, 1995); Seth Koven and Sonya Michel, *Mothers of a New World: Maternalist Politics and the Origins of Welfare States* (New York: Routledge, 1993); Molly Ladd-Taylor, *Mother-Work: Women, Child Welfare, and the State, 1890-1930* (Urbana: University of Illinois Press, 1994); Eileen Boris, *Home to Work: Motherhood and the Politics of Industrial Homework in the United States* (Cambridge: Cambridge University Press, 1994).

[34] Lizabeth Cohen, *Making A New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 1990); Theda Skocpol, *Social Policy in the United States: Future Possibilities in Historical Perspective* (Princeton, N.J.: Princeton University Press, 1994).

growth of mass culture intersected with trends in immigration and labor to create a working class culture. Other historians, notably Kathy Peiss, Nan Enstad and George Chauncey, have emphasized the role that gender and sexuality played in the creation of a class identity.[35] This shared culture and working-class identity played a crucial role during the Great Depression to unite workers to demand support from the federal government. My intervention in this historiography is to bring in the daily domestic practices of women, especially as they related to caregiving, to histories of labor and social policy. Caregiving is an important aspect of building a mass consumer society because not only do health products grow exponentially in this period, but, as Abel and Tomes argued, Americans began to understand themselves as consumers of health care. Child and maternal health became the wedge issue that opened up entitlement programs to more Americans and fueled health care debates from abortion politics to disability activism.

A Note on Sources

These arguments rely on the use of sources beyond, but not exclusive of, expert and prescriptive literature. If one focused entirely on these sources, all signs pointed to the end of domestic medicine in the twentieth century. This would be like only reading the pamphlet that Mrs. Gates received and not considering the notation she made. Focusing on the prevention and treatment of illness that occurred in American homes in the first half of the twentieth century,

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[35] Kathy Peiss, *Cheap Amusements: Working Women and Leisure in Turn-of-the-Century New York* (Philadelphia: Temple University Press, 1986); Nan Enstad, *Ladies of Labor, Girls of Adventure: Working Women, Popular Culture, and Labor Politics at the Turn of the Twentieth Century* (New York: Columbia University Press, 1999); George Chauncey, *Gay New York, Urban Culture, and the Making of the Gay Male World, 1890-1940* (New York: Basic Books, 1994).

especially by women as part of their housekeeping and mothering roles, makes it clear that domestic medicine survived, and arguably became even more important, as new scientific and medical developments transformed society. This does not mean that expert and prescriptive literature does not have a role in my analysis, but that it is triangulated with diaries, baby books, letters, and other sources from caregivers. Furthermore, expert and prescriptive literature play an important role in demonstrating that domestic medicine existed in a dynamic relationship with professional medicine in twentieth century America.

Fortunately, being based at the University of Wisconsin allowed me ready access to both the University's extensive library system and the Wisconsin Historical Society. The Ebling Library's medical collections, both academic and popular, helped me determine how expert advice was expressed through magazines and other contemporary literature. The Steenbock Library's collection of recipe books and magazines targeting homemakers extended this knowledge beyond strictly medical arenas. The Wisconsin Historical society houses the public health reports, visiting nurse records, and other government documents that helped me understand the legal and governmental framework the topic existed in.

To situate Wisconsin within a national story, the records of the Children's Bureau at the National Archives in College Park, Maryland proved crucial. Many historians have relied on this collection, but the sheer number of letters contained within it could support many more dissertations. The ubiquity of domestic manuals in the American home made them essential to this dissertation and, while many libraries have some of the more famous editions, the Sallie Bingham Center for Women's History and Culture at Duke University has the largest collection in one place. The Louise M. Darling Biomedical Library's massive baby book collection was crucial to understanding the reception of medical advice. These three collections held so many more untold stories that I hope other historians pursue.

While I attempted to show as many perspectives as possible, it wasn't always possible to find sources that reflected the extent to which race, class, and gender played a role in the history of domestic medicine. When possible, sources such as newspaper articles and nurses' reports could be read to peak inside the homes that rarely left records. Consumer trends helped some in this regard by demonstrating the popularity of products related to domestic medicine practices. From this I could infer more about how advice was being applied in the home. In addition, I had hoped to supplement these sources with more national data from the National Opinion Research Center in Chicago, Illinois, but the collection proved harder to access than I had the resources to pursue at that time.

Domestic Medicine and professional medicine were not separate practices, especially in this period, not only because of the growing acceptance of germ theory but the dominance of progressive politics that culminated in the New Deal by mid-century. Even as government agencies and experts took over more and more of health care and disease prevention, domestic medicine changed, but it did not disappear. This dissertation intervenes at this point in the history of domestic medicine, as centuries of practices adapted and changed. Women responded to social, economic, and political changes while also shaping them. Far from being a zero-sum process, domestic medicine did not decline as expert medicine rose. By concentrating on four case studies of infectious disease, largely focused in one area of the country, this dissertation argues that domestic medicine did not disappear in the twentieth century, but changed, and in some cases became even more essential. In addition, domestic medicine influenced expert medicine as mothers pushed for the care they believed their families needed. Finally, I argue that in some instances, domestic medicine even contributed to the mortality transition.

Chapter One:

"Young Children Here March Happily Back to School": Domestic Medicine and Epidemics in the era of Germ Theory

In the winter of 1935, in the depths of the Great Depression, Wisconsinites opened their morning newspapers to see two stories dominating the news – the Lindbergh kidnapping trial and a scarlet fever epidemic in the state's largest city. Although the coverage of the "Trial of the Century" helped offer a distraction from economic hardship, residents could not ignore a growing number of reports about scarlet fever. First confined to younger children, the epidemic quickly spread to teenagers, with 919 cases by January 4 alone.[36] Ten days later the Milwaukee city health commissioner, Dr. John Koehler, warned "unless there is an abatement in the number of new cases it will be necessary to close the schools where scarlet fever has been discovered, and theaters will have to be closed to school children."[37] A week later the health department ordered schools to take student's temperatures to find cases earlier, sent children with any sign of fever home for ten days of observation, and placarded homes with quarantine signs.[38] By March of 1935 the national magazine *Time* devoted a column to the epidemic, reporting a peak of 1,507 new cases, a total of 8,300 cases, 8,000 immunizations delivered, and 20,000 children banned from schools, churches, movies, libraries, and other public places for weeks. Twenty-eight children died from the epidemic.[39]

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[36] "Older Children Get Scarlet Fever Now," *Milwaukee Journal*, January 4, 1935, 1.

[37] "City Battling Scarlet Fever," *Milwaukee Journal*, January 14, 1935: 6.

[38] "Pupils Having Touch of Fever Can't Go to Shows," *The Milwaukee Sentinel*, January 21, 1935, 2.

[39] "Medicine: Milwaukee's Fever," *TIME*; March 4, 1935. J.P. Koehler, "Recent Experiences in Scarlet Fever Control," *American Journal of Public Health* 25, no. 12 (December 1935): 1359.

Except for the size of the epidemic, Milwaukee's experience with scarlet fever was typical for American cities at the time. Like other major American cities, by 1935 Milwaukee had decades of experience with a permanent board of health. In fact, the city had been so successful it had earned the title “the healthiest city” in the United States. Since its creation as a permanent entity in 1867, the Board of Health had successfully reformed garbage collection, milk production, and infectious disease control, although not without problems, including a riot, along the way. In some ways, the 1935 epidemic was the culmination of years of lessons learned by the city government and Board of Health when it came to building coalitions, marshalling public support, and using persuasion rather than coercion.[40] All of these were put to the test in 1935. Following national trends in public health policy informed by the germ theory, the city focused on surveillance and quarantine, but failed in an immunization campaign. The epidemic was an important test for these public health measures, as scarlet fever had eclipsed other diseases as one of the most common infectious diseases in children. Thus, American cities dealt with scarlet fever cases on a daily basis, with epidemics arising periodically, sometimes leading to school closures.[41] The size of Milwaukee's epidemic, however, forced the city to confront the limits of their power and knowledge, as the epidemic tested policies and institutions created for endemic, rather than epidemic, challenges. New disease theories offered both promise and points for opposition between previous allies. Finally, the 1935 epidemic concentrated what was typically infrequent interactions with public health officials and policies into a short period, highlighting points of tension and cooperation.

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[40] Leavitt, *The Healthiest City*.

[41] A single case of scarlet fever closed all five schools in Hanson, Massachusetts in May of 1933. "Scarlet Fever Forces Hanson Schools to Close," *Daily Boston Globe*, May 10, 1933: 6.

In addition, the size of the epidemic and the city's response to it placed an enormous burden on mothers. Mothers dealt with preventing and treating illness daily, but a scarlet fever epidemic of this magnitude placed increased demands on their time and patience. Therefore, in addition to understanding public health responses to scarlet fever in Depression era America, this chapter focuses on what this epidemic can reveal about domestic medicine practiced by mothers in early twentieth century America. In particular, it demonstrates the increased role of domestic medicine in the germ theory era. Rather than decreasing maternal responsibility for medical care, the epidemic demonstrates how the role of mothers in carrying out public health advice increased their domestic medicine responsibilities. At the same time, mother's domestic medicine practices contributed to the low mortality rate. America had entered the twentieth century with a decline in infectious diseases and with a growing commitment to decreasing infant mortality, but domestic medicine was still essential. Despite the fact that germ theory offered an explanation for how diseases like scarlet fever spread and the expansion of hospitals pointed to a reorganization of professional medicine, mothers continued to routinely deal with infectious diseases, especially scarlet fever. Epidemics could disrupt households and communities, as they did in Milwaukee in 1935. The growing power of public health departments to enact quarantines, close schools, and send public health nurses into homes, placed a greater burden on mothers to carry out quarantines, deal with well children forced to stay at home for weeks, and put into practice stringent hygienic measures to prevent the spread of the disease to other households. Thus, despite new disease theories and new hygienic technologies, the responsibility for putting these ideas into practice still fell to mothers, who sought out, understood, and wove together workable solutions to the immediate problem of sick children. If anything, new ideas about disease transmission put more of a burden on mothers, not less.[42]

SCARLET FEVER IN THE EARLY TWENTIETH CENTURY AMERICAN HOME

Epidemics of scarlet fever, like the one that struck Milwaukee in 1935, take routine domestic medicine practices and bring them into stark relief at a pivotal time in both medical history and in American history. Women had both more information and less time to devote to caring for sick children. Firstly, by 1935, new disease theories had changed both the rationale behind timeless domestic medicine practices and added new responsibilities to a mother's already full childcare routines. Secondly, more women were working outside the home than they ever had before, making the time and attention required for nursing sick children a scarce resource. Finally, by 1935 increasing urbanization and declining fertility had contributed to new definitions of motherhood. As Rima Apple has argued, for centuries mothers raised their children without expert advice or intervention, but in the twentieth century medical and scientific experts began to argue that mothers needed special training, creating the idea of "scientific motherhood."[43] Many women welcomed the advice, as they increasingly lived away from their families and the close-knit communities their grandmothers may have relied on for advice and aid in childrearing. As a large and far reaching epidemic, the scarlet fever epidemic that struck Milwaukee in 1935 reveals both the timeless prevention and treatment practices mothers applied

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[42] For how advances in science and technology did not ease other forms of housework for women see: Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

[43] Apple, *Perfect Motherhood*.

to scarlet fever, while also revealing how new demographic, socio-economic, and medical paradigms affected those practices.

In some ways, very little had changed in domestic medicine practices in regards to scarlet fever. Since scarlet fever begins like many other childhood diseases, mothers typically watched and waited to see what a fever and sore throat might turn into. The telltale rash and perhaps a “strawberry tongue” signaled scarlet fever, a streptococcal infection. The rash spread, sometimes covering the whole body and the child would suffer fatigue, nausea, and chills. Eventually, the rash would result in desquamation – the shedding of the skin – and the child likely recovered. While the terminology had become more complicated, the course of scarlet fever was the same for mothers in 1800 as it was in 1935. American mothers in the early twentieth century could read these details in domestic manuals, women's magazines, and public health pamphlets, but a child sick with scarlet fever was a much more frightening and confusing experience than a list of symptoms can convey. The disease was hard to diagnose (often confused with measles), painful to the patient, and could potentially cause death or permanent disability.

The disease had been noted at least as far back as the fifth century B.C., with the telltale signs of fever, rash, and red tongue. Rarer symptoms, such as Sydenham’s chorea (historically known as St. Vitus' dance, an autoimmune response to Group A beta-hemolytic Streptococcus, that causes jerking movements), even appeared in the *Hippocratic Corpus*.[44] For centuries, medical treatment followed the humoral tradition, treating disease as an imbalance of the four humors cured by balancing the humors through remedies such as bloodletting, puking, purging,

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[44] A.R. Katz and D.M. Morens, “Severe Streptococcal Infections in Historical Perspective," *Clinical Infectious Diseases* 14, no. 1 (January 1992): 298-307; R.W. Quinn, "Did Scarlet Fever and Rheumatic Fever Exist in Hippocrates' Time?" *Reviews in Infectious Diseases* 13, no. 6 (November-December 1991): 1243-4.

or sweating. For example, a fever, such as scarlet fever, could be treated with bloodletting because it reduced the "wetness" of the feverish patient. Thomas Ewell's 1824 *American Family Physician*, emphasized humoral therapeutics for scarlet fever, included vomiting, enemas and cold baths.[45] The 1833 edition of *Gunn's Domestic Medicine* and the 1848 edition of *An Encyclopaedia of Domestic Economy* by Thomas Webster also advise the use of vomits and emetics, with a recipe in *Gunn's* for a saline mixture to bathe the patient in.[46] Thomas Sydenham, perhaps the physician most associated with medical theory on scarlet fever prior to the twentieth century, argued that "[scarlet fever] is, in my mind, neither more nor less than a moderate effervescence of the blood, arising from the heat of the preceding summer, or from some other exciting cause," prescribing rest and allowing the disease to take its course.[47] Of course, these medical theories, non-withstanding, enforcing rest and making a patient comfortable almost certainly fell upon the mother to carry out.

While medical theories regarding scarlet fever abound in journals and textbooks throughout the nineteenth century, a physician was rarely involved in the treatment of scarlet fever. In the early twentieth century mothers still typically first reached for tried and true domestic medicine remedies, only calling in a doctor after their own efforts did not alleviate the symptoms. Even after a family called a doctor in, his prescription differed little from what they could look up in a domestic manual or clip out of a ladies magazine. A valuable source of domestic medicine practices are baby books, where mothers documented everything from birth

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[45] Thomas Ewell, *American Family Physician* (Georgetown, D.C.: J. Thomas, 1824), 336.

[46] John C. Gunn, *Domestic Medicine, or, Poor Man's Friend* (Knoxville, TN: F.S. Heiskell, 1833), 488-489; Thomas Webster, *An Encyclopaedia of Domestic Economy* (New York: Harper & Brothers, 1848), 1185.

[47] Thomas Sydenham, M. D., *Observationes Medicae circa Morborum Acutorum Historiam et Curationem* (London: Kettilby, 1676), 243.

weight to vaccinations to obituaries for their children.[48] For example, in the winter of 1908 in Baltimore, one mother narrated her child's bout with scarlet fever in her baby book. The mother first noticed her baby daughter had a high fever - her first sickness - and gave her castor oil and spirits of niter, but by the next day little Doris "screamed so hard... she became hoarse.... Father had to get up for the first time in the night to fix toddy for her."[49] Despite the fact that she was "alarmingly hoarse" the following day, Doris' mother seemed to conclude that it was just teething causing the discomfort. It was not until four days after the first signs that she noted, "body covered with a fine red rash." Mr. and Mrs. Harper did not call a doctor for another week, after which they isolated Doris for a further week. Doris Harper survived scarlet fever, but died ten years later from Bright's Disease.[50] Although almost three decades earlier, Doris' bout with scarlet fever could have just as easily followed the same course as it did for young children in Milwaukee in 1935, from the initial confusion, to the home remedies, to the call to the doctor, to the home isolation.

Despite the dangers associated with scarlet fever, some parents observed that exposure to a disease offered immunity and took prevention into their own hands. For example, some parents saw scarlet fever and other infectious diseases as "necessary evils" that risked death if exposed, but offered immunity once survived. They therefore intentionally exposed their children to diseases, such as scarlet fever, in order to manage the case in a more predictable

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[48] Janet Golden, "Reading Baby Books: Medicine, Marketing, Money and the Lives of American Infants," *Journal of Social History* 44, no. 3 (Spring 2011): 667-687.

[49] Spirits of niter is still used in South Africa as a cold and flu remedy but was banned by the FDA in the United States in 1980 for its association with fatal cases of methemoglobinemia. ("FDA Bans Sweet Spirits of Nitre as Ineffective and Possibly Fatal," *The New York Times*, October 12, 1980, p. 65

[50] W.J. Harper, "My Girl": An Account of the Life and Death of Doris Harper by her Mother," notebook, 1907-1930, Franklin E. Murphy, M.D. Collection, History and Special Collections Division, Louise M. Darling Biomedical Library, UCLA.

manner than a spontaneous eruption may provide. Although it is impossible to know how many parents felt this way, public health departments apparently believed that enough did to create educational campaigns targeting it. They attempted to battle the practice with educational outreach, such as circulars or through visits from public health nurses. For example, the city of Milwaukee attempted to reach mothers with the monthly health publication, *The Healthologist*. In a 1918 issue they warned mothers, "it is absolutely unnecessary for your children to have measles, scarlet fever, whooping cough, etc., in order to grow up." The article claimed that one "often hear[s] the expressions, 'the younger they have it the better, ' and 'they might as well have it now as later on.'" To the public health department, "this is nothing short of a crime. Contagion is not a necessary evil. It is preventable and is spread by carelessness."[51]

In an epidemic like the one Milwaukee saw in 1935, intentional infection quickly became moot, as unintentional infection became increasingly unavoidable. The epidemic had started in the fall of 1934, but the health department treated it like any seasonal occurrence of scarlet fever, letting the disease take its course and leaving prevention and treatment up to mothers.[52] By December, however, the cases started to increase again and at an alarming rate, spreading to different parts of the city. In mid-December the health commissioner noted that cases had spread to the north and northwest sections of the city. The common denominator for the majority of cases appeared to be families on relief.[53] This could be the result of many factors exacerbated by the Great Depression, including, but not limited to, overcrowding, poor sanitation, nutrition, and access to medical care. At this point in the epidemic the public health department limited its

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[51] Milwaukee Health Department School of Health and Sanitary Science, "Contagion and Ignorance," *Bulletin of the Milwaukee Health Department* 8, no. 2 (February 1918), 10.

[52] "Report All Cases of Fever, Warning," *The Milwaukee Journal*, December 23, 1934: 9.

[53] "Increase Is Noted in Scarlet Fever," *The Milwaukee Journal*, December 12, 1934: 2; "Scarlet Fever Fight Pushed," *The Milwaukee Journal*, December 18, 1934: 1.

activity to recommending that parents voluntarily keep children home from holiday parties and increasing the number of beds at the city's isolation hospital. These recommendations followed national public health guidelines.[54]

Part of the difficulty in managing a scarlet fever epidemic was diagnosing the disease. Like Doris' mother, who first suspected teething, the disease starts like many childhood ailments and many parents were not initially alarmed. Even health professionals had a hard time distinguishing the disease from other infections, often confusing it with measles. New diagnostic tests did not necessarily help, either. For example, in the early weeks of Milwaukee's epidemic reactor tests administered to schoolchildren returned false positives. The city health commissioner admitted that "there are harmless germs so similar to scarlet fever germs that they cannot be distinguished without more exhaustive tests," and the health department ordered children sent home with questionable results to "play it safe."[55] This is just one example of how new technology made possible by new disease theories created more work for mothers, as children that looked healthy (and may very well have been) were sent home due to a test result, rather than clinical symptoms. In fact, many physicians pushed back against these diagnostic tests, arguing that their diagnostic expertise surpassed that of a laboratory test.

Once diagnosed, parents could choose to send their children sick with an infectious disease to an isolation hospital, but most children with scarlet fever remained in the home, both in Wisconsin and nationally.[56] If a patient lived in a large city in Wisconsin (more than 100,000

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[54] R.E. Dyer, "Scarlet Fever: Its Prevention and Control Source," *Public Health Reports* 43, No. 2 (Jan. 13, 1928): 57-68

[55] "Scarlet Fever Tests Reveal 68 Reactors," *Milwaukee Journal,* January 17, 1935, 1.

[56] Dorothy F. Holland, "The Disabling Diseases of Childhood: Their Characteristics and Medical Care as Observed in 500,000 Children in 83 Cities Canvassed in the National Health Survey, 1935-1936. II. Medical and Nursing Care," *Public Health Reports* 55, no. 6 (1940): 227-44.

inhabitants), such as Milwaukee, the city was required to offer an isolation hospital. The state did not, however, require patients to enter an isolation hospital. In fact, the 1895 law establishing isolation hospitals stated that "no such person or persons shall be removed to any isolation hospital in such city who can be nursed and cared for during such illness in his or her home, except upon the recommendation and advice of such commissioner of health, or one of his assistant commissioners of health, and the physician attending upon such child or person not being a member of the board of health of such city."[57] The presence of an epidemic could quickly eliminate this option entirely, as beds at already small hospitals filled up quickly. During Milwaukee's scarlet fever epidemic the city's isolation hospital quickly filled to capacity, with the South View Isolation Hospital facing a 100 bed wait list by December 14.[58] The Board of Health claimed that scarlet fever was the only disease that still filled the hospital to capacity on a year-to-year basis, even when there were no epidemics.[59] By December 21 the city health commissioner asked the city council to appropriate $2,000 in order to supply 20 more beds and related equipment. Without the appropriation, he warned that the city might have to rent out a floor of a private hospital.[60]

Parental preference on using isolation hospitals was mixed. If the hospital had available beds parents may have preferred it to home treatment and, at least for some, scarlet fever was unique among other childhood diseases that they sought out hospitalization for. For example, according to their baby books, the Meyers of Springfield, Massachusetts, whose two sons, Frank Jr. and Edward, survived whooping-cough, chicken pox, german measles, and regular measles,

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[57] Wisconsin, *Laws of Wisconsin* (Madison: Democrat Printing Company, 1895): 516-517. https://docs.legis.wisconsin.gov/1895/related/acts/262.pdf
[58] "Scarlet Fever Fight Pushed," *The Milwaukee Journal*, December 18, 1934: 1.
[59] "Spurs Drive on Scarlet Fever," Milwaukee Journal 1935, 1.
[60] "Seeks $2,000 in Fever Fight," *The Milwaukee Journal*, December 21, 1934: 18.

hospitalized their sons for only one disease: scarlet fever (Frank Jr. in 1928 and Edward in 1936).[61] All of these diseases are typically treated with fluids and rest, but some physicians promoted hospitalization more than others. In particular, some physicians saw hospital isolation as the best way to prevent epidemics of infectious diseases from spreading. Still others believed isolation had decreased both scarlet fever's prevalence and its severity. Both sides agreed that it could ease the burden of carrying out isolation for a family that could not execute it out without hardship.[62] Nationally, the largest factors effecting hospitalization appeared to be size of city and income of family, with small cities seeing more hospitalization of wealthier children and larger cities, such as Milwaukee, seeing more hospitalization of poorer children.[63]

The presence of isolation hospitals in Milwaukee during the epidemic contributed to tensions between the public and the Board of Health in at least two ways: some parents demanded access to it for the children, while others resisted the recommendations of health inspectors to admit their children. In at least one case, Milwaukee area parents blamed the "red tape" involved in getting their son into a hospital for his death. *The Milwaukee Leader* reported that due to "the poverty of the family and its remoteness from medical facilities, hospitalization of the boy became imperative," but "legal formalities" involved in transferring him from a suburb to the city delayed his hospitalization and he died on February 7th.[64] City residents could take drastic measures to force the city to allow hospitalization. In one case, a rooming house

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[61] Melcena Burns Denny, *Book of Baby Mine* (Grand Rapids, MI: 1915) Franklin E. Murphy, M.D. Collection, History and Special Collections Division, Louise M. Darling Biomedical Library, UCLA, HQ779 .B724 1915f.
[62] J.E. Gordon and G.F. Badger, "The Isolation Time of Scarlet Fever," *American Journal of Public Health*, 24, no. 5 (May 1934): 438-448; Charles V. Chapin, "Sixty Years of the Providence Health Department," *American Journal of Public Health* 6, no. 9 (September 1916): 905-915.
[63] Holland, "The Disabling Diseases of Childhood."
[64] "Doctors State Board Members Failed to Act," *The Milwaukee Leader*, February 7, 1935: 2.

keeper was so afraid of exposure that she threatened to “move and let the furnace go out” if the city did not find a bed for a stricken child resident.[65] By the time of her complaint, however, the isolation hospital had a 100 person waiting list.

Many of the earlier cases in Milwaukee's epidemic occurred in public institutions, where communal housing and more time indoors during winter contributed to infection rates. For example, soon after arriving at a detention home in early January 1935 a 16-year-old girl came down with scarlet fever, although it was not until February 10th that the public health department placed the home under quarantine and sent the girl to the South View isolation hospital. By some reports the detention home had only quarantined the girl for one day and then assigned her to scrubbing floors and chaperoning younger children at night. The home’s superintendent dismissed the severity, and even veracity, of her case, explaining his consideration of the girl’s case as, “you may have a cold or you may have a headache or you may be just sick from drinking a glass of water too fast.”[66] Other Milwaukee institutions, however, took cases very seriously. When three cases occurred at the County General Hospital in early January, the superintendent quarantined the ward, removed one of the cases (an adult) to South View Isolation hospital, and isolated the other two cases in private rooms.[67] These examples show how unevenly policies, and even laws, could be applied in the case of a scarlet fever epidemic. Throughout American history, public health policy has been carried out unevenly, often due to the race, class, sex, or sexuality of the patient.[68] In this case, the young woman at the detention

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[65] "Scarlet Fever Fight Pushed," *The Milwaukee Journal*, December 18, 1934, 1.

[66] “Detention Home Partly Quarantined for Fever,” February 10, 1935.

[67] “Scarlet Fever Cases Found in County General,” January 16, 1935.

[68] Shah, *Contagious Divides*; Lerner, *Contagion and Confinement*; Keith Wailoo, *Dying in the City of Blues: Sickle Cell Anemia and the Politics of Health and Race* (Chapel Hill: University of North Carolina Press, 2001); Elizabeth Fee and Daniel M. Fox, *AIDS: The Burdens of History* (Berkeley: University of

home did not receive the same level of care as the patients at the County Hospital, although there is no way of knowing if that is what she would have wanted.

Although isolation hospital access and policies suggest some tension between residents and the Board of Health, those cases represented a minority of cases in Milwaukee's epidemic and in the routine treatment of scarlet fever. Most parents, either by choice or necessity treated scarlet fever at home, during epidemics as well as other times. In Milwaukee in 1935 parents had little choice, since the isolation hospital was quickly filled to capacity. Mother treated most of the over 8,000 cases of scarlet fever in Milwaukee at home, just as other Americans had since the Colonial era. They relied on a variety of sources, from physician prescriptions to popular printed material to neighborly advice to nurse their sick children. Many American homes also relied on domestic manuals for advice on treating everything from accidental burns to infectious diseases. Manuals from the early nineteenth until the mid-twentieth century share much of the same advice regarding scarlet fever. [69]

In addition, mothers could seek advice from the federal government through the Children's Bureau, a division of the Department of Labor founded in 1912, which was charged to improve the health of American children. It later administered the Sheppard-Towner Maternity and Infancy Protection Act of 1922 and was the model for parts of the Social Security Act of 1935. Mothers and fathers wrote to the Children's Bureau from all over the country and from all social classes, asking for advice, aid, information, and sometimes, just sympathy. The small staff of the Children's Bureau answered *all* of their letters. From recommending physicians

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California Press, 1989); Judith Walzer Leavitt, *Typhoid Mary: Captive to the Public's Health* (Boston: Beacon Press, 1996).

[69] Leavitt, *From Catharine Beecher to Martha Stewart*; Apple, *Perfect Motherhood*; Julia Grant, *Raising Baby By the Book: The Education of American Mothers* (New Haven, CT: 1998)

(technically, not something they were permitted to do) to contacting state agencies to arrange home visits to sending a doctor – on horseback – to investigate conditions in rural Montana, the Children's Bureau filled a gap in health care in America by providing expert advice to Americans unable or unwilling to rely on local health care options. From sources like domestic manuals, Children's Bureau letters, and other printed material we can see what advice mothers received, if not what they followed. For this, sources like baby books, newspaper articles, and public health reports can help hint at, if not reveal, actual domestic medicine practices.

In domestic manuals, for example, we can see both continuity and change in advice related to scarlet fever. One important distinction between domestic manuals printed before the twentieth century and those that mothers would have consulted in 1935 was that earlier domestic manuals detailed treatments and sickroom practices, but not quarantine measures. Prior to the discovery of the germ theory of disease, quarantine was not a universally accepted practice for most childhood diseases and was reserved for more dangerous infections, such as cholera and smallpox. Rather, experts emphasized good nursing in a proper sickroom as all that was needed. A proper sickroom was clean and well ventilated, practices popularized by Florence Nightingale, but promoted by domestic manuals as early as the 1840s[70] Although the patient was confined to the sickroom, the caregiver could come and go. For example, in one Utica, New York orphanage in 1904 an employee noted in her diary "this day is one of the sadest [sic] in my history, Gladys Eaten was taken to the hospital with scarlet fever and we are in strict quarantine…. Went down to Aunt James tonight, spent a pleasant evening. It is snowing this eve. I hope and pray there will

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[70] L.G. Abell, *The Skilful Housewife's Book; or, complete guide to domestic cookery, taste, comfort and economy* (New York: D. Newell, 1846): 61; Pye Henry Chavasse, *Advice to a Wife on the Management of Her Own Health* (New York: George Routledge, 1873): 151; Florence Nightingale, *Notes on Nursing* (London: Longman, Green, Longman, Roberts, and Green, 1863).

be no more cases of fever." Apparently, "strict quarantine" did not mean that employees could not come and go, even ones whose jobs including bathing the sick children, as this employee's was.[71] As Americans began to accept the germ theory of disease, earlier quarantine measures, reserved for more dreaded diseases, became the norm for all infectious diseases, including scarlet fever.

This shift was due, in large part, to the growing acceptance of germ theory by experts and the general public, alike. In the 1860s and 1870s Robert Koch and Louis Pasteur gathered evidence that supported the theory that pathogens (germs) caused disease, rather than bad air (miasma). Building on this theory, other scientists contributed research that helped create the new science of bacteriology. Koch identified the bacterium that caused tuberculosis, Pasteur created a vaccine for rabies and anthrax after identifying the bacterium that causes those diseases, and other researchers followed suit with other infectious diseases. By the turn of the twentieth century the majority of medical experts had accepted the theory that miniscule bacterium caused infectious disease and the public followed suit in the first few decades of the century. As historians, such as Nancy Tomes, have argued, this transition was not a dramatic shift. Rather, since germs, like miasmas, could not be seen and, on an everyday household level, required many of the same precautions to avoid, the germ theory of disease gained acceptance with the public, despite any scientific complexities.[72] For example, cleanliness had always been a principle of the prevention and treatment of scarlet fever and that continued in the post-germ theory era. What did change was that mothers added quarantine to these practices as scarlet

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[71] Ruth Panis, *Diary.* Manuscript (1904). Cairns Collection of American Women Writers, Special Collections. University of Wisconsin-Madison.

[72] Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge: Harvard University Press, 1998); Latour, *The Pasteurization of France*; Paul De Kruif, *Microbe Hunters* (New York: Harcourt, Brace and Co., 1926).

fever began to be understood to be more like other diseases that they had previously quarantined for.

As the authority of physicians increased over the late nineteenth century and into the early twentieth century, domestic manuals and other sources of expert advice increasingly argued for their presence at the bedside. Some early manuals did stress the role of a doctor, with one 1828 manual warning "I need not caution you against the danger of trifling with complaints of so serious a nature, by attempting to administer remedies of your own suggesting." A doctor was still necessary because even if a mother had experience with scarlet fever, "if we consider experience as a requisite in our medical attendant, how can we find sufficient confidence in ourselves to act without him on occasions so urgent, when we perhaps recollect that our own experience is confined to the knowledge of two or three cases?"[73] This was not the norm in early domestic manuals, however, and it was not until the late nineteenth and early twentieth century that manuals argued that a doctor's presence was absolutely necessary at the bedside of a sick child.

Most manuals prior to the late nineteenth century understood that many mothers would or could not seek out a physician, at least right away, and gave advice accordingly. One 1873 manual admitted that "there are certain things which every mother should know, and which she should be able to put in practice with full confidence in her own knowledge, and it is only when simple remedies fail that a doctor need be summoned."[74] For scarlet fever, the manual noted, "though a doctor is necessary in this disease, there is much that a mother can do without waiting

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[73] Mrs. William Parkes, *Domestic Duties; or, Instructions to Young Married Ladies, on the Management of Their Households, and the Regulation of Their Conduct in the Various Relations of Duties of Married Life* (New York: J. & J. Harper, 1828), 235.

[74] Eliza Bisbee Duffey, *What Women Should Know* (Philadelphia: J. M. Stoddart & Co., 1873), 298.

for orders," and outlined avoiding medications, promoting ventilation, using light bed clothing, a non-stimulating diet, cold water, and a bacon fat rub.[75] This was a common remedy and could also be achieved with oil or butter.[76] A 1853 manual gave detailed instructions regarding this practice:

> In order to make this rubbing-in somewhat easier, it is best to take a piece of bacon the size of a hand, choosing a part still armed with the rind, that we may have a firm grasp. On the soft side of this piece slits are to be made, in order to allow the oozing out of the fat. The rubbing must be thoroughly performed, and not too quickly in order that the skin may be regularly saturated with the fat. The beneficial results of the application are soon obvious; with a rapidity bordering on magic, all, even the most painful symptoms of the disease are allayed; quiet, sleep, good humor, appetite, return; and there remains only the impatience to quit the sick room.[77]

The practice continued into the twentieth century, with a 1904 manual recommended an ointment of sweet oil or unsalted butter to lessen the pain of the rash.[78]

Indeed, remedies involving food and other basic household items can be found throughout domestic manuals, with the indexes of some domestic manuals looking more like recipe books than medical guides. Firstly, manuals argued that a healthy diet could aid in recovery. Many included recipes for easily digested and fattening foods, such as gruels, porridges, jellies, and broths. Secondly, food could be used to treat symptoms, such as the aforementioned bacon rub. One manual recommended a poultice of barm (the froth that grows on top of a fermenting liquid) and oatmeal applied three times a day for the sore throat brought

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[75] Ibid., 310.

[76] Emelyn Lincoln Coolidge, *The Mothers' Manual: a Month by Month Guide for Young Mothers* (New York: A.S. Barnes, 1904): 146-147; Duffey, *What Women Should Know*, 310.

[77] Sarah Josepha Hale, *The New Household Receipt-Book; Containing Maxims, Directions, and Specifics for Promoting Health, Comfort, and Improvement in the Home of the People* (New York: Sheldon Blakeman & Co., 1853): 112.

[78] Maud C. Cooke, *Three Meals a Day: A Choice Collection of Valuable and Reliable Recipes in all Classes of Cookery and a Comprehensive Cyclopedia of Information for the Home including Toilet, Health and Housekeeping Departments, Cooking Recipes, Menus, Table Etiquette, and a Thousand Facts worth Knowing* (Chicago: L.W. Walter, 1902): 507.

on by scarlet fever.[79] To treat the inside of the throat the manual gave a recipe for "acidulated infusion of roses" that contained diluted sulphuric acid, simple syrup, and acid infusion of roses.[80] Finally, common kitchen items, such as vinegar, could also be used as disinfectants.[81] This emphasis on using common household items as disinfectants reflects concerns over cleanliness common to both miasma theory and germ theory.

Mothers could use food for remedies that followed humoral, miasmatic, or germ theories of disease. Though they continued into the twentieth century, humoral treatments, especially purging and enemas, appeared more frequently in pre-germ theory manuals. An 1848 manual recommended purging children under four years of age with ipecacuanha powder and using a tartar emetic for children over four years of age.[82] One grain in six ounces of water administered every half hour would induce vomiting.[83] A 1756 domestic manual recommended enemas for everything from constipation to scarlet fever. The author offered this recipe for a "common glyster:"

> Take Leaves of Mallows, Leaves of Mercury, and Flowers of Camomile, of each a Handful; Fennel-Seed a Quarter of an Ounce, Lint-Seed Half an Ounce, and coarse Sugar one Ounce; Boil all these in a Pint and Half of Water for Quarter of an Hour, then strain off the Liquor; add to it two Spoonfuls of Sweet Oil, and give it blood warm.[84]

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[79] Barm is the foam that forms on top of a fermenting liquid and is the ancestor of most current forms of brewer's and baker's yeasts.
[80] Pye Henry Chavasse, *Advice to a Wife on the Management of Her Own Health* (New York: George Routledge, 1873), 151-152
[81] Martha Bradley, *The British Housewife, or, The Cook, Housekeeper's and Gardiner's Companion* (Blackawton, Devon: Prospect Books, 1756), 463.
[82] The ipecacuanha plant was a member of the Rubiaceae family, but it is no longer recognized. It is known for its emetic and counter-irritant qualities.
[83] Webster, *An Encyclopaedia of Domestic Economy,* 1185.
[84] Bradley, *The British Housewife,* 377-378.

Most of these emetics and enema recipes contain common household items, especially ingredients easily found in any kitchen. They also assumed a certain level of understanding about how and when to administer them, primarily in understanding humoral medicine. For example, a mother had to know what humor was associated with fevers and what the corresponding balancing treatment was.

While many American homes possessed a domestic manual, many of the recommendations that domestic manuals made could also be found in popular literature. Indeed, the ubiquity of scarlet fever in the late nineteenth and early twentieth centuries can be demonstrated by its appearance in several popular children's books, including, but not limited to, *Little Women* (1868), *The Velveteen Rabbit* (1922), and *Little House on the Prairie* (1935). From these and many other popular sources even a family that hadn't experienced scarlet fever could learn the signs and even preventive and treatment measures. For example, in *The Velveteen Rabbit* the fever that often signaled the beginning of a scarlet fever infection is described, as, "the Boy's ...face grew very flushed, and he talked in his sleep, and his little body was so hot that it burned the Rabbit when he held him close." As the boy recovered the book detailed common hygienic practices of the time, especially the principle of disinfection, "the room was to be disinfected, and all the books and toys that the Boy played with in bed must be burnt," even the Velveteen Rabbit: "'*That*?' said the doctor. 'Why, it's a mass of scarlet fever germs! - Burn it at once. What? Nonsense! Get him a new one. He mustn't have that any more!'"[85]

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[85] M.W. Bianco, *The Velveteen Rabbit; or, How Toys become Real* (Garden City, NY: Doubleday, 1922): 27.

The doctor's order to burn the Velveteen Rabbit was a common method of disinfection at least as old as the Black Death, but in the nineteenth and twentieth centuries Americans increasingly relied on disinfectants and fumigants. Prior to the introduction of disinfecting products, such as Lysol, parents could find recipes for disinfectants and fumigants in domestic manuals. The continued use of fumigants into the twentieth century demonstrate the continued impact of the miasma theory of disease, as the fumes produced by the fumigant chased away the "bad" air causing disease. One manual argued that nitrous acid destroyed contagion, "place a little saltpeter on a saucer, and pour on it as much oil of vitriol as will just cover it; a copious discharge of acid gas will instantly take place."[86] Other manuals gave suggestions for basic disinfectants, such as choloralum, carbolic acid, chloride of lime, and the popular patent disinfectant, "Condy's fluid."[87] These were to be followed by airing out of the sickroom, "air, air, air, is the best disinfectant, curative, and preventative of scarlet fever in the world!"[88] Germ theory also rationalized these practices, as many experts felt that harsh chemicals in the air and bright daylight could kill airborne germs.

While *The Velveteen Rabbit* featured scarlet fever and its treatment as a plot device, some works of literature even featured domestic manuals themselves. The importance of domestic manuals to the treatment of scarlet fever is highlighted in Louisa May Alcott's classic novel *Little Women*. First, Beth is traumatized when an infant with scarlet fever dies in her arms, "it seemed asleep, but all of a sudden it gave a little cry, and trembled, and then lay very still. I tried to warm its feet, and Lotty gave it some milk, but it didn't stir, and I knew it was dead."[89] Too poor

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[86] Abell, *The Skilful Housewife's Book*, 75.

[87] "Editorial," *Nursing Record* (June 16, 1892): 493

[88] Pye Henry Chavasse, *Advice to a Wife on the Management of Her Own Health* (New York: George Routledge, 1873), 158.

[89] Louisa May Alcott, *Little Women* (New York: Modern Library, 2000): 172.

to call a doctor, Mrs. Hummel had tried to treat her baby herself, along with her two other children with sore throats. The doctor orders Beth home, prescribing belladonna. Once home Beth finds her sister Jo right away, confirms that she has already had scarlet fever, and looks up what to do in their domestic manual. Beth tells Jo "I looked in mother's book, and saw that it begins with a headache, sore throat, and queer feelings like mine, so I did take some belladonna, and I feel better."[90] The girls consult the manual further and decide to call the doctor "just to take a look at you, dear, and see that we start right, then we'll send Amy off to Aunt March's for a spell, to keep her out of harm's way, and one of you girls can stay at home and amuse Beth for a day or two."[91] Amy protests, but is told that "scarlet fever is no joke, miss."[92] Jo nurses Beth through the illness and, although she eventually recovers, she remains sickly for the remainder of her life. Beth's death later in the book is the defining tragedy of the March family. Although a work of fiction, Beth's eventual death from complications from scarlet fever was based in fact. As we will see later with rheumatic fever, secondary infections from scarlet fever could lead to lifelong disability and eventual death.

Beth's experience with scarlet fever appears to be a realistic portrayal of the disease, from exposure, to home remedies informed by domestic manuals, to isolation of the sick. Readers did not always read accurate advice or other information about scarlet fever, however. In the *Little*

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[90] Belladona has been used throughout history for a variety of ailments. In the nineteenth century Homeopathic physicians recommended it for inflammation in the head, throat, and ears. See: C. Ulbricht, E. Basch, P. Hammerness, M. Vora, J. Wylie Jr, and J. Woods, "An evidence-based systematic review of belladonna by the natural standard research collaboration," *Journal of Herbal Pharmacotherapy* 4, no. 4 (2004): 61–90.

[91] Alcott, *Little Women,* 173.

[92] Ibid, 174.

House on the Prairie books, Mary Ingalls supposedly goes blind from a case of scarlet fever, but in Laura Ingalls Wilder's unpublished memoir, *Pioneer Girl,* she recounts that

> Mary was taken suddenly sick with a pain in her head and grew worse quickly. She was delirious with an awful fever... We feared for several days that she would not get well and one morning when I looked at her I saw one side of her face drawn out of shape. Ma said Mary had had a stroke.... After the stroke Mary began to get better, but she could not see well. Pa had Dr Welcome come to help Dr Hoyt with them, but he said the nerves of her eyes had the worst of the stroke and were dying, that nothing could be done. They had a long name for her sickness and said it was the results of the measles from which she had never wholly recovered.[93]

For whatever reason, the book and later television series, however, portrayed Mary's blindness as a result of scarlet fever, not measles. Scarlet fever was more commonly associated with hearing loss, not blindness, especially if a case of acute rheumatic fever followed the illness. A 1923 *Farmer's Journal* article on scarlet fever noted that, “abcess [sic] of the middle ear is common and requires skilled attention, as frequently the drum must be opened to evacuate the pus.”[94] In the 1920s and 1930s the Children's Bureau advised, and some of the mothers who wrote the Bureau mention, this practice, viewing the end of discharge as a sign of the disease ending.[95] Letters to popular magazines like *Ladies' Home Journal* and *The Farm Journal* support letters to the Children's Bureau, that mothers feared hearing loss as a lasting disability from scarlet fever. Thus, from the *Little House* books, a reader might obtain an incorrect view of scarlet fever and confuse it with measles if they had the misfortune of experiencing one of those diseases. To be

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[93] Laura Ingalls Wilder, *Papers, 1894-1943*, Rose Wilder Lane Collection, Herbert Hoover Presidential Library, West Branch, Iowa, C3633.

[94] Walter Ramsey, M. D., "Scarlet Fever - Scarlatina: Regard Every Case, However Mild, as Most Serious," *The Farmer's Wife* (March 1923), 357.

[95] M.A.C Skelton to Children’s Bureau, 1924, *Children's Bureau Records* (189), National Archives, College Park, MD; W.B. Wineman, M. B. to Children’s Bureau, 1934, *Children's Bureau Records* (498), National Archives. College Park, MD.

fair, many physicians also confused the two diseases, as they both started with similar symptoms and not every child with scarlet fever exhibited all of the possible symptoms.

The fact that the symptoms, treatment, prevention, and side effects of the disease appeared as pivotal plot devices in several popular children's books points to not only its commonplace nature, but also to the variety of sources that Americans could access information about the disease. The authors of these books assumed a general knowledge of scarlet fever and helped keep its presence alive in popular culture. Mothers read *The Velveteen Rabbit* to their children and may have grown up identifying with one of the March sisters in *Little Women*. To this day, the *Little House* books and television series contribute to a narrative about American identity and history.[96] Despite what public health officials may have wished, people learned about disease from multiple sources, some more accurate than others. Public health boards complained that parents often confused scarlet fever with other diseases, deliberately or unintentionally did not follow quarantine measures, or treated the disease as a "necessary evil." If their source of information about the disease was the *Little House* books, one could see how they obtained an incorrect idea of the disease.

Indeed, even public health officials themselves often held conflicting, contradictory, and inaccurate views about the disease. Part of this confusion and conflict was the fact that epidemics like the one Milwaukee experienced in 1935 happened during an evolution of disease theories. Although miasmatic and humoral practices continued in both the home and in public

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[96] Caroline Fraser, *Prairie Fires: The American Dreams of Laura Ingalls Wilder* (New York: Metropolitan Books, 2017); Anita Clair Fellman, *Little House, Long Shadow: Laura Ingalls Wilder's Impact on American Culture* (Columbia, MO: University of Missouri Press, 2008); John E. Miller, *Laura Ingalls Wilder and Rose Wilder Lane: Authorship, Place, Time and Culture* (Columbia, MO: University of Missouri Press, 2008).

health departments, the germ theory of disease had begun to take hold as well. We can see this in how preventive and treatment measures remained relatively constant for centuries, but the rationale behind them changed. In a shift brought on by an increased acceptance of germ theory, the use of quarantines and hygienic practices increased over time. We can see this both in how the city of Milwaukee shifted from voluntary hospitalization in the isolation hospital and quarantining of affected public institutions to mandatory and heavily enforced policies over the course of the epidemic. Nationally, mothers received advice in magazines, manuals, and from their doctors that also emphasized quarantine. Throughout the nineteenth century, this advice reflected older ideas of disease transmission, but by 1935 even centuries-old advice was justified with newer ideas, informed by germ theory. Next, we will explore how all of this played out in Milwaukee in 1935.

GERM THEORY IN 1935 MILWAUKEE

The acceptance of germ theory was a long process, promoted by public health departments, but not always accepted by parents, physicians, or even public health officials. In particular, the miasma theory, the ancient theory that bad air caused disease, remained a compelling explanation for disease transmission at a time when rapid urbanization and industrialization produced copious waste, pollution, and unsanitary housing and working conditions. Germ theory coexisted with miasma, zymotic, filth and other similar theories of disease transmission because preventive measures for all of these theories involved essentially the same thing: better sanitation, clean water, and hygienic homes.[97] For example, in 1883 the Wisconsin Board of Health distributed a circular explaining how to prevent and treat scarlet fever. In it, the Board emphasized avoiding contact with sick persons or anything they had touched, but called the infectious agent a "poison." The circular outlined the best sickroom ("large, cheerful, well ventilated, situated on an upper floor, and as much as possible separated from the rooms occupied by the other members of the family"), characteristics of the caregiver (someone who has had the disease already, but "if through necessity a mother or other person who has never had Scarlet Fever is compelled to act as nurse, she should take the additional precaution not to mingle with other susceptible persons"), and sickroom disinfection ("an abundance of fresh air… a strong solution of Sulphate of Iron [or] Sulphate of Zinc").[98] These instructions blended older practices recommended by domestic manuals and newer scientific practices informed by germ theory.

Periodic epidemics helped emphasize the dangerous nature of the disease and the merits of isolation to parents and public health officials alike, but they also continued to fuel tension. The Wisconsin State Board of Health felt hopeful that residents had seen the value of isolation for infectious disease after 1880.[99] The winter of 1880-1881 was one of the worst in Wisconsin history. Called the "Winter of the Big Snow," a March snowstorm brought 40 foot drifts and 27 below temperatures. Boats were thrown 80 miles off course and an entire wedding party disappeared on Lake Michigan. The cold and snow kept families inside for much of the winter –

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[97] Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life (*Cambridge, MA: Harvard University Press, 1998).

[98] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1883): 58-64. Sulphate of Iron and Sulphate of Zinc are currently used in landscaping for moss control.

[99] Wisconsin Department of Vital Statistics, *Annual report of the State Board of Health of the State of Wisconsin for the year ending 1881* (Madison, WI: Wisconsin State Board of Health, 1881): xi-xiii, 115.

a perfect recipe for scarlet fever.[100] The city had increased isolation enforcement, hoping it would decrease mortality, but this also fueled tension.[101] In 1894, Milwaukee citizens rioted in opposition to isolation policies enacted in response to a smallpox epidemic. Armed citizens prevented public health officials from removing children from their homes, the city health commissioner was impeached, and the city built a new isolation hospital as soon as the epidemic ceased.[102] Of note, the state's law that every municipality over 100,000 residents have an isolation hospital passed the following year. The isolation hospital demonstrates a compromise between the city and the public, as well as the transition from the miasma to germ theory of disease. While the state mandated cities build isolation hospitals, they did not mandate that citizens had to seek treatment there. Similarly, in 1897, when the Wisconsin Board of Health adopted the diphtheria anti-toxin, the Board of Health noted that if the state wanted to truly eradicate the disease they needed to correct "improper drainage" that caused "damp cellars under houses, and stagnant water on the surface of the ground," suggesting that older, miasmatic theories of disease still persisted.[103] Clearly, newer theories of disease still existed alongside older ones.

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[100] "Fall Blizzard 42 years ago began 'Winter of the Big Snow," *Milwaukee Journal*, October 15, 1922.

[101] Wisconsin Department of Vital Statistics, *Annual report of the State Board of Health of the State of Wisconsin for the year ending 1881* (Madison, WI: Wisconsin State Board of Health, 1881): lxv.

[102] Richard L. Stafanik, "The Smallpox Riots of 1894," *Historical Messenger* (December 1970); Leavitt, *The Healthiest City*.

[103] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1897): 130.

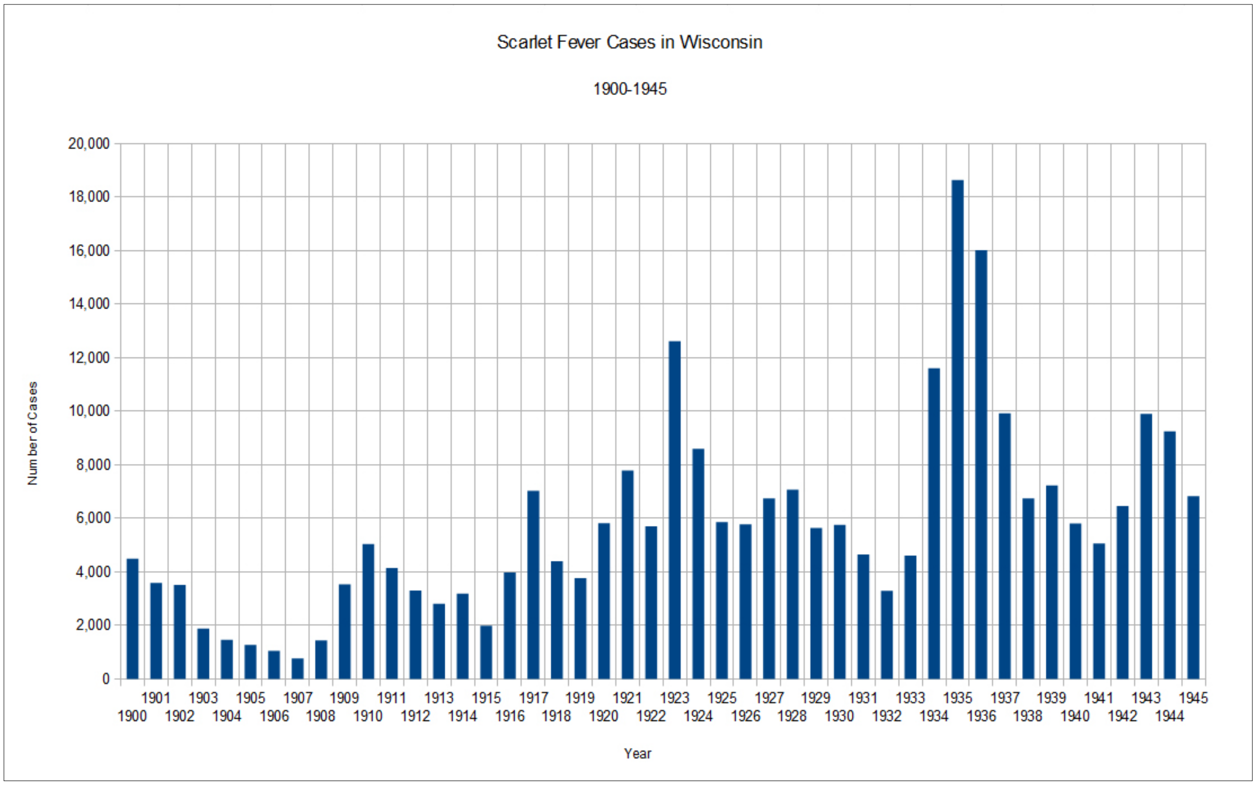

Figure 1.1. Scarlet Fever Cases in Wisconsin, 1900-1945. Compiled by author from Wisconsin State Board of Health. *State Board of Health Reports, 1876-1940.*

By the winter of 1899-1900 the state saw a significant shift in disease trends in Wisconsin. Scarlet fever mortality dropped to 3%, despite a spike in cases, with almost 2000 cases in Milwaukee alone. The Board of Health reported, "it will be observed that this disease has been quite prevalent during the past year, but it has been of an extremely light character, the mortality being very low as compared with some years previous, the disease having been so light in many instances that no physicians was called, and hence it has spread in many localities without any precautions having been taken."[104] They credited their successes to the employment of health officers making house-to-house inspections at regular intervals, the placement of

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[104] Wisconsin Department of Vital Statistics, *Annual Report of the State Board of Health of the State of Wisconsin for the Year Ending 1900* (Madison, WI: Wisconsin State Board of Health, 1900): 20.

medical inspectors in schools, disease reporting, and the distribution of literature to the public – but not quarantine or school closures. These measures, however, reflected a trend toward narrowing public health efforts to identifying and containing infected individuals and not the improvement of housing, sanitation, water, or food quality, as public health departments had focused their efforts on when the miasmatic theory of disease dominated.[105]

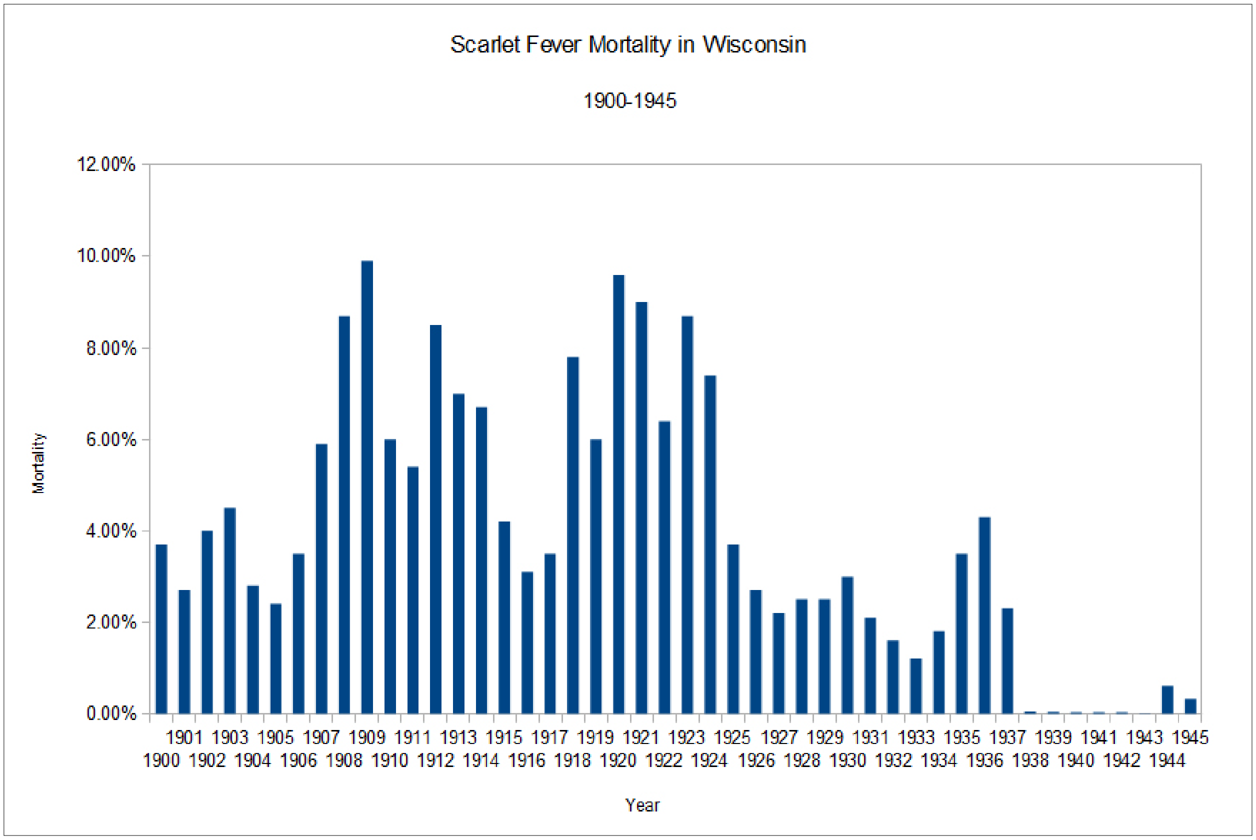

Figure 1.2. Scarlet Fever Mortality in Wisconsin, 1900-1945. Compiled by author from Wisconsin State Board of Health. *State Board of Health Reports, 1876-1940.*

The State Board of Health only mentioned school closures on a case-by-case basis, with individual schools closing when local epidemics arose, and they continued to express concern

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[105] Rosenberg, *The Cholera Years*; George Rosen, *A History of Public Health* (Baltimore: Johns Hopkins University Press, 1993); James H. Cassedy, *Charles V. Chapin and the Public Health Movement* (Cambridge: Harvard Univ. Press, 1962); John Duffy, *A History of Public Health in New York City* (New York: Russell Sage Foundation, 1974).

over enforcing isolation and case reporting by doctors.[106] Home isolation relied on doctors reporting cases and the family having the means to carry it out. It was the responsibility of the patient or their caretaker to pay for the quarantine and any related costs, such as loss of wages, nursing, or doctor's bills, although indigent cases received public assistance. After death or recovery, however, "the city, incorporated village, or town, upon the order of the local board of health" paid for "disinfecting and cleansing, so as to effectually destroy the contagion." This process "shall be carried out according to methods endorsed and recommended by the State Board of Health."[107] The specifics of these methods changed over the first few decades of the twentieth century, but included some variation of airing the sickroom out with fresh air, burning any items the patient touched, boiling any clothing or linen used in the sickroom, and soaking items that could not be burned or boiled (such as dishes used to feed the patient) in a disinfectant. Specific recommended disinfectants varied over time from a solution of Sulphate of Iron to formaldehyde. The Wisconsin Board of Health wavered on its promotion of fumigation with a gaseous version of these disinfectants and by the 1935 epidemic did not promote it, suggesting a final rejection of miasmatic theories of disease.[108]

Disinfectants and fumigants had long been domestic medicine practices, even prior to germ theory. For the public, vaccinations and antitoxins were the most visible benefit and application of the new germ theory of disease. In fact, the discovery of the bacillus that causes

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[106] Wisconsin Department of Vital Statistics, *Annual Report of the State Board of Health of the State of Wisconsin for the year ending 1906* (Madison, WI: Wisconsin State Board of Health, 1906): 57-58.
[107] Wisconsin Department of Vital Statistics, *Annual report of the State Board of Health of the State of Wisconsin for the year ending 1908* (Madison, WI: Wisconsin State Board of Health, 1908): 11.
[108] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1883), 61; "Wisconsin: Communicable Diseases. Morbidity Reports. Quarantine. Disinfection. (Reg. Bd. of H., Oct. 9, 1913)." Public Health Reports (1896-1970) 29, no. 7 (1914): 442; Koehler, "Recent Experiences in Scarlet Fever Control," 1362.

the childhood disease diphtheria in 1894 was one of the first applied uses of germ theory, along with the rabies (1885) and tuberculosis (1908) vaccines.[109] The diphtheria anti-toxin and rabies and tuberculosis vaccines offered powerful proof that the germ theory was not only correct, but offered concrete treatment options. In the case of diphtheria, Edwin Klebs identified the bacterium that causes diphtheria in 1883 and by 1892 this knowledge was used to create an antitoxin that effectively cured the disease. Newspapers quickly and sensationally covered the discovery of the diphtheria anti-toxin. This coverage promoted enthusiasm about medical discovery and described, in detail, how researchers discovered the anti-toxin and how bacteriological laboratories produced it. Parents still had to wait for their city to begin producing the diphtheria anti-toxin and find a way to obtain it, however.[110]

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[109] Eveylnn Hammonds, *Childhood's Deadly Scourge: The Campaign to Control Diphtheria in New York City, 1880-1930* (Baltimore, MD: The Johns Hopkins University Press, 1999).

[110] Bert Hansen, "New Images of a New Medicine: Visual Evidence for the Widespread Popularity of Therapeutic Discoveries in America after 1885," *Bulletin of the History of Medicine* 73, no. 4 (Winter 1999): 629-678.

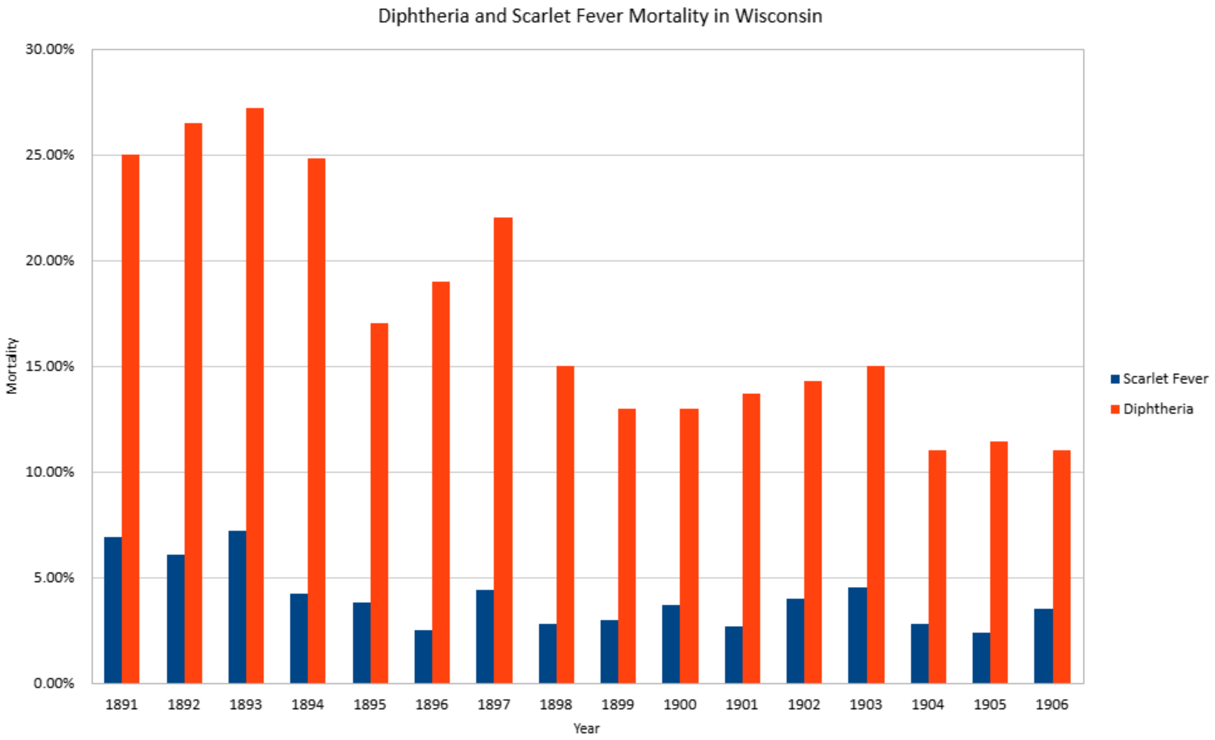

Figure 1.3. Diphtheria and Scarlet Fever Mortality Rates, 1891-1906. Compiled by author from Wisconsin State Board of Health. *State Board of Health Reports, 1876-1940.*

Even with this enthusiasm, there could still be resistance to the new treatment, from both parents and from physicians. For example, in large cities like New York and Philadelphia public health departments attempted to find cases by identifying the diphtheria bacillus in throat cultures submitted to the city laboratory, but some doctors resisted. Some may have not accepted germ theory yet, but many simply felt that their clinical experience trumped new bacteriological, lab-based case finding methods.[111] Coexisting disease transmission theories did not prevent public health departments from producing the newly discovered diphtheria anti-toxin while also

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[111] Gretchen A. Condran. “The Elusive Role of Scientific Medicine in Mortality Decline: Diphtheria in Nineteenth- and Early Twentieth-Century Philadelphia,” *Journal of the History of Medicine and Allied Sciences* 63, no. 4 (October 2008): 499; Paul Weindling, “From Medical Research to Clinical Practice: Serum Therapy for Diphtheria in the 1890s,” in *Medical Innovations in Historical Perspective*, John V. Pickston, ed. (New York: St. Martin's Press, 1992), 72-83.

continuing older practices of sanitation and providing clean water. Soon more cities joined New York and Philadelphia, creating laboratories to manufacture diphtheria anti-toxin, and mortality rates rapidly dropped.[112] Despite also continuing sanitation efforts to combat the disease, the Wisconsin State Board of Health speculated in 1895 that the decline in mortality from diphtheria could be the result of the anti-toxin.[113]

It wasn't until the 1920s that germ theory seemed to have offered some solution to scarlet fever, when Drs. George and Gladys Dick confirmed streptococcus as scarlet fever's causative agent and developed an antitoxin serum, but the treatment never became widely used by physicians or public health departments.[114] Throughout the 1910's and 1920's a series of experiments attempted to find an effective treatment for scarlet fever, but proved to have too many dangerous side effects, especially considering the primary patients were children.[115] Experiments with both convalescent serum (the toxin extracted from an infected individual) and normal blood (unfiltered blood from an infected individual) resulted in dangerous side effects and even death in enough cases that use of a treatment made from the blood of infected patients never became popular.[116] In addition, effective immunization took at least five doses spread out over weeks. During the 1935 epidemic, the Milwaukee County Medical Society attacked Health Commissioner Koehler's immunization and quarantine measures at an April 1935 meeting. In a

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[112] Hansen, "New Images of a New Medicine"; Elizabeth Fee and Evelynn M. Hammonds, "Science, Politics, and the Art of Persuasion: Promoting the New Scientific Medicine in New York City," in *Hives of Sickness: Public Health and Epidemics in New York City*, ed. David Rosner (New Brunswick, N.J.: Rutgers University Press, 1995), 155-96; Hammonds, *Childhood's Deadly Scourge*.

[113] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1895): 36.

[114] G.H. Dick, "Recent Developments in Scarlet Fever." *The American Journal of Nursing* 24, no. 12 (1924): 942.

[115] Daniel D. Smith, *Serum Treatment of Scarlet Fever* (PhD diss., University of Nebraska, 1934).

[116] P.A. Bly, "The Treatment of Scarlet Fever," *New York State Journal of Medicine* 26 (April 1926): 309-312; A. H. G. Burton and A. R. Balmain, "Scarlet Fever: Some Aspects of Bacteriology and Serum Treatment," *Lancet*, 2 (September 1929): 545-550.

speech Dr. M.G. Peterman argued that “the case of immunization has not been proved,” and “until its value has been proved in the laboratory I do not think we should experiment upon children.”[117]

Notwithstanding the Medical Society’s opinion, Health Commissioner Koehler strongly believed that immunization, not quarantine would prevent future epidemics. In fact, earlier in 1934 the Board of Health had attempted to immunize children with the Dick antitoxin, but confined the program to 6,000 children under seven “due to lack of funds and lack of support on the part of a large percentage of family physicians.”[118] Even though he supported immunization, Koehler reported that health departments and physicians “will find it more difficult to immunize children against scarlet fever on account of the many severe reactions.”[119] For example, during the Milwaukee immunization campaign, “whenever possible, all immunization work in schools was done in the afternoon. Some children immunized during the forenoon vomited during the afternoon and upset the entire classroom.”[120] Despite these problems, Koehler argued that if the immunization program had been allowed to continue, “there is every reason for believing that the epidemic would have been controlled much sooner than it was.”[121] The program was not continued, however, due to “lack of funds and lack of support on the part of a large percentage of family physicians.”[122]

During the April 1935 meeting of the Milwaukee Medical Society Koehler countered Dr. Peterman by arguing that he could not “answer the criticisms of these speakers in the five

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[117] "Doctors Attack Fight on Fever." *The Milwaukee Journal*, April 13, 1935, 6.
[118] Koehler, "Recent Experiences in Scarlet Fever Control," 1361.
[119] Ibid., 1360.
[120] Ibid.
[121] Ibid., 1361.
[122] Ibid.

minutes you have allotted me," but that he thought that "quarantine and isolation won't control a scarlet fever epidemic."[123] Koehler later argued, in his retrospective report published in the *American Journal of Public Health*, that "the value of quarantine during a scarlet fever epidemic in a large community is becoming more questionable every year." In fact, he concluded that, "during an epidemic it is almost worthless, as far as tangible results go."[124] The Health Commissioner even compared isolation to fumigation, as both being outdated public health measures, stating, "I am wondering whether absolute quarantine of entire families for scarlet fever should not be put in the class with fumigation, in which the public and health officers had so much confidence a few years ago."[125] With these remarks, Koehler seemed to be reflecting a position that public health efforts should narrow to bacteriology and ignore environmental concerns.

Yet, Koehler also argued that, "the quarantining of entire families for several weeks is not only a great inconvenience, but also such a tremendous economic loss for health departments as well as the families, that I am beginning to wonder whether the results justify the effort and expense."[126] Perhaps most scathingly, Koehler concluded his report by arguing that "public health officials have reason to point with pride to achievements in typhoid fever, smallpox, and diphtheria control, but when it comes to the control of scarlet fever, they have been too easily satisfied with large and attractive isolation hospitals and the annual imprisonment for a period of 3 to 6 weeks of thousands of our most law abiding families."[127] In fact, early in the epidemic Koehler had called for reducing the quarantine from four to three weeks and permitting the

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[123] "Doctors Attack Fight on Fever." *The Milwaukee Journal*, April 13, 1935, 6.
[124] Koehler, "Recent Experiences in Scarlet Fever Control," 1363.
[125] Ibid., 1362.
[126] Ibid., 1362-63.
[127] Ibid., 1366.

family wage earner to come and go as needed in a quarantined home.[128] Koehler did note that the school ban had worked in reducing cases, but feared asymptomatic carriers would continue to threaten future epidemics, thus justifying Dick tests to identify cases. Thus, Koehler's reasons for narrowing public health efforts to immunization appear to have been motivated by alleviating the social and economic burden quarantine placed on families.

Koehler's approach to scarlet fever anti-toxin may have been informed by his experience with smallpox, ten years earlier. The 1894-1895 smallpox epidemic in Milwaukee had proved so contentious that the Board of Health had lost some of its powers, had its commissioner impeached, and the public had rioted against mandatory vaccinations. When an epidemic threatened the city again in 1925, commissioner Koehler was successful in vaccinating 423,000 residents, largely through education campaigns in coordination with newspapers, radio, businesses, and community organizations. As documented by historian Judith Leavitt, campaigns like the 1925 anti-smallpox campaign represented a model for successful public health policy in Milwaukee. Other public health campaigns, such as milk and garbage regulation, also relied on a broad coalition of business, political, and community support for success. When the Board of Health relied on coercion, as with the 1894-1895 smallpox epidemic, they met with heavy resistance.[129] We can see with the scarlet fever epidemic of 1935, that, despite Koehler's preference for immunization, when he found he did not have the support for it, he fell back on quarantines and school closures.

Thus, despite Koehler's praise of the Dick antitoxin he met with resistance from an important ally – the medical community. For physicians, the cost, available resources, and the

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[128] "Easing of Scarlet Fever Quarantine Rule Urged." *The Milwaukee Sentinel*, October 24, 1934, 1.
[129] Leavitt, *The Healthiest City*.

complexity of the process made the therapy problematic. The scarlet fever anti-toxin serum required the blood of an active case of human scarlet fever and studies did not suggest that the resulting immunization was successful enough to warrant the effort. One Chicago laboratory reported on their scarlet fever serum therapy in the fall of 1935 that, "In 11 per cent, of the cases treated, the response was considered excellent.... In 44 per cent, a good effect was reported. This gives a total of 55 per cent, of the patients who were undoubtedly benefited by the serum treatment."[130] Serum centers, like Chicago, claimed that their major obstacle to widespread use was the limited supply, but serums for other diseases, such as pneumonia, met with resistance from doctors, who found them difficult to deliver, risky, carried the possibility of severe side effects, painful, and challenging their own authority with patients, as laboratory tests replaced physician expertise.[131] As historians Connolly, Golden, and Schneider have also pointed out and at least some physicians in Milwaukee voiced their concerns about, using novel treatments created ethical challenges for physicians when dealing with children.

Nationally, physicians and public health officials remained conflicted on the effectiveness of a scarlet fever antitoxin serum. At the annual conference of the United States Public Health Service in 1926, the members agreed that, while the scarlet fever toxin worked well as a test of susceptibility and identification for immunization, “the use of scarlet-fever streptococcus antitoxin, either for passive immunization or for the treatment of the individual ill with scarlet

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[130] "Scarlet Fever Yields Serum," *The Literary Digest*, September 28, 1935, 1. Serum and antitoxin could be used interchangeably at this time, as antitoxins were made from the blood product (“serum”) of immunized animals

[131] Archibald L. Hoyne, M.D., Sidney O. Levinson, M.D., and William Thalhimer, M.D. "Convalescent Scarlet Fever Serum," *JAMA* 105, no. 10 (1935): 7; William Thalhimer, M.D. and Sidney O. Levinson, M.D. "Pooled Convalescent Scarlet Fever Serum Treatment of Diverse Streptococcic Infections," *JAMA* 105, no. 11 (1935): 3; Harry M. Marks, *The Progress of Experiment: Science and Therapeutic Reform in the United States, 1900-1990* (Cambridge University Press, 1997).

fever, is not yet founded on sufficient clinical data to permit a mature opinion as to the efficacy of this form of treatment."[132] These debates and concerns were not limited to experts, however, and in the mid 1930s the Children's Bureau answered a notably high number of letters from parents on the issue. The Bureau replied to a mother in Cleveland, Ohio in 1934, "It is true that there are conflicting opinions as to whether or not children should be immunized against scarlet fever as a routine matter with the toxins at present available commercially, partly because of the rather stormy, though seldom serious, after-effects, and also because immunity frequently does not last more than a year or two." However, the Bureau believed that "the situation is different when a child has been definitely exposed to scarlet fever, or is likely to be because of an epidemic, and under these circumstances many physicians feel that immunization is justified."[133] Fitting with the Children's Bureau's standard policy of deferring to physician opinion, they continued to recommend that mothers ask their family physician about the scarlet fever antitoxin serum.[134]

These debates demonstrate two important aspects of the history of public health: the tensions that continued between physicians and public health departments and the contentious acceptance of germ theory as represented, in this case, by immunizations. Koehler blamed the length and size of the 1935 epidemic on the failure to enact an immunization campaign, which he specifically cited physician opposition to it as a large factor. As public health departments grew in the late nineteenth and early twentieth centuries tensions with local physicians arose,

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[132] M. V. Veldee. "The Present Status of Streptococcus Biologic Products in the Prevention and Treatment of Scarlet Fever," *Public Health Reports (1896-1970)* 45, no. 32 (1930): 1827.
[133] M.I. Selman to Children's Bureau, 1934, *Children's Bureau Records* (498), National Archives, College Park, MD.
[134] Viviene Chewning to Children's Bureau, *Children's Bureau Records* (4-5-16-3), National Archives, College Park, MD.

especially over authority and areas of expertise. Some public health agencies, such as the Children's Bureau, deferred to physicians, while others, such as Koehler, challenged medical opinion. In the case of scarlet fever, physicians not only saw a lack of evidence supporting an anti-toxin but felt that their diagnostic criteria was superior to a bacteriological test.

Khoeler's frustration with resistance to immunization recalls other incidents in the history of public health in the first half of the twentieth century, especially surrounding the "new" public health. Like the New York Board of Health, who found narrowing their efforts to bacteriological solutions to typhoid thwarted by healthy carrier cases, such as "Typhoid Mary," Khoeler found that without widespread support from both parents and physicians, a narrower approach would not work. As opposed to cases like "Typhoid Mary," however, Khoeler based his insistence on immunization over isolation on a purported concern for the socio-economic position of parents. Thus, while some historians have argued that the "new" public health narrowed the focus of public health departments, examples such as this demonstrate that at least some public health departments saw a narrowing as addressing larger societal problems.[135] This case, then, adds to the arguments made by other historians, that the "new" public health still contained social and political concerns that went beyond the laboratory.[136] Furthermore, this case illustrates that bacteriology itself could have social and political concerns.

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[135] Starr, *The Social Transformation of American Medicine*, 190, 196; Rosenkrantz, *Public Health and the State*; John Duffy, *The Sanitarians: A History of American Public Health* (Urbana: Univ. Illinois Press, 1990); Rosen, *A History of Public Health*.

[136] Judith Walzer Leavitt, "Typhoid Mary" Strikes Back Bacteriological Theory and Practice in Early Twentieth-Century Public Health." *Isis* 83, no. 4 (1992): 608-29; 2 Brandt, *No Magic Bullet*; John Ettling, *The Germ of Laziness: Rockefeller Philanthropy and Public Health in the New South* (Cambridge, Mass.: Harvard Univ. Press, 1981); Nancy Tomes, "The Private Side of Public Health: Sanitary Science, Domestic Hygiene, and the Germ Theory, 1870-1900, " *Bulletin of the History of Medicine*, 64 (1990): 509-539; Rogers, *Dirt and Disease*; and Bates, *Bargaining for Life*.

These debates, while reflecting national trends in public health, did not constitute a dramatic change for domestic medicine. Even if there had not been doubt about the safety or efficacy of the scarlet fever antitoxin, that does not mean that it meant less work for mothers. For example, in the case of sulfa drugs, patient records reveal that new therapies, despite their seeming effectiveness, created the need for more bedside and nursing care, rather than less.[137] In addition to the labor intensive manufacturing process, serum therapies could cause many side effects, including fatal ones. In the case of sulfonamide therapy, children still needed intravenous drips, oxygen, tracheostomy tubes, and artificial respiration. Since the first waves of diphtheria and scarlet fever antitoxins were given primarily to already sick children, the patients still needed to be nursed back to health. Even when the antitoxin was given to a well childhood isolation might still be required due to the chance of exposure. Finally, the task of seeking out and obtaining the vaccine or antitoxin fell to mothers.

Results from the Milwaukee Convalescent Serum Center reveal the continued reliance on the labor of mothers in treating scarlet fever, even in the administration of the anti-toxin. In addition to the immunization campaign that Koehler instituted in Milwaukee in early 1934, a private-public partnership attempted to provide convalescent serum in the city at the height of the epidemic. Announced on February 10, the Milwaukee Convalescent Serum Center was a partnership between the city and Columbia hospital and funded by an anonymous donor.[138] *The Milwaukee Journal* reported that a wealthy philanthropist had paid to have the serum delivered

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[137] Cynthia Connolly, Janet Golden, and Benjamin Schneider. "“A Startling New Chemotherapeutic Agent”: Pediatric Infectious Disease and the Introduction of Sulfonamides at Baltimore’s Sydenham Hospital," *Bulletin of the History of Medicine* 86, no. 1 (2012): 66-93.

[138] The anonymous donor has since been identified as A.O. Smith, owner of the A.O. Smith Corporation: Milwaukee Academy of Medicine, *Newsletter,* IX (June 2004), 7. The Milwaukee Convalescent Serum Center still exists as the Blood Center of Wisconsin, part of Columbia St. Mary’s Hospital.

from Chicago for his own sick child and “the center will be the 'thank you' gift for the cure that came” for his child.[139] Although the serum center did not seem to have any immediate benefits to the city, the center benefited from being in the midst of such a large epidemic. Scarlet fever serum was made from human, rather than horse, blood, thus requiring the existence of many blood donors exposed to the disease. After obtaining a pint of blood from a donor, the center would provide the serum “to any patient in Wisconsin through private physicians and boards of health... under certain conditions they will be free to the indigent. In some cases they will be available at cost.” The city would purchase some serum themselves to provide for free to the needy, but only for the “very sick,” with the hopes “that those patients will voluntarily donate blood for making serum to be given to some other patient” and that “adult victims of scarlet fever who are of sturdy build would be asked whether they cared to sell additional quantities of their blood at a fair price.”[140]

A few years after Milwaukee's epidemic the Milwaukee Convalescent Serum Center published their initial results, concluding that given early enough and under certain conditions the serum effectively reduced scarlet fever mortality and diminished symptoms. Of note, the findings reveal that not only did mothers perform some of the duties usually identified with medical professionals, they did so with better results than these experts. Despite specific instructions, such as maintaining a certain temperature because “overheating will coagulate the serum and make it unfit for use” and the need for a very controlled, slow injection with a sterilized glass syringe, the study noted that the lowest amount of complications arose in the group treated at home, rather than in Columbia Hospital. The researchers praised their results,

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[139] "Serum Center Is Set up to Fight Scarlet Fever." *Milwaukee Journal*, February 10, 1935, 1, 8.
[140] Ibid.

stating, “it is difficult to express statistically the satisfaction obtained in treating the scarlet fever patient with convalescent serum. In the majority of patients the results, as noted at the bedside, are striking.”[141]

Milwaukee Convalescent Serum Center Results		
	Hospital Group	**Home Group**
Complications following treatment	16%	13%
Reactions	1%	1%
Deaths	3%	1%

Figure 1.4. Hospital vs. Home Group results. Compiled by author from: Max Fox, M.D. and Maurice Hardgrove, "Therapeutic Value of Convalescent Serum in Scarlet Fever " *Archives of Internal Medicine* 60, no. 3 (1937).

Studies like this show how involved in the application of germ theory mothers could be. In fact, scientific explanations of disease transmission and treatment abounded in domestic manuals and the new field of sanitary science also translated complex scientific information into lay terms. Germ theory was not an esoteric topic for mothers, but rather vital information on how to keep their families healthy. Translating germ theory into practice meant obtaining vaccinations for children, enforcing home quarantines, and preventing disease in the home through hygiene, diet, and cleanliness.[142] Domestic manuals also reflect these changing beliefs, with purging remedies beginning to disappear and recipes for disinfectants replacing them.[143] Thus, especially for infectious childhood diseases like scarlet fever, germ theory may have

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[141] Max Fox, M.D. and Maurice Hardgrove, M.D., "Therapeutic Value of Convalescent Serum in Scarlet Fever," *Archives of Internal Medicine* 60, no. 3 (1937): 3-4.

[142] Nancy Tomes, *The Gospel of Germs Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998); Apple, *Perfect Motherhood.*

[143] Pye Henry Chavasse, *Advice to a Wife on the Management of Her Own Health* (New York: George Routledge, 1873):156-157.

altered what mothers did to prevent and treat disease, but it did not decrease their labor, if anything it increased it through new sanitary technology and increased government surveillance.

CONTAINING SCARLET FEVER IN MILWAUKEE

"Milwaukee's Fever," as Time Magazine called the epidemic, began the previous January.[144] The disease abated temporarily for the rest of the winter, spring, and summer. In nearby Madison, a scarlet fever epidemic struck in October and November of 1935. Although Madison saw much fewer cases (only 112 at the epidemic's peak) it banned all children from public places and closed all schools for a week. Over in Milwaukee, however, the disease quickly increased in incidence during September and October, with 1,041 new cases. By January 1935 there were 1,407 new cases in the city. In that month, the Department of Health began taking schoolchildren's temperatures in an attempt to identify cases. In addition, police officers began patrolling quarantined homes. A few schools closed in late January, but primarily due to teacher illness. The citywide ban on children under seven years of age began on February 18 and lasted until April 1. Only a few days after the ban went into effect, the city banned children under seven years of age from theaters, churches, and other public places. As this timeline reveals, major cities in Wisconsin responded to epidemic disease in 1935 in two ways: quarantine and surveillance. While both strategies reflect an acceptance of germ theory among public health and city officials, the absence of a large immunization campaign also suggests a reliance on older methods usually reserved for more serious diseases, such as cholera and

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[144] "Medicine: Milwaukee's Fever," *TIME*; March 4, 1935. J.P. Koehler, "Recent Experiences in Scarlet Fever Control," 1359.

smallpox. Of note and of particular consequence for domestic medicine, these two approaches brought authorities and mothers into cooperation and conflict. Those interactions reveal some of the ways in which germ theory had become part of domestic medicine and the limits of the approach to successful public health efforts.

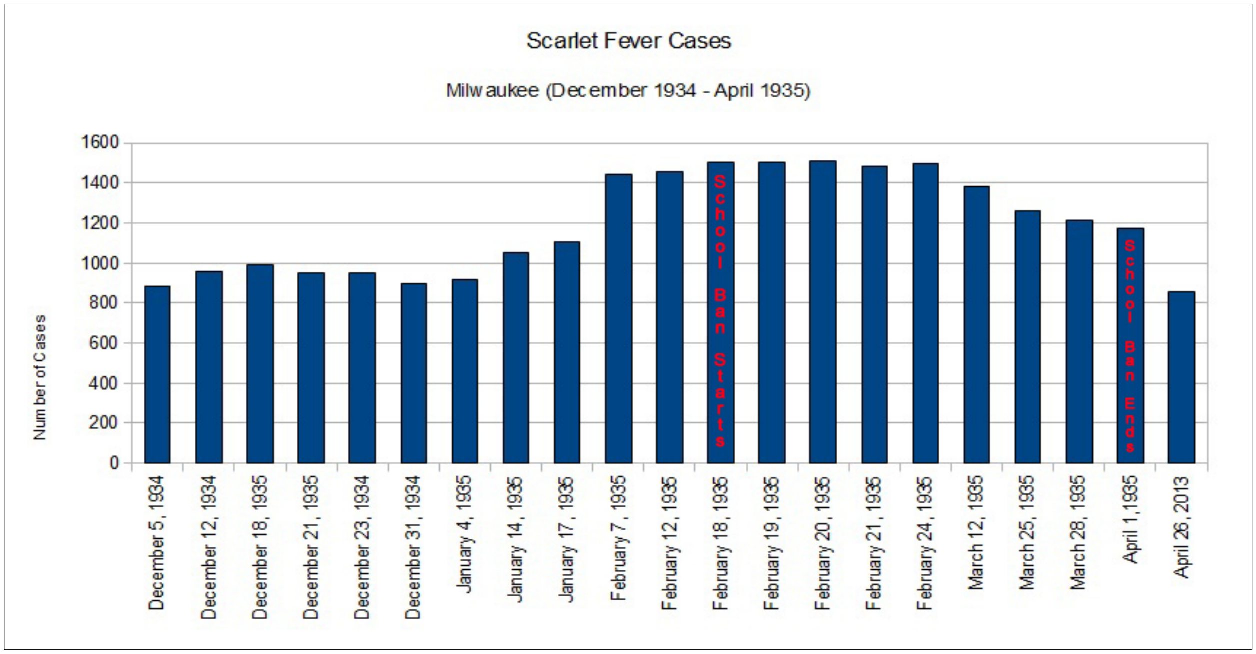

Figure 1.5. Scarlet Fever Cases in Milwaukee, WI, December 1934-April 1935. Compiled by author from *The Milwaukee Sentinel* and *The Milwaukee Journal.*

Triangulating advice from popular sources, public health reports, and the few primary sources we have from mothers shows that domestic medicine treatments changed very little over the centuries, even as the germ theory provided a compelling new rationale for practices. This is highlighted by the Milwaukee epidemic, where new and contentious mandatory quarantines for sick children distinguished that epidemic from nineteenth-century ones. For over 50 years prior to the 1935 epidemic, the state of Wisconsin had published educational circulars with recommendations on treating scarlet fever, which included much of the same advice domestic manuals offered. By the turn of the century, however, the state and cities within it could start enforcing these recommendations by passing laws regarding reporting, quarantine, and hygienic sickrooms.[145] Belief in the germ theory guided many of these changes and even justified pre-germ theory advice. For example, the Wisconsin State Board of Health recommended rubbing the skin with lard, but because it prevented particles of skin from coming off and potentially infecting others, rather than to simply to relieve itching. Other advice could have been taken out of an early nineteenth-century manual, such as isolating the patient in their own room overseen by one family member and removing all unnecessary rugs and furniture. Any clothing that came in contact with the patient or the nurse should be constantly disinfected and the sickroom thoroughly cleaned after recovery. All of these practices are continuities from centuries of domestic medical practices, but in the 1935 epidemic, the Board of Health explained their necessity based on the germ theory of disease.[146]

While there were some continuities, the increased acceptance of germ theory meant increased surveillance for residents. Previously, when a family called in a physician it was typically after trying their own treatments and the physician offered confirmation of their suspicions and advice that differed little from what they obtained from other sources. To some degree, this remained true in the early twentieth century, but calling in a physician now brought a household under the surveillance of a local public health department. By the end of the nineteenth century, for example, the city of Milwaukee fined physicians $250 dollars for not reporting cases. The home of the victim would then be placarded by a police officer with a 11x14 inch red sign with “SCARLET FEVER” printed on it in English and German. The city

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[145] Wisconsin, *Laws of Wisconsin* (Madison: Democrat Printing Company, 1895): 516-517; "Wisconsin: Communicable Diseases. Morbidity Reports. Quarantine. Disinfection. (Reg. Bd. of H., Oct. 9, 1913)" *Public Health Reports (1896-1970)* 29, no. 7 (1914): 440-44.

[146] Dr. Griffin, “Report on Scarlet Fever,” *Wisconsin State Board of. State Board of Health Reports, 1876-1940* (Madison WI: Wisconsin State Board of Health, 1877): 1-18.

required the sign stay up for a month and levied a $25-$50 fine for its removal. At the start of the quarantine, a health officer would inspect the home, give a circular on scarlet fever to the family, and notify the local schools and public library. When the quarantine ended the home was sanitized with disinfectants recommended by the Board of Health. In 1923 the state enshrined these recommendations into law, mandating case reporting, placarding, length of quarantine, and disinfection.[147]

This quarantine process seems rather straight forward, but the consequences of it could be very disruptive to a household and some families did not follow the law. *The Healthologist*, a Milwaukee Department of Health bulletin, portrayed a fictionalized account of this behavior, noting that after placarding the home and leaving instructions for isolation a health officer might return to find the sick child in a common room surrounded by their siblings, with parents coming and going from the house on errands and to work. The cautionary tale describes parents that did not think the child actually had scarlet fever or were not afraid of it.[148] This imagined account seems to have some basis in fact. During Milwaukee's 1935 epidemic some parents denied entry to the public health department. One West Allis mother prevented a public health nurse from inspecting her eight year old son, even after the nurse returned with a police officer. The mother was ultimately fined five dollars, not an insignificant sum during the Great Depression.[149] In addition to conflicts over case reporting, parents could also resist sanitary recommendations and laws. A common piece of advice – and often enshrined in public health law and made famous by *The Velveteen Rabbit* – was to burn anything that came into contact with the patient. One 1904

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[147] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1922-1923): 8-26.
[148] Milwaukee Department of Health, *Bulletin* 8, nos. 4-5 (1918): 5-6.
[149] "Mother Denies Nurse Access to Sick Son," *Milwaukee Leader* January 18, 1935; "Refuses to Admit Nurse into Home Mother Pays Fine." *Milwaukee Leader*, January 19, 1935.

domestic manual advised, "everything that is not too valuable should be burnt, and the paper on the wall scraped off and fresh put on. One cannot be too careful in regard to the destruction of the scarlet-fever germs."[150] Despite these warnings, Wisconsin families resisted these recommendations. In the fall of 1885 one Wisconsin family defied the order to burn the mattress that their two sick children had recuperated in, hiding it when the health officer came to perform the fumigation.[151]

As cities passed more laws regulating quarantine and school closures in response to scarlet fever epidemics, these conflicts only increased, with boards of health strictly enforcing their application. For example, one family wrote the board of health, asking them to overrule a local decision to exclude their children from school due to scarlet fever, claiming that they had carried out all of their doctor's orders "faithfully... and rigidly adhered to," including quarantine, fumigation, and disinfection, but the Board upheld the local authority. [152] Public health officials reported citizens practicing a double standard as well, with one health officer complaining that "people generally are perfectly willing that their neighbors should be strictly quarantined when there is contagious disease in their families and frequently complain that it is not strict enough but when it comes within their own families they desire the quarantine to be as light as possible. Much trouble is encountered in this respect."[153]

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[150] Emelyn Lincoln Coolidge, *The Mothers' Manual: A Month by Month Guide for Young Mothers* (New York: A.S. Barnes, 1904), 149.

[151] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1885): 44-45.

[152] Wisconsin Department of Vital Statistics, *Annual report of the State Board of Health of the State of Wisconsin for the year ending 1883* (Madison, WI: Wisconsin State Board of Health, 1883), 69.

[153] Wisconsin Department of Vital Statistics, *Annual report of the State Board of Health of the State of Wisconsin for the year ending 1885* (Madison, WI: Wisconsin State Board of Health, 1885), 120.

Wisconsin's quarantine and sanitary measures reflect national trends, both in what the Board of Health focused on and the application of their policies. Public health departments, for many reasons, including not wanting to challenge physician authority over treatment, focused on disease prevention, especially through immunizations, quarantines, and sanitation. Treatment after a child became sick was still the task of parents and their doctors. For example, in their report for the year 1885, the Wisconsin Board of Health noted "it is still true that many instances are never seen by a physician, domestic treatment and nursing being relied on to bring the subjects safely through it."[154] Thus, parents still nursed their children through scarlet fever, but by the early twentieth century, they did so increasingly bounded by laws restricting their movement, requiring hygienic products, and under the surveillance of local officials and medical authority. Far from alleviating their domestic medicine duties, germ theory both increased them and created new stresses.

During the 1935 epidemic these pressures only increased on families. By early January of 1935 the Board of Health began to take seriously the possibility of mandating school closures and bans of public gatherings of children, a practice that had been rare up until 1935.[155] As some public institutions voluntarily quarantined themselves and schools sent diagnosed cases home, the Board of Health also started monitoring suspected cases. On January 20th the city began to take the temperature of schoolchildren and sending home any suspected cases for ten days of observation. At the same time, they ordered that even these suspected cases have quarantine placards posted at their homes and forbade these children from public places, especially movie theaters. In fact, the Board gave the list of 325 names of suspected cases to the police

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[154] Wisconsin State Board of Health, *State Board of Health Reports, 1876-1940* (1885), 44.

[155] "City Battling Scarlet Fever," *Milwaukee Journal*, January 14, 1935, 1.

department for further surveillance. This was in addition to the 1, 222 cases that the city had confirmed.[156] *The Milwaukee Journal* reported that “officers on neighborhood beats have been instructed to keep an eye on the homes where children are under observation.”[157] Dr. Stern, health commissioner of Milwaukee's suburb of West Allis, called homes to which a doctor had not been called “a menace to the health of the community.”[158] These responses to scarlet fever reflect not only a shift in ideas about disease, but also an increased power by public health departments to enforce policies informed by them.

Compounding stricter quarantine and hygiene laws for Milwaukee families in 1935 was the school closures and eventual city-wide ban that the city passed in response to the epidemic. School closures started as in previous, smaller epidemics, with individually affected schools choosing to voluntarily close. Just five days after the mandatory temperature-taking and public gathering ban, St. Mary Czestochowa Catholic school became the first school to close entirely due to the epidemic. One nun was sent to the isolation hospital, the other nuns quarantined, and the 650 pupils sent home for ten days.[159] The following week St. Ann's Catholic school also closed for ten days after a teacher contracted scarlet fever.[160] Starting on Monday, February 18 the city barred all children under the age of seven, mostly kindergarten and first graders – approximately 20,000 children – from Milwaukee schools. In addition, the Board of Health announced that children under seven were prohibited from “attending, entering, or loitering in and about any school, church, kindergarten, Sunday school, theater, or any other public place, or

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[156] "Pupils Having Touch of Fever Can't Go to Shows," *Milwaukee Journal*, January 21, 1935, 2.
[157] "Police to Aid Drive on Fever," *Milwaukee Journal*, January 23, 1935, 7.
[158] "Report All Cases of Fever, Warning," *The Milwaukee Journal*, December 23, 1934, 9.
[159] "Scarlet Fever Closes School," *Milwaukee Journal*, January 25, 1935, 3.
[160] "School Is Closed by Scarlet Fever," *Milwaukee Journal*, February 8, 1935, 4.

gathering," although the ban did not include street cars or stores.[161] Failure to comply carried a $100 fine or up to six months in jail.[162] The ban relied on more than just physician reporting, as had previous quarantines. Health Commissioner Koehler called on "all citizens to act as amateur sleuths to detect violators."[163] The Monday the ban went into effect followed a weekend in which two children died and the number of cases reached 1,497.[164]

Just as some families had resisted nurse's visits or did not observe the quarantine for the suspected cases, parents and children did not universally support the ban for children under seven. The 20,000 children stuck at home did not necessarily have scarlet fever and parents were therefore stuck with perfectly healthy children at home all day. *The Milwaukee Journal* reported one child saying on the day that the ban started, "I don't care mama, I don't care, I am going to school tomorrow. School's open and the other kids are going. Why can't I go?" and principals' phone lines ringing off the hook with call from "mothers seeking an answer to that most dreaded question that arises out of a little child's boredom, "What'll I do now, mother?."[165] Despite the ban some students continued to show up, one first grader doing so three times.

What were mothers to do with well children sent home from school all day? They could only keep them occupied at home for so long before everyone – mother and child alike – went stir crazy. One popular amusement at the time, the movie theater, proved to be another battle ground for Board of Health policies. Soon, the Board of Health banned children under 12 from

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[161] "Schools Will Bar Children under 7 Because of Fever," *Milwaukee Journal*, February 16, 1935, 1; "Fever Order Keeps 20,000 Children Home," *Milwaukee Journal*, February 18,1935, 1.
[162] "Fever Order Keeps 20,000 Children Home," *Milwaukee Journal*, February 18,1935, 1.
[163] "Koehler Would Make All 'Fever Sleuths'," *The Milwaukee Sentinel*, February 24, 1935, 4.
[164] "Bar Children under 7 from Public Places," *Milwaukee Leader,* February 16, 1935, 1.
[165] "Youngsters Want to Attend School; Mothers Kept Busy," *Milwaukee Journal*, February 20, 1935, 8.

movie theaters and quickly thereafter mothers started calling the Board requesting exemptions.[166] *The Milwaukee Sentinel* reported that “several movie-loving mothers have phoned him to ask for a special permission to attend theaters with their young children so as to avoid leaving them at home alone,” with health commissioner Koehler responding, “I can't grant any exemption. It's just too bad if a mother must give up going to a showhouse.”[167] The Board of Health also put some theaters under surveillance after receiving complaints that they had admitted children under seven. These infractions suggest that mothers found keeping well children at home difficult, unnecessary, or oppressive.[168]

Koehler may have found violations of the ban selfish, but in some cases lives were at stake. On March 28, 1935 firefighters had to consider violating the ban to save a quarantined teenager. After developing complications from the disease the young woman's doctor called the rescue squad, but when they arrived and saw the quarantine sign they did not enter until being persuaded by the family doctor. Unfortunately, their efforts to resuscitate the patient failed and the firefighters involved disinfected themselves and their equipment immediately after.[169] Although an extreme case, this incident highlights how fearful residents of Milwaukee could be of the disease and that resistance to the ban might not always just be about poor parenting. As the president of Milwaukee's P.T.A. said “little children can't be kept in the house all the time. No matter how careful the mother is, she can't always have an eye on them.”[170]

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[166] "Fever Order Keeps 20,000 Children Home," *Milwaukee Journal*, February 18, 1935, 1.
[167] "Scarlet Fever Ban Irks Mothers Kept at Home Too," *Milwaukee Journal*, February 22, 1935, 14.
[168] “Fever Ban Here to Be Enforced,” *Milwaukee Journal*, February 24, 1935, 6; "See Violation of Fever Ban," *The Milwaukee Journal*, March 15, 1935, 2.
[169] "Defy Fever Ban in Rescue Dash," *The Milwaukee Journal*, March 28, 1935, 1.
[170] "Opinions Clash Sharply as Fever Ban Remains," *The Milwaukee Journal*, March 12, 193: 2.

In fact, school authorities had opposed the ban, claiming that they could better monitor children in school than in the home. They were not alone in this contention, with national experts split on whether monitoring children at home or at school was a better approach. Before announcing the ban the Board of Health met with representative from the schools, the Milwaukee County Medical Society, movie theaters, churches, the PTA, the Association of Commerce and the state health department, but only doctors representing the Medical Society and church representatives backed the Board of Health. The Board of Health appeared unsympathetic to mother's complaints during the ban, arguing that they were for the greater good.[171]

These debates over the school and theater bans highlight some of the issues facing mothers in Depression Era Milwaukee, including changing labor patterns, economic concerns, and shifting definitions of motherhood. Of course, women had been caring for sick children at home for centuries, but in 1935 Milwaukee mothers increasingly worked outside the home, making school closures a threat to their livelihoods. By the 1920 United States census women made up one-fifth of American breadwinners.[172] At that time, it was hard to discern how many of those women were married or mothers, but the percentage of women workers in the United States increased from 13.9% in 1890 to 28.9% in 1930.[173] In Milwaukee County, women made up over 31% of employed workers in the 1930 census.[174] Furthermore, Milwaukee families with

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[171] "Bar Children under 7 from Public Places," *Milwaukee Leader,* February 16, 1935, 1.

[172] Bulletin of the Women's Bureau, Bulletin No. 23. The Family Status of Breadwinning Women: A Study of Material in the Census Schedules of a Selected Locality (Washington, DC: Government Printing Office, 1922), 1.

[173] Bulletin of the Women's Bureau, *Bulletin No. 115. Women at Work* (Washington, DC: Government Printing Office, 1933), 7.

[174] U.S. Department of Commerce, *Fifteenth Census of the United States: 1930* (Washington: United States Government Printing Office, 1932): 1342.

two working parents considered themselves very lucky in Depression-era America. Nationally, between 1929 and 1933 unemployment rose to 20% and remained above 10% for the rest of the decade.[175] Since women's labor was cheaper than men's, women were more likely than men to find employment and keep their jobs, usually in the service sector, making the school ban a threat to their livelihoods if it forced them to stay at home.[176]

When faced with unprecedented financial hardship, many American had to make tough decisions about household spending and many cut down on health care spending during the Great Depression. One study done in the third year of the Great Depression pointed out that women who shared in the support of a group, such as working mothers, often dealt with poor nutrition, a poorer standard of clothing (for example, going without a winter coat), a lower housing standard, and "the postponement of medical care."[177] Other studies demonstrated that married women or women who had been married suffered during times of unemployment more than their single counterparts and that widowed, separated, or divorced women contributed more to their household's overall income than their married and single counterparts.[178] The Committee on the Costs of Medical Care compiled studies and reports on issues related to health care costs in the first few years of the Depression, finding that health care costs had increased and that families found it increasingly difficult to pay those bills.[179]

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[175] Michael R. Haines, Shawn Everett Kantor, and Price Van Meter Fishback, *The Welfare of Children During the Great Depression* (Cambridge, MA.: National Bureau of Economic Research), 3.

[176] Lizabeth Cohen, *Making a New Deal: Industrial Workers in Chicago, 1919-1939* (New York: Cambridge University Press, 1990), 247.

[177] Amy Hewes, *Women Workers in the Third Year of the Depression* (Washington: United States Government Printing Office, 1933), 7

[178] Harriet Anne Byrne, *Bulletin No. 108: The Effects of the Depression on Wage Earners' Families* (United States Government Printing Office,1936): 17, 28.

[179] Committee on the Cost of Medical Care, *Medical Care for the American People* (Chicago: University of Chicago Press).

Thus, in 1935 Milwaukee parents likely not only found it hard to pay their medical bills but needed their source of income more than ever. A citywide school ban on small children could threaten a family's already tenuous resources in more ways than one. One scarlet fever victim, reflecting back on the epidemic 35 years later recalled, “my father and oldest brother, George, who was 19 years old, had jobs which didn't pay much but they did keep the family solvent.” When one of the children came down with a sore throat, the first thought the family had was their finances, because, “if they had to remain at home for three weeks, some unemployed person would surely be hired to replace them. Jobs and money were scarce.” The solution, since the Isolation Hospital was full and the child would have to be quarantined in the attic, was that the father and brother “quickly moved out to avoid being quarantined with the rest of the family.”[180]

During Milwaukee's school ban mothers appealed to authorities for more than just exemptions for theater attendance or admittance to the isolation hospital. Since the ban affected all children under seven, even healthy children, mothers dealt with bored children home all day with nowhere to spend their energy. By February 20, 1935, reacting to desperate pleas from parents schools began to send teachers into homes to help mothers find new ways to keep their children occupied – they were met with “almost tearful relief” and told repeatedly “My goodness, I can't wait for them to get back to school.”[181] Schoolteachers went into the homes of banned students to help parents come up with activities to keep children busy, including bringing toys into homes that could not afford them. Apparently, after just “a few days of trying to keep them occupied at home,” mothers welcomed all the help they could get. Reflecting the beliefs of

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[180] Margaret Crownover, Margaret, "A Monster Called Scarlet Fever: Scourge of 1935 Parted Families," *The Milwaukee Journal*, Mary 2, 1970, 1.

[181] “Youngsters Want to Attend School; Mothers Kept Busy,” *Milwaukee Journal,* February 20, 1935, 8.

some “scientific motherhood” experts, the teachers feared that “improper and amateurish methods of instruction introduced into the homes while the children are out of school may do more harm than good.”[182]

A novel solution followed quickly after the home visits, as the local radio station WTMJ and *The Milwaukee Journal* combined to broadcast school over the air for the children banned from school. The first broadcast, aimed at the younger students, began with story-time, followed by a sing-along, and ending with instructions how to spend the rest of the day. Many homes did not have the resources to carry out these activities, however, and the teacher gave the children instructions on how to find available resources. Mrs. Rotier, the on-air teacher the first day of the broadcast, told students “no paper? What about that large envelope that came in the morning mail? No paste? Mix up some flour and water. It really works!”[183] In the afternoon the station broadcast school for the older children. The newspaper noted, however, “it is expected that the mothers will assume the role of teacher after each broadcast, making use of suggestions offered on the air to keep the children occupied for the remainder of the day.”[184]

Many popular women's magazines and domestic manuals offered advice on how to amuse the patient confined to the sickroom and during Milwaukee's epidemic the local newspapers joined schoolteachers, broadcasters, and public health nurses in offering advice on how to entertain sick children. One column gave mothers a chart showing which activities could be performed by which patients, “so that no child is permitted to indulge in pastimes injurious to

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[182] "Children, Barred from School, Can Attend Classes on WTMJ," *Milwaukee Journal*, February 20, 1935, 1.
[183] "School Comes over Air to Pupils and They Get Right Down to Work," *Milwaukee Journal*, February 21, 1935, 1.
[184] “Journal offers Daily Periods,” *Milwaukee Journal*, 1935, 1.

his particular illness."[185] Activities including making paper scorpions to frighten father with or beaded necklaces for their dolls, helped children with any number of ailments, including measles or the common cold, stay amused, but in the winter of 1935 in Milwaukee, most parents would translate this advice to caring for their child sick with scarlet fever.

Despite the size of the epidemic, Milwaukee's death rate was low. The 1935 Bulletin of the Milwaukee Health Department reported that "the total number of deaths [from scarlet fever] is only about one-third of what it was in the period of 1916-1925." The Health Department credited "more effective treatment of scarlet fever," especially antitoxin and convalescent serum, but also believed that a milder form of the disease had afflicted the state. Today scarlet fever is easily treated with antibiotics, but in the early twentieth many parents lost children to the diseases. There are no first hand accounts of the twenty-eight children who died in Milwaukee's epidemic and this is typical. Many parents could not bear to record the death of a child, simply pasting death notices in a baby book or noting the anniversary of a child's death in their diary, but some parents found the strength to document the loss of a child, such as one Illinoisan mother in 1913, who lost her son to diphtheria:

> Lo ended a sweet little life that could not help but leave the world better for having lived in it for 7 yrs and 9 months. A bright lively mischievous boy. A dear willing helpful little boy whose memory will never grow dim. We know he is safe in the arms of Jesus. May our lives so be as to help us join him some day in our heavenly home.[186]

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[185] "Convalescent Child May Be Amused with Bits of Paper, Yarn," *The Milwaukee Journal*, December 27, 1934, 8.

[186] *The Babyhood Journal: A Record of Baby's Doings from the Day of its Birth* (September 18, 1912.) New York History and Special Collections Division, Louise M. Darling Biomedical Library, UCLA, HQ779 .B11384 1899, copy 2.

CONCLUSION

On April 1, 1935 the city lifted the school ban and children, "marched happily back to school." In fact, teachers reported children showing up hours early to the playground and *The Milwaukee Journal* reported "enforced vacations, it was apparent Monday, may sound grand on paper but in practise [sic] they're just plain dull."[187] Far from a vacation, the scarlet fever epidemic created more work, worry, and financial burden on already struggling families in Milwaukee. While scarlet fever appeared off and on in Wisconsin newspapers throughout the rest of the year, the state would never see an epidemic like this one again, but this does not mean that scarlet fever disappeared from the state, or that the children of this epidemic did not have life-long effects from the disease.

Until the widespread use of penicillin, beginning in the late 1940s, American mothers continued to prevent and treat scarlet fever, although mortality significantly decreased. Immunization through antitoxin serum never took off the way Health Commissioner Koehler had hoped, with national women's magazines like *Ladies' Home Journal* reporting as late as 1945 that the therapy was not always successful and should be decided on a case by case basis.[188] By the 1950s *Today's Health*, an outreach publication of the American Medical Association, reported that scarlet fever was "not the old, dread disease we remember... antibiotics have taken much of the terror out of this disease."[189] Parents still had to recognize the disease, see a doctor, obtain the prescription, and nurse their child through the fever they would still suffer. Doctors saw immunizations and quarantines "just about out of date" because the penicillin treated scarlet

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[187] "Young Children Here March Happily Back to School," *Milwaukee Journal,* April 4, 1935, 1.
[188] Dr. Herman N. Bundesen, "Scarlet Fever," *Ladies' Home Journal* 62, no. 12 (1945): 2.
[189] Sue Gerard, "Scarlet Fever," *Today's Health* (1957): 38.

fever so well. In fact, it wouldn't even affect a mother's "customary trips to the grocery or post office" because "gone are the days of fumigation, long isolation of patient and family (and any friend in for a visit!) high mortality rate and weeks of torturing sore throat. No more of the red quarantine sign the doctor nailed on the front door."[190] Despite this apparent enthusiasm and trust in penicillin to treat scarlet fever, the AMA cautioned that "the 'wonder drugs' can't do the job alone; the mother... must carefully supervise the patient's recovery."[191] In short, prevention was no longer necessary, but domestic medicine was.

Milwaukee's experience of scarlet fever also touches on several important points in the debate among historians of medicine on if and to what extent the introduction of germ theory narrowed public health efforts in the early twentieth century. Health Commissioner Koehler's efforts to promote immunization represented the public health interests who attempted to narrow interventions, but ultimately the city relied primarily on mothers carrying out quarantine to see themselves through the epidemic. Although some sociologists, such as Paul Starr, have argued that the bacteriological revolution led to public health departments abandoning more holistic approaches for laboratory based solution, Koehler's immunization efforts did not represent a rejection of interest in social welfare. His concern that quarantines unnecessarily punished families already burdened financially by the Great Depression seemed to drive his hope that immunizations could eliminate the disease.

The epidemic also highlights how complicated the shift from pre- to post-germ theory treatment of scarlet fever could be. Mothers in Milwaukee applied tried and true domestic medicine remedies, while also relying on new technologies, such as radio, to entertain children.

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[190] Ibid., 39.
[191] Ibid., 46.

They embraced some expert advice, but did so on their own terms, whenever possible. Under the unprecedented restrictions and surveillance, they pushed back against some public health measures, while demanding aid from others. Far from abdicating their roles as the children's primary health care provider as scientific medicine and public health increased their authority and reach, the new laws informed by scientific principles only served to reinforce their care-giving roles, even as economic concerns made that role an increasing hardship on the family. This negotiation between laboratory and home, experts and mothers, ultimately saw the city successfully through what would be one of its last experiences with epidemic childhood disease.

Chapter Two:

“No Home is Safe Until Every Home is Safe”: Domestic Treatment of Tuberculosis in the Early Twentieth Century American Home

The 1932 edition of the popular domestic manual, *Library of Health*, informed its readers that the treatment of tuberculosis entailed “rest, with plenty of fresh air, and enough good wholesome food.” This could “easily” be done at home, as long as the patient had access to fresh air. To achieve this, families living in tenements in large cities should “consider the possibility of moving into the suburbs or nearby small town.”[192] Detailed instructions for how to obtain rest, fresh air, and “good wholesome food” could be found in domestic manuals, magazines, newspapers, and public health pamphlets throughout the first half of the twentieth century, when tuberculosis was one of the most deadly infectious diseases in America. Americans could read about the dimensions of the perfect sick room, the exact ratio of chemicals in effective disinfectants, caloric values of invalid diets, and where to purchase house plans that featured sleeping porches off every bedroom. Following these recommendations proved to be a much a harder task than finding them. For many Americans this expert advice was simply too expensive to implement.

Race, class, gender, and location shaped the experience of tuberculosis in America in the first half of the twentieth century. This chapter focuses on one community, where one's gender, race, and class often dictated available resources, prejudices, and assumptions concerning tuberculosis patients and their caregivers. Dane County, Wisconsin was like many other American communities in that it did not have a tuberculosis hospital until well into the twentieth

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[192] Frank B. Scholl, *Library of Health: Complete Guide to Prevention and Cure of Disease (*Philadelphia: Historical Pub. Co., 1932), 540.

century. Even after the county built a sanatorium in the capital city of Madison in 1930, persistent bed shortages contributed to the continued need for home treatment. Patients who remained at home could access visiting nurses and local doctors, but, as was also typical of other parts of the country, the area's general hospitals would not admit infectious disease patients.[193] Focusing on this one community, while also comparing it to national trends, provides a case study into how sanatorium practices found their way into homes and what adaptations families had to make in order to carry out expert advice.

In addition to these initial negotiations, home treatment of tuberculosis changed over time to become routine preventive measures and finally non-medical household practices by the mid-twentieth century. The sources of this change include the experience of institutionalization and the advice of experts published in popular print, but traditional narratives of the disease largely ignore the domestic medicine practices by women in the home.[194] This chapter argues that it was through the implementation of advice by women in their homes that contributed to the decline of tuberculosis and the pervasive effects of that disease on American culture. Just as with scarlet fever epidemics, it was mothers who translated germ theory informed knowledge into practices in the home and this was no less true with tuberculosis. Mothers translated and adapted the advice of the doctors and other experts to suit the means and needs of individual cases.

Tuberculosis is a useful case study for studying change over time in domestic medicine

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[193] Mary V.H. Jones, "The Development of Public Health Nursing in Wisconsin in Relation to Tuberculosis: The Early Years 1903-1925," (MA Paper, University of Wisconsin - Madison, 1981), 17; “How the Public Health Nurse Came to Wisconsin,” *The Crusader*, November 1923, 60.

[194] Thomas M. Daniel, *Captain of Death: The Story of Tuberculosis* (Rochester, NY: University of Rochester Press, 1997); Thomas Dormandy, *The White Death: A History of Tuberculosis* (New York: New York University Press, 1999); Mark Caldwell, *The Last Crusade: The War on Consumption 1862-1954* (New York: Atheneum, 1988); Frank Ryan, *The Forgotten Plague: How the Battle Against Tuberculosis Was Won – and Lost* (Boston: Little, Brown, 1993).

practices because tuberculosis treatment could last years, transforming a household into a home hospital for more than just a few weeks of quarantine. Although most doctors recommended treatment in a tuberculosis hospital – known as a sanatorium – for the disease, American family members treated ninety percent of tuberculosis patients in their own homes and countless others employed preventive measures.[195] Yet, the study of tuberculosis within the field of medical history has largely been one of the institutionalization and stigmatization of tuberculosis patients.[196] Historians such as Barbara Bates and Linda Bryder have dispelled the romanticized image of wealthy consumptives, living decadent lives in expensive spas, popularized in fiction by Thomas Mann's *The Magic Mountain* (1924).[197] Their work is part of a body of scholarship on the rich history of charitable and state funded institutions, the stigmatization of tuberculosis patients, and the failure of modern medicine to eradicate the disease.[198] Fewer historians have looked into the patient perspective, especially outside the sanatorium, and fewer still have looked at the caregiver and the role tuberculosis played in transforming domestic medicine. Notable exceptions include Sheila Rothman, Emily Abel, and Nancy Tomes, who have worked to place the home and women at the center of their narratives on the history of medicine.[199]

In addition to adding to the literature on tuberculosis treatment outside of institutions, this

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[195] James Delano, *American Red Cross Text-Book on Home Hygiene and Care of the Sick* (Philadelphia: P. Blakiston's Sons, 1918), xv; William Osler, M.D., *The Principles and Practice of Medicine* (New York: D. Appleton and Company, 1909), 354; Gerald N. Grob, *The Deadly Truth: A History of Disease in America* (Cambridge, MA: Harvard University Press, 2002), 213.

[196] Gerald Grob, "The Social History of Medicine and Disease in America: Problems and Possibilities," *Journal of Social History* 10 (1977): 398-99.

[197] Thomas Mann, *The Magic Mountain* (New York: S. Fischer Verlag, 1924); Linda Bryder, *Below the Magic Mountain: A Social History of Tuberculosis in Twentieth-century Britain* (New York: Clarendon Press, 1988); Bates, *Bargaining for Life*.

[198] Susan Craddock, *City of Plagues: Disease, Poverty, and Deviance in San Francisco* (Minneapolis: University of Minnesota Press, 2000); David Barnes, *The Making of a Social Disease: Tuberculosis in Nineteenth-century France* (Berkeley: University of California Press, 1995); Markel, *When Germs Travel*, 15-46; Lerner, *Contagion and Confinement*.

[199] Abel, *Hearts of Wisdom*; Rothman, *Living in the Shadow of Death*; Tomes, *The Gospel of Germs*.

case study argues against the narrative in the history of medicine that as scientific medicine increased in authority, domestic medicine declined. Not only did an increase in medical institutions and wonder drugs not replace domestic medicine, in some cases, they increased the need for it. Even for families that could place a loved one in a sanatorium, the responsibility of their care upon release fell to female family members. For most, however, domestic care was the only option from the beginning. As this chapter demonstrates, this care was intensive, time consuming, and rooted in scientific knowledge. Furthermore, over the course of the first half of the twentieth century so many Americans employed treatment and prevention measures that the practices that had developed in sanatoriums evolved into mid-twentieth decorative fads. Simple decor, hygienic housekeeping, open air living, fresh produce, and other aspects of tuberculosis treatment and prevention that began as part of the sanatorium cure became mainstream routines for many Americans.

The popularity of these practices coincides with the decrease in death rates from tuberculosis. Notably, this decline started long before the discovery of the first effective antibiotic treatment for the disease, streptomycin, in 1943.[200] Historians attribute this decline to a variety of causes, including public-health measures, improved nutrition, genetic mutations, surgical interventions, and the sanatorium movement.[201] These explanations have together explained much of what accounts for the observed declines, but ignore the fact that at the turn of

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[200] American data prior to 1900 are limited to the state of Massachusetts, which noted a decline as early as the mid-nineteenth century. Judith Walzer Leavitt and Ronald L. Numbers, eds., *Sickness and Health in America* (Madison, WI: University of Wisconsin Press, 1997), 6.

[201] Gerald N. Grob, "Disease and Environment in American History," in *Handbook of Health, Health Care, and the Health Professions*, ed. David Mechanic (New York: The Free Press, 1983), 15; Leonard G. Wilson, "The Historical Decline of Tuberculosis in Europe and America: Its Causes and Significance," *The Journal of the History of Medicine and Allied Sciences* 45 (1990): 366-396; McKeown, *The Modern Rise of Population*; René and Jean Dubos, *The White Plague: Tuberculosis, Man and Society* (London: V. Gollancz, 1953).

the twentieth century the home was an important site of prevention and treatment. Thus, whatever the cause (or, more likely, causes) for the decline of tuberculosis, domestic medicine, in both prevention and treatment, played a role and should be included in the list of factors that contributed to the disease's decline.

In turn, domestic medicine changed in response to tuberculosis, adopting practices informed by germ theory. Treatments for tuberculosis changed from travel to the mountains and the desert in the late nineteenth century, to the isolation of patients for long periods in a sanatorium or, more likely, their own home, in the twentieth century. It was not enough to quarantine a patient so that they did not infect others, however. New sanitary and medical technologies, such as disinfectants, sputum disposal devices, and tuberculosis-specific furniture, offered to stop the transmission of the disease. At the same time, older ideas of rest, fresh air, and diet persisted, although often with new explanations for their effectiveness based in the germ theory. Although still a predominantly female responsibility, caregiving became less about female empathy and more about scientific principles of discipline, regimen, and precision. The constant threat of tuberculosis and the lengthy treatment for those infected combined to help transform domestic medicine practices from simply treating the symptoms of a disease to focusing on prevention and cure.

THE WHITE PLAGUE AND WISCONSIN

An infectious disease caused by *mycobacterium tuberculosis*, tuberculosis spreads in the expectorated droplets of an infected person's cough or spit and humans can also contract it from the unpasteurized milk of infected cows.[202] In fact, Wisconsin's official response to tuberculosis began in 1894 when Harry Lyman Russell, a bacteriologist with the University of Wisconsin's College of Agriculture, tested the College's herd with Koch's tuberculin test, finding massive infection.[203] This demonstration alerted the State Board of Health to the prevalence of bovine tuberculosis in the state and created a heightened awareness of the dangers posed to human citizens.[204] Notably, the concern over milk contaminated with tuberculosis and other diseases contributed to the 1914 "Milk War" in Milwaukee, Wisconsin, in which the city failed to regulate the pasteurization of the milk supply, but succeeded in educating consumers about the health risks of contaminated milk.[205] The year that Russell first discovered infection in the University of Wisconsin's herd, the Wisconsin State Board of Health speculated that Wisconsin had at least 903 human deaths from tuberculosis.[206] Data prior to 1900 are incomplete but at the turn of the century, the disease caused approximately 200 deaths per 100,000 people nationally.[207]

A 1903 state commissioned investigation of the tuberculosis problem in Wisconsin collected data and proposed possible preventive and curative solutions. In 1905 the commission, made up of two doctors (Gustav Schmitt and Michael Ravn) and Harry Lyman Russell, the

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[202] Known most commonly now as tuberculosis, the disease has been called many things throughout history, including "phthisis," "the white plague," and "consumption."
[203] Harold Holand, *House of Open Doors*. (Milwaukee, WI: Wisconsin Anti-Tuberculosis Association, 1958), 7-15.
[204] Philip Shoemaker and Mary Van Hulle Jones, "From Infirmaries to Intensive Care: Hospitals in Wisconsin," in *Wisconsin Medicine: Historical Perspectives,* eds. Judith Walzer Leavitt and Ronald L. Numbers (Madison, WI: University of Wisconsin Press, 1981), 115; Barbara Gutmann Rosenkrantz, "The Trouble with Bovine Tuberculosis," *Bulletin of the History of Medicine* 59, no 2 (1985): 155-175; Alan L. Olmstead and Paul W. Rhode, "Not on My Farm! Resistance to Bovine Tuberculosis Eradication in the United States," *The Journal of Economic History* 67, no. 3 (2007): 768-809.
[205] Leavitt, *The Healthiest City*, 156-189.
[206] Wisconsin State Board of Health, *Fifteenth Report* (Madison, WI: State Board of Health, 1893-94), 11.
[207] Judith Walzer Leavitt and Ronald L. Numbers, eds., *Sickness and Health in America* (Madison, WI: University of Wisconsin Press, 1997), 6-7; Department of Commerce and Labor, Bureau of the Census, *Mortality Statistics, 1900 to 1904,* (Washington, DC: US Department of Commerce and Labor, 1906), 49-53.

bacteriologist who discovered massive infection in the University of Wisconsin's herd, published their findings.[208] The commission reported that there were at least 2,175 deaths from tuberculosis in 1900, accounting for eleven percent of total mortality. This was more than double the amount of deaths per year than just six years earlier. Dane County reported ninety-three deaths from tuberculosis, a death rate of 13.39 per 10,000 residents and the second highest in the state after Milwaukee County.[209] The commission also estimated that there were at least 10,000 cases of tuberculosis in the state at any given time.[210] Data for the state before 1900 were lamentably inadequate but the 1907 law making tuberculosis a reportable disease aided future statistic gathering.[211] Ultimately, the Wisconsin State Tuberculosis Commission concluded "it is the duty of the state to take up this work of prevention and possible cure."[212]

The report argued that the state should adopt programs and legislation including anti-spitting laws, compulsory notification, building disinfection, sanatorium construction, and education. These suggestions reflect changing national trends in tuberculosis prevention and treatment that had gained in popularity since the discovery of germ theory. Prior to Robert Koch's discovery of the tuberculosis bacilli in 1882 the persistence and prevalence of tuberculosis led most Americans simply to accept the disease as a fact of life.[213] Once physicians knew that an infectious bacillus caused tuberculosis, public health departments could target specific conditions and practices that spread the disease, such as overcrowding, ventilation,

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[208] Wisconsin State Tuberculosis Commission, *Report of the Wisconsin State Tuberculosis Commission*, (Madison, WI: Democrat Printing Co., 1905).

[209] Department of Commerce and Labor. Bureau of the Census, *Mortality Statistics, 1906* (Washington DC: Government Printing Office, 1908), page 51.

[210] Wisconsin State Board of Health, *Fifteenth Report*, 12-13, 15, 19.

[211] Holand, *House of Open Doors,* 19.

[212] Wisconsin. Tuberculosis Commission, *Report of the Wisconsin State Tuberculosis Commission* (Madison, WI: Democrat Printing Company, 1905), 25.

[213] Ryan, *The Forgotten Plague*.

public spitting, milk pasteurization and common drinking cups.[214] Some historians have argued practices like this show that germ theory narrowed public health efforts from broader social concerns to targeted practices.[215]

Other historians, however, have argued that germ theory did not narrow public health efforts and that tuberculosis, in particular, demonstrates this argument. In addition to municipal reform, many public health officials believed individual education was crucial to tuberculosis prevention, because, as Rene and Jean Dubos argued in their 1952 study of tuberculosis, "gross errors in social organization, and mismanagement of individual life," caused tuberculosis.[216] Far from narrowing public health efforts, public health departments' efforts post-germ theory to prevent tuberculosis ranged from promoting individual responsibility to the construction of state-run sanatoriums for isolating the sick.[217] As we will see in the case of the Dane County, the narrow approach and the broader societal one were not mutually exclusive – and the home was the nexus between the two.

Tuberculosis prevention had to start in the home with hygienic living conditions, proper ventilation, uncrowded quarters, a nutritious diet, and the isolation of infectious persons. It was a "chain of health" that began in the home and extended outward to the neighborhood, city and

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[214] John Duffy, "Social Impact of Disease in the Late 19th Century," in *Sickness and Health in America,* eds. Judith Walzer Leavitt and Ronald L. Numbers (Madison, WI: University of Wisconsin Press, 1997), 418-425.

[215] Rosenkrantz, *Public Health and the State*, 177-182; Elizabeth Fee, *Disease and Discovery: A History of the Johns Hopkins School of Hygiene and Public Health, 1916-1939* (Baltimore: Johns Hopkins University Press, 1987).

[216] Dubos, *The White Plague*, 225.

[217] For more on the debate among historians about whether or not the bacteriological revolution resulted in a narrowing of public health efforts see: Judith Walzer Leavitt, ""Typhoid Mary" Strikes Back: Bacteriological Theory and Practice in Early Twentieth-Century Public Health," *Isis* 83 (1992): 603-629; Andrew J. Mendelsohn, ""Typhoid Mary" Strikes Again: The Social and the Scientific in the Making of Modern Public Health," *Isis* 86 (1995): 268-277.

nation. The state of Wisconsin attempted to reach citizens through leaflets, but education had to go beyond placards and legislation; it had to find its way into the home.[218] Before the construction of sanatoriums in Wisconsin (and well after), visiting nurses played a crucial role in bringing preventive information into the home.

Urbanization, industrialization, and other socio-economic trends of the nineteenth century changed the American experience of illness and began to separate nursing from housekeeping.[219] Notoriously, Florence Nightingale spearheaded efforts to make nursing a respectable profession, calling for the creation of nursing education and the reform of hospitals.[220] Despite the rise of the hospital, nursing did not leave the home entirely. Private duty nurses served affluent Americans who chose the home over the hospital, while private visiting nursing services and public health nurses assisted families who could afford neither the hospital nor the private nurse.[221] Nurses who served the poor had more in mind than the treatment of symptoms, however. Modeled on "district nursing" in England, the early philanthropic employment of nurses in America was explicitly aimed at improving both the moral and physical well-being of the poor. As Florence Nightingale argued, a trained nurse could have a "depauperizing" effect on the poor.[222]

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[218] *A Circular Relative to Tuberculosis or Consumption and the Best Means of Prevention* (Milwaukee, WI: Office of the Secretary of the State Board of Health, 1895); *Consumption is the Most Common Form of Tuberculosis and is a Germ Disease: It is Preventable, it is Curable* (Madison, WI: State Board of Health, 1921).

[219] Susan Reverby, *Ordered to Care: The Dilemma of American Nursing, 1850-1945* (New York: Cambridge University Press, 1987), 20-21.

[220] Karen Buhler-Wilkerson, *False Dawn: The Rise and Decline of Public Health Nursing, 1900-1930* (New York: Garland, 1989), 7.

[221] Susan Reverby, "Neither for the Drawing Room nor for the Kitchen: Private Duty Nursing in Boston, 1873-1920," in *Sickness and Health in America*, eds. Judith Walzer Leavitt and Ronald L. Numbers, (Madison, WI: University of Wisconsin Press, 1997), 253-265.

[222] Buhler-Wilkerson, *False Dawn*, 7.

Just as it had nationally, public health nursing in Wisconsin began as an outgrowth of religious and philanthropic groups but moved primarily into government health agencies by the 1920s.[223] In 1908, the "Attic Angel Association," a philanthropic woman's club in Madison, Wisconsin, began to hire trained nurses to treat and educate poor families about disease, including tuberculosis.[224] In addition, the Madison Anti-Tuberculosis Association hired a nurse in 1911, the Board of Education in 1915, and by 1923 there were two full time Dane County nurses.[225] The Dane County Medical Society's Women's Auxiliary Loan Closet was also part of this network of both small and large, public and private services for tuberculosis patients in Dane County. Beginning in the 1910s the State Board of Health introduced Public Health and County Nursing to Wisconsin, creating an overlapping network of public and private services. Counties began hiring nurses in 1913, with cities following in 1917. Just two years later the state *required* counties to hire nurses, with thirty-five counties hiring public health nurses by 1921, but in 1923 the compulsory nature of the legislation reverted back to voluntary due to the financial burden. [226]

The Attic Angel Association and Dane County Health Nurses assisted home cases and although their services included treating everything from pregnancy to influenza, tuberculosis comprised a significant portion of their time, even after the construction of a county sanatorium in 1930.[227] In theory, visiting nurses associations, like the Attic Angel Association, took over

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[223] Buhler-Wilkerson, *False Dawn*, ix; Reverby, *Ordered to Care*, 109; Wisconsin State Board of Health, *Manual for Public Health Nurses* (Madison, WI: Bureau of Public Health Nursing, 1949), 5.

[224] *The Attic Angel Association, 1889-1949* (Madison, WI: Democrat Printing Company, 1948), 7.

[225] Jones, "The Development of Public Health Nursing in Wisconsin in Relation to Tuberculosis;" *The Crusader*, November 1923, 60.

[226] Wisconsin State Board of Health, *Manual for Public Health Nurses,* 5.

[227] In 1920 the Attic Angels reported tuberculosis as the third largest group of cases (with 14) out of a total of 262, with maternity and pregnancy representing 38 cases and influenza representing 25. "Report of the Year ending December 31, 1920," Attic Angel Association (Madison, Wis.), *Records, 1889-1960, 1985,*

the *care* of the sick in the home, while public health nursing, like the Dane County Health Nurses, focused on *preventive* and educational services. In reality preventive and treatment services overlapped and it was difficult for nurses to ignore one while helping with the other. In Madison, the Attic Angel Association continued their visiting nurse program long after the introduction of the County Nursing Service, only shifting to a focus on nursing home care after 1950.[228] The Attic Angel Association conducted x-ray clinics in conjunction with the Madison Anti-Tuberculosis Association and did "some bedside nursing in the home on our tubercular patients."[229] Mothers, of course, relied on both types of nurses, as their families' health could not be easily divided between prevention and treatment.

Public health nursing based its care on "'scientific' explanations and interventions."[230] While public health nurses treated the symptoms of patients' illnesses, their primary function was to educate patients and their families on proper hygiene and other "scientific" preventive measures. In order to control the "chain of infection" of tuberculosis, the public health nurses first won the confidence of the patient, then trained them in preventing infection and finally offered treatment advice.[231] For example, in 1931 Dr. Dorothy Reed Mendenhall summarized the most important work of a public health nurse in Madison, Wisconsin:

> Having established friendly relations with a family, by one or more visits for sick relief, an important part of the work is made possible. This is the teaching of proper hygiene and health care. Often ignorance of food values, of the importance of fresh air, cleanliness or proper clothing may be the cause of the present illness. By proper

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1988-1994, Wisconsin Historical Society Archives, Madison, WI.

[228] *The Attic Angel Association, 1889-1949* (Madison, WI: Democrat Printing Company, 1948).

[229] "Letter to Mrs. Arthur MacLeod," 22 February 1928, Attic Angel Association (Madison, Wis.), *Records, 1889-1960, 1985, 1988-1994,* Wisconsin Historical Society Archives, Madison, WI.

[230] Karen Buhler-Wilkerson, *No Place Like Home: A History of Nursing and Home Care in the United States* (Baltimore: The Johns Hopkins University Press, 2001), 26.

[231] Michael E. Teller, *The Tuberculosis Movement: A Public Health Campaign in the Progressive Era* (New York: Greenwood Press, 1988), 74.

> instruction of the patient or the parents in regard to health credentials, our nurses often prevent a further recurrence of the complaint or hasten recovery which would otherwise be greatly delayed.[232]

From home visits to school clinics, the Dane County Health Nurses performed various educational functions in the community. In addition to gathering statistics, the nurses ran educational programs on the disease, such as talks on tuberculin testing to Mothers Clubs.[233] The nurses put the tests into plain language for parents, using analogies such as "thistles come from thistles… In the same way, tuberculosis comes from the tuberculosis germ." They explained the test and what a positive reaction looked like. Furthermore, they explained that "a positive re-action means that at some time in the child's life, he has lived in close enough contact with someone who had tuberculosis, so that the germ has gained entrance into his body."[234] Nurses would help the family set up the sickroom, including a demonstration of damp dusting and the boiling of dishes and linens.[235] Finally, they arrived at instruction in the second objective, recovery and cure. They showed the patient pictures of the proper positions for rest and how to minimize activity while instructing the caregiver in proper diet and how to record temperatures.[236]

These lessons helped mothers understand scientific principles and add new habits, informed by germ theory, into their domestic medicine practices. For example, in order to

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[232] Dorothy Reed Mendenhall, "The Work of the Madison Public Health Nursing Association," 1931, Attic Angel Association (Madison, Wis.), *Records, 1889-1960, 1985, 1988-1994,* Wisconsin Historical Society Archives, Madison, WI.

[233] Elva J. Waters, "Narrative Report" February 1942, Dane County (Wis.) Health Department *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

[234] County Nurse Office, "The Tuberculin Test," November 1935, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944*, Wisconsin Historical Society Archives, Madison, WI.

[235] Ibid, 64.

[236] Ibid, 66.

prevent the spread of tuberculosis, nurses explained that the patient's cough expectorated the bacilli and therefore the sick should always cough into a receptacle. Specially designed "sputum cups" were popular, which the patient or caregiver could easily empty and disinfect for reuse.[237] Visiting nurses instructed families and patients in the responsible use of sputum cups and their disposal. Nurses in Wisconsin would use a photograph of a sneeze to demonstrate how tuberculosis spread and the need to control airborne infection. They followed this with a demonstration of how to make a sputum disposal container out of a grocer's sack, ending with a demonstration of how to burn the bag and properly wash hands.[238] While these lessons show nursing practices, they also demonstrate how nurses believed that mothers could carry out tuberculosis nursing care and understand new scientific knowledge. They also show how germ theory, once again, created more work for mothers, who now had to obtain, administer, and maintain new technologies.

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[237] G.S. Erwin, M.D., *A Guide for the Tuberculosis Patient* (London: William Heinemann Medical Books, LTD, 1946), 48.

[238] Wisconsin State Board of Health, *Manual on Tuberculosis for Public Health Nurses*, 63.

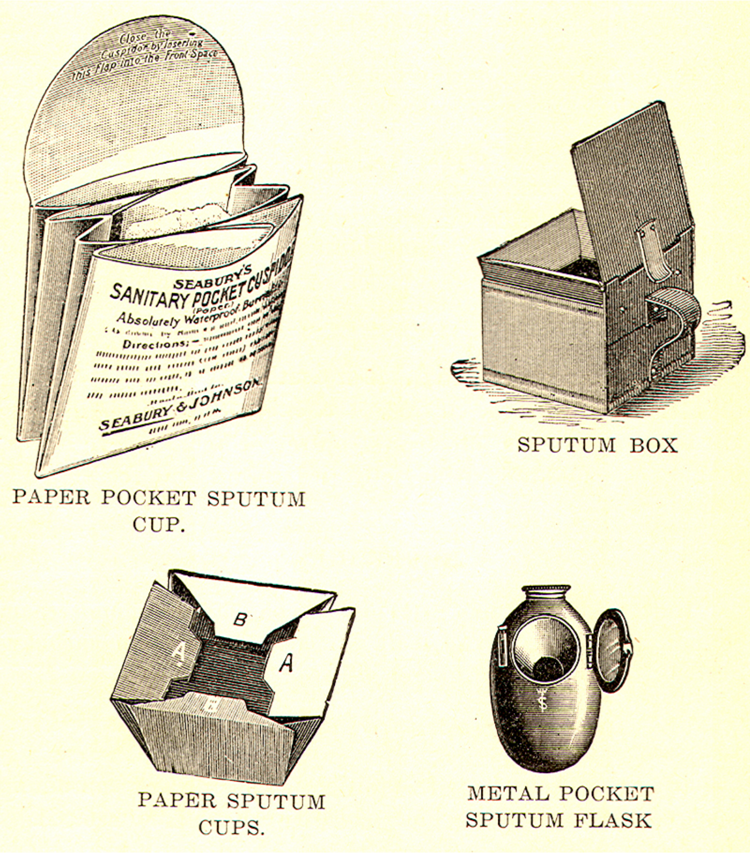

Figure 2.1. *S*putum cup options for patients with different resources. *Source:* Kentucky Tuberculosis Commission, *The Home Care of Tuberculosis: A Book of Cheerful Philosophy and Practical Suggestions for Physicians, Health Officers, and Consumptive Families* (Frankfort, KY: The State Journal Company, 1915), 15.

As the nursing demonstrations in Madison, Wisconsin reveal, the reasoning behind the domestic prevention and treatment of tuberculosis was changing in the early twentieth century. In the nineteenth century medical hereditarianism dominated thinking on tuberculosis and many doctors assumed that the disease was individual, inherent, and incurable.[239] Although physicians believed tuberculosis could be inherited, they did not consider it contagious and therefore did not require isolation from family or community. Thus, the caregiver was an essential element of the

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[239] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: W.W. Norton and Company, 1997), 440; John C. Waller, "'The Illusion of an Explanation': The Concept of Hereditary Disease, 1770-1870," *Journal of the History of Medicine* 57 (2002): 410-448.

pre-sanatorium tuberculosis treatment and a diagnosis dominated the life of the patient and caregiver alike. In the twentieth century caregiving for tuberculosis patients also typically fell to female family members, but as physicians accepted the contagious nature of the disease caregivers had to add enforcing isolation measures to their treatment practices.

Women typically filled the role of caregiver, but tuberculosis was also a very gendered experience for the patient in the nineteenth century. In the nineteenth century physicians prescribed a variety of treatments for tuberculosis, including confinement in the home for women and travel for men, a difference that reflects gender expectations more broadly.[240] For men, their cures reflected masculine ideals of activity and engagement in the public sphere, but for women, recuperating at home better fit ideals of feminine submission, gentility, and piety.[241] In *Living in the Shadow of Death*, Shelia Rothman detailed these gendered experiences of tuberculosis. Male invalids, in their desperate and urgent search for a cure, tended to sublimate their professional and personal goals in order to travel for a cure. They put off college, marriage, and careers in the hopes of curing their disease, believing that a change in climate, an outdoor lifestyle, and soul-searching would hasten their recovery. Women also feared death, but, due to societal expectations and familial obligations, did so within the domestic sphere. As one physician argued, "woman is more the creature of domestic life, and her happiness is more intimately blended with its quiet comforts and tender associations, and the sacrifice of these – especially when her body is sensitive and infirm – often casts a deep shadow over all her feelings."[242] Many children did contract tuberculosis, but it was more likely that it was the mother or other young adult that would be the object of caregiving, likely by another female relative. In Dane County,

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[240] Rothman, *Living in the Shadow of Death*, 77.
[241] Welter, "The Cult of True Womanhood."
[242] William Sweetser, *Treatise on Consumption* (Boston: T.H. Carter, 1836), 196-197.

nurses' reports reveal that mothers, grandmothers, daughters, and sisters most often took over the care of consumptive family members.

Minor ailments, disease prevention, nursing, and especially childbirth were female responsibilities in eighteenth and nineteenth century America. Not only were women considered more empathic than men, but all of these medical events occurred in the home, where women cooked for the sick, bathed them, stayed up all night praying for them, and prepared their bodies for burial. As Emily Abel describes in her history of nineteenth and early twentieth century domestic medicine, *Hearts of Wisdom*, caregiving "dominated women's lives" prior to the twentieth century. Financial need, geographical isolation, availability or trustworthiness of doctors, and a dominant cultural ideology that women's empathic knowledge made them better caregivers contributed to this fact. Although the first half of the twentieth century saw a growth in medical professionals and increasing trust in their expertise, caregiving still dominated women's lives. Nursing the sick could be a richly rewarding experience, a thankless chore, a valued community service, or some combination of these. For example, upon her husband's death in 1893 from tuberculosis Martha Shaw Farnsworth diary entry reflects these conflicting emotions, "tonight I am a widow. I am free. My heart would cry out in very joy, because it is freed from a wretchedly miserable life, and my heart is breaking with pain, heart-ache and utter desolation."[243]

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[243] Quoted in: Abel, *Hearts of Wisdom*, 100.

THE ROLE OF THE SANATORIUM

It would seem, then, that sanatoriums would offer relief to caregivers by removing the patient from the home. Yet, even in their conception, planners wanted sanatoriums to be both hospital and school, hoping that patients would take home the regimen they learned during their stay. In Wisconsin, the State Tuberculosis Commission argued that special tuberculosis hospitals would not only treat tuberculosis, but also prevent its spread and introduce healthy habits to the state's citizens. These sanatoriums would treat tuberculosis patients with a regimen of fresh air, proper diet, and rest, while also quarantining them from the uninfected. The ultimate ideal of the sanatorium, however, was the extension of the sanatorium regimen (rest, diet, fresh air) into every home as a *preventive* measure.[244] The same principles of the sanatorium regimen carried out at home could also boost the immune systems of the well, helping them fight off tuberculosis if exposed to it. Of course, experts assumed women would take on all of this work as part of their regular caregiving and housekeeping roles. Thus, even as sanatoriums gained popularity, domestic medicine remained central to tuberculosis treatment.

The sanatorium could offer some reprieve from caregiving by removing patients from the home, but in the nineteenth century only the wealthy could afford them and these patients could also afford private nurses. The first tuberculosis sanatorium, Hermann Brehmer’s spa-like institution opened in Gorbersdorf, Germany in 1854, a few years before Koch and Pasteur's work on germ theory and decades before most Americans accepted their work. Brehmer’s regimen of medical supervision, rich food, moderate exercise, and rest became the model for a worldwide sanatorium movement. While promoters would later rationalize the treatment with germ theory,

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[244] Dubos, *The White Plague*, 181; Cava Wilson, R.N., “The Sanatorium as a Center of Prevention as well as Cure,” *The Crusader*, November 1937, 6-7.

Brehmer based the regimen on miasmatic theories of disease.[245] In particular, the belief that "bad air" caused disease affected the choice of location for sanatoriums, which were typically located on mountaintops or the wilderness, far from the polluted air of the city or swampy areas. Brehmer chose Gorbersdorf (now Sokolowsko, Poland) as the location for his sanatorium due to its proximity to forests and mountains. [246]

The belief in the medicinal value of travel, fresh air, proper diet, and rest in treating tuberculosis and other diseases has a long history. [247] Hippocratic physicians recommended similar cures, including the air of wooded areas, a voyage, and a milk diet.[248] Rooted in these ideas, the first sanatoriums were located in environments deemed salubrious at the time, especially the mountains, woods, and seashore. For example, Henry Livingston Trudeau built his famous sanatorium in the Adirondack mountains, inspired, in part, by W.H.H. Murray's popular 1869 travel account *Adventures in the Wilderness*, in which Murray argued that "not a few, far advanced in that dread disease, consumption, have found in this wilderness renewal of life and health."[249] Many of these locations also served to isolate tuberculosis patients from the general public by being situated in rural, seasonal, or remote areas.

The discovery of the germ theory in the 1860s did not detract from the popularity of the

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[245] Gregg Mitman and Ronald Numbers, "From Miasma to Asthma: The Changing Fortunes of Medical Geography in America," *History and Philosophy of the Life Sciences* 25, no. 3 (2003): 391–412.

[246] In 1945 Gorbersdorf was renamed Sokolowsko and became part of Poland. It is named after a specialist in tuberculosis, Alfred Sokolowski.

[247] "In Search of Health: Landscape and Disease in American Environmental History," *Environmental History* 10 (2005): 184-209; Emily K. Abel, *Suffering in the Land of Sunshine: A Los Angeles Illness Narrative* (New Brunswick, NJ: Rutgers University Press, 2006).

[248] Arthur Stanley Pease, "Some Remarks on the Diagnosis and Treatment of Tuberculosis in Antiquity," *Isis* 31, no. 2 (April 1940): 387.

[249] William H.H. Murray, *Adventures in the Wilderness; or, Camp-Life in the Adirondacks* (Boston: Fields, Osgood, & Company, 1869), 12; Robert Taylor, *America's Magic Mountain* (Boston: Houghton Mifflin, 1986).

sanatorium. In fact, it contributed to it by demonstrating the infectious nature of tuberculosis and thus the need for isolation. Rather than recommend travel, however, germ theory supported a regimen that isolated tuberculosis sufferers. Germ theory also held the promise that the disease was preventable and perhaps even curable, such as had happened with other diseases that researchers had discovered vaccines and serums for once they had identified the causative bacteria. While some sanatoriums continued to be located in climates previously believed to aid in a cure, sanatoriums built after the acceptance of germ theory could be located anywhere, including within cities. By 1900 there were 24 sanatoriums in the United States and in 1907 Wisconsin joined these ranks.[250]

Advocates of sanatoriums pointed to the absolute quarantine that a sanatorium could offer, as opposed to the permeability of the home. Indeed, this seemed to be the primary difference between home and sanatorium care. Other aspects of the sanatorium regimen focused on diet, rest, and fresh air, all of which could be just as available in American homes. Yet, mothers had been quarantining family members for many infectious diseases for many years, either because local laws enforced home quarantines or because isolation hospitals were full, such as with the 1935 Milwaukee scarlet fever epidemic. That epidemic demonstrated that, on the local level, ideals of isolation and quarantine had to adjust to the reality of patients' resources and preferences. Isolation for tuberculosis proved to have similar adjustments to local conditions that can be seen in Dane County, Wisconsin.

For example, in Wisconsin, despite calls from experts for the isolation of consumptives, it took public support to get a state sanatorium built and once it was constructed, it was almost

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[250] Rothman, *Living in the Shadow of Death,* 194-198; Barron Lerner, *Contagion and Confinement*.

immediately full. After a failed attempt in 1901, increasing public support helped pass a bill to build a state sanatorium in 1905 and in the fall of 1907, near Wales in Waukesha County, the Wisconsin State Sanatorium opened.[251] In 1905, the Wisconsin State Tuberculosis Commission had cited the Massachusetts State Sanatorium and Trudeau's Adirondack Sanatorium in arguing that a regimen of simple "hygienic measures – open air, abundance of nourishing food and close medical supervision," resulted in a cure.[252] Just one year after the Wisconsin state sanatorium opened, the 60-bed capacity reached its limit. The State Sanatorium, combined with two private sanatoriums, provided only 132 beds overall for the entire state of Wisconsin.[253] These shortfalls made home treatment a continued necessity in many communities.

Residents of Dane County, the second most populous county in the state and home to the state capital, Madison, would have to wait another 23 years for a public sanatorium, although those with enough money could afford private nurses and private sanatoriums. This delay was made possible by the network of friends, family, private charity, public services, physician supervision, and expert advice that existed in the community both prior to and throughout the tenure of the public sanatorium. In addition, beginning in 1911, indigent cases could be sent to sanatoriums in other counties.[254] When Dane County finally built a public sanatorium, it became part of this network, but it did not replace any other part of it. Indeed, as patients returned home from the sanatorium they needed these services more than ever, as they attempted to implement

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[251] Bernett O. Odegard, *A History of the State Board of Control of Wisconsin and the State Institutions, 1849-1939*. (Madison, WI: State Board of Control, 1939), 138-139.
[252] Wisconsin Tuberculosis Commission, *Report of the Wisconsin State Tuberculosis Commission* (Madison, WI: Wisconsin State Tuberculosis Committee, 1905), 25.
[253] In 1905 the population of Wisconsin was 2.231 million. *Wisconsin State Census, 1905* (Madison: State Historical Society of Wisconsin, Archives Division, 1952).
[254] Mary Ellen Stolder, "Consumptive Citadel: The Crusade against Tuberculosis in Eau Claire County, 1903-1917," *The Wisconsin Magazine of History* 77, no 4 (Summer 1994): 280, 284.

the sanatorium regimen in their own homes.

Dane County's sanatorium began as the recommendation of a 1928 special committee, consisting of Conrad Hansen (a grocer whose mother died of tuberculosis), Dr. Robert West (a speech pathologist), and Charles Birt (director of the Community Union, the future United Way).[255] Citing the economic burden a tuberculous population represented, the prevalence of the disease, and the success of the sanatorium treatment, the committee advocated a new, modern, and local institution for treating tuberculosis. The existence of a small, semi-private, cottage-style sanatorium, Morningside, had served Dane County since 1917 and helped enough to delay the need for a public sanatorium for so long, but it only served those who could afford it.[256] Morningside was more expensive than the average county sanatorium, with an average cost of twenty-five to thirty dollars a week compared to only eighteen dollars at other sanatoriums.[257] In addition, as germ theory gained popularity, Morningside's cottage-style seemed outdated and ineffective. As opposed to the sanitary, sleek, and modern design of the public sanatorium, the cottages were small, old, and dark. The Dane County Board of Supervisors approved the measure to build a county sanatorium in 1929 and in June of 1930 the $525,000 Lake View Sanatorium opened its doors, making it the last public sanatorium in the state.[258] Lake View's 100 beds filled within one month and although capacity eventually reached 140, the sanatorium

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[255] "Conrad Hansen, 75, Observes Birthday," *Wisconsin State Journal*, October 2, 1952, 22; "The Profile: Dr. West, 'the Man Who Came to Dinner,' Has a Working Knowledge of Madison-Dane Problems," *Wisconsin State Journal*, April 11, 1943, 6; Dane County Board of Supervisors, *Proceedings, 1928-1931,* November 1928, 9.

[256] Private Philanthropy Assumes Public's Neglected Responsibility in Madison," *The Crusader*, January 1917, 8.

[257] Dane County Board of Supervisors, *Proceedings, 1928-1931,* November 1928, 161.

[258] Dane County Board of Supervisors. *Proceedings, 1928-1931,* February 1929, 341; "Lake View Sanatorium, Dane County's Little City of Health has Saved 30 Persons each year for a decade," *Madison Capital Times*, November 17, 1940; Holand, *House of Open Doors*, 168.

suffered from constant bed shortages and long waiting lists.[259]

In addition to planner's statements about modernity and scientific planning, Lake View epitomized contemporary medical thinking on tuberculosis in another important way: the goal of sanatoriums was for patients to return home and live a sanatorium lifestyle without the physical structure of the institution itself. They would also spread this regimen to their friends, families and coworkers, turning the sanatorium cure into a public health prevention strategy. Dane County's Tuberculosis Commission had argued that

> Another reason for an institution in our midst is that it has a strong and wholesome educational influence in the fight against tuberculosis. The sanatorium not only affords facilities for the cure of the patient but it furnishes for the community a practical demonstration in the simple but fundamental principles of hygiene that must become common knowledge before civilization is rid of this disease. The institution is thus partly a hospital, and partly a school.[260]

The first step in this process was to get patients into the sanatorium, however, and Madison faced the dual problem of convincing residents to avail themselves of the sanatorium, while at the same time, not having enough beds to deal with the scope of the problem. Dane County residents lucky enough to get a bed at Lake View found their way there in a variety of ways. The Dane County Health Nurses identified cases by running tuberculin-testing clinics at schools and other public institutions. In addition, a doctor could diagnose the patient and recommend a sanatorium cure or the patient might attend a monthly x-ray and tuberculin clinic sponsored by the Madison Board of Health and the Madison Anti-Tuberculosis Association. Lake View's outpatient service offered x-ray and tuberculin testing services free of charge for

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[259] "Lake View Sanatorium Already Filled," *Wisconsin State Journal,* 13 July 1930; "Lake View Enlarged, Expands its Services," *Wisconsin State Journal,* 25 November 1935.

[260] Dane County Board of Supervisors, *Proceedings, 1928-1931,* November 1928, 160.

suspected cases.[261] If a test was positive, Dane County Health Nurses visited the home of the patients and attempted to convince them to confirm the test with an x-ray, performed at Lake View Sanatorium's outpatient office.

Following confirmation patients would either be admitted to Lake View or to the Dane County Health Nurses visiting nurse program. In the latter situation, a nurse would visit the home to supervise home care, provide transportation to outpatient services, and assist in rehabilitation. The official policy of the City of Madison's Department of Tuberculosis Welfare, which conducted tuberculin and x-ray clinics, was to "urge sanatorium care for all active cases of pulmonary tuberculosis."[262] Yet, as the Table 1 indicates, the vast majority of identified cases in Dane County remained in the home. Despite modern medical science confirming a case and the existence of a sanatorium, Dane County experience demonstrates how negotiated this process really was. Patients could refuse to go or, just as likely, not be able to get off the waiting list.

	1937	**1938**	**1939**	**1940**	**1941**	**1942**	**1943**
Admitted to Visiting Nursing Service	236	237	415	588	753	978	808
Admitted to Sanatorium	4	1	3	7	35	28	17

Figure 2.2. Comparison of patients admitted to Lakeview sanatorium and patients admitted to the Dane County Health Nurses visiting nurse service between the years 1937 and 1943 (both Eastern and Western Dane County. Data before 1936 are only for Eastern Dane County). Compiled by author from available Annual Reports of Tuberculosis Control. Dane County (Wis.) Health Dept. *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

For those Dane County residents who did obtain treatment at Lake View, they could expect similar treatment to what sanatorium patients in the state and across the nation received. This was due, in part, to how simple the sanatorium regimen was: plenty of rest, fresh air, and a

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[261] "Lake View Sanatorium is Haven of Rest and Happiness," *Wisconsin State Journal,* June 11, 1933.
[262] F.F. Bowman, M.D., *Annual Report of the Board of Health, Madison, Wis*. (Madison, WI: Madison Board of Health, 1931), 33.

nutritious diet. For example, a typical patient's day at the Mt. Washington Sanatorium in Eau Claire, Wisconsin began at seven in the morning and ended with dinner served at 5pm. In addition to sleep, patient's days consisted of at least 5 hours of complete bed rest, depending on the patient.[263] As the superintendent of Lake View said in 1943, "the cornerstone of treatment is rest. The fewer drugs you have required the better off you are, for drugs are still not very important except as necessary evils to control symptoms."[264] Of note, 1943 was the same year that streptomycin, the antibiotic that scientist hailed as a cure for tuberculosis, was discovered.

Depending on the patient's case, rest could range from lying in bed to sitting outside or on a porch, but many experts recommended "the more nearly the patient approaches the relaxation that one normally gets in sleep the more nearly is he getting the right kind of rest."[265] The sanatorium permitted exercise in half hour doses for patients well enough to sit up or walk. Whenever possible rest occurred outside on lawns or porches, even if this meant wheeling a patient's bed outside. In fact, a variation on the day bed, the "cure chair," became popular at sanatoriums for the purpose of being able to adjust a patient based on their condition.[266] As this routine shows, during waking hours patients spent their entire day resting, bathing, and eating, with some patients allowed a small bit of exercise:

7:00	Morning Toilet
7:30	Breakfast
8:00-8:30	Exercise, if ordered by the physicians
9:00-11:00	Rest outside on the porches
11:00-11:30	Exercise, if ordered

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[263] Stolder, "Consumptive Citadel," 282.

[264] John Shumate, "Remarks to Recent Arrivals, Hint to Old Timers," *Lake Views*, October/November 1943, 1.

[265] Hazel M. Bullis, "Pulmonary Tuberculosis: Nursing Care," *The American Journal of Nursing* 39, no. 3 (1939): 270-271.

[266] Margaret Campbell, "From Cure Chair to "Chaise Lounge": Medical Treatment and the Form of the Modern Recliner," *Journal of Design History* 12, no. 4 (1999): 327-343.

11:30-12:00	Rest
12:00 noon	Dinner
1:00-4:00	Rest outside on the porches
4:00-4:30	Exercise, if ordered
4:30-5:00	Supper[267]

Some patients found this regimen boring or even oppressive. As one sanatorium patient wrote in her diary, "absolute and utter rest of mind and body – no bath, no movement except to toilet once a day, no sitting up except propped by pillows and semi-reclining, no deep breath. Lead the life of a log, in fact."[268] Another patient at a California sanatorium was so bored that she wrote the United States Children's Bureau begging for a radio to keep her entertained. She wrote, "I have to lie flat on my back all day and all night. I'm not allowed to read, write, or sew. So you see there isn't anything that I can do to pass the time." In addition, it was the height of the depression and none of her family members could afford to visit her. The letter touched Frances Perkins, the Bureau's head, so much that even though the bureau could not provide a radio she found someone who could.[269]

The importance of rest outside, either in the patient's room with the window open, on porches with other patients, or outside on sanatorium grounds, highlights the second part of the sanatorium regimen: fresh air. Even in the dead of winter patients would be wheeled outside, bundled into blankets, and left for hours to inhale fresh air. Rationalized by germ theory, tuberculosis experts promoted outdoor air as beneficial and indoor air as full of germs.[270] Exposure to fresh air also increased exposure to sunlight, which medical experts promoted in the

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[267] Stolder, "Consumptive Citadel," 282.

[268] Raymond Hurt, "Tuberculosis Sanatorium Regimen in the 1940s: A Patient's Personal Diary," *Journal of the Royal Society of Medicine* 97, no. 7 (2004): 350.

[269] Aurora Holguin to Frances Perkins, Duarte, CA, December 11, 1934. Children's Bureau Records, Box 497, File 4-5-13-1-4 (tuberculosis), National Archives Building, College Park, MD.

[270] Peter C. Baldwin, "How Night Air Became Good Air, 1776-1930," *Environmental History* 8, no. 3 (2003): 422-423.

early twentieth century as beneficial for a variety of ailments. As we saw with scarlet fever disinfection policies, public health departments continued to recommend sunlight and fresh air even as chemical disinfectants became available. Although fresh air had been a popular treatment for many ailments for centuries, germ theory provided a new justification for its efficacy. Noted physician and public health advocate, S. Josephine Baker, promoted sunbathes in a 1928 *Ladies' Home Journal* article by arguing that "these rays destroy bacteria, build up resistance against contagious diseases and cure and prevent tuberculosis and rickets."[271]

In Dane County, every room at the Lake View sanatorium had access to communal sleeping porches and the staff prescribed their use in any weather.[272] This was common practice at sanatoriums – at the River Pines sanatorium in Stevens Point, Wisconsin one patient noted, "it was not unusual to wake up in the morning with the whole porch, including the bed, under an inch or more of snow." This patient wondered, "it is not unlikely that many patients in those early sanatoriums in our northern climates were killed by the cold rather than by tuberculosis."[273] At Lake View, at least patients could enjoy a view of Lake Mendota from their porches and, when allowed moderate exercise, could walk around the landscaped grounds.[274] Wisconsin sanatoriums were not alone in exposure to the elements and patients across the country often complained of cold, especially in the winter. Betty MacDonald wrote in her 1948 memoir, *The Plague and I*, "the Pines was a very cold place and that included the attitude of the staff as well as the temperature of the rooms." The cold required patients to wear "woolen socks, as many as three pairs at a time, outer flannel pajamas, two, three and four sweaters, bed jackets, mittens, woolen hoods and scarves until

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[271] S. Josephine Baker, M.D., "Sun Baths for the Youngest Generation," *Ladies' Home Journal* (June 1928): 2.
[272] "Lake View Sanatorium Already Filled," *Wisconsin State Journal,* July 13, 1930.
[273] William Monroe Ross, *I Wanted to Live: An Autobiography* (Madison, WI: Wisconsin Anti-Tuberculosis Association, 1953), 99
[274] "Lakeview Sanatorium Already Filled," *Wisconsin State Journal*, July 13, 1930.

we looked like bundles of old clothes but we were all cold all of the time."[275] MacDonald's memoir is full of biting sarcasm, but the sanatorium's food was the one thing she did not complain about, except to note that it, too, was always cold.[276]

That final element of the sanatorium regimen, a healthy diet, focused on dairy products and other fattening foods. Doctors considered tuberculosis a wasting disease and many patients did lose quite a bit of weight. A day camp of tuberculosis patients in Massachusetts reported that patients averaged over three pints of milk a day, with butter and raw eggs at breakfast, a pudding of milk and eggs at lunch and dinner, with meat, bread, and vegetables served as well.[277] A New Mexico sanatorium served a pint of milk with every meal and another before bed.[278] Sanatorium doctors typically used weight gain along with a consistent temperature as signals of a patient's progress and potential dismissal. Although sanatoriums experimented with different diets, by the 1930s a balanced diet of protein, carbohydrates, and fat that included at least a quart of milk per day was common.[279] Nutritionist Mary Swartz Rose recommended 2,500 to 3,500 calories per day, depending on the patient's level of activity and weight.[280] These nutritional recommendations could become expensive and many sanatoriums alleviated the cost by maintaining farms on their grounds and using ambulant patients for labor.[281]

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[275] Betty MacDonald, *The Plague and I* (Pleasantville, NY: The Akadine Press, Inc., 1997), 120.
[276] Ibid., 121.
[277] Susane F. Robbins, "The Day Camp for Tuberculosis Patients," *The American Journal of Nursing* 6, no. 9 (1906): 596.
[278] F.C. Smith, "Tuberculosis Sanatorium, Fort Stanton, N. Mex: A Report for the Year Ended June 30, 1913, of the Sanatorium Maintained by the Public Health Service for the Treatment of Tuberculous Patients," *Public Health Reports (1896-1970)* 28, no. 42 (1913): 2152.
[279] Mabel Kuse, "Nursing Procedure in a Tuberculosis Sanatorium," *The American Journal of Nursing* 33, no. 12 (1933): 1125.
[280] Mary Swartz Rose, PhD., *Feeding the Family* (New York: The MacMillan Company, 1931): 329.
[281] F.C. Smith, "Tuberculosis Sanatorium, Fort Stanton, N. Mex: A Report for the Year Ended June 30, 1913, of the Sanatorium Maintained by the Public Health Service for the Treatment of Tuberculous Patients," *Public Health Reports (1896-1970)* 28, no. 42 (1913): 2149-2161.

Keeping costs down was important because most public sanatoriums were free to the public, offered on a sliding scale, or reimbursed through charities. This fact, combined with the fear of the infectious nature of tuberculosis gave sanatoriums a stigma that many wanted to avoid. In addition, patients could feel stigmatized by their own families, which could cause psychological difficulties. As one Irish sanatorium patient said about her institutionalization as a child, “I don't remember any family member saying anything about me being away or being back. I felt I had lost my place in the family. As for lasting effects, I never trust anyone and I have an ongoing abandonment issue which I have had to have tons of therapy for.”[282] Many former patients feared stigmatization and oral histories of former patients can be hard to obtain as a result.[283]

A patient's experience could vary greatly based on the individual sanatorium, their own personality, and the stage of their disease. Even within one sanatorium, patients had a variety of experiences. At Lake View in Madison, some families resisted institutionalization, while others saw admission to be something worthy of posting in the social notices of the local paper. Care also varied over time, as can be seen in the case of the sanatorium’s first superintendent, who the County fired over charges of patient miscare and embezzlement. One County board member called the sanatorium in its early years “a quarantine boarding house in a wonderful building.”[284]

Other patients, however, found ways to enjoy their stay in the sanatorium. Many followed the advice of experts to use the time to make the most of their convalescence by

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[282] Susan Kelly, "Stigma and Silence: Oral Histories of Tuberculosis," *Oral History* 39, no. 1 (2011): 65-76.

[283] Aurora Holguin to Children's Bureau, “The Records of the Children's Bureau, 1912-1969,” December 11, 1934, National Archives and Records Administration, Box 497, Manuscript No. 4-5-13-1-4.

[284] Rod Van Every, “Lake View Again a Battleground,” *Wisconsin State Journal,* December 14, 1941, 2.

learning new skills, practicing self-reflection, and focusing on getting well. In Wisconsin, as elsewhere, many sanatoriums produced a newsletter, with short stories, poetry, and other artistic contributions from patients. Many of these pieces focused on the sanatorium experience. In the newsletter that patients of Dane County's Lake View sanatorium published, one patient wrote this ode to the sanatorium:

> We came to thee in yesterdays
> When hope had waned and life was low;
> We came to thee for days of grace -
> For solace, in they settings glow.
>
> We found in thee a haven, new -
> A greensward sprawled with pools and flowers;
> And, far below, Mendota's blue
> Where tired eyes might cruise for hours.
>
> With science, service, rest and cheer
> Co-working, there would be repair.
> And, so Lake View, we thee revere -
> You raise new hope, and give us care![285]

Despite these variations, Lake View was representative of early twentieth century sanatoriums in the sex ratio of its patients. In the nineteenth century tuberculosis case reporting was uneven, but available data show female deaths from the disease in excess to male from 1850-1890.[286] In the twentieth century sex differences in mortality varied by region, with higher female mortality than male outside of the Northeast and Western states, especially in the Mississippi River Valley, which includes the state of Wisconsin.[287] This led many public health agencies to assume that women were more susceptible than men were to the disease.[288] One

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[285] Adolf Holten, "To Lake View Sanatorium," *The View Point*, June 4, 1938, 3.
[286] C. C. Dauer, "Sex Differences in Tuberculosis Mortality in the United States" *American Review of Tuberculosis* 37, no. 4 (1938): 435.
[287] Ibid., 446.
[288] Roy M. Seideman, "Some Epidemiological Aspects of Tuberculosis Determined by Analysis of

1932 study found that “between the ages of 15 and 25 years the death rate among young women ranges from 50 to 90 per cent higher than among young men of the same age.”[289] The study attempted to identify why women died at a higher rate than men did and found that early marriage and childbearing were the two most significant factors in women's high mortality, more than diet, income, housing, or education.[290]

In Dane county, Wisconsin a 1928 study found the incidence of tuberculosis in women and children of particular concern. Of the 550 deaths from tuberculosis reported in the previous ten years in the county, 297 of these were women and girls. Half of these deaths occurred between the ages of twenty and forty, when children were most likely to be in the home.[291] Without institutional isolation, the disease would easily spread within families, as well as into the schools and workplaces. When Lakeview opened two years later, the superintendent noted “the occupation represented by the highest number of patients was that of housewife, and the next in order was farmer.” In fact, Lake View had 25% more female patients than male and patients tended to be between the ages of 15 and 40.[292] Length of hospitalization varied, but often lasted months, if not years. Between 1946 and 1953 the Broadlawn Sanatorium in Des Moines, Iowa recorded a peak duration of hospital stay of 820 days in 1949 with an average of 261 days in 1953.[293]

The family's income, routine, and well-being could be adversely affected if a mother had to leave in order to spend months, if not years, in a sanatorium. One mother, who kept a diary of her

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Sanatorium Records," *American Journal of Public Health and the Nation's Health* 33, no. 7 (1943): 791.

[289] Edna E. Nicholson, *A Study of Tuberculosis Mortality Among Young Women* (New York: National Tuberculosis Association, 1932), 7.

[290] Ibid., 60.

[291] Dane County Board of Supervisors, *Proceedings, 1928-1931,* June 1928, 9.

[292] "Lake View Cost Drops as Patients Increase." *Wisconsin State Journal*, November 15, 1933: 1.

[293] Abraham Gelperin, J. Galinsky Leon, Robert J. Anderson, and Albert P. Iskrant, "Trends in Discharge and Length of Stay of Patients in a Tuberculosis Hospital," *Public Health Reports (1896-1970)* 69, no. 8 (1954): 782.

sanatorium stay in 1944, was surprised by her husband's response to her institutionalization, “poor old Bill was completely unnerved – mainly because of my being separated from Mark [their infant son] – no thought for his own upheaval of having his home split up and all the anxiety, trouble and expense.”[294] In addition to the financial and logistical upheaval her institutionalization would cause, she would be separated from her newborn son for an indefinite period of time. She noted, “Mark will walk, talk and change completely during the coming year – nearly half his small life. And as for Bill – I know that millions of wives have their husbands away, but still – husband and baby at once!”[295]

This example highlights one of the important ways that tuberculosis affected families differently than other infectious diseases, such as scarlet fever. Tuberculosis cures lasted years, disproportionately affected women, and often involved institutionalization. Young women, the ones most likely to be mothers, contracted tuberculosis at higher rates than older women and men.[296] Sanatorium stays took them away from their families for long periods, often without visits from their children for fear of infection. For some, this was too much to bear. In 1927 one Dane County mother of three with advanced tuberculosis refused to return to a sanatorium and relied on her neighbors and husband instead. The visiting public health nurse noted, “[the husband] washed and ironed for them and dressed them besides doing most of the cooking and supplementary nursing.”[297]

There were two, sometimes conflicting, financial issues at play here. On the one hand,

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[294] Raymond Hurt, "Tuberculosis Sanatorium Regimen in the 1940s: A Patient's Personal Diary," *Journal of the Royal Society of Medicine* 97, no. 7 (2004): 350.
[295] Ibid.
[296] Alan C. Swedlund, *Shadows in the Valley: A Cultural History of Illness, Death, and Loss in New England, 1840-1916* (Amherst: University of Massachusetts Press, 2010), Appendix C.
[297] Grace Hillyer, “Narrative Report” May 1927, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1910-1929,* Wisconsin Historical Society Archives, Madison, WI.

the county had a financial motivation to ensure tuberculosis sufferers like this one found their way into a sanatorium and successfully completed their treatment. In particular, public health agencies hoped that behavior modification continued beyond the sanatorium because infectious cases that returned home without adopting this lifestyle became a health threat and financial burden to the community. As a 1939 Wisconsin Anti-Tuberculosis Association survey concluded, “a year’s care for one patient comes therefore to $750 - $1000 a year; if that patient, by refusing hospitalization or leaving against advice, spreads his disease to five or ten other victims, each of whom requires one to three years’ treatment in a sanatorium, the cost totality may become stupendous.”[298]

On the other hand, the absence of a breadwinner or of the family housekeeper was a financial issue for many families. As one patient at Lake View noted in 1933, “with a wife and a blue-eye boy of three dependent on me, the news that I should have to be an invalid an entire year struck me like a blow from a club. It seemed to me that even if the problem of existence could somehow be met, loss of twelve months from my work spelled a long, fatal-sounding word, catastrophe.”[299] As this instance illustrates, the loss of income from the male breadwinner likely factored into at least some potential patients' decision to enter the sanatorium. The loss of women's unpaid labor could also effect a family's decision. A 1940 study focused on tuberculosis in pregnant women argued, “the less affluent are more needed at home and they are found to be reluctant to accept sanatorium care even though the expenses be borne by the state in public institutions."[300] As late as 1965 noted that, while nearly 70% of Madison, Wisconsin residents

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[298] Wisconsin Anti-Tuberculosis Association, “Sanatorium Survey Committee,” 1939, *Wisconsin Lung Association, Records, 1907-1978,* Wisconsin Historical Society, Madison, WI.
[299] C.E Maley, “A Year Off,” *The Crusader*, March 1933, 5.
[300] Isabel Roberts Roe, M.D. and Sarah I. Morris, M.D. "Tuberculosis of the Childbearing Woman." *Diseases of the Chest* 6, no. 11 (1940): 329.

would prefer sanatorium care, childcare would be a deciding factor for at least half of the respondents.[301]

Despite the official health department policy of sanatorium care and compulsory laws, in 1938 WATA reported that Wisconsin's twenty-three sanatoriums provided only 2,414 beds in Wisconsin for 8,856 estimated cases.[302] While a patient could obtain cheap and modern treatment at sanatoriums like Lake View, the fact was that many residents were not availing themselves of this resource, due either to the lack of beds or personal choice. The reports of the Dane County Health Nurses reveal the low rate of institutionalization in Madison. For instance, in its annual report of 1939 the Dane County Health Nurses reported admitting 415 citizens to its tuberculosis visiting nurse program and only three patients to sanatoriums.[303] It is unclear if this was due to availability or patients' choice, but WATA reported a 3,077 sanatorium bed deficit across the state in 1943 (the year the Free Care Law passed) and there was a three percent drop in hospitalization from the previous year.[304]

	1937	**1938**	**1939**	**1940**	**1941**	**1942**	**1943**
Population	3,032,174 (estimate)	3,032,174 (estimate)	3,032,174 (estimate)	3,137,587 (census)	3,157,445 (estimate)	Not Given	Not Given
Estimated Cases	9,330	8,856	8,229	7,614	7,236	6,939	6,849
Sanatorium Patients	3,947	3,928	3,896	3,915	4,014	3,908	3,772

Figure 2.3. Wisconsin tuberculosis cases and sanatorium occupancy between 1937 and 1943. While cases reduced by 2,481 over this seven year period, there was only a 175 drop in patients in sanatoriums. *Source:* Compiled by author from Wisconsin Anti-Tuberculosis Association reports published in *The Crusader* .

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[301] Warren H. Southworth, "Survey of Tuberculosis Information among Madison Adults," *Public Health Reports* 80, No. 1 (January 1965): 84-85.

[302] "Growth of Wisconsin Sanatoria," *The Crusader,* November 1938, 11; "Tuberculosis in Wisconsin – 1938," *The Crusader*, (October 1939, 8-9; Mary Graham Mack, *Laws, Rules, Regulations Relating to Tuberculosis Wisconsin* (New York: National Tuberculosis Association, 1946): 70.

[303] "Annual Report" 1939, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

[304] "Tuberculosis in Wisconsin – 1943," *The Crusader,* December 1944, 8-9.

Wisconsin's shortage reflected national trends. In 1916 the American Public Health Association believed that sanatoriums could only accommodate five percent of tuberculosis patients.[305] A 1924 survey by the National Tuberculosis Association estimated that there were 102,000 cases of tuberculosis with only 37,000 beds in 206 institutions.[306] Furthermore, most sanatoriums restricted admission in some way: some would not admit advanced cases and most would not admit minorities.[307] Many sanatoriums viewed advanced cases as a burden that tarnished their recovery statistics. In Massachusetts, the first state sanatorium intentionally restricted admission to incipient cases to boost their recovery rates and encourage further funding.[308] In the case of minorities, especially African-Americans, even when sanatoriums would admit them, distrust of white institutions and fear of abuse made many reluctant.[309] In non-segregated institutions, including Lake View sanatorium, African American patients typically made up only two to four percent of cases.[310]

Yet, tuberculosis declined in Wisconsin and nationwide, despite the shortage of beds and the significant number of patients preferring home treatment. Some historians, like Leonard Wilson, have argued that the identification and isolation of advanced cases in sanatoriums resulted in a dramatic decline of the disease.[311] Yet, while national rates of hospitalization

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[305] "Mortality from Tuberculosis" *American Journal of Public Health* 6 (1916), 363.
[306] Godias J. Drolet, "Tuberculosis Hospitalization in the United States: Results, Types of Cases, Facilities and Costs, A Preliminary Study," *American Review of Tuberculosis* 14, 6 (1926): 614-615.
[307] Bates, *Bargaining for Life*, 288-310.
[308] Massachusetts Board of Trustees of Hospitals for Consumptives, *Annual report of the Trustees of Massachusetts Hospitals for Consumptives (*Boston: Wright and Potter, 1919); Rosenkrantz, *Public Health and The State*, 122.
[309] Bates, *Bargaining for Life*, 293.
[310] Christopher C. Easton, "The Spirit of a Sanatorium and Other Factors in Developing a Tuberculosis Infirmary from the Ward of an Almshouse Hospital," *Charities* 12 (1904): 775-783; Bates, *Bargaining for Life*, 171. Reports related to Lake View do not break down patients by race, but newspaper photographs show African American patients. See: "Their Story Might be Your Story," *Wisconsin State Journal*, November 18, 1951.
[311] Leonard G. Wilson, "The Rise and Fall of Tuberculosis in Minnesota: The Role of Infection," *Bulletin*

increased from four to twenty-five percent between 1915 and 1934 there is no corresponding drastic decline in mortality, just a steady continuous decline.[312] If there were not enough beds and citizens were not availing themselves of services, the sanatorium cannot be the only factor in the decline of tuberculosis in the twentieth century. Others, such as Thomas McKeown, proposed that the nineteenth-century rise in population was the result of the decline of infectious diseases, like tuberculosis, through the improvement of nutrition. McKeown also argued that by the second half of the nineteenth century and into the twentieth exposure declined and hygiene improved, contributing to continuing improvements in nutrition.[313]

All three of these factors – nutrition, isolation, and hygiene – were essential to *both* the sanatorium and home-based preventive and treatment regimens. Certainly, home prevention and treatment were not the only cause of tuberculosis' decline, but their role has been diminished in comparison to the sanatorium movement. Case studies, such as Dane County's, show how the presence of a sanatorium did not necessarily mean that all tuberculosis patients found treatment there and even if they did, their after-care continued in the home. As with other diseases, the presence of modern medical institutions and specialists did not diminish the need for domestic medicine and often actually increased the need for it. Therefore, the role of domestic medicine in the decline of tuberculosis should be considered more seriously.

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of the History of Medicine 66 (1992): 16-52; Wilson, "The Historical Decline of Tuberculosis in Europe and America," 366-396.

[312] Grob, *The Deadly Truth,* 213.

[313] McKeown, *The Modern Rise of Population*, 142.

THE HOME AS SANATORIUM

Thus, although the sanatorium movement had arrived in Dane County, very few affected residents could obtain a bed in the institution. In addition, the Dane County Tuberculosis Commission had clearly stated that, "the institution is thus partly a hospital, and partly a school.[314] By lack of beds and by design domestic medicine became central to the treatment that Dane county residents received outside Lake View sanatorium, both in lieu of institutionalization and post-release. This was made possible by a network of people and resources, including women in the home, nurses, charities, and popular sources of advice. In fact, the existence of a robust network of nursing could have been an important factor in why Dane County had been able to manage for so long without a public sanatorium. It is through nursing outreach that we can also see how home care of tuberculosis in Dane County was a balance of services and surveillance. In addition, both gender and class affected available resources and expectations, with more labor required for poorer caregivers to meet the demands of germ theory informed practices. Despite these barriers, caregivers not only embraced these more scientific practices, but also helped fuel the popularity of tuberculosis consumer products as both preventive and decorative features of American life.

In order to obtain the aid of visiting nurses and charities, Dane County residents had to accept greater surveillance in exchange for these services. For example, after diagnosis, the Dane County Health Nurses monitored positive cases that did not enter the sanatorium, as well as the after-care of released patients. After leaving the sanatorium, patients returned for several years to check their progress through x-rays and the sanatorium's social worker kept a "close tab

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[314] Dane County Board of Supervisors, *Proceedings, 1928-1931,* November 1928, 160.

on the home conditions to guard against a return to the same environment that originally produced the tuberculosis. She sees to it that the patient obeys the rules and regulations that have been laid down for him for the preservation of his health."[315] The network of sanatorium, nursing, and home care in Dane county shows how patients could learn and carry out the sanatorium regimen in a variety of ways, not just through institutionalization. All routes, however, brought residents under medical and public health surveillance.

Tuberculosis was not unique in this respect. As in Milwaukee's 1935 scarlet fever epidemic, the new tools of public health departments brought Americans under increasing surveillance. In addition to explaining tests and guiding patients through the administrative process, visiting nurses also traced the chain of infection. For example, only three categories dominated the nurses' monthly statistics reports in the early twentieth century: tuberculosis, maternity, and venereal disease. The nurses were persistent, visiting homes often, writing relatives, scouring newspapers for information on indigent cases, and interviewing former doctors. After one patient was committed in June of 1941 the service identified two more cases in the building and was able to convince the parents to admit the two children to Lake View (although they refused "Kiddie Camp," a preventive summer camp, for their third child).[316] In another case, the whole family of an eleven-month-old patient was x-rayed in order to find the source of infection. While no cases were found the nurse noted that "the maternal grandparents have a suspicious history and are to be followed up."[317] Thus, tuberculosis highlights how public

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[315] Ibid.

[316] "Narrative Report," June 1941, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI; for more on the institutionalization of children see: Cynthia A. Connolly, *Saving Sickly Children: The Tuberculosis Preventorium in American Life, 1909-1970* (New Brunswick: Rutgers University Press, 2008).

[317] Carolyn Schlattman, "Narrative Report for Eastern Dane County," December 1939, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical

health surveillance functioned to not only bring the sick into institutions, but to monitor them in their homes.

Despite the increased surveillance, services like these made implementing a sanatorium regimen in the home more possible for many Dane County families. While not in Dane County, national examples can illustrate the lengths families went through to carry out the sanatorium regimen. For example, the Bredienbach family of Queens, New York rearranged their household to suit eight year old Andrew's needs, including moving his bedroom to the living room, curtailing spending to pay for his medical bills, and excluding non-family members from visiting the home. In 1945 tuberculosis still had a 37% death rate and killed over 50,000 Americans a year, despite advances in antibiotics. Andrew was like ninety percent of tuberculosis patients in America who were treated in their own homes by family members.[318] In Andrew Breidenbachs' case, his parents removed him from a sanatorium to treat him in their Queens, New York home. Although the Breidenbachs acted based on a concern for sanatorium overcrowding and questionable medical treatment, for most Americans home treatment was not a choice, but a necessity.

As many other American families did, the Breidenbachs followed the sanatorium regimen, but they also dramatically altered their family budget, travel, future plans, and daily routines. Other family members went without butter or meat if there was only enough for Andrew. The parents went without new clothes for years. Andrew's mother kept and washed his dishes, linens, and clothing separately from the other family members'. Sick family members

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Society Archives, Madison, WI.

[318] Harlbert L. Dunn, M.D., *Vital Statistics of the United States: 1945* (Washington, D.C.: United States Government Printing Office, 1947), 31; Delano, *American Red Cross Text-Book on Home Hygiene and Care of the Sick*, xv; Osler, *The Principles and Practice of Medicine*, 354; Grob, *The Deadly Truth*, 213.

were not allowed to enter his room. In addition to Andrew's health, the Breidenbachs focused on his spirits, keeping him entertained with home schooling, trips in the car to see planes take off at LaGuardia airport, and countless games. As opposed to patients convalescing in sanatoriums, Andrew Breidenbach had much more opportunity to stave off boredom while recuperating. The changes to household routine that the Breidenbachs carried out appear to follow the expert advice that they received from their physician, public health nurses, the sanatorium, and even from the magazine they were featured in, the *Ladies' Home Journal*.

Dane county nursing reports and examples such as the Breidenbachs offer evidence that mothers sought out information on how to carry out the sanatorium regimen, not because the law required it, but because they were genuinely interested. The Dane County Health Nurses consistently noted the popularity of “Home Hygiene and Care of Sick” courses, which included specific information on tuberculosis.[319] In her January 1942 monthly narrative report, Nurse Waters observed that an evening “Home Hygiene and Care of the Sick” course was so popular and “the women were so enthusiastic” that an additional afternoon course had to be organized.[320] The Class Roll Reports from 1932 to 1935 show that the all attendees were women and a majority listed “housewife” as their profession.[321] In some cases, entire Mothers Clubs would enroll or organizations, such as the Badger Social Center Club, would sponsor them.

Sometimes public health nursing was the only recourse for a family that refused

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[319] Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

[320] Elva J. Waters, “Narrative Report” January 1942, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

[321] “American National Red Cross Home Hygiene and Care of the Sick Service Class Roll Reports,” Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

sanatorium care, such as the case described by Nurse Waters in January of 1942. Waters took the case when the family physician dismissed it because the family did not take his advice to enter a sanatorium. While Waters continued to stress the need for sanatorium care, she also admitted that there were no available beds and the patient would have to go on a waiting list even if she did change her mind. This was an all too common scenario for many tuberculosis patients, with bed shortages throughout the nation.[322] Yet, Waters was optimistic about home treatment because despite "disconcerting and inadvisable factors, the family and patient are extremely conscientious in their precautions and care." As part of her nursing visits, Waters devoted two visits "to demonstrating and discussing care in the home with the daughter, patient and her husband."[323]

In fact, the twenty-one-year old daughter had left her job in order to care for her mother, a not uncommon fate for young women with sick family members. Waters belief that as long as the family, especially the grown daughter, carried out her instructions they would be able to overcome other circumstances was commonly held among other experts. While textbooks and magazines stated that caregivers could be anyone – as long as they were clean, responsible, and educated – it is clear that this task typically fell to women. Even though caregiving could be carried out by men, prescriptive literature and experts such as Waters still targeted women. Indeed, as this case demonstrates, the family's twenty-one year old daughter had to quit her job to help care for the family, fulfilling the assumption that one home economics textbook stated: "women as mothers of the race become natural nurses."[324]

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[322] Drolet, "Tuberculosis Hospitalization in the United States."

[323] Elva J. Waters, "Narrative Report," January 1942, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944*, Wisconsin Historical Society Archives, Madison, WI.

[324] Emma Louise Mohs, *Principles of Home Nursing; A Text-Book for College Students* (Philadelphia:

Although the caregiver did not have to be a mother, experts emphasized directly or indirectly that it should be a woman. For example, an article on “The Psychological Handling of the Tuberculous Patient” appeared in *The American Review of Tuberculosis in* 1926, in which the author advised doctors to encourage the family to rely on female family members to provide nursing duties, preferably aunts “who usually have an abundance of affection but not too much.”[325] There was a danger, however, in the assumption that women carry out a family’s housekeeping duties, since this could adversely affect her recovery if she was the patient. One advice book for tuberculosis sufferers noted that housewives suffer the most relapses. Even if she could secure treatment at a sanatorium, “when a woman leaves the hospital her family undoubtedly promise themselves they will take good care of her,” but, “before the family realize how they are slipping, no one is doing housework but Mother.” As a result “she is busy proving all over again the old fashioned, pre-machine age saying that 'woman's work is never done.'.”[326]

Some physicians not only understood the need for home treatment, but also encouraged it. Ultimately, many realized that home treatment was going to occur whether they condoned it or not and advised patients on the most effective cure regimens.[327] Renowned physician William Osler, wholeheartedly endorsed home treatment, modeled on the sanatorium regimen. [328] *Hygeia*, an official American Medical Association publication founded in 1923 and targeted at a popular audience, included extensive advice on the home treatment of tuberculosis, primarily focused on how to replicate the sanatorium cure at home. While there is no way to tell how

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W.B. Saunders Company, 1923), 17.

[325] Charles L. Minor, “The Psychological Handling of Tuberculous Patients,” *The American Review of Tuberculosis* 14 (1926): 461.

[326] James E. Perkins, MD and Floyd M. Feldman, MD, *You and Tuberculosis (*New York: Aldred A. Knopf, 1952), 86-87.

[327] Saul Solomon, M.D., *Tuberculosis* (New York: Coward-McCann, Inc., 1952), 133.

[328] Osler, *The Principles and Practice of Medicine*, 353-354.

many people in Madison read *Hygeia,* the Dane County Medical Auxiliary purchased subscriptions to *Hygeia* for all public schools in 1939 and the "Home Care of the Sick" courses used the magazine as a teaching source, indicating some had ready access to the magazine in the community.[329]

Physician advice complemented visiting nurses advice and focused on recreating the sanatorium regimen in the home. Just like at the sanatorium, the patient needed rest, fresh air, and a healthy diet. Experts advised that the patient remain isolated from other family members, in a sunny and well-ventilated sickroom, with an attendant who insured sanitary and hygienic conditions. According to many physicians, the most essential element of the tuberculous sickroom was the physical structure itself. The patient should be kept in a well ventilated room, near a bathroom, and without any other inhabitants. The bed should be near a window, which should be left open at all times. If at all possible, the patient should try to sleep near the window, or even with his head out the window. Physicians also suggested that consumptives sleep in screened-in porches, on fire escapes or in tents in the back yard.[330] If the patient had a private room, access to fresh air, sunlight, a healthy diet and a dedicated nurse, many physicians agreed that home treatment could be successful.

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[329] Meyeral Engelberg, *A Suggested Outline for Classes in Home Care of the Sick*; Dane County (Wis.) Health Department*, County Health Nurses Monthly Reports, 1930-1944*. Wisconsin Historical Society Archives, Madison, WI.

[330] F. Rufenacht Walters, M.D. *Domiciliary Treatment of Pulmonary Tuberculosis* (New York: William Wood and Company, 1924), 28-29.

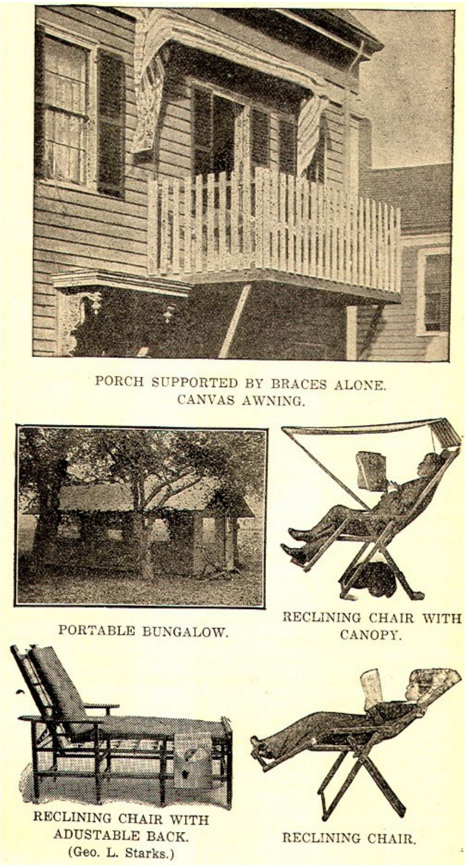

Figure 2.4. Outdoor sleeping options for patients with different resources. *Source:* Kentucky Tuberculosis Commission, *The Home Care of Tuberculosis*.

In reality, this advice reflects middle-class assumptions about household resources. Poor families, living in small apartments could not devote one room to the patient, nor could one family member devote herself entirely to caregiving. Certainly, many housewives would have preferred professional help but, as one home economics textbook noted in 1911, "it is the minority, not the majority of people, who can afford the luxury of a trained nurse."[331] In fact, the textbook went on to say that the housewife was more than capable of taking the place of a nurse. It therefore set out to describe the practice of home nursing, "possible to any person of ordinary intelligence, which, faithfully followed will make [the trained nurse's] absence much less keenly

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[331] American School of Home Economics, *The Profession of Home Making: A Condensed Home-Study Course* (Chicago: American School of Home Economics, 1911), 593.

felt."[332]

Many prescriptive texts understood that housewives faced obstacles to carrying out the sanatorium regimen perfectly. They offered inexpensive alternatives to the tenants of rest, fresh air, and healthy diet. One doctor claimed that, "the patient at home can be taken care of with little expense."[333] He argued that the patient could use a porch, shed, or window tent to spend as much time as possible outdoors and should eat at least six meals a day. In fact, he argued that the routine of rest, nutritious diet and fresh air "is beneficial in many other conditions of ill health," including exhaustion and nervousness[334] Louisa Lippitt, R.N. echoed the precepts of rest, diet, and fresh air in *Hygiene and Home Nursing*. She also advised sanatorium care, but admitted that "if rest, – uninterrupted rest, with freedom from worries and anxieties, – the correct routine of sleep and of food, sunshine and fresh air, and someone to wait upon and look after the patient can be secured, there is no reason why he should leave home on his own account."[335] Notably, the Dane County Health Nurses specifically used Lippitt's textbook in their "Home Care of the Sick" courses.[336]

In *A Guide for the Tuberculous Patient* Dr. G.S. Erwin summarized the essentials of home treatment in order of importance as "rest, food, re-education, discipline and fresh air."[337] Depending on the stage of the disease "rest" could simply mean resting quietly in bed or, in more severe cases, bed rest with absolutely no talking, reading or visiting; the patient should not even

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[332] Emily Holt, *Encyclopædia of Household Economy* (New York: McClure, Phillips & Co., 1903), 286.
[333] Lowry, *The Home Nurse*, 161 and 168.
[334] Ibid, 170.
[335] Louisa C. Lippitt, R.N., *Hygiene and Home Nursing: A Practical Text for Girls and Women* (Yonkers-on-Hudson, NY: World Book Company, 1934): 235.
[336] Engelberg, *A Suggested Outline for Classes in Home Care of the Sick*, 11.
[337] Erwin, *A Guide for the Tuberculosis Patient*, 24.

feed or wash themselves. Although the sanatorium was the best place for "re-education" in healthy living Erwin admitted, "it must be remembered that there are always more patients who need treatment than there are beds available for them."[338] Many of these texts targeted at tuberculous patients echoed this theme: that rest, fresh air and nutritious food were the key to home treatment. Some, like Dr. Lawrason Brown's *Rules for Recovery from Pulmonary Tuberculosis: A Layman's Handbook of Treatment*, included chapters on everything from a sample schedule for the patient's day to proper dental hygiene for tuberculosis patients.[339]

Just as with the 1935 Milwaukee scarlet fever epidemic, the key to effective isolation in the home was proper disinfection of the room and everything that came and went from it. In *Household Hygiene* Dr. Mary Taylor Bissell argued that isolation and disinfection were the most basic sickroom requirements, with carbolic acid used to clean the room and sputum cup.[340] *The Profession of Home-Making* (a home-study text by the American School of Home Economics) also stressed either the burning of paper sputum cups or the use of reusable cups disinfected with bicholoride or carbolic acid. The textbook concluded "perfect cleanliness, plenty of sunlight and fresh air, and nourishing food are the most important points in the modern treatment of consumption."[341] The extreme cleanliness required for isolation also bridged the treatment and prevention sides of domestic medicine related to tuberculosis and other infectious diseases. A family that adopted the disinfecting standards of tuberculosis home care may continue those practices as prevention in the future. Ideally, they would pass these principles on to family and

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[338] Ibid, 29-30.
[339] Lawrason Brown, M.D., *Rules for Recovery from Pulmonary Tuberculosis* (New York: Lea & Febiger, 1919), v.
[340] Ibid.
[341] American School of Home Economics, *The Profession of Home Making*, 660-661.

neighbors, as well.

Germ theory underlay the prescriptive advice on the upkeep of the sickroom, tuberculous or not. In this area, the new field of home economics provided extensive advice. A successor to the domestic manuals of the nineteenth century, home economics made housekeeping scientific in the twentieth century. Experts in this field argued that the sickroom should not have any rugs, drapes or other items that collected dust and were difficult to clean. In addition, the caregiver should plan to clean the room every day, wiping every surface with a soapy cloth and wiping clean with a wet cloth. Home economics guides explained how tuberculosis could be transmitted in an unclean environment and focused on the dangers of dust, which could harbor tuberculosis bacilli for long periods of time. As one guide stated "if we would be immune from [infectious and contagious] disease, then we must do everything in our power to exclude these germs." It went on, "cleanliness, plenty of sunlight and fresh air, are the first requisites for their exclusion; and where disease has entered, proper isolation and disinfection to prevent their spread."[342]

Although experts could not miraculously build a sleeping porch or build an extra bedroom for a patient, they could help with some of the other products recommended for the treatment of tuberculosis. Caretakers could "learn simple home nursing procedures in classes with others" or obtain other relevant information from the local chapter of the American Red Cross, such as the "Home Hygiene and Care of Sick" courses offered in Madison. [343] A needy family could also call upon the Dane County Medical Society's Women's Auxiliary Loan Closet to provide medical equipment. For example, in January of 1940 the Dane County Health Nurses gave a local family a back rest, rubber sheet, emesis basin, wash basin, urinal and bed pan in

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[342] American School of Home Economics, *The Profession of Home Making*, 657.

[343] "When Sickness Strikes," *Hygeia,* May 1948, 365.

order to treat a mother and her nine year old daughter.[344] Thus, even if a family could not afford health care products, they could borrow them from local charities.

In addition to instruction in the use of hygienic products, Dane County visiting nurses, in both the "Home Care of the Sick" courses and home visits, instructed caregivers in how to read and record temperatures in a scientific manner.[345] This behavior helped foster a professional approach to caregiving that experts thought caregivers should adopt and assumes they did not have before. One physician warned that the caregiver "frequently the wife or mother hovers over the sick person, looking anxiously for changes in his condition from day to day and hour to hour, praying for a miracle."[346] Experts suggested that caregivers familiarize themselves with the symptoms and course of tuberculosis so that they would not needlessly worry and be able to effectively communicate with the family physician. Caregivers should also follow doctor's orders carefully and keep written records of temperature, pulse, weight, and other measurements of improvement.[347]

Temperature reading illustrates how domestic medicine had become scientific, standardized, and rational. The housewife was no longer just the empathic caregiver, curing through her nurturing love, but a firm authoritative figure.[348] Educators assumed that the potential home nurse "wants to know the reasons for the approved modes of nursing

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[344] Irma R. Williams, R.N., "Narrative Report for Western Dane County," January 1940, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944*, Wisconsin Historical Society Archives, Madison, WI; Woman's Auxiliary to the Dane County Medical Society (Wis.), "Records, 1933-1968," Wisconsin Historical Society Archives, Madison, WI.
[345] Wisconsin State Board of Health, *Manual on Tuberculosis for Public Health Nurses,* 66; Engelberg, *A Suggested Outline for Classes in Home Care of the Sick*.
[346] Solomon, *Tuberculosis*, 137.
[347] Gerald Bertram Webb, *Recovery Record for Use in Tuberculosis* (New York: Hoeber, 1923), 1.
[348] Abel, *Hearts of Wisdom*, 43.

procedures," and that instruction should be "from the deductive and the scientific, rather than from the 'grandmother,' point of view."[349] In a significant shift from nineteenth century domestic medicine advice, experts counseled caregivers to exert authority, rather than empathy, over the patient. One home economics manual argued, "she is for the time being no longer a person, but an entity under the physician's strict control, responsible alone to him and her conscience as to his order and their carrying out."[350] The caregiver became a substitute for the doctor, affecting his bedside manner: firm, authoritative, and not overly cheerful. Another manual even went as far as to instruct the caregiver to adopt a medical paternalism and *never* discuss the patient's condition with them, even their temperature and medication.[351] The more scientific domestic medicine became, the more authoritative, rather than empathetic, it also became.

The final tenet of the sanatorium regimen – diet – also underwent significant change in the early twentieth century. As with isolation and cleanliness, the exact prescription may not have changed, but the rationale behind it did. Manuals and textbooks emphasized caregiving as an extension of a woman's housekeeping, because many aspects of home prevention and treatment, such as cleaning and cooking, were already part of a woman's daily responsibilities. Additional instruction was necessary, however, in order to address specific illnesses. In particular dietary suggestions became more scientific, specifically in regards to calories and vitamins.[352] For example, since tuberculosis patients often began their convalescence underweight and good nutrition boosted immune systems, doctors and home economists stressed

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[349] Mohs, *Principles of Home Nursing*, 17.
[350] Holt, *Encyclopædia of Household Economy*, 300.
[351] American School of Home Economics, *The Profession of Home Making,* 606.
[352] Rima Apple, *Vitamania: Vitamins in American Culture* (New Brunswick, N.J.: Rutgers University Press, 1996).

the importance of diet in home treatment, providing everything from caloric charts to special recipes in their manuals.[353] Like reading and recording temperatures, even food shopping and cooking took on a new, scientific method.

Again, not all families could afford the dietary recommendations that came with the tuberculosis sanatorium regimen. For example, home economists and physicians suggested as many as eight meals a day, high in protein and dairy.[354] Meat and dairy could be expensive food purchases for families on a budget, as the Breidenbach family story illustrates. Short of other family members going without, there were other options, however. Some experts even gave guidelines according to class, although did not note assumed household income. One physician provided different menus for the "middle-class" and "artisan" patient, noting cheaper alternatives to fresh vegetables and meats. For example, one guide noted "there is no objection (apart from flavour) to a good brand of tinned meat" for patients on a budget.[355]

Public health nurses in Dane County followed these trends and consulted families on the relationship between diet and tuberculosis.[356] Their advice included a daily diet of one quart of milk, one or more eggs, two servings of lean meat or fish, two servings of green or yellow vegetables, two large servings of citrus fruits, two or more servings of other vegetables and fruits, two or more servings of grains, cereals and breads, two to three tablespoons of butter and iodized salt.[357] Although nurses' reports do not mention how Dane County families could afford this menu, they do mention connecting patients with various charities for other needs, such as

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[353] Rose, *Feeding the Family*, 313.
[354] Sister Rose Genevive. "Planning Meals for the Tuberculous: When the Patient is Being Treated at Home," *Hygeia,* August 1927, 410.
[355] Walters, *Domiciliary Treatment of Pulmonary Tuberculosis*, 137.
[356] Wisconsin State Board of Health, *Manual on Tuberculosis for Public Health Nurses*.
[357] Ibid, 10.

medical equipment or entertainment to stave off boredom. It is possible that they also advised them on ways to obtain food through charity or, at least, in how to adapt a menu to a family's resources.

Of course, in reality, all of this well meaning advice had to be negotiated and adapted by caregivers and patients. As we have seen in the Dane County families made do with their available resources, relying on visiting nurses, private charities, and government services to carry out tuberculosis treatment. They relied on family members, in particular, who adjusted their lives – even giving up their jobs – to care for the sick. They found cheaper alternatives to dietary suggestions, improvised medical equipment out of paper bags, and settled for sleeping with a window open rather than a special sleeping porch. Fortunately, the basic tenets of the sanatorium regimen – rest, fresh air, and nutritious food – did not require a sanatorium stay, as Lake View remained only part of this larger network.

Many caregivers relied on a variety of makeshift and purchased products to aid their work.[358] Although the more popular sanitary products included disinfectants and porcelain toilets, there was also a market for home nursing and tuberculosis treatment products. Since a purchased product was out of the reach of many home patients, there was also abundant advice on improvised equipment. The Red Cross, in particular, published articles, pamphlets and books on how to improvise home nursing equipment, from sputum cups to bed sore prevention devices.[359] One guide used by the Dane County Health Nurses in its "Home Care of the Sick" courses, *Improvised Equipment in the Home Care of the Sick,* even gave separate introductions

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[358] Amy Sue Bix, "Equipped for Life: Gendered Technical Training and Consumerism in Home Economics, 1920-1980," *Technology and Culture* 43, no. 4 (2002): 728-754; Ott, *Fevered Lives*, 87-99.

[359] American Red Cross, "Home Nursing: Improved Equipment," *Hygeia,* March 1947, 182-183.

for private duty nurses, public health nurses, and untrained nurses.[360] For untrained nurses the book provided extensive illustrations for illiterate caregivers and argued that "simple appliances she may have seen used in her home" can substitute for "complicated and expensive equipment, such is found in hospitals."[361] While products and economic resources could ease a caregiver's work, experts asserted that they were not necessary and she could find all she needed already in her home.

This improvisation and adaption in the domestic treatment of tuberculosis is important to note, as the first half of the twentieth century was also a period of significant growth for the medical marketplace. Products related to disease prevention, from Kleenex to Lysol, proliferated. Companies marketed these products to housewives as life saving disease prevention tools. While public health departments passed tuberculosis prevention laws, such as anti-spitting ordinances or the pasteurization of milk, women carried out much of the tuberculosis prevention practices of the early twentieth century.[362] From keeping a clean home to decorating choices, women guarded their homes and families from infection. For women that could afford it, this could mean entirely redecorating their homes with porcelain toilets, screened windows, and sleeping porches. For most women, however, the application of germ theory meant higher standards of cleanliness and small changes in consumer habits, such as disposable tissues instead of cloth handkerchiefs.[363]

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[360] Engelberg, *A Suggested Outline for Classes in Home Care of the Sick*, 8.

[361] Lyla M. Olson, R.N., *Improvised Equipment in the Home Care of the Sick* (Philadelphia: W.B. Saunders Company, 1928).

[362] Jeanne E. Abrams, "'Spitting Is Dangerous, Indecent, and against the Law!' Legislating Health Behavior during the American Tuberculosis Crusade," *Journal of the History of Medicine and Allied Sciences* 68, no. 3 (2013): 416; Tomes, *Gospel of Germs*.

[363] Tomes, *Gospel of Germs*.

For many women, disease prevention became even more of an imperative once they had children. As Rima Apple and others have documented, scientific experts targeted young mothers in the first half of the twentieth century. Implicit in their advice is the assumption that American women needed to be taught how to be mothers, especially when it came to their families' health. Even the baby books mothers used to record their baby's first steps or first word included health advice. Beginning in the late nineteenth century publishers and advertisers began to market these printed records of childhood milestones to mothers. They varied from pamphlets to embossed books, but most offered advice along with space for recording information. In some cases, the prompts suggest a type of prescriptive advice, such as what immunizations children should receive and what weight they should be at different ages.[364] Prescriptive advice in baby books offers a unique way of tracing whether a mother followed the advice or not. In the case of tuberculosis, mothers recorded tuberculin tests, x-rays, and other notable events. Many baby books include photos of infants getting fresh air on porches, sometimes bundled up in winter clothes, suggesting that they followed at least some of the advice concerning the prevention of tuberculosis and other diseases.

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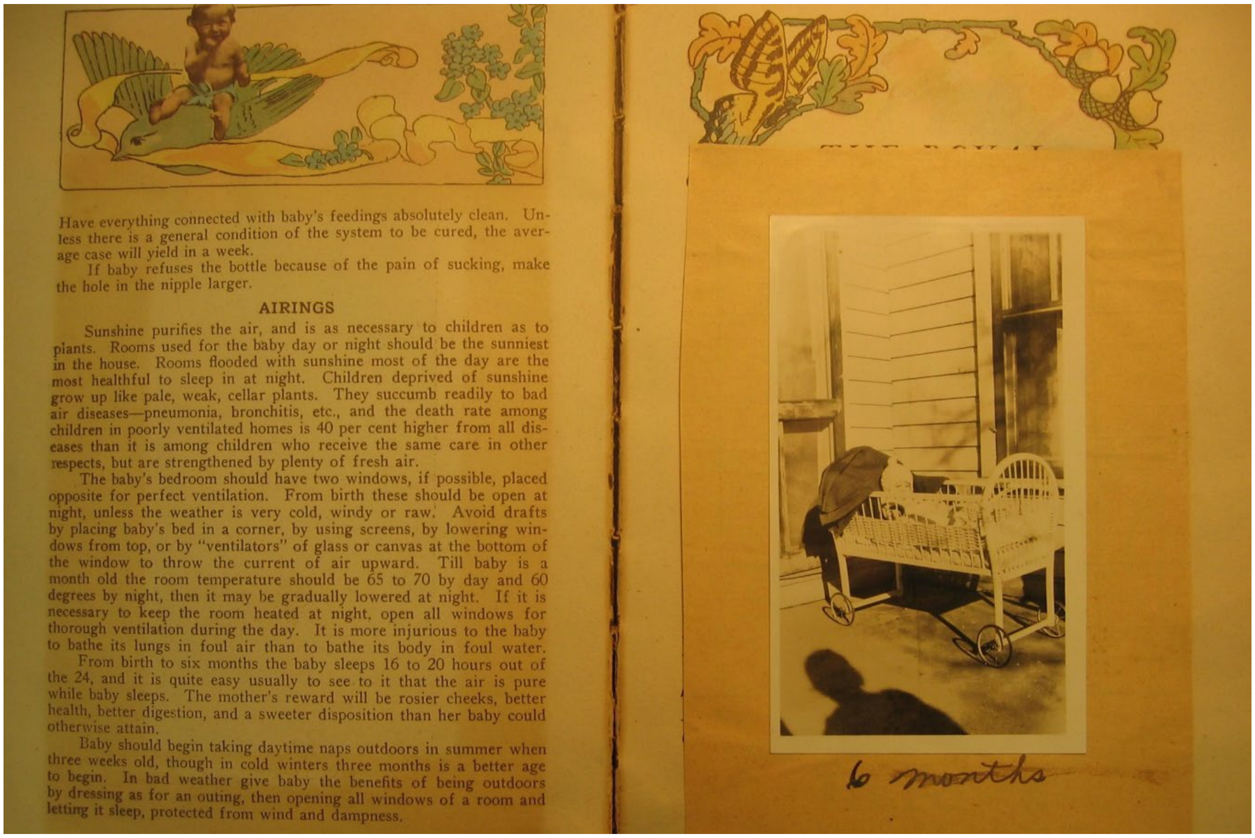
[364] Janet Golden and Lynn Weiner, "Reading Baby Books: Medicine, Marketing, Money, and the Lives of American Infants," *Journal of Social History* 44, no. 3 (2011): 667-687; Golden, *Babies Make Us Modern*.



Have everything connected with baby's feedings absolutely clean. Unless there is a general condition of the system to be cured, the average case will yield in a week.

If baby refuses the bottle because of the pain of sucking, make the hole in the nipple larger.

AIRINGS

Sunshine purifies the air, and is as necessary to children as to plants. Rooms used for the baby day or night should be the sunniest in the house. Rooms flooded with sunshine most of the day are the most healthful to sleep in at night. Children deprived of sunshine grow up like pale, weak, cellar plants. They succumb readily to bad air diseases—pneumonia, bronchitis, etc., and the death rate among children in poorly ventilated homes is 40 per cent higher from all diseases than it is among children who receive the same care in other respects, but are strengthened by plenty of fresh air.

The baby's bedroom should have two windows, if possible, placed opposite for perfect ventilation. From birth these should be open at night, unless the weather is very cold, windy or raw. Avoid drafts by placing baby's bed in a corner, by using screens, by lowering windows from top, or by "ventilators" of glass or canvas at the bottom of the window to throw the current of air upward. Till baby is a month old the room temperature should be 65 to 70 by day and 60 degrees by night, then it may be gradually lowered at night. If it is necessary to keep the room heated at night, open all windows for thorough ventilation during the day. It is more injurious to the baby to bathe its lungs in foul air than to bathe its body in foul water.

From birth to six months the baby sleeps 16 to 20 hours out of the 24, and it is quite easy usually to see to it that the air is pure while baby sleeps. The mother's reward will be rosier cheeks, better health, better digestion, and a sweeter disposition than her baby could otherwise attain.

Baby should begin taking daytime naps outdoors in summer when three weeks old, though in cold winters three months is a better age to begin. In bad weather give baby the benefits of being outdoors by dressing as for an outing, then opening all windows of a room and letting it sleep, protected from wind and dampness.

6 months

Figure 2.5. Photograph of baby pasted in baby book on page opposite instructions for exposing children to open air in order to prevent disease. Melcena Burns Denny, *Book of Baby Mine* (Grand Rapids, MI: 1915) Franklin E. Murphy, M.D. Collections, History and Special Collections Division, Louise M. Darling Biomedical Library, UCLA, HQ779.B724 1915b.

The use of anti-tuberculosis products and their adaptations not only aided in the implementation of the sanatorium regimen in the home, it also helped to further spread a new attitude toward the treatment and prevention of disease. As Nancy Tomes has argued, a "bacteriological perspective" entered the turn-of-the-century American home and it was no longer enough for a housewife to keep dust at bay, but she must also know the scientific principles that made dust unhealthy.[365] Home economics textbooks and manuals gave extensive descriptions of disease etiology and expected their readers to understand the principles of germ theory. By understanding how tuberculosis was transmitted the housewife understood the

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[365] Nancy Tomes, *The Gospel of Germs*, 135-154.

rationale behind the advice offered on the prevention and treatment of tuberculosis. In the "Home Care of the Sick" classes, the Dane County Health Nurses not only explained the factors influencing health, but also demonstrated how to put this new knowledge into practice through proper dusting and ventilation.[366]

Sanitary goods can serve as an indicator of how seriously Americans took advice from domestic sanitarians.[367] Assuming that the overwhelming supply of new hygienic products for the home reflected an increasing demand by consumers, Americans appeared to have adopted many of the practices advised in the prescriptive literature. A broad range of popular outlets, including magazines, such as *Ladies' Home Journal*, and pamphlets distributed by states, advertised and recommended hygienic products for the prevention of infectious disease.[368] From cure chairs to special disinfectants, tuberculosis became part of a new consumer marketplace.[369] While Wisconsin residents could mail order products from any number of national mail order catalogs, even local sources such as *The Badger Outlook*, the official publication of all Wisconsin sanatoriums, included advertising for sputum cups and sleeping porch attire.[370]

Perhaps the most visible tuberculosis "product" was the "sleeping porch." Doctors prescribed sleeping in fresh air for tuberculosis patients, but they also suggested the activity as a preventive measure for all Americans. Sleeping porches were enclosed porches, with as many windows as possible, that could be added onto an existing home and were typically only large

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[366] Engelberg, *A Suggested Outline for Classes in Home Care of the Sick*.
[367] Tomes, "The Private Side of Public Health," 531.
[368] Kentucky Tuberculosis Commission, *The Home Care of Tuberculosis: A Book of Cheerful Philosophy and Practical Suggestions for Physicians, Health Officers, and Consumptive Families* (Frankfort, KY: The State Journal Company, 1915).
[369] Ott, *Fevered Lives*, 87-99.
[370] *The Badger Outlook,* May 1918 and September 1918.

enough for a bed. Experts argued that, thus, even in the city a person could enjoy the benefits of fresh air easily and safely. The idea of the sleeping porch grew out of the cure cottages made popular by Trudeau's Adirondack Sanatorium and many sanatoriums included sleeping porches in their design, including Madison's Lake View sanatorium. Although justified with germ theory rationale, the sleeping porch also kept older, miasmatic, theories of disease alive. Exposure to nature continued to be a principle of a healthy lifestyle, despite the advent of germ theory. It was now justified as hygienic due to its isolating nature and exposure to natural sanitary methods, such as sunlight.

Preventive measures, such as sleeping on a sleeping porch, also grew out of the belief in the universal applicability of the sanatorium regimen. *The Farm Journal* argued, "the nation-wide fight against tuberculosis would soon be won if everybody considered sleeping out-of-doors as the ounce of prevention."[371] An affordable measure, costing as little as ten dollars, the magazine claimed that the sleeping porch was like a little sanatorium; it not only served to treat consumptive family members, but prevent the disease from striking. A year later *Ladies' Home Journal* noted "several years before the war the sleeping-porch idea was developed as a health proposition; being helpful in a medical way, the next thought was if fresh air is good for invalids, why not for well folks?"[372]

While the sleeping porch began as an improvised structure added onto the home, popular design movements and trends in the United States began to incorporate porches into their designs. *House and Garden* magazine noted in 1928 that sleeping porches were once just

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[371] "Sleep Out-of-Doors and Be Healthy," *The Farm Journal*, March 1919, 64.

[372] Charles E. White, "The Sleeping Porch and How to Sleep There," *Ladies' Home Journal,* April 1920, 215.

"appendages" to the home but have become more integrated into designs through the popularity of "sun rooms," typically located directly beneath the sleeping porch and allowing for both waking and sleeping enjoyment of fresh air and sun.[373] *House Beautiful* noted in 1926 that "open-air sleeping is no longer regarded as a passing fad. It represents merely part of the general movement toward open-air living."[374] Design movements of the early twentieth century, such as Modernism and the Arts and Crafts Movement, were characterized by the inclusion of porches.[375] Margaret Campbell argues that "not only did they satisfy a desire to acquire a fashionable suntan and reveal avant-garde architectural taste; their other, and less attractive, purpose was for the treatment of pulmonary tuberculosis."[376]

Sleeping porches were not simply bare spaces, however. In addition to concerns over floor slope, windows, screens, and drapes, women decorated them, first with sanitary and hygienic accoutrements for the treatment and prevention of tuberculosis and then just as they would their primary bedroom. In 1943 *House Beautiful* advised "give the same thought to planning and furnishing it as you put on your nicest bedroom. Then you won't have to shut the door, apologize when visitors approach."[377] A hand painted decorative border could serve as an "antidote to bleakness in a sleeping porch."[378] The sleeping porch could be shaped to suit any taste or style. For example, built in bookcases appealed to "Early American" tastes, while

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[373] George S. Carew, "Planning the Sleeping Porch: The Proper Architectural Treatment of This Important Feature is Receiving Worthy Consideration," *House and Garden* 54 (January 1928), 86.

[374] Robert L. Ames, "A Descendent of the Loggia: It's Important Relation, the Sleeping-Porch," *House Beautiful* 59 (January 1926), 21.

[375] Michael Dolan, *The American Porch: An Informal History of an Informal Place* (Guilford, CT: The Lyons Press, 2002), 194; Gerald Foster, *American Houses: A Field Guide to the Architecture of the Home* (New York: Houghton Mifflin Company, 2004), 352.

[376] Margaret Campbell, "What Tuberculosis did for Modernism: The Influence of Curative Environment on Modernist Design and Architecture," *Medical History* 49 (2005), 465.

[377] "How to Decorate a Sleeping Porch," *House Beautiful* 85 (November 1943), 97.

[378] Ibid.

tailored bed coverings added to a modern and simple look.[379] Although *House Beautiful* suggested simplicity and practicality, they also noted that "flower boxes and hanging baskets always are a joy, not only because of the fragrance of sweet wild growing things, but because they bring a vision of truant-time to be spent in the clean, wide, free sweep of some woodland stretch."[380] At the same time, windows and awnings were an architectural and decorative dilemma. In order to get the most amount of fresh air possible most experts advised no windows whatsoever. Awnings and canvas curtains could be used to offer privacy when needed.[381] The extent of the advice on decorating sleeping porches demonstrates just how far tuberculosis treatment and prevention had permeated American culture – and how much of it relied on the labor of women.

The extent of disease prevention and caregiving in the home is difficult to document. The more routine and mundane the task, the less likely it will be noted by the individual or rewarded by society. In addition, while housekeeping occurs in the home, gender, race, and class play important roles in what "undesirable" activities can and will be delegated to others. Prescriptive literature on housekeeping often assumed that the housekeeper was middle-class or could afford servants, but many women read advice on housekeeping and caregiving who could not afford doctors, nurses, or hospitalization. Just as today's woman may subscribe to *Martha Stewart Living*, she also knows that she cannot hope (or want) to accomplish half of the recommendations made. Readers have always been free to make adjustments, negotiations, and all out dismissals. In short, from conceptions of cleanliness to expectations of caregiving, housekeeping is a process shaped by expert advice, social and economic resources, and personal

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[379] "Built-ins for the Sleeping Porch," *Better Homes and Gardens* 17 (May 1939), 123.
[380] "Why Not a Sleeping Porch for Everyone?" *House Beautiful* 45 (May 1919), 312.
[381] Carey Edmunds, "Adding a Sleeping Porch Successfully," *Ladies' Home Journal* 36 (May 1919), 59.

choice. No where is this more clear that tuberculosis treatment and prevention in the first half of the-twentieth century in America.

CONCLUSION

The traditional account of tuberculosis treatment in the United States is that in the nineteenth century, Americans treated most illnesses, including tuberculosis, in the home, but the rise of the hospital and other medical institutions moved treatment increasingly out of the domestic sphere and into the public one. This has led some historians to make a zero-sum argument and assume that domestic medicine declined as scientific medicine increased in authority.[382] Despite advice and legislation encouraging institutionalization in sanatoriums, because of necessity or preference most Americans treated tuberculosis at home. Madisonians were no different and despite the presence of a county sanatorium, many of them remained in their own homes. A woman's success in sanitizing her home and replicating the sanatorium cure demonstrates how housework, and by extension domestic medicine, did not disappear and was just as rigorous, and perhaps effective, as institutional regimens.

It was through the practice of domestic medicine that, despite low rates of institutionalization, the sanatorium regimen entered the lives of many Americans. For some, this was to treat tuberculosis, but for most it was to prevent the disease. In fact, by the mid-twentieth century the precepts of fresh air, rest, and diet had become routine and detached from their origins in tuberculosis treatment. For example, the 1946 hygiene textbook *Clean and Strong*,

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[382] Starr, *The Social Transformation of American Medicine*, 127.

targeted at children 7-9 years old, emphasized the regimen without mentioning tuberculosis. It encouraged children to internalize the rule “we keep the windows open at night in our bedrooms,” because “everyone must have fresh air and sunshine.”[383] It was through the practice of domestic medicine by women that expert advice, institutional practices, and medical technology transformed into routine lifestyle and home practices, such as this example of nightly fresh air.

As not only one of the centuries greatest killers, but also in its applicability to preventing and treating other diseases, tuberculosis, perhaps more than any other infectious disease, transformed American homes and the practice of domestic medicine in the first half of the twentieth century. Unlike brief epidemics, it could dominate a household for years and transform it even after a patient recovered (or died). Furthermore, the pervasiveness of these efforts cannot be dismissed as contributing to a transformation of domestic medicine overall and the decline of tuberculosis in particular. In Dane County, domestic medicine functioned as part of a network of institutions, services, and charities to provide the care desperately needed. It helped the community survive in the absence of sufficient institutional care and it served the purpose sanatorium planners had intended: to spread the sanatorium regimen into every home.

Rather than just the empathic knowledge relied upon by their nineteenth-century sisters, twentieth-century caregivers practiced a more scientific domestic medicine. It was not enough to provide emotional or spiritual support to the patient; she also had to master professional and expert principles of bacteriology, nutrition, exercise, and psychology. She possessed a scientific understanding of disease and infection in order to protect her family, cure her patient, and set an

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[383] Clifford Lee Brownell and Jesse Feiring Williams, *Clean and Strong* (New York: American Book Company, 1946), 128.

example for other households. While physicians certainly preferred sanatorium treatment they had to concede that housewives were capable of creating a sanatorium-like environment within their own homes and that public health nurses could help bring this information into the homes of poorer citizens. In fact, the shortage of hospital beds, such as in the case of Madison, Wisconsin, made this an imperative. In Madison homes, as across the nation, the domestic prevention and treatment of tuberculosis, rather than institutionalization, characterized the American experience of tuberculosis.

Chapter Three:
"Quiet Without Riot": Disability, Domestic Medicine, and Social Policy in Mid-Twentieth Century America

"Daddy, cut off my legs. I don't care, they hurt so much."[384] This was the cry that a parent might hear from their child acutely ill with rheumatic fever in mid twentieth century America. The joint pain alone made even the light touch of the sheets unbearable. What was worse, after the acute phase concluded, a survivor typically faced years of rehabilitation and a lifelong heart condition. Scarlet fever epidemics had honed mothers domestic medicine skills for short-term, acute epidemics in the germ theory era and tuberculosis continued the incorporation of germ theory informed practices into longer term care and disease prevention. Diseases like rheumatic fever, however, represent a shift away from acute infections to disabling conditions in United States history. In the nineteenth century, these children may not have even contracted rheumatic fever, as other, more virulent and deadly diseases stole their lives before they could catch secondary infections such as rheumatic fever. By the 1920s, however, rheumatic fever was the leading cause of death for children ages five to twenty in the United States.[385]

Even mothers experienced in newer domestic medicine practices now faced a different challenge. Acute infections and sporadic outbreaks were declining and disabling and chronic diseases like rheumatic fever and polio took their place. As with scarlet fever and tuberculosis, advances in medical care did not necessarily mean less of a need for domestic medicine and

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[384] Robert Toubib, "Crippled Hearts," *Today's Health* (February 1952): 18.

[385] Rachel Hajar, "Rheumatic Fever and Rheumatic Heart Disease in Historical Perspective," *Heart Views* 17, no. 3 (2016): 120. As of 2017, rheumatic heart disease still strikes 33 million people, with 275,000 deaths a year. In addition, 9 million disability-adjusted life years are lost to rheumatic fever every year, primarily in less affluent areas of the globe. See: LJ Zühlke, A. Beaton, ME Engel, et al., "Group A Streptococcus, Acute Rheumatic Fever and Rheumatic Heart Disease: Epidemiology and Clinical Considerations," *Current Treatment Options in Cardiovascular Medicine* 19, no. 2 (2017):14.

sometimes it meant more work for mother. This was no less true for chronic disease and lifelong disability, which remained primarily the responsibility of families and, especially, mothers.[386] This transition from acute to chronic disease meant that domestic medicine continued to be important, but, in addition to previous methods of prevention and quarantine enforcement, mothers now added long term rehabilitation, advocacy, and psychological care to their domestic medicine arsenal.[387] Working primarily as advocates for their family's health was not an inconsequential task for mothers. It often meant the time-consuming navigation of health care systems, funding agencies, and government bureaucracies.

Although rarely discussed in the history of the social policy or the history of medicine, rheumatic fever is central to the story of expanding services for disabled children in mid-twentieth century America.[388] New medical concerns specific to rheumatic fever, such as occupational therapy and psychology, went beyond many mother's skills and resources. Rheumatic fever's peak occurred during the formative years of the Welfare State, however, which meant that parents had more resources to apply for and a language with which to demand assistance as a "right." Using rheumatic fever as a case study reveals how parents' demands for more rheumatic fever services helped expand aid for other chronically ill and disabled children

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[386] Emily K. Abel, *The Inevitable Hour: A History of Caring for Dying Patients in America* (Baltimore, MD: Johns Hopkins University Press, 2013); Eileen Boris and Jennifer Klein, *Caring for America: Home Health Workers in the Shadow of the Welfare State* (New York: Oxford University Press, 2012); Janet Read, *Disability, the Family, and Society: Listening to Mothers* (Buckingham: Open University Press, 2000); R. Traustadottir, "A Mother's Work is Never Done. Constructing a 'Normal' Family Life," in *The Variety of Community Experience. Qualitative Studies of Family and Community Life*, ed. S.J. Taylor, R. Bogdan, and Z.M. Lutfiyya (Baltimore: Paul Brookes, 1995).

[387] For more on mothers as advocates for their children's health see: Emily K. Abel, *Hearts of Wisdom: American Women Caring for Kin, 1850-1940* (Cambridge, MA: Harvard University Press, 2000) and Reagan, *Dangerous Pregnancies.*

[388] The only comprehensive historical study of rheumatic fever is Peter C. English, *Rheumatic Fever in America and Britain: A Biological, Epidemiological, and Medical History* (New Brunswick, NJ: Rutgers University Press, 1999).

and, eventually, adults in mid-twentieth century America. In particular, the recognition of rheumatic fever as a disability helped expand the definition of disability to many other conditions because it was an "invisible" disease that struck a population not previously included in disability policy.

Local case studies prove useful in the history of rheumatic fever because, despite the federal nature of programs like Social Security and the Children's Bureau, local public health agencies created and carried out the programming that the federal government funded. Wisconsin is an excellent example of this interdependence between local and federal in the application of public health policy. The federal "Crippled Children's Program," created in 1935 as part of the Social Security Act, fielded many requests for advice from mothers on how to care for rehabilitating and chronically ill children. Almost immediately after its creation the Crippled Children's Program created a "Cardiac Cripples" division and rheumatic fever was a central part of the program. Since it relied on matching funds from states, the program helped only some children at first, and Wisconsin was one of the first states to participate in the program. The interactions between programs like the Crippled Children's Program and mothers of rheumatic fever sufferers reveal how advocacy on the part of mothers helped bring public health programs to more children and cover more health conditions. As these children aged out of Children's Bureau programs, the stage was set for a disability rights movement that went beyond children and their caregivers.

In turn, medical responses to rheumatic fever both incorporated practices rooted in domestic medicine, while also embracing new allied health fields. Central to this pivot was the convalescent home, a temporary institution for rehabilitating rheumatic fever patients that often focused on providing "home-like" care. Again, Wisconsin offers a useful case study, as it not only participated in the Crippled Children's Program, but also was also home to two rheumatic fever convalescent homes. Within the convalescent home, we can see how psychologists and occupational therapists emphasized the dangers to both patient and family that long convalescences could cause, while mothers negotiated the services and advice that worked best for their families. In Wisconsin, we can see a preference for “home-like” convalescent homes to meet the needs of a largely rural state, where children had to travel great distances for their care. There was also continuity with other services for the children that remained at home, as the expansion of programs begun to assist tuberculosis patients helped bring aid to them.

Mother’s advocacy often promoted a social model of disability – that society become more adapted to the disabled – rather than a medical model emphasized by physicians who focused on “fixing” the disabled body. The nature of rheumatic fever rehabilitation made this tension clear as the Crippled Children's Program offered services based on a medical model, but mothers demanded social accommodations as well. The program helped to create a perception of health care as a right, which, in turn, contributed to a shift within domestic medicine to a focus on demanding these rights for children. The long, labor-intensive convalescences and the “invisible” nature of the disease highlighted how disease could require treatment that went beyond immediate, physical support. This realization of the skills and resources required to care for a disabled child, contributed to the increased inclusion of maternal advocacy as part of caregiving. Once mothers had a language to use and agencies to address their concerns to, they advocated for their disabled children, contributing to early disability rights debates and shaping both public health policy and medical practice.

DOMESTIC MEDICINE AND RHEUMATIC FEVER

Rheumatic fever is a secondary infection caused by exposure to group A *Streptococcus* bacterium, which includes scarlet fever and strep throat. It is difficult to determine the incidence of rheumatic fever prior to the twentieth century because physicians included it within a broader category of "rheumatism." It was not until the late nineteenth century that physicians distinguished rheumatic fever from other ailments that caused fevers and joint pain. By the turn of the twentieth century, however, physicians recognized cardiac damage as a distinctive symptom of rheumatic fever.[389] Although we hear little about rheumatic fever now, the disease was common in America in the first half of the twentieth century. For the years 1939-1941 the disease ranked in the top six across age, race, and sex categories for American children. In the same period, it was the second leading cause of death for white children ages 10-19 (after accidents) and fourth for nonwhite children ages 10-19 (after accidents, tuberculosis, and pneumonia/influenza).[390] The worst states for rheumatic fever mortality were in the Mountain West and New England, with the South and the Pacific Northwest having the lowest rates. Over twelve thousand children died from the disease in the United States in just the three-year period between 1939 and 1941. Wisconsin ranked 29th among other states in death rate per 100,000, with 11.1 and the state lost 272 children to the disease between 1939 and 1941.[391]

Now, physicians treat rheumatic fever with aspirin, antibiotics, and surgery, but earlier treatments differed little from general domestic medicine. Many nineteenth century domestic

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[389] Peter C. English, "The Emergence of Rheumatic Fever in the Nineteenth Century," *The Milbank Quarterly* 60, Supplement 1 (1989): 33-49.

[390] George Wolff, *Childhood Mortality from Rheumatic Fever and Heart Diseases* (Washington D.C.: Federal Security Agency, Social Security Administration, 1948), 3.

[391] Ibid., 22.

manuals advised treating rheumatic fever like other fevers, while popular magazines offered folk remedies.[392] For example, in the first few decades of the twentieth century *The Farm Journal* suggested traditional domestic medicine treatments, such as diet, hygiene, and rest, as well as novel treatments, such the potential benefits of targeted bee stings.[393] One turn-of-the-century domestic manual suggested a tincture of belladonna (a toxic plant used for many conditions, including asthma and arthritis) and bryonia (a homeopathic emetic and diuretic) combined with wrapping the joints in cloth soaked in vinegar and salt, surrounded by warm packing.[394] This particular practice reflects the enduring appeal of hydrotherapy (also known as “water cure”), a popular treatment that mothers could perform in the home, in which water baths and wraps were used therapeutically. Hydrotherapy was especially popular with women in nineteenth century America and laypeople and experts alike used it to treat any number of ailments, from mental illness to indigestion.[395]

Some of these treatments helped relieve symptoms, but children still had to weather this acute phase, suffering joint pain and other discomforts. One nurse described a child in the acute phase of rheumatic fever as “very pathetic…. the facial expression is that of one suffering with excruciating pain.” She went on to describe, “multiple joints are reddened, swollen, tender, hot to the touch and extremely painful. The mouth is clammy; the lips parched and cracked; and the tongue covered with a heavy brown furry coat. The patient perspires profusely and presents, in

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[392] Webster, *An Encyclopaedia of Domestic Economy*.

[393] F.W. St. John, M.D., "Family Doctor: New Rheumatic Sufferer," *The Farm Journal* (September 1911): 484; F.W. St. John, M.D., "Family Doctor: Bee Sting for Rheumatic Fever," *The Farm Journal* (October 1912): 564; Dr. F.O. Hendrickson, "Health Questions: Acute Rheumatic Fever," *The Farm Journal* (October 1927): 72.

[394] Mary Ries Melendy, *Vivilore: The Pathway to Mental and Physical Perfection, the Twentieth Century Book for Every Woman* (Chicago: International Publishing Company, 1904), 567-568.

[395] Susan E. Cayleff, *Wash and Be Healed: The Water-Cure Movement and Women's Health (*Philadelphia: Temple University Press, 1987).

addition, general malaise, anorexia and usually distention and constipation."[396] Mothers and doctors alike treated fevers with ice baths, aspirin, and sodium salicylate (a NSAID alternative to aspirin). Saline enemas relieved abdominal pressure and fluids helped flush toxins. Extreme cases of chorea (involuntary muscle spasms) might be treated with sedation.[397] While some new pharmaceuticals had been added to treatment, especially pain relievers and sedatives, most of the treatment for acute rheumatic fever remained the same supportive nursing that mothers had employed for generations.

Following the acute phase, rheumatic fever enters a sub-acute phase, in which absolute rest helps to prevent flair ups and strengthen weakened bodies.[398] This stage of treatment had many similarities with the sanatorium regimen and relied on many of the same services. Whether in the home or in an institution the treatment for the sub-acute stage of rheumatic fever was absolute physical and psychological rest. A pamphlet published in 1949 told parents "when the doctor says, 'put the patient to bed,' do so immediately, rather than wait even a little while for all necessary bedrest equipment and a separate room... Do not expect to prepare an ideal room overnight for a patient who may be in bed for months."[399] Like the tuberculosis sick-room, the rheumatic fever sick-room was supposed to be clean, calming, restful, and cheerful, with a call system and devoted caregiver. Bedding was particularly important for relieving joint paint and a

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[396] Jessie E. MacLeod, "Acute Rheumatic Fever Nursing Care and Treatment," *The American Journal of Nursing*, Vol. 28, No. 10 (October 1928): 995.

[397] Robert A. Lyon, "Heart Disease in Children," *The American Journal of Nursing* 39, no 12 (December 1939): 1295-1300.

[398] There was some debate in the early twentieth century regarding the value of bed rest, with no controlled studies that supported the theory, but physicians felt their anecdotal experience justified it. Louis J. Duman and John H. Githens, "The Role of Bedrest in Treatment of Rheumatic Fever," *Journal of the American Medical Association* 164, no. 13 (July 27, 1937): 1435-1438.

[399] Sabra S. Sadler, *Rheumatic Fever; Nursing Care in Pictures* (Philadelphia: J.B. Lippincott Co, 1949), 21.

bed cradle helped keep sheets and blankets from touching sensitive limbs. To prevent future difficulty walking, experts suggested installing a footboard at the end of the bed to keep feet at right angles. As with other bed ridden patients, mothers had to know how to perform sponge baths, make a bed with someone still in it, perform enemas, keep records for the doctor, check the patient's temperature, and be strong enough to lift the patient when necessary.[400] The hope that the sanatorium regimen would be more universally applicable found its realization in these rheumatic fever treatments.

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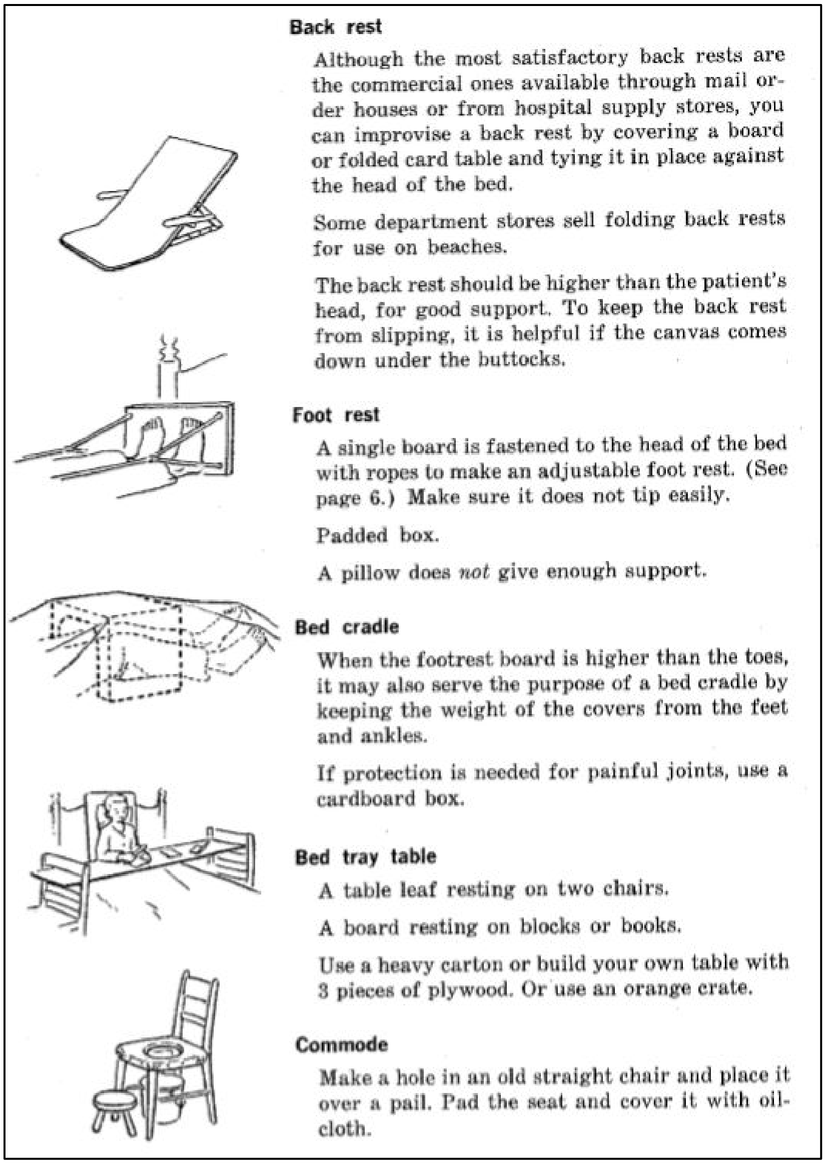
[400] Myrtle H. Coe, *Home Care of the Child with Rheumatic Fever: A Guide for Parents* (New York, N.Y.: American Heart Association, 1959).



Back rest

Although the most satisfactory back rests are the commercial ones available through mail order houses or from hospital supply stores, you can improvise a back rest by covering a board or folded card table and tying it in place against the head of the bed.

Some department stores sell folding back rests for use on beaches.

The back rest should be higher than the patient's head, for good support. To keep the back rest from slipping, it is helpful if the canvas comes down under the buttocks.

Foot rest

A single board is fastened to the head of the bed with ropes to make an adjustable foot rest. (See page 6.) Make sure it does not tip easily.

Padded box.

A pillow does *not* give enough support.

Bed cradle

When the footrest board is higher than the toes, it may also serve the purpose of a bed cradle by keeping the weight of the covers from the feet and ankles.

If protection is needed for painful joints, use a cardboard box.

Bed tray table

A table leaf resting on two chairs.

A board resting on blocks or books.

Use a heavy carton or build your own table with 3 pieces of plywood. Or use an orange crate.

Commode

Make a hole in an old straight chair and place it over a pail. Pad the seat and cover it with oilcloth.

Figure 3.1. Improvised Equipment for Rheumatic Fever Care. Myrtle H. Coe, *Home Care of the Child with Rheumatic Fever: A Guide for Parents* (New York: American Heart Association, 1959).

Prior to 1935 there was no federally organized response to rheumatic fever. In Wisconsin, as elsewhere in the United States, rheumatic fever patients most likely received their diagnosis from the family physician and, if near a hospital, might recover there during the acute stage of the disease. If the patient recovered at home their mother could have obtained useful recovery tools from a local charity. For example, in 1940 in Dane County, one twelve-year-old patient sought help from the Dane County Medical Auxiliary Loan Closet. After meeting with a public health nurse, the family of this patient requested and received a backrest, rubber sheet, emesis basin, wash basin, urinal, and bed pan to assist in his bed rest.[401] Notably, these services had been established to combat tuberculosis in Dane County just a few years earlier and proved useful for other diseases. This continuity of services helped mothers through the acute and sub-acute stages of rheumatic fever, but their child's rehabilitation was only beginning when the sub-acute stage ended.

RHEUMATIC FEVER AS A DISABLING DISEASE

For caregivers and survivors, treatment went years beyond the acute and sub-acute phases. Since rheumatic fever affects the muscles and joints, including heart tissue, recovery was a long process that caused the patient lifelong complications. Widespread use of antibiotics to treat *Streptococcus* infections in the late 1950s and 1960s helped control rheumatic fever, but by that time, there were many cases of chronically ill young adults who had survived the disease with permanent heart damage. Thus, although it did not cause as many deaths as other diseases had earlier in the twentieth century, it had a lasting impact on its sufferers and their families. In particular, concerns over the long term educational, occupational, and psychological needs of children reflect how rheumatic fever helped change domestic medicine practices from a focus on short-term, acute infectious disease treatment to long-term, chronic and disabling disease care.

Even after a child returned home from an institution or returned to school after bed rest,

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[401] "Narrative Report," January 1940, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

parents still had to care for and obtain services for their children. For this reason, rheumatic fever bridges the fields of disability and medical history. Within the field of medical history, rheumatic fever is limited to one survey, Peter English's *Rheumatic Fever in America and Britain: A Biological Epidemiological, and Medical History*. In that work, English focuses on the biological changes in rheumatic fever that contributed to changing definitions and treatments of the disease. English argues that, over the past several centuries, rheumatic fever has not only changed in virulence and expression, but has also mutated to be less deadly. He also argues that, as the disease changed, it expressed itself more through damage to the heart, allowing for a more localized understanding of the diseases and better diagnostics.[402] Since English is largely concerned with medical debates surrounding rheumatic fever among experts, there is still work to do on patient perspectives and societal responses to the disease.

Although rheumatic fever, itself, has not been the subject of many historical studies, as a disabling disease, the secondary literature on the history of disability is essential to understanding how the disease followed patterns of other disabling conditions in American history. As disability rights activists and scholars have argued, focusing solely on the medical aspects of a disabling condition does not help us understand disability as an experience.[403] Just as many historians of medicine have argued that all disease is mediated through social constructs, disability studies scholars have argued that disability is a socially constructed category. In particular, race, sex, class, age, time, and place shape what we define as a disability. As an "invisible" disability that affected children, Rheumatic fever played a critical role in changing

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[402] English, *Rheumatic Fever in America and Britain*.

[403] Simon Frisenden, "Independent Living and the Medical Model of Disability," *Disability, Handicap, & Society* 1, no. 2 (1986): 173.

perceptions of disability in the United States.

Rheumatic fever patients would not have been recognized as disabled just one hundred years earlier. For example, life in Colonial and nineteenth century America was fraught with occupational hazards that caused physical impairments. In addition, many Americans lived with birth defects, intellectual and psychological disorders, and sensory impairments. Disability was a narrow category, however, restricted to men disabled by service in the military. This was enshrined in 1818 with the Revolutionary War Pension Act, which made disability a legal and social category. The government defined "disability" very specifically. The loss of a limb or one of the senses was not considered a disability, but if the veteran was unable to work, they could be classified as disabled and receive assistance. This linkage of disability with productive economic labor persists to this day and would play a crucial role in activism surrounding rheumatic fever, even for children.

The Revolutionary War Pension Act reflected another important trend in American history – the increasing value of expert medical opinion over other forms of knowledge. When the government first passed the Act, the government accepted the testimony of neighbors and ministers for confirmation of eligibility. Increasingly, however, the government required a medical examination to confirm the veracity of the applicant's claims. The increased authority of medical and scientific opinion in American life can be seen in other areas, such as the claims that women and people of African descent were biologically inferior to white men. Medical reasons for excluding immigrants also began to increase, with the stated concern that disabled immigrants would be a financial burden on their new communities.[404] Medical authority would

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[404] Kim E. Nielsen, *A Disability History of the United States* (Boston: Beacon Press, 2012).

continue to influence the rights of the disabled, from confirming eligibility to gatekeeping care. Perhaps most significantly, the rise of medical authority over disability emphasized a medical model of disability. In this model, disability is a problem to be solved through medical intervention, rather than social accommodations.

If the disabled person could not be "fixed" then local governments could use this as proof of dependence and therefore institutionalization. Increasingly in the nineteenth century, institutionalization became the model for addressing disability in American life. On the one hand, this reflects a sense of responsibility and a belief in the rehabilitative nature of a structured environment.[405] However, class, race, sex, and location of the disabled person shaped the experience of institutionalization, with the poor most likely to be institutionalized, often for long periods, if not their entire lives. The more a family relied on wage labor the less likely they were able to keep a disabled relative at home. Families who still relied on farming or home based industry discharged their family members from institutions at a higher rate. In these households, more family members remained physically in the home during the day to care for a disabled family member and disabled family members could still help the family with menial tasks, especially if they were male.[406]

The dominance of the medical model of disability within the medical field reinforced social policy, which continued to focus on the rehabilitation of adult male veterans. Throughout the nineteenth century the federal government gave disabled veterans direct assistance, which helped them stay out of institutions and this preferential treatment for disabled veterans

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[405] David J. Rothman, *The Discovery of the Asylum: Social Order and Disorder in the New Republic* (Boston: Little, Brown, 1971).

[406] Sarah F. Rose, *No Right to Be Idle: The Invention of Disability, 1840s-1930s* (Chapel Hill: University of North Carolina Press, 2017), 14-48.

continued after the Civil War. The scope and legacy of the Civil War was so large that assistance to disabled Civil War veterans became a blueprint for other disabled persons well into the twentieth century.[407] For example, in contrast to Revolutionary War veteran benefits, Civil War pensions extended to African American veterans and the widows and orphans of soldiers. A federal system was only in place for Union soldiers, however, and Confederate veterans had to rely on state pension systems. Importantly, as veterans aged, the government expanded the pension system to cover all disability, not just disability incurred during combat.

Another war, World War I, expanded services to disabled veterans even more and highlights the increasing role of public health, not just medicine, in assistance to the disabled. The origins of federal involvement in public health go back at least as far as the Marine Hospital Service, the first federal public health service. Created in 1798, the Marine Hospital Service ran hospitals to serve sick sailors, funded by a tax on their wages. The program eventually evolved into the Public Health Service in 1912, providing health care to federal beneficiaries and working against chronic and epidemic disease.[408] Federally funded public health services continued to focus on the health of adult male veterans through the Civil War and into the twentieth century with World War I rehabilitation services. They concentrated primarily on providing adult men with the health care and rehabilitation services required to return to work.[409] During and immediately after World War I, advances in orthopedics, prosthetics, plastic surgery, and pain management that came out of wartime needs benefited other disabled Americans, but not in any formalized system. These treatments, by focusing on returning the disabled to the workforce,

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[407] Drew Gilpin Faust, *This Republic of Suffering: Death and the American Civil War* (New York: Alfred A. Knopf, 2008); Sarah Handley-Cousins, *Bodies in Blue: Disability in the Civil War North* (Athens, GA: The University of Georgia Press, 2019).

[408] Duffy, *The Sanitarians*.

[409] Skocpol, *Protecting Soldiers and Mothers*; Faust, *This Republic of Suffering*.

also promoted an "ethic of rehabilitation" in which the disabled adapted to society, rather than society adapting for the disabled.[410] Thus, as America entered the twentieth century, doctors, public health agencies, and the federal government had molded disability policies based on the principle that the target of these policies was an adult male veteran.

RHEUMATIC FEVER AND THE WELFARE STATE

In the Progressive Era, however, social welfare policies increasingly focused on women and children, as female-dominated government agencies, such as the Children's Bureau, promoted maternalist programs and laws.[411] The origins of assistance for children disabled by rheumatic fever came out of these developments and took hold with the creation of the Children's Bureau in 1912. Congress had charged the Bureau to "investigate and report... upon all matters pertaining to the welfare of children and child life among all classes of our people." In 1921, the Bureau went beyond simply researching the facts related to the health of children. The Maternity and Infancy Act (also known as the Sheppard-Towner Act) authorized over one million dollars per year for the Children's Bureau to distribute to states in order to improve infant and maternal health. Although the Act expired in 1929, it helped inform national policy regarding child welfare, especially the financial and structural organization of health services for children, the disabled, and the elderly. Federal funding for health care would be grants-in-aid to states, which promoted local control, but could also reflect federal priorities by which programs the federal government chose to fund. Thanks to increased public health efforts like this,

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[410] Beth Linker, *War's Waste: Rehabilitation in World War I America* (Chicago: University of Chicago Press, 2011).

[411] Skocpol, *Social Policy in the United States*, 12-13.

children were more likely to survive childhood and parents had more resources to draw upon for chronic disease and disability.

The creation of the Children's Bureau in 1912, the passage of the Sheppard-Towner Act in 1921, and the passage of the Social Security Act in 1935 helped to bring local health issues like rheumatic fever into federal politics. The Children's Bureau quickly proved successful in decreasing infant and maternal mortality, often by working with local private and public services to improve nutrition, educate mothers, and provide access to health services.[412] For many Americans these services may have been the first or most memorable experience with the federal government. Thus, the expansion during the Great Depression of services for the elderly, disabled, and unemployed highlight the centrality of public health policy to the history of social policy as a whole. As historian Daniel Rodgers contends, "much of the history of social politics' formation might, indeed, be written as the story of the battle for a concept of public health, rooted not only in personal discipline and hygiene but also in social environments of labor and shelter."[413]

Although the Children's Bureau had grown out of local health activism, especially the Settlement House movement, existing policies regarding federal health provisions for veterans also influenced the new agency. As sociologist Theda Skocpol has argued, previous social policies create the framework that interest groups work within, often producing unexpected results.[414] In the case of entitlement programs for the disabled, their origin as federally funded veterans services designed to rehabilitate men have had long lasting effects for policy regarding

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[412] Meckel, *Save the Babies*.
[413] Rodgers, *Atlantic Crossings*, 114.
[414] Skocpol, *Protecting Mothers and Soldiers*.

health care for the elderly and disabled.[415] In fact, when President Taft created the Children's Bureau, the first federal agency devoted entirely to the health of mothers and children, it was placed within the Labor Department. Thus, the medical model of disability – of the patient overcoming or adapting their disability to society – was built into these federal programs. Much of the funding for the disabled focused on rehabilitation, self-reliance, and especially the ability to work, even when targeted at people outside the workforce, such as children and the elderly.

A father's letter to the Children's Bureau highlights the related histories of war, disability, and social entitlement programs in United States history. On April 19, 1918 a Minnesota farmer turned over a questionnaire that the state had mailed him about the "Co-operative Extension Work in Agriculture and Home Economics" and typed an impassioned letter to the newly created Children's Bureau. He began "I find it impractical to answer the questions on other side, as my farming operations are of such minor importance that it can be of no interest to anybody else and very little to myself." What Soren Krough was most concerned about was his disabled child. He lamented that the government would send an expert hundreds of miles to help with a sick pig, but "what matters production, what matters prosperity, and even freedom, when our lives are marred by the fact that what we hold dearest on earth, a sweet little child, will have to go through life a helpless cripple?" He knew that services and institutions existed to help, but they were out of his reach. What was more, Mr. Krough firmly believed that he was *entitled* to these services. Referring to World War I he wrote, "I am willing to do anything to help my country in the present crisis, but should also expect some in return."[416]

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[415] Boris and Klein, *Caring for America*.

[416] Soren Krough to Children's Bureau, 1918, *Children's Bureau Records* (30), National Archives, College Park, MD.

As letters like this demonstrate, although the federal government had become increasingly involved in public health funding, access to health care was still a local issue. For this farmer, lack of financial means was as important a problem as access to services in his area, especially when it came to his disabled child. His situation highlights how, for much of the history of the United States, public health has been a local issue, with local and state public health agencies playing a large role in educating the public, providing services, and promoting legislation regarding infectious disease. Progressive Era programs and the federal response to the Depression helped expand federal health and welfare services that had begun with marine hospitals and Civil War pensions, but most of these programs required matching funds by states and local management.[417] In states where existing programs were not already in place it was even more difficult to obtain federal funds and often led to a patchwork of unequal delivery of services across the United States. For Mr. Krough, his rural location meant that federal aid did little good when services were located far away from his rural location. Mr. Krough's location affected the services available to him because, although federal priorities, such as rehabilitation, influenced funding allocation, the Children's Bureau depended on existing programs to carry out its mission. If a state chose not to participate or did not have an existing program to match funds to there could be a gap in what health services were covered and which Americans had access to them.

Thus, when the Crippled Children's Program was written into the Social Security Act in 1935, existing local programs for disabled children shaped who and what benefitted. The program was designed to focus on the needs of disabled children, especially children with orthopedic disabilities. Focusing on these orthopedic disabilities fit with existing policy because

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[417] Faust, *This Republic of Suffering*.

the program favored existing local programs, medical interventions, and treatment that promoted productive labor. Advances in orthopedic surgery and rehabilitation, fueled in part by World War I, helped make the program instantly successful and the Children's Bureau quickly turned their attention to other crippling conditions, especially rheumatic fever. Three years later, acting on a suggestion from the American Academy of Pediatrics, the Bureau created a special program for "cardiac cripples."[418] "Cardiac cripples" referred to rheumatic fever survivors, as the disease permanently damaged the heart. The federal government approved funding in 1939, with Oklahoma becoming the first federally funded program in 1940. Although states had to provide matching funds in order to participate, by 1945 there were sixteen states participating, including Wisconsin.[419]

Reflecting the federal government's rehabilitative ethic the program stated that "any physical disadvantage is 'crippling' for a child if it renders achievement more than usually difficult and makes necessary for him more help or care than a normal child needs in order that he may grow and develop into a contented, useful citizen, able to complete [sic] in society with reasonable success."[420] In the case of rheumatic fever, the agency noted that even for families that could afford the expensive care that rheumatic fever required the services they required may not even be available in their area. Thus, the Program focused on providing matching funds to state and local existing programs that focused on education, rehabilitation, and case-finding. The fact that the program helped all families, regardless of financial need, was sound public health

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[418] English, *Rheumatic Fever in America and Britain*, 119.

[419] The other participating states were Oklahoma, California, Connecticut, the District of Columbia, Idaho, Iowa, Maine, Maryland, Minnesota, Missouri, Montana, Nebraska, Rhode Island, South Carolina, Utah, Virginia, and Washington.

[420] Betty Huse, M.D. "Care of Children with Heart Disease in the Crippled Children's Program under the Social Security Act," *American Journal of Public Health* 31 (1941): 809.

policy, but also may have contributed to a growing sense of entitlement to health care services for the disabled.

The Crippled Children's Program model met some of the needs of families, but not all. In particular, potential recipients felt like they should be able to determine how their aid was spent. For example, families often requested the services of specialized therapists to assist with the care unique to disability and chronic disease. One adolescent case wrote, "I don't think I can get the right kind of care at home. We are too far from a doctor, and my father can't pay."[421] Other parents wrote to the Children's Bureau asking for advice about how to keep their children out of institutions, for financial aid, and for technological assistance. One mother wrote to the Bureau asking for financial assistance "so I could hire someone we know to stay with him sometimes, as strangers make him very nervous."[422] One letter from an adult who was crippled as a child noted that medical aid was good, but what he really needed was food, clothing, and nursing. He concluded "don't you think we need a pension as well as the aged who are able to wait on themselves a little?"[423]

This young man's use of the word "pension" reflects a new vocabulary for the Americans during the Great Depression that is rooted in earlier pension programs for Civil War and World War I veterans. The Children's Bureau wrote back to those seeking "pensions" for the disabled explaining that the Crippled Children's Program was not a pension, but a locally administered aid program. Despite this, the use of the word "pension" was common in letters to the Children's

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[421] Edith M. Terry, "Rheumatic Fever and the Nurse," *The American Journal of Nursing* 43, no. 12 (1943): 1084.

[422] Leslie Mount to Children's Bureau, 1936, *Children's Bureau Records* (628), National Archives, College Park, MD.

[423] Arnold Penhollow to Children's Bureau, 1936, *Children's Bureau Records* (629), National Archives, College Park, MD.

Bureau. On the one hand, they show how a vocabulary related to disability had spread, but also suggests a sense of entitlement rather than shame or pity in relation to disability. In some cases, this sense of entitlement was encouraged by the Children's Bureau in order to fuel activism for an expansion in services. In the case of adults over the age of twenty-one, such as this young man, the Bureau attempted to get them in contact with local agencies, since his age disqualified him from the Crippled Children's Program. For the disabled residing in non-participating states the Bureau wrote back with contact information for their government officials, encouraging the letter writer to petition their representatives to work towards enrolling their state in the program. Due in part to this activism, programs did expand throughout the decades following the passage of the Social Security Act and the Crippled Children's Program, with more states participating and more health issues covered. Eventually the program expanded to cover hearing loss, cerebral palsy, cleft palate, burns, and epilepsy. By 1948, every state was participating in the Program in some way, with 3.3 out of every 1,000 children receiving services that year nationwide.[424]

States that did participate early on, such as Wisconsin, had to prepare their own program in order to apply for federal funds from the Social Security Act. After researching and writing a proposal, Wisconsin received $98,219 for the 1941 fiscal year, which the state used to help fund clinics, child health centers, pay physicians to staff these centers, hospital care, education, and public health nursing services. Mothers quickly availed themselves of these services, which ended up helping children with many ailments, not just rheumatic fever. Mothers and children suffered mostly from circumstances beyond their control, especially during the Depression, and

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[424] "Services for Crippled Children: The Program's Thirteenth Year," *Social Security Bulletin*, Vol. 15 No. 5 (May 1952): 10-14.

free medical care proved useful to many of them. The Wisconsin Crippled Children's Program responded by going beyond education to providing care. The first few years of the program focused on orthopedic cases and was quickly successful, thanks, in part, to prosthetics, physical therapy, and surgery. Rheumatic Fever cases proved different from other diseases, however. While diagnosis through clinics and hospital care for acute cases remained important for rheumatic fever, long-term care could not be handled the same way as for orthopedic cases. Unlike missing legs, damaged hearts were invisible and could not be replaced with prosthetics or other adaptive technology. As one newspaper headline declared, concerning rheumatic fever, "Cripples Have No Crutches Get Little Assistance From Public."[425]

In Wisconsin, we can see the values of local communities in what programs existed already and therefore received matching funds from the federal government. Like the other participating states, Wisconsin used the funds to support public health nursing, clinics, diagnostic services, and convalescent homes. The Wisconsin Bureau of Maternal and Child Health did not believe they should limit themselves to purely educational activities, noting that it was not enough to educate mothers and then not give them aid in obtaining the services they had been instructed to use.[426] As we have seen with scarlet fever and tuberculosis, mothers often requested more than educational support and public health nurses provided everything from medical equipment to referrals to aid agencies. The state medical society argued that "it is futile to educate potential mothers to the need of good medical care... and yet make no provision for them to obtain this care."427 All children under the age of twenty-one were eligible for care, which

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[425] Wallace Wikoff, "Cripples Who Have No Crutches Get Little Assistance from Public," *Wisconsin State Journal*, April 7, 1946, 20.

[426] Wisconsin Bureau of Maternal and Child Health, *Programs and Demonstrations, 1922-1961* (Box 1, Folder 1, page 5), Wisconsin Historical Society Archives, Madison, WI.

[427] Edwin F. Daily, M.D., "Maternal Care and Maternal Mortality: With Special Reference to Progress in

included diagnostic services, the medical services of a pediatrician, the consultation of a social worker, access to public health nursing visits, and the option to treat the patient at a convalescent home, in a foster home, or in their own home.[428] Again, while not a "pension," the aid that parents received did not discriminate based on income.

Thus, while the institutionalization on the federal level of disability services as a program for rehabilitating male veterans back into breadwinners, local programs combined with maternalist policies to transform disability policy into one that also included children. With rheumatic fever we can see how important local public health efforts were to the expansion of services for the disability. Federal intervention into local public health efforts increasingly focused on disability in children and rheumatic fever was a leading cause of childhood disability in the mid twentieth century. The creation of the Welfare State helped place children's health at the center of social policy and affected the resources parents of sick children had access to. At the same time, the legacy of disability in America as a category limited to adult male veterans and, therefore, focused on the ability to earn an income, shaped the parameters of what resources mothers could request for their children.

PARENTAL ADVOCACY AND RHEUMATIC FEVER

On the one hand, Children's Bureau programs reinforced continuity with previous services and practices, especially the sanatorium regimen and programs related to that disease.

Wisconsin," *Wisconsin Bureau of Maternal and Child Health: Programs and Demonstrations, 1922-1961*, Wisconsin Historical Society Madison, WI.

[428] United States Children's Bureau, *State Programs for Care of Children with Rheumatic Fever, under the Social Security Act, Title V, Part 2* (Washington: U.S. Dept. of Labor, Children's Bureau, 1943).

On the other, the disease also brought new aspects of care into the practice of domestic medicine and the Children's Bureau responded by expanding services designed to meet longer rehabilitation needs. In particular, what distinguished rheumatic fever from most other infections that children suffered in the mid twentieth century is that the long treatment made educational, occupational, and psychological aspects of care paramount. Although we saw this in the short term with the 1935 Milwaukee scarlet fever epidemic, the entertainment and education of rheumatic fever patients was a much larger, organized, and long-term project than a quarantine that lasted a few weeks. For many mothers, these new and highly specialized practices proved too much for them to handle on their own and fueled more advocacy.

After the acute and sub-acute stages, a patient might stay home from school during their longer convalescence or schools might accommodate them. In 1938 in western Dane County, when a physician diagnosed five children with the disease, two stayed home from school while the remaining three continued to attend their Catholic school. The sisters turned the school library into a rest room for an hour at eleven and again at two every day. The county nurse reported that while the children had previously "shown symptoms of marked nervousness and fatigue... improvement has been noticed in their school work" after the school instituted the rest periods.[429] While ad hoc, these types of accommodations reflect a social model of disability, in which the school adapted to the students' disability by allowing time and space for rest periods.

In fact, rheumatic fever paved the way for the accommodation of other disabilities within the school system. This had not been the case earlier in the twentieth century, especially due to the "invisible" nature of the disease. One physician pointed out that even though there were

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[429] Dane County (Wis.) Health Department, "Narrative Report (October 1938)," *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

25,000 children crippled by rheumatic fever and only 5,000 by polio in New York City in 1917, "we establish open-air classes for the anemic and the tubercular, we send carriages for the crippled and automobiles for the poliomyelitic – when, when will we learn to admit the cripple heart to the same privileges as the crippled legs?"[430] By the 1950s education experts had expanded recommendations to include allowing rheumatic fever sufferers to be late for class, preparing individualized meals or snacks, and arranging special transportation.[431] In one 1958 a study, which included 98 respondent cities with a combined urban population of over 44 million, only 9 schools did not report special accommodations for rheumatic fever patients. Accommodations could include special day classes or schools, special residential schools, home instruction, or convalescent home instruction. Schools employed specialists for rheumatic fever patients, especially psychologists, specially trained teachers and administrators, nurses, and therapists.[432] Still, the "primary objective of any special services should be to return the children to their regular classes as soon as they are well enough."[433]

Much like tuberculosis patients had, Dane County children that remained at home during their convalescence relied on both private and public services. For example, for educational needs a parent might have access to a visiting teacher or a local public health nurse might make a referral so that school work could be sent home. In some communities the school nurse worked

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[430] J.S. Ferguson, "Cardiac Disease in Children and Cardiac Clinic," Archives of Pediatrics (April 1917): 271.
[431] American Heart Association, "What the Classroom Teacher Should Know - and Do About Children with Heart Disease," *Journal of Educational Sociology* 24, no. 8 (1951): 483-490.
[432] Helen M. Wallace, "Education Services for Urban Children with Rheumatic Fever or Heart Disease," *Public Health Reports (1896-1970)*, 74, no. 12 (December 1959): 1041-1047.
[433] Committee on Child Health of the American Public Health Association, the American Heart Association, and American Public Health Association, *Services for Children with Heart Disease and Rheumatic Fever; A Guide for Public Health Personnel* (New York, American Public Health Association, 1960).

with the local telephone company to allow the patient to call into the classroom.[434] In the home, a parent might rely on extension schools, such as the University of Nebraska's Supervised Correspondence Study Series. If enrolled in the series a student would receive study courses, study guides, a dictionary, a notebook for returning papers, reference books, and even a globe. The student corresponded with an assigned teacher, who tailored their instruction to their needs, with a focus on the future occupational needs of crippled children.[435] In addition to educational outreach, rheumatic fever patients in Dane County relied on visiting nurses and referrals to the Dane County Medical Auxiliary Loan Closet or the Dane County Association for the Disabled. Through the Loan Closet families could obtain useful medical devices, such as back rests, rubber sheets, basins, and bed pans.[436] The Dane County Association for the Disabled provided occupational therapy and recreational services for "shut ins."[437]

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[434] Lillian S. Dick and Marie D. Grant, "The Nurse's Role in Rehabilitation of the Child with Rheumatic Fever," *Public Health Reports (1896-1970)* 79, no 6 (June 1964): 534.

[435] Meredith W. Darlington and Ruth E. Wendell, "Crippled an Isolated Children," *The Phi Delta Kappan* 22, no. 4 (December 1939): 171-172.

[436] Dane County (Wis.) Health Department, "Narrative Report (January 1940)," *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

[437] Dane County (Wis.) Health Department, "Narrative Report (January 1937)," *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

Convalescence at home may be an enjoyable time if there are enough interesting things to do to keep mind and hands busy.

Figure 3.2. United States Department of Labor, *Facts about Rheumatic Fever* (Washington DC: United States Children's Bureau, 1945).

Mothers had no shortage of expert advice to deal with the challenges of long term rehabilitation. Pamphlets, visiting nurses, popular magazines and doctors advised mothers on how to introduce activity to the sickroom. First, passive activities, such as the radio or music, then reading and crafts. Moving about the house and short walks came only near the end of the recovery. A Wisconsin pamphlet, entitled *Quiet Without Riot*, that was designed for parents of rheumatic fever patients, gave a list of graded activities to advance through as the recovery progressed. It began with "intellectual activities," such as listening to stories or the radio, and was followed by "mental activities with minimum hand exercise," such as reading to themselves or playing checkers. Eventually the child could attempt "increase use of forearm with no resistance," such as schoolwork or cards. Finally, patients could begin to use their upper arm and then their whole arm.

Pamphlets, such as *Quiet Without Riot*, always devoted a section to the occupational future of the child. They advised mothers that they needed to help their child choose an occupation as soon as possible because, while many occupations did not require manual labor, the ones most suited to people with heart conditions required early educational and occupational training. Experts warned against allowing children to have unrealistic expectations about their futures, warning mothers "don't let him confine his interests just to horses or mysteries."[438] Another expert suggested mothers redirect interests to attainable goals, "the enthusiasm of the rheumatic cardiac boy for the telephone lineman's job may be redirected into an interest in amateur radio construction."[439] This concern for the future professions of rheumatic children reveals the pervasiveness of the "rehabilitation ethic" and the continued focus on the ability of the disabled to work. One expert warned that the effect could be delayed because "so frequently one sees an adolescent rheumatic boy, educationally retarded because of interruptions in his schooling, quit school at the first legal moment, equipped only for a day laborer's job. When, perhaps in his late thirties and now with a wife and young family to support, his cardiac disability catches up with him, it may be too late to train him for a technical job." Continuing to reflect the concern for productive labor, the warning continued, "he and his family will probably become a burden on society, unless skilled rehabilitation services are available to him."[440]

Just as mothers found it difficult to provide home instruction during short-term conditions, such as the 1935 Milwaukee scarlet fever epidemic, they also struggled with providing long term educational instruction. Coming up with, obtaining supplies for, and executing simple arts and crafts to entertain well children stuck at home for a few weeks was

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[438] Wisconsin Occupational Therapy Association, *Quiet without Riot; Occupational Therapy for Children with Rheumatic Fever* (Milwaukee: Wisconsin Occupational Therapy Association, 1953).
[439] Katharine Dodge Brownell, "The Child with Rheumatic Fever or Heart Disease," *Exceptional Children* (November 1952): 73.
[440] Ibid.

hard enough for mothers as it was. A mother with a child recovering from rheumatic fever was now expected to have a comprehensive knowledge of career options and the educational and vocational training required to prepare for those careers. Recognizing the need for these services, states like Wisconsin wrote educational outreach and adaptation of existing schools into their Crippled Children's Program services. These developments built on previous programs, but also served to expand them to even more disabled children.

Again, local conditions helped shape how the Crippled Children's Program assisted Wisconsin residents. The state had been a leader in education for disabled children and as rheumatic fever grew as a problem, it quickly became part of this system. In 1885 the state was the first to enact legislation that made education compulsory for handicapped children. These early laws focused on the deaf, with the blind and speech impaired added in 1907. Of note, after these groups, it was not until 1927 that another category of disability was added – rheumatic fever. Wisconsin was also the first state to create a bureau of the education of handicapped children within a Department of Public Instruction, with its own director and staff.[441] The goal of this structure was for the education of the disabled to meet the same standards as general education laws and regulations. These protections were essential but difficult to provide for a state like Wisconsin, where many children lived in rural areas, far from cities, where the majority of special schools and hospitals existed. As a result, the state had to incorporate funding for travel and boarding into its programs for handicapped children, including rheumatic fever patients. For these children, a provision for $450 per year per child, above the cost of transportation, food, and specialist bills, could be used to board a child in a town where they

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[441] Elise H. Martens, *State Supervisory Programs for the Education of Exceptional Children* (Washington, D.C.: United States Government Printing Office, 1941).

could receive educational instruction. This funding did not pay for transportation home on weekends or holidays, however.[442]

Even with these provisions, many parents kept their children at home and made do with the educational options available to them in their communities. For some this was a choice and for others, like with tuberculosis, it was a result of the lack of beds available. Unfortunately, this often meant that the patients received no education. One report found that as many as 60 percent of crippled children had no educational opportunities where they lived.[443] One school for crippled children that opened in Milwaukee in 1914 reported that "when the school opened the children were shy, silent, and both suspicious and afraid. Several of them could neither speak English nor understand it. With but one exception the children had never seen the inside of a school building before and had had no education. They took hold of the work given them slowly and indifferently. They seldom spoke. They never smiled."[444] Prior to the creation of the Crippled Children's Program, schools like this and unorganized home instruction or makeshift school accommodations were the best a rheumatic fever patient could hope for. Once the Crippled Children Program began in Wisconsin, however, more funding became available to send teachers and other experts into the homes of rheumatic fever patients.

Like the need for educational opportunities, rheumatic fever underscored the need to expand the definition of medical treatment to include psychological care, distinguishing it from previous diseases treated at home. Although there was some discussion of "spoiling" invalids in earlier domestic medicine advice, there was nothing on par with what experts advised for

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[442] Marguerite Lison Ingram, "A Program for Education of Crippled Children," *Hospital Social Service* 18 (1928): 141-145.
[443] Darlington and Wendell, "Crippled an Isolated Children," 168.
[444] "Educational News," *The Journal of Education*, 80, no. 13 (October 15, 1914): 362.

rheumatic fever. For example, the pamphlet *Quiet Without Riot* devoted equal attention to psychological as well as physical recovery. It suggested crafts to mark the passage of time and progress, such as holiday decorations.[445] These were not simply diversions to keep children occupied, however. Experts argued that they instilled in the child a sense of independence and achievement. The child may not be able to do labor intensive chores around the house, but they should still do chores. For example, although they couldn't mow the lawn they could polish the silver.[446] Even creative tasks like singing and drama could aid in a child's psychological development because, "through these activities the child's interest and knowledge are broadened; he gains self-confidence and poise, which are essential for the development of personality and emotional maturity. Handicraft promotes natural childhood curiosity, increases the interest span and develops nervous stability and coordination."[447]

In addition, enforcing strict rules not only prevented spoiling the child, but also preventing feelings of insecurity in the child. If they felt pitied by the parent they might not feel secure in their parents affection.[448] Women's magazines and doctors warned mothers that being too sympathetic to a sick child, especially one bed-ridden as long as rheumatic fever patients might be, could be disastrous. Experts argued that, in their fear to not disturb a sick child, a mother might inadvertently spoil it, which could have long-term consequences when the child grew up. As one *Ladies' Home Journal* article put it, "this pattern, started in childhood, not infrequently is seen in the spoiled woman who bursts into tears and compels her husband to yield

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[445] *Quiet Without Riot*.
[446] Edith M. Stern and Elsa Castendyck, *The Handicapped Child: A Guide for Parents* (New York: A.A. WYN, Inc., 1950).
[447] Janie Mae Roberson, "An Analysis of the Recreational Activities Utilized by the State and State Subsidized orthopedic Hospitals in the Therapy of Crippled Children" (M.A. Thesis, Atlanta University, 1942), 25-26.
[448] Stern and Castendyck, *The Handicapped Child*.

to her whims; or it comes out in a man as irritability and easy discouragement when immediate desires are not readily granted by his boss or his friends."[449] Experts suggested being sure to dress the child every day (rather than remain in pajamas), giving them responsibilities, and instructing other family members to not treat them differently as ways to prevent spoiling a child sick with rheumatic fever. One pamphlet went as far as to say that if a parent excused sick children from simple household chores, such as drying dishes, they risked him growing up to be a "whining, conceited dunderhead who won't try to pay his own way."[450]

Many experts also pointed out that a mother must look after her health first, for without it, her family would not have a valuable nurse. This advice mirrors much of the advice given to caregivers of tuberculosis patients, but, in the case of rheumatic fever, the patient was more likely to be a child. Rather than the fear that a mother sick with tuberculosis must be removed from the home in order to fully recover, the mother of a rheumatic fever patient must limit how much effort she put into domestic medicine in order to have enough energy for the other family members. The *Quiet Without Riot* pamphlet warned "you don't want to appear worn out as he will feel guilty and the rest of the rest of your family will seem slighted."[451] Another guide for parents warned, "however wholeheartedly you devote yourself to such a program, you must not let yourself become swamped by your child and his problems. Like all parents at one time or another you may feel "fed up," or as if you "could not take any more." Indeed, you are even likely to wish that you had never had your child. There is nothing wicked or singular in having

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[449] Leslie B. Hohman, M.D. "How to Not Spoil a Chronically Sick Child," *Ladies' Home Journal*, (October 1946): 202.
[450] Herbert Yahraes, *Rheumatic Fever: Childhood's Greatest Enemy* (New York: American Council on Rheumatic Fever, 1947), 18.
[451] *Quiet Without Riot*, 2.

such feelings: they are quite normal and usual."[452]

Advice for adult rheumatic fever survivors also reflect gendered advice and focus on housework for women and breadwinning for men. Sometimes, however, expert advice reflected changing gender norms, such as increased fatherly investment in childrearing and working outside the home for women. Experts gave advice to fathers, as well as mothers, reflecting a growing trend in fatherly investment in parenting.[453] Experts assumed that fathers had high aspirations for their children that a rheumatic fever diagnosis might threaten. In order to help with this anxiety, one guide advised fathers to take over part of the caregiving duties because, "by participating in everyday routines like dressing and feeding and training and, above all, through playing with their children, fathers can appreciate and enjoy abilities and good traits which, without intimate and detailed contact, may be overshadowed by handicaps." Furthermore, providing care offered a unique way to "grow to know their children's limitations and so are better able to face them realistically without the gnawing, forever unfulfilled expectations at are more torturing than acceptance of the facts.[454] For female adult rheumatic fever survivors, one pamphlet advised that if a young woman with rheumatic heart disease could "do ordinary things like light housework, or secretarial work, or both, and the usual shopping and walking, without symptoms that her heart is overworked" than she could consider marriage and motherhood.[455] Although this advice reflects stereotypical roles for women in mid twentieth century America, it also represent a transition in the inclusion of women and mothers in the

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[452] Stern and Castendyck, *The Handicapped Child*, 9

[453] Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988); Judith Walzer Leavitt, *Make Room For Daddy: The Journey from Waiting Room to Birthing Room* (Chapel Hill: University of North Carolina Press, 2009).

[454] Stern and Castendyck, *The Handicapped Child*, 14.

[455] *Quiet Without Riot*, 19.

definition of the disabled, while also reinforcing the connection between recovery and productive labor.

Many psychologists also suggested that parents of rheumatic fever patients take advantage of group therapy, a practice that could also contribute to increased advocacy by parents. It appears that, at least in some instances, federal and local agencies also encouraged advocacy as a means to achieve their own goals of expanding services for disabled children. For psychologists, advocacy was an appropriate and productive way to channel frustration and energy. One guide suggested that it was imperative that mothers "keep on growing as a person: by taking in new ideas, by cultivating friends, and by going to exhibits and meetings." It went on to suggest becoming involved in charities related to their child's disability as a way to achieve these personal development goals. Applying themselves outside the home to an issue near to the home "is an excellent way of releasing, outside your home, the tensions created by your problem within it."[456] One clinic published their findings on encouraging group therapy sessions for parents, finding that the format allowed parents to digest difficult information, trust physicians more, and, in the case of fathers, encouraged their involvement in their child's caregiving and avoid the resentment of being "left out."[457]

In some areas of the country, parents started their own associations, such as one featured in *Hygiea* magazine in 1948.[458] In Petaluma, California parents of rheumatic children craved "understanding of their problems, not momentary pity."[459] They wanted others to understand

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[456] Stern and Castendyck, *The Handicapped Child*, 10.

[457] Jeanne Kiningham Igersheimer, Charles H. Crothers, and Robert B. Kugel, "When Children Are Convalescing From Rheumatic Fever," *The Child* 18, no. 1 (August-September 1953): 6-9, 13.

[458] Lura L. Frati, "Parents Study Rheumatic Fever" *Hygiea* 26, no. 3 (1948): 198.

[459] Ibid.

how widespread the disease was and that “it exists in comfortable homes as well as in crowded tenements.”[460] Building on informal discussions between parents, the group approached the Sonoma County Tuberculosis and Health Association, which had adopted rheumatic fever in addition to tuberculosis as a subject of their work. The Association agreed to lead an educational public meeting and more than one hundred parents attended the first one. As meetings continued the group identified areas of need and worked to find solutions. They began with hiring a handicraft teacher to visit home-bound children during the summer to supplement the teacher that the board of education provided during the school year. “It was definitely a problem for a woman to care of a sick child and plan constructive amusement for him while she keeps house and cares for the rest of her family. One mother seemed to express the opinion of the group when she said, “I don't see how I can get along without the teacher.”[461] The handicraft teacher would help the bed-ridden children stave off boredom in the summer months and make children feel connected to the outside world. Local librarians began to collect relevant books and would even visit children for a private story hour.

As in Madison, these collaborations between parents and public services were supplemented by public health and county nurses, who attended the meetings. The parents association compiled a list of useful services and information and sent it out as a monthly bulletin to the thirty-five member families. Mothers shared their experiences and advice in the bulletins, which covered everything from diets for children with wheat allergies to clay that wouldn't crumble into bedclothes. Visibility helped the group receive offers of aid from local charities, clubs, and groups, with one woman's club offering free babysitting services and another

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[460] Ibid.
[461] Ibid., 199.

donating wheel chairs – especially useful for simplifying "the back-breaking task of carrying the larger children from the automobiles into the hospital and out again."[462] By pooling their resources, amplifying their voices, and encouraging advocacy, parents groups helped publicize the need for services that were not being met by local or federal programs. They also reflected what local communities valued and perceived a need for in the care of rheumatic fever.

SUMMER CAMPS AND CONVALESCENT HOMES

Two responses to rheumatic fever – the summer camp and the convalescent home – highlight how parents sought institutional relief from their caregiving duties, but not long-term institutionalization. In the case of summer camps, we can see the continued belief in the healing properties of nature for any ailment or condition, while convalescent homes represented a new idea, but one based on age-old domestic medicine practices. Rather than potentially life long institutionalization, convalescent homes focused on temporary care. Furthermore, rather than embodying new ideas of treatment, convalescent homes modeled care on domestic medicine, with homey décor and empathetic care. Both summer camps and convalescent homes addressed the need for relief for caregivers, while also providing a healthy environment for sick children. They also both featured the services of psychologists and occupational therapists, in addition to nurses, reflecting the new incorporation of these disciplines into both domestic and professional medicine.

As with the tuberculosis, some of whose sufferers journeyed "back to nature" in search of

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[462] Ibid., 218.

a cure, the summer camp movement was a response to both disease and fears over the effect of the new urban-industrial environment on children.[463] Beginning in 1925 tuberculous children in Dane county had access to "Kiddie Camp," a preventative camp for children exposed to tuberculosis. Up to fourteen boys and girls enjoyed eight weeks of "sun, rest, good food, health supervision, and constructive play."[464] By 1938 the camp had hosted nearly 500 children for 8 week sessions each summer.[465] Much like with sanatorium regimen, the camp offered fresh air, clean water, and healthy diet for patients, while also relieving parents of care-giving work for at least a few weeks each summer. Although the tuberculosis Kiddie Camp closed in 1947, the Dane County Unit for the Disabled ran a summer camp for "crippled children," which included rheumatic fever patients, on the shores of Lake Mendota. In 1940, nurse Irma Williams reported that "arrangements for one week of camp life for the younger boys, two weeks for the older boys, on week for the little girls, and two weeks for the older girls" had been made by the Dane County Unit for the Disabled.[466]

One rheumatic fever "heart camp" in Missouri stressed that the activities were not "watered down," just "slowed down." Campers enjoyed longer rest periods, special high protein diets, daily medical checkups, and were divided into activity-level groups. The camper "would not be left out" and would not have a "handicap stigma," but rather, "he could hold his own with

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[463] Michael B. Smith, "'The Ego Ideal of the Good Camper' and the Nature of Summer Camp," *Environmental History* 11, no. 1 (2006): 70-101; Barksdale W. Maynard, ""An Ideal Life in the Woods for Boys": Architecture and Culture in the Earliest Summer Camps," *Winterthur Portfolio* 34, no. 1 (1999): 3-29; Peter Schmitt, *Back to Nature: The Arcadian Myth in Urban America* (New York: 1969); Elenor Eells, *History of Organized Camping: The First 100 Years* (Martinsville, IN: ACA, 1984).

[464] John C. Sammis, "Kiddie Camp's Early History Recalled at Reader's Request," *The Capital Times*, June 17, 1952, 1-2.

[465] "Kiddie Camp a Real Times Achievement," *Capital Times* December 13, 1938.

[466] Narrative Report," June 1940, Dane County (Wis.) Health Department, *County Health Nurses Monthly Reports, 1930-1944,* Wisconsin Historical Society Archives, Madison, WI.

the best of them." Parents paid $35 a week for the camp, where rheumatic fever patients could ride horses, raise rabbits, and shoot at the archery range. Proponents of the camp argued that "a camp of this sort can be educational in a way that is especially important to rheumatic heart patients," because, "camping teaches them to take responsibility, to live in close-knit groups, to observe and appreciate nature, and to take care of themselves with a positive emphasis on the fact that they can participate in activities." This was especially important for rheumatic fever sufferers because it helped "children in relieving emotional stresses built up by their real or imaginary inability to engage in activities with other children."[467]

While parents may have welcomed the short break from care giving that the summer camp offered, many did not want to institutionalize their children for long periods of time. Since guidelines for care recommended a yearlong convalescence after the initial hospitalization and parents resisted long term institutionalization, Wisconsin used some of its Crippled Children's funds to support convalescent homes, two of which existed in the state – one in Madison and one in Milwaukee. Local conditions in Wisconsin favored solutions like convalescent homes because of the rural nature of the state. Many children lived too far from hospitals and schools that specialized in care for disabled children and needed care that included room and board. In addition, the convalescent homes in Wisconsin modeled themselves on domestic medicine, rather than hospital care. This extended all the way to the staff, who, as one expert argued, "serves to meet those needs of the child that ordinarily would be met by a parent."[468] This was not the case with all convalescent homes, with a broad range represented throughout the country, from sterile

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[467] Louise M. Putnam, "Heart Camp," *Today's Health*, (1953): 20, 66-67.

[468] Irene M. Josselyn, Albert J. Simon, and Eleanor Eells, "Anxiety in Children Convalescing from Rheumatic Fever," *American Journal of Orthopsychiatry* 25, no. 1 (January 1955): 112

hospital settings to the homey style favored by Wisconsin.

One Wisconsin case demonstrates a typical experience of rheumatic fever that led to convalescent home care in mid twentieth century America. In 1945 a nine-year-old girl came down with a sore throat that lasted four days. About ten days later, her legs started to hurt, then her knees, then her ankles, then her wrists, then her shoulder, finally migrating back to her knees. Her mother called their small-town doctor, who found a rapid heartbeat and a temperature of 101 degrees. He sent "Betty" to the Madison General Hospital for better diagnostics and intensive care. Three weeks later, she had entered the sub-acute phase and her parents chose to have her recover in Madison's new rheumatic fever convalescent home, rather than in their own home.[469] Fortunately for "Betty," she lived in proximity to one of Wisconsin's two convalescent homes.

Opened in May of 1944 on a farm owned by a local orthopedic nurse, Madison's rheumatic fever convalescent home lasted for thirteen years.[470] In 1947 the home outgrew the farm and moved to the recently closed children's tuberculosis preventorium. The preventorium had functioned for 29 years, most of which as the tuberculosis Kiddie Camp. By 1945 "past years of broadening education and determined attack on tuberculosis had resulted in decline of that disease among school children to the extent that only a handful of prospective Kiddie Campers could be rounded up in all Dane County."[471] At this point the "Kiddie Camp" board of directors discontinued the annual summer-time tuberculosis preventorium and turned the property into a year-round convalescent home for rheumatic fever. The home operated for a decade, when it became a day care for children with cognitive disabilities. It remained a day

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[469] John Newhouse, "'It's Rheumatic Fever,' the Doctor Said" *Wisconsin State Journal*, February 18, 1945, 1.

[470] "Capital Times Opens '62 Kiddie Drive," *The Capital Times*, May 15, 1962, 1, 6.

[471] Sammis, "Kiddie Camp's Early History Recalled at Reader's Request."

care until 1980, when its sale funded the creation of the Capital Times Kids Fund.[472]

Figure 3.3. "Farm House and Children's Rheumatic Fever Home," *Arthur M. Vinje photographs and negatives, circa 1914-circa 1962*, (Image #38974). Wisconsin Historical Society.

Similarly, in Milwaukee, the rheumatic fever convalescent home had its origins in caring for tuberculosis. The first children's convalescent home in Milwaukee opened in 1894 with only ten beds and one nurse. As need increased the home moved to larger and larger properties and by 1923 a 102-bed home was built on donated land in order to treat scarlet fever, diphtheria, whooping cough, tuberculosis, polio and other diseases. By 1941 the Milwaukee Children's Hospital (as it came to be known) had constructed a facility in nearby Waukesha just for rheumatic fever and tuberculosis convalescence that had a 50-bed capacity. The hospital boasted

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[472] "Kidde Camp Tied to The Capital Times," *Capital Times*, July 25, 2005.

that it received very little funding from parents and the per diem cost of $3/day per patient was largely paid by the Community Fund.[473] In addition to medical treatment, patients enjoyed a "home-like environment with a large yard where kids enjoyed some fun and fresh air as they recovered."[474] Doctors and psychologists expressed concern that too institutional a setting would impede recovery and cause anxiety and depression in patients. As one public health publication noted, "isolation from the normal stimulation and gratifications of a child's own group, slow progress in stepped-up activities during convalescence, and uncertainties in treatment cause frustration, discouragement and anxiety."475

After an initial diagnosis and hospitalization, patients entered the convalescent home on a physician's recommendation. At the Madison convalescent home, a nurse cared for up to twelve children, with a teacher and occupational therapist visiting every day and family visits once per week. The nurse attempted to make the institution as "home-like" as possible and did not wear a uniform. The local Elks club provided the furnishings, the Girl Scouts made curtains and other décor, and local sororities and women's clubs provided holiday decorations.[476] The local newspapers ran a fund drive every year for the home and Madison businesses also offered their support. A local appliance store donated the first radio that Madison had seen in four years, due to wartime rationing, to the convalescent home.477 Still, the convalescent home was nonetheless an institutional setting. One Madison convalescent home former patient recalled "I

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[473] O.F. Hedley, "Facilities in the United States for the Special Care of Children with Rheumatic heart Disease," *Public Health Reports (1896-1970)* 56, no. 49 (December 5, 1941): 2332.

[474] "Our First Steps," https://chw.org/about/125th-anniversary/our-first-steps.

[475] Committee on Child Health, *Services for Children with Heart Disease and Rheumatic Fever: A Guide for Public Health Personnel* (New York: American Public Health Association, 1960), 13.

[476] "Zeta Phi Etas Entertain Patients at Convalescent Home," *Wisconsin State Journal*, February 2, 1947, 17; "They Make Afghans, Quilts for Rheumatic Fever Patients," *Wisconsin State Journal*, April 11, 1947, 12.

[477] "First Philco Radio Here in 4 Years Given Away." *Wisconsin State Journal*, December 19, 1945, 8.

was 6 when I was sent there, and it was very traumatic being away from the family for an extended time."[478]

In addition to the physical structure of the convalescent home, the care provided was modeled on the home. The treatment at the convalescent home was the same as what experts suggested mothers do for patients convalescing in their own homes. The patients at convalescent homes like the one in Madison went through 10 phases of recovery, lasting as much as a year. In each stage the patient increased their activity level from absolute bed rest to feeding themselves, to sitting up, to sitting in a chair, and finally light exercise. Patients ate breakfast at 7:45 AM, followed by a visit by a teacher provided by the Crippled Children's Program. After lunch and some rest, the patients worked on arts and crafts with an occupational therapist, also provided by the Crippled Children's Program. After dinner and more rest, the patients went to sleep at 7:30 PM.[479]

Although the stated cost of care at Madison's Kiddie Camp was three dollars a day, very few patients paid that, with care being on a sliding scale and many patients receiving free care. With a reported 8,000 cases of cardiac cases in the state, however, this meant that, much like with tuberculosis sufferers, most rheumatic fever patients did not recover at a convalescent home or other institutional setting. In 1949 in Madison alone, the health department knew of at least 106 cases, even without an official registry. With a state average of 1% to 2 % of school-aged children affected, the city estimated that there could be as many as 280 cases.[480] The Madison convalescent home could only treat twelve children at a time and recovery often lasted up to a

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[478] "Kidde Camp Tied to The Capital Times."
[479] Newhouse, "'It's Rheumatic Fever,' the Doctor Said."
[480] "Rheumatic Fever Registry Needed, Doctor Declares," *Wisconsin State Journal*, March 10, 1949, 21.

year per patient, making turn over a very slow process.[481]

Since the national Crippled Children's Program would only fund existing programs and match funds generated by states, Wisconsin needed to raise more money if it hoped to expand its convalescent home program beyond Madison and Milwaukee. Beginning in 1946 Dr. Kurtz, the orthopedic surgeon who spearheaded the rheumatic fever program in Madison headed the push to obtain more funding from the state. Dr. Kurtz hoped to expand the Madison home to twice its size and build eleven more homes throughout the state, but repeated attempts to obtain money from the state government failed and the two homes remained the only two in the state, accommodating thirty-eight patients in total. In addition, patients over the age of 15 could not be admitted to the homes regardless of bed availability.[482] The Kiddie Camp did benefit from an annual fund drive, led by the American Heart Association, which raised up to $20,000 a year for education, convalescent homes, research, and public health nursing.[483]

Despite Dr. Kurtz's campaign, Wisconsin never added any additional homes. However, most of the same services that the Kiddie Camp patients enjoyed also reached into the homes of Dane County families caring for rheumatic fever patients on their own. The same teachers and occupational therapists that visited the convalescent home every day traveled to the homes of other cases. Homebound patients also visited Madison General Hospital for scheduled check-ups, saw their family physician, and attended clinics. Between these services and the convalescent home's outreach services, rheumatic fever sufferers had access to a nexus of care that appeared to meet their needs. For parents it offered the option of short-term

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[481] Newhouse, "'It's Rheumatic Fever,' the Doctor Said."

[482] "Cripples Who Have No Crutches Get Little Assistance from Public."; "Dr. Kurtz Backs Convalescent Homes Bill," *Wisconsin State Journal*, March 3, 1949, 11.

[483] "Fund Drive Opens to Fight Heart Disease," *Wisconsin State Journal*, February 8, 1948, 37.

institutionalization along with identical services for patients recuperating at home. All were optional and funded by the Crippled Children's Program.

ENTER PSYCHOLOGY AND OCCUPATIONAL THERAPY

Some convalescent homes elsewhere in the country had become more than home substitutes, however. The increasing employment of psychologists and occupational therapists in convalescent homes led to an increase in scientific studies of chronic disease patients and the non-physical problems that their disability might cause. These institutions operated more like tuberculosis sanatoriums, with wards, nurses in uniforms, and constant medical testing. They offered an opportunity to study new ideas in psychology and occupational therapy, especially as they related to children and illness. This concern was both a continuity and break with past concerns about "invalidism" and maternal care. One the one hand, physicians had often warned of mothers spoiling their sick children, but in the case of rheumatic fever experts began to express concern about the effect of the sick child on home, reflecting both the "rehabilitation ethic" built into disability programs and mid-century concern over the fragility of white middle class homes.[484]

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[484] Reagan, *Dangerous Pregnancies*.

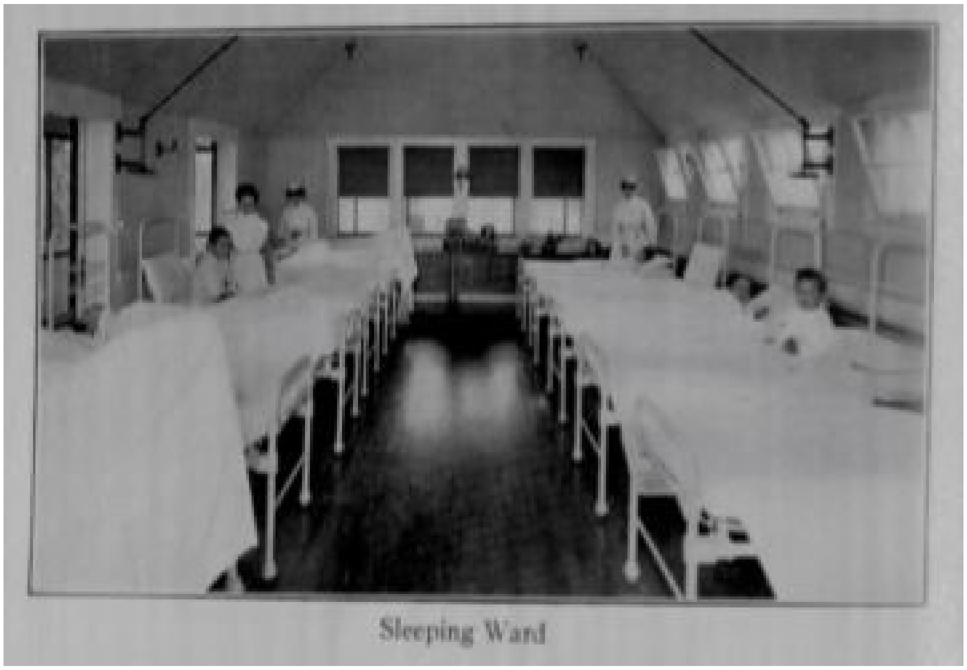

Figure.3.4. Sleeping ward of the Massachusetts Hospital School, Canton, MA. This hospital could treat up to 250 patients at a time, making it the largest institution for crippled Children in the United States during its operation. Edith Reeves, *Care and Education of Crippled Children in the United States* (New York: Survey Associates, 1914): 8, 161-165.

Just as experts had emphasized the role of mothers in preventing physical diseases in their children through hygienic measures and vaccinations, many child psychologists increasingly emphasized the role of mothers in their children's emotional development. Sometimes, physical and psychological were inextricable. For example, experts warned mothers of asthmatics that extremes of emotion should be avoided. They told mothers they should not show too much or too little love or sympathy.[485] Other researchers went as far as to blame mothers for their child's condition, such as the controversial "refrigerator mother" theory developed around 1950. Believing to see a lack of warmth in the mothers of children with autism, some child psychologists argued that a "genuine lack of maternal warmth" denied children the opportunity

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[485] Jerome Glaser, "The Care of the Child with Chronic Asthma," *Hygiea* 27 (1949): 174-175; Carla C. Keirns, "Short of Breath: A Social and Intellectual History of Asthma in the United States," (Ph.D. Diss., University of Pennsylvania, 2004), 169-203; Gregg Mitman, *Breathing Space: How Allergies Shape Our Lives and Landscapes* (New Haven: Yale University Press, 2007), 189-190.

to bond properly and therefore caused autism.[486] In the case of chronic conditions in the early twentieth century, experts had advised caregivers to model their behavior on that of doctors, while also praising female caregivers for their sympathetic intuition. Physicians and psychologists continued to give this conflicting and confusing advice. On the one hand, mothers of children with chronic diseases should not be too cold or harsh, but on the other, they should act as professional as possible.

Evidence of the increasing emphasis on psychological development can be seen in mid-twentieth century baby books. By the mid-twentieth century the books began to include more and more milestones for mothers to document. Early baby books look more like diaries, with broad suggestions at the tops of pages, such as “Illnesses.” Over time the books not only became increasingly specific, with growth rate charts and growing lists of recommended immunizations, but also began to include the emotional and psychological development of children. Using tableware and toy choices became developmental milestones, rather than anecdotes parents might include in the earlier book's blank pages. One baby book series included a chart parents could mark what year their child demonstrated certain traits, such as “stubborn,” “fearful,” and “selfish.” Just as baby books reflected historical events, such as leaving a page for recording the father's war service in a World War II era book, the increasing focus on psychological development reflect the growth of child psychology in the mid-century.[487]

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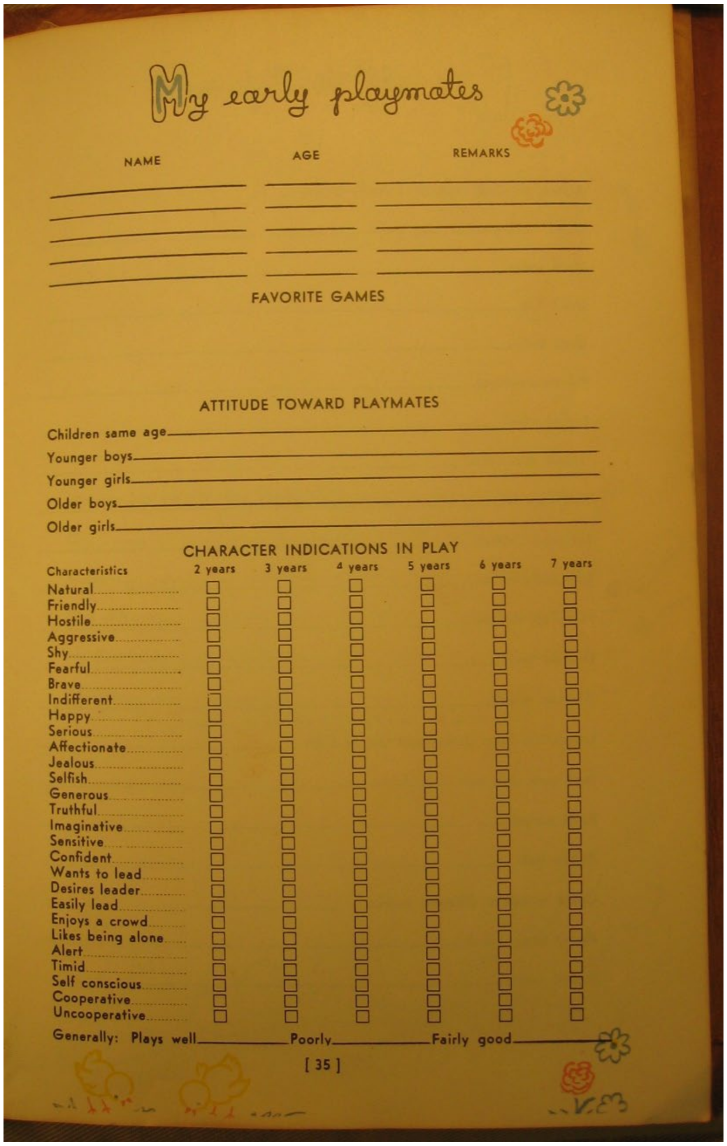
[486] L. Kanner, "Autistic Disturbances of Affective Contact," *Acta Paedopsychiatr* 35, no. 4 (1968): 100-136.

[487] William Graebner, "The Unstable World of Benjamin Spock: Social Engineering in a Democratic Culture, 1917-1950," *The Journal of American History* 67, no. 3 (1980): 612-629; Nancy Pottishman Weiss, "Mother, the Invention of Necessity: Dr. Benjamin Spock's Baby and Child Care," *American Quarterly* 29, no. 5 (1977): 519-546.



My early playmates

NAME	AGE	REMARKS

FAVORITE GAMES

ATTITUDE TOWARD PLAYMATES

Children same age__________
Younger boys__________
Younger girls__________
Older boys__________
Older girls__________

CHARACTER INDICATIONS IN PLAY

Characteristics	2 years	3 years	4 years	5 years	6 years	7 years
Natural	☐	☐	☐	☐	☐	☐
Friendly	☐	☐	☐	☐	☐	☐
Hostile	☐	☐	☐	☐	☐	☐
Aggressive	☐	☐	☐	☐	☐	☐
Shy	☐	☐	☐	☐	☐	☐
Fearful	☐	☐	☐	☐	☐	☐
Brave	☐	☐	☐	☐	☐	☐
Indifferent	☐	☐	☐	☐	☐	☐
Happy	☐	☐	☐	☐	☐	☐
Serious	☐	☐	☐	☐	☐	☐
Affectionate	☐	☐	☐	☐	☐	☐
Jealous	☐	☐	☐	☐	☐	☐
Selfish	☐	☐	☐	☐	☐	☐
Generous	☐	☐	☐	☐	☐	☐
Truthful	☐	☐	☐	☐	☐	☐
Imaginative	☐	☐	☐	☐	☐	☐
Sensitive	☐	☐	☐	☐	☐	☐
Confident	☐	☐	☐	☐	☐	☐
Wants to lead	☐	☐	☐	☐	☐	☐
Desires leader	☐	☐	☐	☐	☐	☐
Easily lead	☐	☐	☐	☐	☐	☐
Enjoys a crowd	☐	☐	☐	☐	☐	☐
Likes being alone	☐	☐	☐	☐	☐	☐
Alert	☐	☐	☐	☐	☐	☐
Timid	☐	☐	☐	☐	☐	☐
Self conscious	☐	☐	☐	☐	☐	☐
Cooperative	☐	☐	☐	☐	☐	☐
Uncooperative	☐	☐	☐	☐	☐	☐

Generally: Plays well__________ Poorly__________ Fairly good__________

[35]

Figure 3.5. "My early playmates," *Book of Baby Mine* 1947. Franklin E. Murphy, M.D. Collection, History and Special Collections Division, Louise M. Darling Biomedical Library, UCLA.

In contrast to theories that blamed mothers, such as the "refrigerator mother" theory, research into the psychological effects of rheumatic fever generated theories focused on the danger a sick child posed to the family unit. The handicapped child made mothers "worn and frazzled" and fathers "disturbed by the noisiness and clumsiness he encounters when he comes home tired from work and needs peace and comfort." In fact, "short tempers and quarrels, even to the breaking point of divorce, may overwhelm the family."[488] As one nursing textbook on rheumatic fever warned, "in a minority of situations the relationships within the family have not been harmonious and a long illness tends to intensify and magnify these difficulties when they already exist." In particular, "if a child has been something of a behavior problem while he was well, or if the parents were never happy over having the child, it will be much harder for them to accept his illness and care for the sick child when sacrifices are required." In addition to causing stress within the family, this situation could lead to resentment and a setback in recovery as "inevitably [the patient] responds by becoming more irritable and antagonistic, feeling sorry for himself and guilty over having caused inconvenience to the other members of the family. These offenses on both sides can gather momentum until neither a normal life for the family nor good care of the patient is possible."[489]

Thus, arguments for the institutionalization of rheumatic fever patients differed from earlier infectious diseases. Physicians still advised institutionalization if home conditions were unsatisfactory, but other child experts warned that removing a chronically sick child was also important for maintaining the psychological health of the family the child would leave behind. This is a precursor to the debates surrounding German measles described by Leslie Reagan in *Dangerous Pregnancies: Mothers, Disabilities, and Abortion in Modern America.* In the case of German measles in 1960s and 1970s America, parents of children disabled by the disease pushed for state services for their children, while also advocating for the right to terminate pregnancies that would result in a child disabled by the disease. Contributing to the ultimate legalization of abortion this advocacy "reconstructed the representation of abortion, transforming it from the act

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[488] Stern and Castendyck, *The Handicapped Child*, 13.
[489] Sadler, *Rheumatic Fever: Nursing Care in Pictures*.

of a sick and depraved woman into the act of a responsible, thoughtful married middle-class white mother," simply attempting to protect her family from the harm a severely disabled child represented.[490] Decades earlier rheumatic fever experts, rather than mothers, similarly argued that rheumatic fever patients represented a threat to the home and thus required institutionalization to both protect the family as well as prevent "socio-psychologic maladjustments" of the patients.

Institutionalization was not for every child, however. Dr. Leo Taran, a rheumatic fever expert, warned against prolonged institutionalization for most children.[491] Dr. Taran did support institutionalization for rheumatic fever patients from already troubled homes. For children who came from "inadequate" households he believed that institutionalization could be better than home-based care. In particular, poverty, living conditions, nutritional resources, and "marital disharmony" contributed to poor recovery of rheumatic fever patients. Using the rheumatic fever sanatorium that he operated to conduct studies on the subject, Taran found that 49% of his patients adapted well to the sanatorium, 34% had minor emotional reactions (refusal to eat, constipation, vomiting, temper tantrums), and the remainder had existing emotional problems prior to entrance (foster homes, children of divorce, alcoholism in the family). For some of these children the institutionalization helped their "strong feelings of inferiority and emotional insecurity" by providing a stable environment. A ten-year follow up study of outcomes showed that the majority of patients returned home with healthy emotional and health habits.[492] One could argue, however, that it was not medical care that helped these patients, but removal from

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[490] Reagan, *Dangerous Pregnancies*, 81.

[491] Leo Taran, "The Education of Parents of Rheumatic Children," *Bulletin of the St. Francis Sanatorium* 6, no. 1 (November 1949): 1-8; Leo Taran, "Social and Psychologic Problems Associated with Prolonged Institutional Care for Rheumatic Children," *Journal of Pediatrics* 35, no. 5 (November 1949): 648-661.

[492] Ibid.

poverty. As early as 1946, one psychologist argued "that cultural backgrounds and personal-social relationships, particularly in the home, may affect personal-social adjustment more than crippleness."[493] As one disability rights activist and scholar argued several generations later, "disablement lies in the construction of society, not in the physical condition of the individual."[494]

Even in the most home-like of convalescent homes, the presence of new kinds of health professionals distinguished them from home care. In particular, child psychologists worked with occupational therapists to rehabilitate rheumatic fever patients in order to prepare them for their futures. Like other rehabilitation therapies, such as the bibliotherapy movement, fields that started by focusing on everyday activities, such as reading or arts and crafts, increasingly used the justification of science to expand their profession.[495] Occupational therapy began in the early twentieth century as a service to the disabled, teaching them useful crafts that might lead to future occupations suited to their abilities. The focus on arts and crafts stems from the origin of the profession within volunteer philanthropic work by women's groups. The profession grew to include the importance of arts and crafts to psychiatric treatment and the rehabilitation of disabled veterans. Eventually, occupational therapists worked less with arts and crafts themselves and focused on matching patients, via testing, to trade schools and apprenticeships.[496] In fact, the pervasiveness of rheumatic fever likely played a crucial role in the new field of

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[493] Mary Frances Gates, "A Comparative Study of Some of the Problems of Social and Emotional Adjustment of Crippled and Non-Crippled Girls and Boys," *The Journal of Genetic Psychology* 68 (1946), 240.

[494] Brisenden, "Independent Living and the Medical Model of Disability," 176.

[495] Monique S. Dufour, "Reading for Health: Bibliotherapy and the Medicalized Humanities in the United States, 1930-1965," (Ph.D. Diss., University of Virginia, 2014).

[496] Virginia Anne Metaxas Quiroga, *Occupational Therapy: The First 30 Years 1900 to 1930* (Bethesda, MD: The American Occupational Therapy Association, 1995).

occupational therapy and by the 1960s, occupational therapists had conducted large longitudinal studies of the occupational success of rheumatic children once they became adults.[497]

In Madison, the Kiddie Camp convalescent home not only hired an occupational therapist, but also sent her to visit patients recovering at home. Children learned arts and crafts, including leatherwork, carpentry, and needlecraft. In 1952 the Dane County Visiting Nurse service hired its first occupational therapist who focused on "techniques of guidance in passive activity, that is - guidance of the children in small arts and crafts requiring little or no physical exertion." The rationale behind this approach was that "because maximum rest and relaxation are particularly vital in care of rheumatic fever patients, Kiddie Camp youngsters will be shown constructive and absorbing pastimes many of which can be performed while they are quiet in their beds."[498] These guided "passive" tasks accustomed children to work that they could perform while sitting or lying down, helping to develop skills, a work ethic, and discourage laziness. In addition, vocational training for children with disabilities was highly feminized for much of the twentieth century. Domestic work, especially sewing, secretarial skills, and basket making, dominated occupational treatment. Although some institutions taught farming, they noted that future employers would likely discriminate against young men with disabilities.[499]

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[497] Vocational Advisory Service and Edna M. Lawrence, *Vocational Counseling for Children with Heart Disease or a History of Rheumatic Fever: A Pilot Study* (New York: American Heart Association, 1961).

[498] John C. Sammis, "Naming of Therapist Marks New Advance at Kiddie Camp," *The Capital Times*, May 17, 1952, 2.

[499] Edith R. Solenberger, *Care and Education of Crippled Children in the United States* (New York: Arno Press, 1974).

Figure 3.6. Class in basketry, Kernan Hospital and Industrial School for Crippled Children, Baltimore, MD. Edith Reeves, *Care and Education of Crippled Children in the United States* (New York: Survey Associates, 1914): 43.

The field of occupational therapy had grown quickly in Wisconsin. The first occupational therapy program in Wisconsin began in 1913 with a course on "invalid occupations." The instructor, Elizabeth Upham, had experienced blindness as a youth and learned fine arts as therapy. The course grew into a permanent program at the Greenfield Sanitarium as a way to occupy the hands and minds of patients, but eventually incorporated vocational assessment. In 1917 a national society for occupational therapy formed (the National Society for the Promotion of Occupational Therapy) and in 1920 Wisconsin started its own branch. Despite these advances in professionalization, the American Medical Association oversaw the group's evaluations and accreditation.[500] Like other female-dominated allied health professions the field remained under the supervision and authority of physicians, even when practicing in convalescent homes and in private homes.

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[500] Alice J. Punwar, *Reflections of the Past: The Wisconsin Occupational Therapy Association* (Shorewood, WI: Wisconsin Occupational Therapy Association, 1990).

One large community study of the vocational training of children with heart disease noted intellectual, behavioral, and physical limitations of rheumatic fever patients. Common problems that the researched noted included intellectual problems brought on by prolonged absence from school, social awkwardness caused by bad parenting, and unrealistic expectations of physical capabilities. Occupational therapists believed that "because of the deprived experience of these children in all areas" they needed to place "emphasis on *exploratory experience* of all kinds, *remedial work* to strengthen academic weaknesses as quickly as possible, and *occupational information and experience* to broaden perspective." In particular, "because of their periods of isolation and time for fantasy, their ideas of occupations are frequently unrealistic, tending to center around glamorous settings, high professional levels, foreign travel, a high degree of athletic prowess, or operation of high speed equipment such as airplanes."[501]

One child in the study had 33 absences from school in the ninth grade, something the study organizers attributed to the unmarried status of his mother.[502] Despite this he graduated from a vocational high school and obtained a job in the bookbinding business. Another child went from dropping out of school in the fourth grade to returning to high school for bookkeeping training. She was able to do this thanks to the study organizers finding her a school with an elevator and on a bus route.[503] Other children did not have as positive outcomes, such as one young woman who had to drop out of school in order to take a job to support her family. Eventually she did finish secretarial training and obtain a good paying job, but refused financial aid.[504] Another woman could not obtain childcare to complete her schooling, eventually having

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[501] Vocational Advisory Service and Lawrence, *Vocational Counseling for Children with Heart Disease or a History of Rheumatic Fever*, 131.
[502] Ibid, 154.
[503] Ibid. 193.
[504] Ibid, 168.

five children and no income from their imprisoned father.[505] Cases like these show the range of services that occupational therapy could aid rheumatic fever patients, from job training to arranging physical accommodations. In the end, however, occupational therapy could not address all social and economic barriers that rheumatic fever patients could face.

Whether a child recovered at home or in a convalescent home the importance of occupational therapy makes rheumatic fever recovery distinct from other diseases. For acute infections, such as scarlet fever, mothers welcomed newspaper articles or radio programs on arts and crafts that would occupy bored patients, but when it came to rheumatic fever, the concern went beyond staving off boredom. Since rheumatic fever patients could expect to have remissions and a damaged heart for the rest of their lives, experts emphasized the role of occupational therapy in giving vocational guidance to children. Training children in skills that required less physical effort early on could help them in the future. Thus, occupational therapists were not limited to institutions, but went into the community and homes to reach rheumatic fever patients.

CONCLUSION

Public health has often been central to citizenship in American history, from its centrality to demonstrating assimilation among immigrants to compulsory participation in immunization campaigns. Access to and participation in public health services, both local and federal, linked Americans to their government. As a chronic and disabling disease, rheumatic fever occupies an

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[505] Ibid. 190.

important place in this story. The “invisibility” of the physical manifestations of the disease, the length of treatment, and its prevalence made rheumatic fever a disease that sparked debates about the right to health care, the role of the handicapped in society, and the fragility of the American middle class home. In Wisconsin, the existing programs received invaluable federal funds to supplement aid to families. The most popular programs, especially summer camps and convalescent homes, reveal both the preferences of parents and the ways in which they expected to be aided by the government. In the history of domestic medicine, it highlights the role of mothers in advocating for their children, growing acceptance of some forms of institutionalization, and the continued importance of their labor in an era of increasingly chronic disease.

The professions involved in the Crippled Children's Program, especially child psychology and occupational therapy, influenced the shift in domestic medicine from primary care to advocacy. These areas of expertise highlight a mid-century focus on the dangers that many medical experts believed the chronically ill and disabled posed to themselves and others. Psychologists and occupational therapists expressed a marked concern for the wellbeing of caregivers, signaling a turning point in the history of domestic medicine in the twentieth century. In a shift from the early twentieth century, medical experts, government agencies, and popular press began to articulate a shift in advice concerning domestic medicine. Unlike previous responses to disease, this concern was not based in the claim that mothers did not possess the knowledge to do so, but because they did not have the financial and institutional resources. Summer camps and home-like convalescent centers offered a reprieve for parents, while still embodying timeless ideas of rest, fresh air, and sympathetic nursing.

The field of occupational therapy grew out of the needs of mothers and their children but also reflected dominant ideas about the role of the disabled in American society. On the one hand, federal agencies, built upon older institutions that aided adult male veterans returning to the work force, favored programs that promoted a "rehabilitation ethic." The ultimate goal of child psychologists and occupational therapists was to guide sick children to adjust their skills and expectations to the limitations of a society still adjusting to the needs of the disabled and chronically ill. What is more, many argued that the disabled child may be a threat to the family unit and promoted institutionalization. Parents had to navigate the need for assistance with the restrictions this model of care promoted. For many patients, attributing success to medical interventions was difficult to disentangle from the change in economic conditions an institution offered form their home life.

Although government agencies and medical experts emphasized occupational therapy as a way to rehabilitate children into future workers, it also addressed financial concerns of Depression era families. No matter how skilled and devoted a mother was for her sick child, social and economic factors often limited what recovery options and future prospects a child had. Beyond simply amusing bored children, occupational therapy strove to make employable and productive citizens out of the chronically ill. The use of occupational therapy in the treatment of rheumatic fever patients highlights the place of chronic disease at the intersection of the history of medicine and the history of disability. In particular, it straddles the medical and social models of disability by demonstrating how the chronically ill were expected to adapt to able-bodied society, while also highlighting the advocacy of parents of chronically ill children to demand health care services from local and federal government programs specifically designed to meet their needs.

With rheumatic fever we can see how mothers cared for not only the physical well-being, but also the emotional, psychological, and educational care of their children, with recoveries that could last more than a year. As diseases moved from acute to chronic, mothers interacted with new expertise and policies. The result was a shift from in-home care to parental advocacy as the defining characteristic of domestic medicine. In the case of rheumatic fever, mothers still preferred in-home care, but began to negotiate institutional solutions to the problem of long-term care. This approach to rheumatic fever as a disability both helped the formation of disability rights advocacy, while also walking a line between social and medical models of disability that shaped activism in the long term.

Chapter 4:
“Discussed as Usual:” Polio and the Family in Mid-Twentieth Century America

Seemingly innocuous comments illustrate how pervasive the fear of polio was in America in the first half of the twentieth century. On October 13, 1931, when the Dane County Visiting Nurse Association met to discuss the services they routinely provided, their report started with the simple, yet powerful, phrase, “infantile paralysis was discussed as usual.”[506] By 1955 the fear of polio was so ubiquitous that, responding to a question regarding her sources of information about polio in a 1955 social science survey, a San Francisco mother of two responded, “that’s something you can hardly escape.”[507] Despite widespread concern – some would say panic – over polio, the specter of the disease far outpaced its prevalence. [508] Yet, polio still had a profound effect on American culture, medical research, and domestic medicine practices.

Virtually unheard of for millennia, the first major outbreak of poliomyelitis in the United States occurred in Vermont and New York City in 1916.[509] In a matter of a just a few decades, the disease would dominate the news, arguably, more so than any other previous epidemic. Even today, when Americans think about the great medical events of the twentieth century, the scourge of polio looms larger in our historical memory compared to other, more deadly, epidemics.[510]

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[506] Dane County Department of Health, *County Health Nurses Monthly Reports, 1930-1944* (October 13, 1931).

[507] Jacob J. Feldman and Paul B. Sheetsley, *Attitudes, Information and Customary Behavior in Health Matters (Study 367, 1955)*, Household Enumeration Sheet #2209.

[508] Daniel J. Wilson, “A Crippling Fear: Experiencing Polio in the Era of FDR,” *Bulletin of the History of Medicine* 72, 3 (1998): 468-469.

[509] Rogers, *Dirt and Disease*; Stuart Galishoff, "Newark and the Great Polio Epidemic of 1916," *New Jersey History* 94, no 2-3 (Summer/Autumn 1976)*:* 101-11; Guenter B. Risse, "Revolt against Quarantine: Community Responses to the 1916 Polio Epidemic, Oyster Bay, New York," *Transactions & Studies of the College of Physicians of Philadelphia* 14 (1992): 23-50.

[510] David M. Oshinsky, *Polio: An American Story* (Oxford University Press, 2005).

Like the Spanish flu epidemic, it has become a part of our collective consciousness, but, unlike the Spanish flu epidemic, polio's mortality rates do not correspond to its reputation.[511] Compared to other infectious childhood diseases in mid-twentieth century America, polio barely registered.[512]

Historians have explored, at length, why polio had such resonance and why it spurred massive eradication campaigns, despite its low morbidity and mortality rates. Some have argued that the fact that polio largely affected children rather than adults led to greater fear and commitment to finding a solution.[513] Yet, children suffered and died from many diseases, even into the mid-twentieth century. Others have cited the importance of President Franklin Roosevelt's own struggle with the disease or the creation of the National Foundation for Infantile Paralysis (later known as the March of Dimes). Yet, these, too, are not unique phenomena in American history.[514] Many diseases prior to polio had famous sufferers and national organizations, most notably tuberculosis. Presidents, artists, and other well-known Americans survived tuberculosis and by the twentieth century the National Association for the Study and Prevention of Tuberculosis (later known as the American Lung Association) led national anti-tuberculosis campaigns.[515]

What was different about the polio epidemic was that Americans no longer suffered

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[511] John M. Barry, *The Great Influenza: The Story of the Deadliest Pandemic in History* (New York: Penguin, 2005).

[512] Meckel, *Save the Babies.*

[513] Jacqueline Foertsch, "Historicizing Polio's "Happy Ending" in Recent American Children's Fiction." *Children's Literature Association Quarterly* 34, no. 1 (2009): 21-37; Jacqueline Foertsch, *Bracing Accounts: The Literature and Culture of Polio in Postwar America* (Madison: Fairleigh Dickinson University Press, 2008).

[514] Stacy Lynn Smith, "Perceptions of Polio in the United States, 1890 to 1960" (MA thesis, University of Wisconsin-Milwaukee, 2003).

[515] Tomes, *The Gospel of Germs*; Susan Sontag, *Illness as Metaphor* (New York: Farrar, Straus and Giroux, 1978).

through the death of children as an all too common possibility. This is not to say that parents did not grieve acutely for their children prior to the twentieth century, but the expectation that all children can and should survive to adulthood *was* new.[516] Improvements in nutrition, housing, and public health meant that parents could reasonably expect their children to survive to adulthood.[517] Furthermore, parents could increasingly expect their children to survive infectious disease, for the large part, without permanent effects. Finally, Americans were having fewer children, investing more emotional resources in their smaller families, and, therefore, making the death or permanent disability of a child a traumatic and disruptive event.[518] Polio threatened a tenuous new mindset of optimism by keeping the specter of infectious disease alive at a time when medical science seemed to be improving the health of the nation. Unlike other infectious diseases, which children either died or recovered completely from, polio threatened to permanently and severely disable the next generation.

Polio has been the topic of many memoirs, oral histories, and scholarly study, many highlighting the unique character of the epidemic.[519] Placing the disease in the context of twentieth century domestic medicine, however, reveals aspects of the histories of immunization, national charities, and patient perspectives that have not been explored before. This approach highlights the many ways in which the understandings, treatments, and organized responses were

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[516] Laurence Lerner, *Angels and Absences Child Deaths in the Nineteenth Century* (Nashville: Vanderbilt University Press, 1997); Samuel H. Preston and Michael R. Haines, *Fatal Years: Child Mortality in Late Nineteenth-Century America* (Princeton, NJ: Princeton University Press, 1991); Alain Bideau, Bertrand Desjardins, and Héctor Pérez Brignoli, *Infant and Child Mortality in the Past* (New York: Oxford University Press, 1997).

[517] McKeown, *The Modern Rise of Population*.

[518] Jacqueline Foertsch, ""A Battle of Silence": Women's Magazines and the Polio Crisis in Post-War UK and USA," in *American Cold War Culture*, ed. Douglas Field (Edinburgh: Edinburgh University Press, 2005), 17-33.

[519] Foertsch, *Bracing Accounts*, 168.

more contiguous than anomalous.[520] Children still returned home after treatment in the hospital, many still looked to the healing properties of nature, and medical interventions continued to be a negotiation between professionals and families. Mothers still played a crucial role in their children's medical care.

In addition, exploring polio in the context of the history of domestic medicine highlights changes that had been building for decades, especially the increasing role of caregiver as health care advocate. It was mothers who raised millions of dimes to pay for vaccine research and delivery and it was mothers who marched their children to the vaccine line. As we saw with scarlet fever, medical professionals and the public alike had reservations about experimenting on children with novel vaccines. By the 1950s, however, something had changed that spurred unprecedented support for vaccine trials and experiments, even on children. The fear of polio and an increased confidence in medical science helped contribute to this transition, but it was up to mothers to sign their children up to be vaccinated. A mother enthusiastically signing the consent form for their child to receive the polio vaccine was the culmination of decades of acceptance of germ theory, the expansion of the Welfare State, and the health activism.

For the children struck by polio before the vaccine was available, it was mothers who cared for them. For these mothers, their advocacy took the shape of obtaining treatment and services for long term disability for their children. New techniques, such as the Kenny Method, and new allied health fields, such as physical therapy, supplanted mothers by taking caregiving

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[520] Naomi Rogers, ""Polio Can Be Conquered: Science and Health Propaganda in the United States from Polio Polly to Jonas Salk," in *Silent Victories: The History and Practice of Public Health in Twentieth Century America*, ed. John W. Ward and Christian Warren (New York: Oxford University Press, 2006), 81-104; Oshinsky, *Polio*; Paul A. Offit, *The Cutter Incident How America's First Polio Vaccine Led to the Growing Vaccine Crisis* (New Haven: Yale University Press, 2005).

traditionally performed by mothers into special schools and institutes. The existence of legislation and institutions formed in order to serve survivors of other childhood diseases, especially tuberculosis and rheumatic fever, eased this transition as polio patients enrolled in existing rehabilitation homes and special schools for the handicapped. As a result, domestic medicine continued to transform from nursing support and application of medical treatments to vaccine and disability advocacy.

Focusing again on Wisconsin, this chapter details how mothers faced the polio epidemic. Many histories of polio focus on the disease as a national epidemic with a national organization leading the efforts to eradicate it. Focusing on the role of mothers highlights the importance of local factors in these national stories. Like previous epidemics, mothers dealt with school closures, quarantines, and home nursing needs, but mothers also marched from house to house raising money for the March of Dimes, petitioned agencies for services for their children, and participated in the largest vaccination effort to date.

A FAILURE OF GERM THEORY?

Often called Infantile Paralysis because the disease seemed to largely affect children, polio (short for poliomyelitis) is an RNA enterovirus, meaning that it is transmitted through the intestine. The virus is very simple – just one single strand of positive-sense RNA genome and one protein capsid. Poliomyelitis has three serotypes (PV-1, PV-2, and PV-3) that are caused by slight differences in the protein capsid. This means that a polio survivor could contract more than one kind of polio virus. PV-2 was eradicated in 2015 and PV-3 in 2019, but PV-1 is still found in Pakistan and Afghanistan. The disease is usually transmitted orally and initially infects the gastrointestinal tract before being absorbed into the bloodstream. From there the virus spreads further, with the most disabling and life-threatening cases affecting the spinal cord and brain stem. Humans are the only hosts for the virus and most infections simply cause mild symptoms, but in 1-2% of cases the victim could experience paralysis. In the first half of the twentieth century less than 50% of this group recovered full muscle strength after 18 months of treatment and death could result when the virus affected the muscles regulating breathing.[521] There is no known cure for polio.

Although polio was not as deadly a disease as others, it could run rampant through communities and families. In Madison, Wisconsin in 1952, for example, the Linnemansion family lost three children in less than 48 hours, with another hospitalized. First, their sixteen-year-old son succumbed to the disease and the next day their four-year-old daughter became ill and died in the same day. Next, their eight-year-old daughter became ill right as her parents returned from the funeral for the two children and died soon after. The parents told the local paper they were "almost afraid to wake up in the morning after the first three children died" and that "God must have wanted them very badly."[522] Polio's mortality rate ranges from 5 to 15%, making the Linnemansion family tragedy unfortunate, but not the norm.

Indeed, most children never even contracted polio. For most of the first half of the twentieth century the rate of infection was between 3 and 8 per 100,000. Compare this to, for the same time period, scarlet fever with at least 101 cases per 100,000 and tuberculosis with at least

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[521] Donald A. Neumann, "Polio: Its Impact on the People of the United States and the Emerging Profession of Physical Therapy," *Journal of Orthopedic & Sports Physical Therapy* 8 (August 2004): 479-480.

[522] "Three Children of Milwaukee Family Die of Polio, Fourth Child Lies Critically Ill," *Waukesha Daily Freeman* September 22, 1952, 1.

78 cases per 100,000.[523] Incidence of polio peaked early with the 1916 epidemics in Vermont and New York City. The 1916 epidemic that struck New York City caused 8900 cases and had a 27% case fatality rate. 2% of the children two years of age or younger who contracted the disease became paralyzed. In that year there were 41 cases of polio per 100,000 nationally. This peak was not approached again until a 1952 spike of 35 per 100,000. From 1916 until 1955 polio infections averaged at 38,000 total per year.[524] In 1951 Wisconsin had the fifth highest number of cases, after California, Texas, Illinois, and Michigan), with 1, 393 reported cases that year.[525]

Yet parents feared polio disproportionately more than other childhood diseases. Polio struck right when the application of the germ theory to public health seemed to have conquered infectious disease. In fact, in many ways, polio existed because of the success of public health in the late nineteenth and early twentieth centuries. The disease was virtually unknown until the early twentieth century because infants usually contracted the infection while still protected by their mother's antibodies. With the success of sanitation, exposure to the disease was delayed until a child was no longer protected, leading some to call polio the "disease of cleanliness." Thus, the disease seemed to strike regardless of class, race, or ethnicity. It took medical science decades to discover this aspect of the disease and many public health departments continued to blame filth for the disease throughout the nineteen twenties and thirties. For example, communities across the country, but especially in the upper Midwest, sprayed DDT to combat

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[523] Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970, Bicentennial Edition,* 2 vols. (Washington, D.C.: Government Publishing Office, 1975), 1: 77.
[524] Neumann, "Polio," 481.
[525] C. C. Dauer, "Poliomyelitis in the United States, 1951," *Public Health Reports* (1896-1970) 67, no. 6 (1952): 524-26. Massachusetts was the first state to require polio case reporting and the United States Public Health service requested reports starting in 1910, but a consistent yearly national report did not become routine until 1922 (see: Robert E. Serfling and Ida L. Sherman, "Poliomyelitis Distribution in the United States," *Public Health Reports* (1896-1970) 68, no. 5 (May 1953): 453).

polio, extrapolating that flies must carry the disease.[526]

Public health departments attempted to quell the panic that parents felt when yearly waves of polio visited their communities. In 1945 Wisconsin's state director of public health told citizens that an outbreak of polio was "nothing for citizens to become alarmed or hysterical about" and that school closures had no effect on stopping the spread of the disease.[527] Four years later, the state epidemiologist "pointed out that fear of the disease is almost always out of proportion with the individual risk involved."[528] These reactions were informed by the fact that the deadliness of polio had decreased from its first appearance in Wisconsin in 1908, which physicians at the time contributed to better treatments and weaker strains of the disease.[529] Some physicians went as far as to warn that exaggerated fear of polio did more harm than good, arguing that "the net result is emotional harm to the children, by giving them the idea that some unknown terror is abroad."[530] The National Foundation for Infantile Paralysis attempted to educate parents that many diseases, especially rheumatic fever, were more deadly and likely to cause disability. In addition, health officials attempted to ease parents worry by informing them that 70% of the population had protective antibodies to polio already and that "mothers can take comfort in knowing that the 'summer flu' their children recently had may have been mild polio and that those children now have some immunity against this disease."[531]

Without a cure, public health departments followed protocols that had long proven to

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[526] Elena Conis, "Polio, DDT, and Disease Risk in the United States after World War II," *Environmental History*, 22, no. 4 (October 2017),696–721; "Spraying the City," *Janesville Daily Gazette* June 14, 1948, 6.

[527] "Sees No Need for Hysteria," *The La Crosse Tribune* September 26, 1945, 1.

[528] "Says Polio is Not Primarily Killing Disease," *The Capital Times* August 11, 1949, 16.

[529] "Paralysis Cases hit Peak in '31; State Death Rate Lowest," *The Capital Times* December 31, 1931, 4.

[530] "Panic Over Polio is Worse than the Disease, Doctors Assert," *The Capital Times* August 25, 1949, 24.

[531] "New Rules and Facts on Polio," *Iron County Miner* September 20, 1946, 1.

work against infectious disease, especially quarantine and sanitation. [532] Polio regulations in Wisconsin mirrored other communities nationwide, such as was seen in Iron County, Wisconsin in 1946. When the yearly polio epidemic struck, the county instituted two week quarantines, placarded homes, performed contact tracing, and ordered disinfection, especially of toilets and food preparation surfaces. The local health officer recommended if a child became ill, parents should "put it to bed, give it plenty of water and fruit juice and such food as he tolerates well, and call the family physician."[533] Echoing the 1935 scarlet fever epidemic, the city of Milwaukee banned 15,000 children from schools in 1937, hoping to prevent the spread of polio.[534] In response to rising polio case numbers the Milwaukee Health Department prohibited children aged 6 or younger from "attending, entering or loitering in and about any school, church, kindergarten, Sunday school, theater or any other public place, or gathering." Violation of this order was punishable by three months jail time or a $100 fine. Health Commissioner Brumbaugh went as far as to urge parents to avoid social activities outside of their back yards, including parties, picnics, and trips to the beach.[535] Seven years later, in 1944, the city put children under 12 under home quarantine. Like "school by radio" during the 1935 scarlet fever epidemic, there were creative solutions, such as "shop by phone" from Schuster's department store.[536]

Despite these precautions, the lack of information about polio's transmission, led many parents to take quarantine and sanitation measures to extremes. Parents kept children away from

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[532] "Polio Gives Community Its First Warning of the Season," *Waukesha Daily Freeman* July 13, 1949.
[533] "New Rules and Facts on Polio," *Iron County Miner* September 20, 1946, 1.
[534] Dean Robbins and Steve Gotcher, "When Wisconsin United Against the Polio Virus," *Wisconsin Life* (April 8, 2021).
[535] "Paralysis Cases Bar Youngsters in Public," *The Milwaukee Sentinel* September 7, 1937.
[536] Michael Carriere, "When the Polio Epidemic Forced Milwaukeeans to Stay at Home," *Shepherd Express* April 15, 2020.

public places, especially pools, in the summer, in the hopes that preventative quarantines that had worked for other diseases would work for polio. One mother admitted a common practice, "I never let my children go swimming. I never let them go to the movies, to the beaches, not even off the block to play with their friends."[537] Although ineffective against polio, these extreme measures reflected the growing health consciousness of Americans in the germ theory era. Unlike just a few decades before, when public health departments faced resistance from parents if they barred children from public places during an epidemic, parents now voluntarily practiced extreme measures to avoid what they had come to believe were potentially unhealthy places and things. Schools closed much more quickly in response to polio than they had to scarlet fever, an arguably greater threat just a few years earlier. In 1948, for example, Milwaukee schools closed indefinitely in response to an increase in polio incidence. The nearby Whitefish Bay high school sent ninety-five students (out of a total student body of 630) home because they had a temperature over 99 degrees.[538] Given the rise in cases of polio in the summer months, sometimes an epidemic would cause a delay in the opening of schools.[539]

In Milwaukee, even heat waves didn't stop the city from banning children under 12 from public pools and attending recreational sports activities in the summer of 1948.[540] Many parents feared pools as a source of infection, despite evidence to the contrary. The spike in cases in summer months contributed to this belief, but contact tracing did not seem to support pools as any more dangerous than other group activities. For example, in Madison, Wisconsin in 1953,

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[537] Trudy Whitman, "Good News about Polio," *Today's Health* (July 1950), 14-15, 63.
[538] "Graded Schools in Milwaukee to Remain Closed," *Janesville Daily Gazette* September 16, 1948.
[539] "Milwaukee Orders Polio Quarantine," *The Eau Claire Leader* August 29, 1944, page 1; "Quarantine is Being Enforced," *Montreal River Miner and Iron County Citizen* September 6, 1940, 1.
[540] "7 Milwaukee Pools Closed, *Waukesha Daily Freeman* August 27, 1948, 2; "Milwaukee Acts to Curb Polio Cases," *The Eau Claire Leader* August 28, 1948.

public health nurses visited all families that polio had struck and only 21 of the 122 cases investigated had been swimming prior to displaying symptoms of polio.[541]

Polio restrictions not only hurt the educational and recreational activities of children, but the entire economy, as cities cancelled all gatherings. The president of the Wisconsin Association of Fairs cited polio scares as the cause of reduced farm incomes and county fair cancellations in 1949.[542] In the summer of 1946 in Eau Claire, Wisconsin businesses and organizations volunteered their enforcement of quarantines, with businesses voluntarily banning children under 15 and the cancellation of a celebration of World War II veterans. Most rules regarding polio were local and didn't necessarily protect a community from neighboring ones. Monroe, Wisconsin considered banning large gatherings because nearby cities in Illinois had "virtually closed down tight in the matters of church, school, tavern, dance, theater, and all other gatherings," in an attempt to stop the spread of polio. Citizens of Monroe feared that these strict rules in Illinois would simply encourage those residents to hop over the border to Wisconsin for entertainment.[543] In the summer of 1944, the city of Milwaukee confined all children under 12 to their homes and all of the surrounding suburbs passed restrictions on the movement of children under 12 in or out of town lines.[544]

Fear of polio was not limited to nearby towns or states, but extended to members of local communities. Families struck by polio not only suffered from the disease, but also from discrimination. Negative reactions to families struck with polio ranged from avoidance and

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[541] "1952's Big Story," *The Capital Times* July 28, 1953.

[542] "Fairs Hurt by Polio," *The La Crosse Tribune* January 5, 1950, 16.

[543] "Agitate Closing to Keep Illinois Group from the City," *Monroe Evening Times* September 5, 1945.

[544] "Children Here Under 12 Years Affected by Polio Quarantine," *Waukesha Daily Freeman* August 30, 1944.

shunning to outright harassment. One survivor recounted that "there was a gentleman who raised a petition against my family. My mother and father lost all their friends. We were forced to move."[545] Just as previous epidemics had brought out discriminatory fears and anxieties, they also brought out the altruistic side of human nature. This continued with polio epidemics, as some families enjoyed generous support from the friends and neighbors. For example, after the fact that she contracted polio was published in the local paper, one seventeen-month-old girl's family in Maine found their neighbors supportive, "the neighborhood would take turns cooking dinners so that every evening, my mom didn't have to worry about when the next meal was coming."[546]

Contributing to parental anxiety, the early symptoms of polio are hard to differentiate from other minor ailments.[547] Acute symptoms, such as fever, headache, and nausea are so common in childhood that many parents largely ignored them. Some polio patients never even experienced these symptoms. Parents treated these initial symptoms with tried and true domestic medicine practices, including rest and encouraging bowel movements.[548] Parents started to consider something worse than a cold could be happening when children reported muscle and back aches. This was the point that parents typically called in a physician. The family physician could not confirm a case of polio, so many immediately referred families to the local hospital for a spinal tap. Some hospitals refused to admit the cases for fear of spreading the disease to other patients and African American families often had to travel to segregated hospitals. In Madison,

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[545] Julie Silver and Daniel Wilson, *Polio Voices: An Oral History from the American Polio Epidemics and Worldwide Eradication Efforts* (Westport, CT: Praeger, 2007), 22.

[546] Ibid., 27.

[547] Whitman, "Good News About Polio."

[548] Fred Davis, *Passage through Crisis: Polio Victims and Their Families: An Advanced Study in Sociology* (Indianapolis, NY: Bobbs-Merrill, 1963), 13-18.

Wisconsin, for example, acute cases were first admitted to the city's contagion hospital and then transferred to the general hospital for convalescent care.[549]

If the spinal tap confirmed a polio diagnosis the initial confusion of symptoms often contributed to parents feeling a sense of guilt and blame for not recognizing the disease earlier. Some worried that they had not spotted the disease in time or had missed an important preventive step. Mothers and fathers alike responded with tears when doctors confirmed a diagnosis of polio. One father admitted, "When I heard them say polio it was like someone was pulling my heart out." A mother recalled, "I don't ever remember crying so hard. My eyes were covered with sties from so much crying."[550] After accepting the diagnosis one father thought constantly about what he could have done differently, "I think it's just an inner-self letdown that you as a parent have not guided your family and your household the way that you would have guided it had you know this was coming."[551] Other parents wondered if the diagnosis was divine punishment.

For many parents, the strict quarantine of initial hospitalization was particularly difficult. Visiting hours limited access, with some parents restricted to seeing their children through a window or from a distance. One mother traveled by trolley car twice a day in order to continue breast feeding her baby who contracted the disease at only forty-days-old in the 1916 New York City epidemic. One family, after spying on their child through the fire escape bribed a nurse $500 to smuggle their child out of the hospital that they believed was not treating their child well.[552] Images of parents visiting their children from behind glass windows filled local and

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[549] "Hospital Here to Care for Area Polio Patients," *The Capital Times* August 23, 1949.

[550] Davis, *Passage through Crisis*, 32.

[551] Ibid., 37.

[552] Silver and Wilson, *Polio Voices*, 48.

national publications.

For the hospitalized children, experiences of hospitalization ranged from abusive to nurturing. For some the break from home meant a break from strict rules, societal expectations, or poverty. For others, the structure and discipline of hospital routine and treatments left them constantly homesick. One polio survivor, who contracted the disease in 1935 when she was only twenty two-months-old and was hospitalized for six years, was not allowed to attend her mother's funeral.[553] What does seem to unite many of the survivor stories is a sense that children missed their mother's bedside manner.[554] One patient, who was 5 years old in 1943 when he contracted polio, recounted an instance of when the ward contracted lice by using the words "brutality" and "abusive." He concluded, "it was never done kindly, like your parents would."[555] Even some nurses admitted, "we weren't as understanding. We weren't as empathetic. We didn't meet their needs with far better understanding and treatment of their psychological needs."[556]

In addition to caring for the emotional needs of children isolated from their families due to quarantine, medical professionals also cared for children confined to iron lungs. If patients lost the ability to breath on their own hospitals could place them in the device, which used negative pressure to simulate normal breathing for the patient. Prior to its invention in 1928, patients whose paralysis had reached their lungs would die, usually in the acute stage of the disease.[557] One Wisconsin father recounted the experience of his child being confined to an iron lung in the

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[553] Ibid., 43.
[554] Lynne M. Dunphy, "The Steel Cocoon": Tales of the Nurses and Patients of the Iron Lung, 1929-1955," in *Nurses' Work: Issues Across Time and Place*, eds. Patricia D'Antonio, Ellen D. Baer, Sylvia D. Rinker, and Joan E. Lynaugh (New York: Springer Publishing Company, 2007), 222.
[555] Silver and Wilson, *Polio Voices*, 46.
[556] Dunphy, "The Steel Cocoon," 222.
[557] David J. Rothman, *Beginnings Count: The Technological Imperative in American Health Care* (New York: Oxford University Press, 1997), 42–66.

Rhinelander Daily News in 1949 as a harrowing and traumatic experience for both him and his four-year-old son. The child's face turned gray, with no sign of breathing, and the doctor called for a respirator. Finally, he was placed in an iron lung, with the cover snapped shut and a collar around his neck. "All you can see is the curly head with the ashen face so motionless," the father recalled. The iron lung was plugged in and the parents and doctors waited for, what seemed like, an eternity. The father recounted that "fear seethes inside you, until you are breathing hard and fast, trying to help your boy's lungs get the life-saving oxygen he needs so terribly fast. You are beseeching God incoherently, trying to sustain your wife at the same time." As his child slowly came to and began to breathe again the father noted that "the respirator – the iron lung which first struck terror in your heart, becomes a close friend, because it is breathing for your boy." In an appeal to readers to donate to the March of Dimes he concludes by calculating the costs of his son's treatment – over $1000 for just the first 16 days.[558]

Hospitals could find it hard to hire and retain nurses willing and able to care for polio patients. In addition to the fear of contagion that kept some nurses from caring for polio patients, caring for polio patients confined to iron lungs required special skills. The usual caregiving duties related to bed ridden patients, such as treating bed sores, emptying bed pans, and giving sponge baths, were made even more difficult by the device. Nurses had to be careful not to disrupt the patients breathing while attending to these tasks. Furthermore, the technology was new and nurses had to learn how the machines worked with little training or guidance. A broken iron lung could be a life or death situation and nurses learned to take apart machines and find solutions to mechanical problems.[559] For example, when a power outage struck the Wisconsin

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[558] "Boy vs. Polio: Thank God For That Iron Lung…" *The Rhinelander Daily News* September 24, 1949, 4.

[559] Lynne M. Dunphy, "Iron Lungs," *The American Journal of Nursing* 103, no. 5 (2003): 641.

General Hospital in Madison, Wisconsin in 1949, nurses hand pumped nine iron lungs for twenty minutes while they waited for auxiliary power to turn on.[560]

Fortunately, most polio patients did not spend long periods of time in iron lungs. The devices were always meant to be an emergency intervention that the patient was to be weaned off of as soon as possible. This typically meant turning the machine off for short periods of time and slowly increasing how long the patient had to breathe on their own. Once weaned off the iron lung a patient might spend more time with a "rocking bed," which used gravity to aid in breathing.[561] One patient put it this way, "the principle of the bed was simple. When my head was up, my feet down, my internal organs were pulled by gravity, pulling my diaphragm with them and sucking air into my lungs. When my position was reversed … air was forced out of my lungs."[562]

As the father who recounted his son's experience with the iron lung concluded, these interventions could be incredibly expensive, but the formation of the National Foundation for Infantile Paralysis in 1938 transformed how Americans received aid from health charities. The cost of hospitalization at a time when hospital insurance was rare, the loss of wages for parents to visit their child (or the wages of the parent themselves, as adults contracted polio as well), and the cost of rehabilitative and adaptive services once their child was discharged all contributed to the financial stress a family experienced. For example, in the early 1950s the average annual cost of caring for a patient in an iron lung was $15,000.[563] The National Foundation for Infantile

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[560] "Elective Power Fails, So Iron Polio Lungs Are Pumped by Hand," *Waukesha Daily Freeman* September, 22, 1949, 1.
[561] "Escape from the Iron Lung," *The La Crosse Tribune* January 17, 1954, 8.
[562] The American Experience, "Whatever Happened to Polio: The Iron Lung and Other Equipment," accessed May 28, 2021, https://amhistory.si.edu/polio/howpolio/ironlung2.htm.
[563] Silver and Wilson, *Polio Voices*, 61.

Paralysis made paying for patient care and rehabilitation available to everyone regardless of need. One Wisconsin man who contracted polio in 1945 received $8000 in funds from the National Foundation for his nine month stay at a Wisconsin hospital and two years of rehabilitation at a convalescent facility in Minneapolis.[564] The Smith family of the LaCourt Oreilles reservation in northern Wisconsin received aid from the Foundation when five of the nine children contracted polio in 1952.[565] Yet, even with help from the National Foundation, some families took out "polio insurance." The Wisconsin state chairman of the March of Dimes (as the National Foundation for Infantile Paralysis became known) warned parents that while the organization's only qualification to receive assistance was "will it reduce the standard of living of the family?" they did not have unlimited funding. He spoke highly of "polio insurance" and even stated "I only wish more people had it."[566]

As the pandemic went on, long term care took a larger and larger percentage of March of Dimes funds. One reason for this was the complexity of care, especially the many areas of expertise required. As the director of the National Foundation for Infantile Paralysis put it, "today's concept of good medical care is total care, wherein the patient is treated as an entire person, not a series of affected limbs. It takes the coordinated skills of a medical team to see that psychological aftereffects, often more crippling than physical disabilities, are held down to a minimum." He argued that this was especially true for children, who were removed from the family and friends and treated in hospitals. These children, Dr. Morton A. Seidenfeld argued, "feel they are different from ordinary children, entitled to more attention and service. They grow increasingly dependent upon others for help and become, paradoxically, more egocentric – unless

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[564] "What makes Polio Expensive?" *Janesville Daily Gazette* January 20, 1950.
[565] "They All Got Help From Dimes Fund," *The Capital Times* January 24, 1952.
[566] "Try and Stump Me!" *The Capital Times* February 15, 1950, 3.

provision has been made for their education, socialization, and psychological orientation to living." Much as it had with tuberculosis and rheumatic fever survivors, this required teachers, guidance counselors, social workers, and psychologists specially trained to work with polio patients.[567]

THE KENNY METHOD AND PHYSICAL THERAPY AS DOMESTIC MEDICINE

While the iron lung came to epitomize polio to many Americans, most polio patients never experienced one. Despite this, images of children in iron lungs or other assistive technologies, such as braces or crutches, became powerful fundraising tools.[568] For patients newly diagnosed with polio, these images immediately came to mind and terrified them, regardless of their prognosis.[569] The reality was that, even if the acute phase of the disease required assistive technology, most patients spent much more time rehabilitating from the disease. The rise of the field of physical therapy and specific therapies, such as the Kenny method, dominated this stage of recovery. While the iron lung represented a highly technical solution to a frightening new disease, the field of physical therapy, despite its use of complex machinery and language, had a lot in common with traditional domestic medical practices. In

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[567] "Polio a Long-Term Illness, Costly Care Required," *The Rhinelander Daily News*, September 19, 1949, 3.

[568] Daniel J. Wilson, "Braces, Wheelchairs, and Iron Lungs: The Paralyzed Body and the Machinery of Rehabilitation in the Polio Epidemics," *The Journal of Medical Humanities* 26, no. 2 (2005): 173–190; Paul K. Longmore, "Conspicuous Contribution and American Cultural Dilemmas: Telethon Rituals of Cleansing and Renewal," in *The Body and Physical Difference: Discourses of Disability*, eds. David T. Mitchell and Sharon L. Snyder (Ann Arbor: University of Michigan Press, 1997); Jane S. Smith, *Patenting the Sun: Polio and the Salk Vaccine* (New York: William Morrow and Company, 1990).

[569] Edward Le Comte, *The Long Road Back: The Story of My Encounter with Polio* (Boston: Beacon Press, 1957); Anne Walters and Jim Marugg, *Beyond Endurance* (New York: Harper & Brothers Publishers, 1954); Peg Kehret, *Small Steps: The Year I Got Polio* (Morton Grove, IL: Albert Whitman & Company, 1996).

addition, while hospitals began to open physical therapy departments, individual physical therapists practiced in a variety of places, including rehabilitation homes and orthopedic schools that had opened to serve patients of other childhood diseases.

Physical therapy owes much of its early development to the polio epidemic and, in particular, the Kenny method. Sister Elizabeth Kenny was an Australian nurse, who gained worldwide notoriety and criticism for the treatment she developed for polio.[570] Using warm compresses to ease stiff muscles, the practitioner of the Kenny method gentle manipulated and stretched afflicted body parts. Over time, the patient could see increased movement and control of previously paralyzed limbs. Unlike physicians and surgeons, Sister Kenny opposed using braces or casts to immobilize patients.[571] In 1940, Sister Kenny traveled to the United States for a demonstration at the Mayo Clinic in Minnesota and she ended up staying in Minneapolis for the next eleven years. Patients traveled from all over the United States to seek treatment at her clinic, but over time, clinics using her method opened across the United States and medical fields, especially the field of physical therapy, adopted it as routine.

Sister Kenny promoted the medical theory that polio was a skin and muscle disease, contrary to accepted medical opinion in America. Yet, many health professionals and parents accepted the Sister Kenny method (if not her theory). In fact, historian Naomi Rogers has argued that "Kenny's claims for scientific respect and her portrayal as an isolated outsider attracted a

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[570] Naomi Rogers, *Polio Wars: Sister Kenny and The Golden Age of American Medicine* (New York: Oxford University Press, 2014).

[571] J.F. Pohl and Elizabeth Kenny, *The Kenny Concept of Infantile Paralysis and Its Treatment* (Minneapolis: Bruce Publishing, 1943).

public suspicious of corporate elitism."[572] Marion Bennett (R, Missouri) argued during a 1948 House Committee on Interstate and Foreign Commerce regarding the funding of polio research, that the National Foundation for Infantile Paralysis was "a sort of medical closed shop, run for the benefit of certain doctors and certain politicians, perhaps more than for the benefit of the patients."[573] Thus, for parents suspicious of big hospitals or national intervention in their lives found a special appeal in the Kenny Method. This doesn't' explain all of its appeal, however.

Unlike surgical interventions, mechanical manipulation, or other invasive treatments, the Sister Kenny treatment of applying heat and gentle manipulation was something mothers could perform at home. As one survivor, who contracted polio at the age of five in 1946, recalled, "my mother took care of me. She remembered what Sister Kenny had taught her and she would carry me into the bathtub, take me back to bed, and physically make my limbs move." The Sister Kenny method was not without discomfort or even pain, however. As this survivor continued, "It hurt her and it hurt me, but I couldn't cry. My mother was filled fear and obligation."[574] Another survivor, who also contracted polio when he was 5 but a few years earlier in 1943, never forgot the dedication his mother practiced in performing his treatment, "I was supposed to have exercises twice a day. She did them three, four times a day. She'd heat oil on the stove in a little dish. Then she'd rub my leg with oil." In addition to over applying these methods, his mother would even visit his school in the middle of the day to perform his physical therapy, "I remember her coming to the school during lunchtime; she'd rub my leg with oil, make me do my

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[572] Naomi Rogers, "Sister Kenny Goes to Washington: Polio, Populism, and Medical Politics in Postwar America," in *The Politics of Healing: Histories of Alternative Medicine in Twentieth-Century North America* ed. Robert D. Johnston (New York: Routledge, 2004), 116.

[573] Ibid., 98.

[574] Silver and Wilson, *Polio Voices*, 44.

exercises."[575]

Despite concerns over her theory, many hospitals adopted the Kenny Method or some adaptation of it, helping fuel the professionalization of the field of physical therapy. Although the Kenny method could be performed with little skill and readily available household items, physical therapy departments increasingly used complex and expensive machinery to replace human labor. For example, the Mercy Hospital in Janesville, Wisconsin boasted of the purchase of a hot pack machine to be used for carrying out the Kenny Method in the local paper. Like other polio equipment, the machine required the expertise of a trained physical therapist. In the case of Mercy Hospital, only one hospital attendant knew how to use the machine.[576] Hospitals typically housed machines used in performing the Kenny Method in their new Physical Therapy Departments. For example, St. Francis hospital in La Crosse, Wisconsin opened a physical therapy department in its basement in 1951, where they treat both house and out patients, including 15 polio patients.

The physical therapy department at St. Francis hospital highlights the origins of physical therapy as both a treatment for polio and as a female dominated profession. While orthopedics began as a male dominated profession, physical therapy was female dominated.[577] In fact, the first national physical therapy professional organization (founded in 1921) was called the American Women's Physical Therapeutic Association.[578] When the medical specialty of

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[575] Ibid., 46.
[576] "Mercy Hospital to Treat Polio," *Janesville Daily Gazette* August 28, 1946.
[577] Bradley Allen Byrom, *A Vision of Self Support: Disability and the Rehabilitation Movement in Progressive America* (dissertation, University of Iowa, 2004), 63; Emma Goldberg, "Our Roots as Rehabilitation Specialists," *The Journal of Humanities in Rehabilitation* (May 2017); 1-5.
[578] Marilyn Moffat, "The History of Physical Therapy Practice in the United State," *Journal of Physical Therapy Education* 17, no. 3 (Winter, 2003): 15-25

physical therapy was recognized, in 1937, physicians called themselves "physiatrists," in an attempt to distance themselves from the female dominated field of physiotherapy. This is reflected in the St. Francis physical therapy department, which employed four physical therapists – all women – and was directed by a male physician. In fact, in the announcement in the local paper for the unit's opening, the reporter made a point of noting the department's pastel colors and window treatments. [579]

The growth of the field of physical therapy relied on both a supply of patients and funding to treat those patients. In 1945 the American Physiotherapy Association and the National Foundation for Infantile Paralysis spent $1,267,600 for the treatment of polio through physical therapy. This funding primarily went to training more physical therapists to meet the perceived shortage in the new field, but the two groups continued to have a close relationship.[580] For example, the NFIP funded the "Polio Recruitment Service," a team of physical therapists assigned to under-served epidemic communities for 3-6-month terms.[581] The National Foundation also paid for machinery necessary for treatment because, also the basis of physical therapy for polio is simple heat application and muscle movement, these methods became increasingly mechanized.

Therapy typically began with hot packs and stretching, which helped therapists determine the extent of the damage caused by the disease. This helped therapists determine which parts of the body the weakness or paralysis affected the most. Therapists also believed that application of heat and stretching relieved pain from polio induced muscle spasms. In some cases, physical

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[579] "Hospital Opens Therapy Unit," *The La Crosse Tribune* December 9, 1951.
[580] Neumann, "Polio," 482.
[581] Ibid., 483.

therapy departments used “Hubbard tanks” to apply warmth along with water jet massage to polio patients. The tanks took up less space than a swimming pool and allowed more access to the patient for the therapist. At Waukesha Memorial Hospital in Wisconsin, the head of the physical therapy department noted “the tank contributes warmth and also buoyancy which often enables a patient to raise his arm in the water when he is unable to move it out of the water. Thus, the tank contributes a sort of psychological factor.” [582] These specialized machines used in physical therapy were in addition to the machines, such as rocking beds and iron lungs that patients experienced in the acute phase of the disease.[583] Physical therapy departments even made the heating up of hot packs a mechanized procedure that involved expensive machines and supervising nurses. In 1946 Mercy Hospital in Janesville, Wisconsin proudly announced the purchase of an “electik polio-pak machine” for use in their application of the Kenny method.[584]

In addition to muscle relaxation and manipulation, physical therapists helped patients recovery from surgeries designed to help polio patients with deformities that developed due to paralysis. For example, one leg may be shorter than the other or tissue may contract. In 1955, eleven-year-old Bonnie Sue Schockley had a tendon transplanted from her big toe to her leg, in an attempt to correct her “dropped foot.” Bonnie Sue had been undergoing surgeries since she was 5 years old and had been teased by her classmates for wearing leg braces. Doctors hoped that the tendon would help her regain more control over her feet and allow her to attend public school without her classmates knowing of her condition.[585]

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[582] “Hospital’s Therapy Department Aids in Combatting Polio’s Effects,” *Waukesha Daily Freeman* January 14, 1955.

[583] “Escape from the Iron Lung,” *The La Crosse Tribune* January 17, 1954, 8.

[584] “Record Number of New Teachers Here,” *The Janesville Daily Gazette* September 7, 1946, 12.

[585] “Sue, 11, May Run Again; Polio Cripple for 9 Years,” *The Racine Journal-Times Sunday Bulletin* August 28, 1955, 1.

Surgeons conducted procedures like the ones Bonnie Sue underwent in order to restore physical movement and decrease the reliance on visible signs of disability, such as wheelchairs and braces. Although polio affected a small percentage of the American population, it disproportionately caused disability. At the beginning of the twentieth century tuberculosis was the leading cause of disability in children, but with the first epidemics of the disease in 1916 polio quickly surpassed all other diseases in causing disability. In one Cleveland study polio caused 50% of disability in children under ten years of age.[586] This fact challenged the emerging "Golden Age" of medicine, despite the improvements in surgery, immunizations, and medical education. It also became an opportunity for fields like physical therapy and orthopedics to advance quickly and gain authority.[587]

Physical therapists found employment in a variety of places, from hospitals to rehabilitation homes, to schools. For patients and their parents, a physical therapist could prove to be a reliable and trusted ally in an increasingly complex medical system. The anxiety and stress parents faced during the acute phase of polio were often intensified by the fact that doctors did not always give parents sufficient information. Some physicians did not want to be the bearer of bad news, but the very nature of medical practice ran counter to definitive diagnoses for polio. Either the patient returned to pre-polio motor capacity or they did and a doctor could not tell at an early stage if this would happen. Depending on the family's perceived socio-economic status, the physician may not explain the diagnosis in detail.[588] As a result, many parents turned to

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[586] Byrom, *A Vision of Self Support*, 31.

[587] Starr, *The Social Transformation of American Medicine*; Fenwick Beekman, *Hospital for the Ruptured and Crippled: A Historical Sketch Written on the Occasion of the Seventy-Fifth Anniversary of the Hospital* (self-published, 1939), 23-45.

[588] Lois Pratt, Arthur Seligmann, M.D., and George Reader, M.D., "Physicians' Views on the Level of Medical Information Among Patients," *American Journal of Public Health* (October 1957): 1277-1283.

friends, neighbors, media, or, allied health professionals, especially the physical therapists that spent a considerable amount of time with their child. As one longitudinal study observed, “the physiotherapist usually formed a very influential and close relationship with the child through his daily work of touching, holding, and manipulating the child' body – a degree of closeness that the average doctor could not begin to match with his occasional ward rounds and seemingly more impersonal approach.”[589] Although parents could not get promises of a cure from a physiotherapist, they could grasp on to a philosophy of progress toward evolving goals.

Physical therapists often worked with patients in rehabilitation homes and orthopedic schools that had been founded decades earlier to treat children with other diseases. Rehabilitation houses highlight a growing trend in medical institutions in the mid-twentieth century that bridged the gap between hospital and home. Activists for the rehabilitation movement also combined both the medical and social model of disability by calling for societal change while also institutionalizing medical responses to disability. Although the rehabilitation movement began as charity in the first few decades of the twentieth century, it grew to a self-sufficiency model by mid-century. In 1912 there were 37 residential institutions crippled children, with an additional 43 offering non-residential services, serving 2474 patients in total. In the next decade that number grew to 76 residential institutions serving 5729 crippled children.[590] The creation and growth of these institutions was closely tied to local support and initiative, however. There was no national organization and few ties to other institutions.[591]

This convalescent stage of polio usually lasted eighteen months and included intense

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[589] Davis, *Passage through Crisis*, 99.
[590] Byrom, *A Vision of Self Support*, 136.
[591] Ibid., 137-138.

physical therapy along with complementary therapies, including massage, warm baths, and electrical stimulation.[592] The most well know rehabilitation facility, Warm Springs, focused on the healing promise of warm baths in natural springs to cure polio. Warm Springs, however, was an exclusive institution and most polio patients relied on help from the National Foundation for Infantile Paralysis to pay for local treatment. While institutions for the disabled in the nineteenth century served the poor, rehabilitation homes in the twentieth century increasingly served working- and middle-class families.[593]

Despite improvements in hospital care that led an increasing majority of Americans to utilize hospitals rather than avoid them, parents still had trouble accepting long-term institutionalization for their children. Writing to the Children's Bureau in 1936, a New Hampshire mother outlined her reasons for wanting to keep her daughter at home, despite many disadvantages. Of the nine children she gave birth to, only three survived to adulthood, including her seventeen-year-old only daughter, paralyzed by polio. Her husband had been disabled for eight years and she had surgery to combat cancer the year before, but still she wrote, “I love my little girl so and want to keep her with me as I think I have done all I could for her and I do not want to part with her... could you help me keep my little girl at home as she is all I have and life without her is not worth working for.”[594] She had had to hospitalize her daughter for three weeks during her surgery and “she grew pale and thin – she could not get the nice country air like I give her.” Parents could also face the decision to institutionalize their children upon the death of a parent. Charles Jr. and Dennis Weber spent seven years in an orphanage when their mother died

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[592] Neumann, “Polio,” 484.

[593] Byrom, *A Vision of Self Support*, 162-163.

[594] Mrs. Florence P. Burpee to Children's Bureau, 1936, *Children's Bureau Records* (14), National Archives, College Park, MD.

of polio in 1953. Dennis was only 19 months old at the time. Their father told the *Milwaukee Sentinel* that “there was just no way I could take care of the boys” and he was not able to bring his sons home until some old family friends moved into his building and offered to care for them when Mr. Weber was at work.[595]

Rehabilitation homes were not meant to be permanent solutions, however and, if anything, domestic long-term care, increased in the twentieth century.[596] At the beginning of the twentieth century disabled Americans relied primarily on private and state charities, often in the form of institutionalization.[597] These institutions treated the disabled as permanently unable to integrate into American society and objects of pity. In many cases institutions housed a variety of disabilities, from war veterans to the intellectually disabled. The Rehabilitation movement shifted treatment for the disabled away from this model and toward the return of the disabled to employment and self-sufficiency. Rehabilitation homes functioned as the transition from institution to home. Yet, very few patients could expect complete self-sufficiency and still relied on family and friends to carry out everyday activities.

The rehabilitation movement philosophy focused on self-sufficiency, but the reality was that most children did not return to their pre-polio physical condition. Physical therapy continued long after release from the rehabilitation hospital. For parents with the economic means this meant physically restructuring their homes, employing additional help, and paying for special summer camps or visits to Warm Springs. While this often involved increased advocacy

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[595] “After 7 Years, They’re with Dad!” *Milwaukee Sentinel* August 15, 1960.

[596] Abel, *The Inevitable Hour*; Boris and Klein. *Caring for America*.

[597] Mary Eckenrode Gibson, “From Charity to an Able Body: The Care and Treatment of Disabled Children in Virginia, 1910-1935” (PhD. Diss., University of Pennsylvania, 2007); Rothman, *The Discovery of the Asylum*.

on the part of mothers in securing the best treatment possible for their children, for the majority of mothers it also meant a drastic reordering of family life and resources. In addition to increased labor related to caring for a disabled child, these mothers implemented the medical skills and technology they had learned from the hospital and rehabilitation in their own homes. In particular, far from limiting their nursing to conventional domestic medicine, mothers took on the role of physical therapist.

Rehabilitation advocates argued that the rehabilitation should focus on breaking dependency by promoting self-sufficiency. To this end, pity should be avoided at all costs. Rehabilitation homes offered a home-like atmosphere without the presence of mothers, who experts believed were too prone to "coddling" their children. As children returned home from hospitals, the strict directive to not spoil the patient hoped to curb this tendency.[598] Yet, parents negotiated a much more complex world than the hospital or rehabilitation home. Their choices regarding their child's recovery may have appeared to be a dismissal of doctor's orders when it was really a careful calculation of available resources, family dynamics, economics, location, and support networks.[599]

In one longitudinal study of families with children affected by polio, the researchers found that, in more than one instance, when parents made decisions contrary to medical advice their children actually adapted to their disability faster than children who followed doctors' orders exactly. For example, doctors strongly advised the parents of the most disabled child in the study (used crutches, braces, waistband, and orthopedic shoes) that she should not attend a

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[598] Helen McNellis and Jerry McNellis, *Don't Pick Him Up: Our Family's Experience with Polio* (CreateSpace Independent Publishing Platform, 2010).
[599] Davis, *Passage through Crisis*, 140-151.

regular school. Instead, her parents kept her in her regular school, even sending her on public transportation until the principal considered it a liability and the school funded a taxi service. The child even continued to participate in Brownies, even if it meant her mother drove her to the picnic area that the group would meet at after a long hike. The researchers concluded that the fact that she lived in a “close-knit and community-spirited neighborhood of detached working- and lower- middle class homes” contributed to an environment that helped the child develop “normalization” coping skills.[600]

As with other childhood diseases, mothers relied on a variety of sources for information on caring for children with polio, from public health pamphlets to popular magazines. Despite the fact that polio did not affect a significant number of children, popular magazines commonly featured stories about the disease. These stories used polio as a case study in Cold War values, especially preparedness, the professionalization of motherhood, and the narrative of triumphalism.[601] Magazines, such as *Redbook*, *Good Housekeeping*, *Ladies' Home Journal*, and *McCall's* focused on feel-good accounts of polio avoided or triumphed over.[602] Parents grasped on to these stories of triumph when coping with their children’s disability. Most parents had to adjust their idea of recovery as their children returned home and did not return to their pre-polio state within a year. Physicians tended to restrict their definition of “recovery” to full return to a pre-polio physical state, but this rarely happened. Parents turned to other sources, especially stories in the media or from neighbors, about different measurements of recovery. Any progress helped contribute to the belief in an indefinite, but eventual recovery.[603] Perhaps the greatest

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[600] Davis, *Passage through Crisis.* Pages 140-151.
[601] Foertsch, *Bracing Accounts*, 26-27.
[602] Ibid., 28.
[603] Ibid., 89.

example families looked to was the president himself, which also lent great weight to the organizations he promoted and the social programs he advanced.

Many mothers cited the health literature distributed by the National Foundation for Infantile Paralysis. Yet, when asked, in a national sociological survey, what they attributed improvements in health to, Americans focused on government programs and the increased standard of living. In fact, while many believed that health had greatly improved by the mid-Twentieth Century, only a minority attributed this to advances made by doctors. Mothers may have heard about what to do for their paralyzed children from the National Foundation for Infantile Paralysis or *Ladies' Home Journal*, but they believed that New Deal programs, local public health departments, and the many aspects of an increasing standard of living helped them actually carry out these prescriptions.[604]

Improvements in standard of living, including running hot water, refrigeration, and electrification, helped mothers prevent and treat a variety of diseases but were especially useful in treating polio. For example, the Sister Kenny method called for the application of hot cloths prior to physical therapy. Being able to warm towels or sheets on a heater or with hot water without having to fetch and boil well water was a great time and labor saver for mothers. In addition to an increased standard of living other technologies specific to disability were essential for returning to the home.[605] Basic technologies, like staircase railings, ramps, and hand grabs that could be added to an existing structure helped families avoid moving to a new home.

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[604] Jacob J. Feldman and Paul B. Sheetsley, *Attitudes, Information and Customary Behavior in Health Matters (Study 367, 1955)*.

[605] Bess Williamson, "Electric Moms and Quad Drivers: People with Disabilities Buying, Making, and Using Technology in Postwar America," *American Studies*, 52, 1 (2012): 5-30.

For Americans who did not own their own homes these adaptations were not inconsequential. Living on the top floor of an apartment building could mean the difference between carrying a child whenever he or she needed to leave the home and ease of access to school, doctor's appointments, and socialization with other children.[606] One survivor, who contracted polio in 1935 when he was three years old, recalled, "we lived in a tenement house. We lived on the middle floor, and I used to get up and down the stairs like a dog. I'd be on my hands and knees."[607] Without a phone in the home families had to bother neighbors to check on hospitalized children or quickly reach a doctor.[608] One mother appealed in her local paper to find living quarters closer to town so that her daughter could receive weekly medical treatment for polio.[609] Even families with the income appealed to their neighbors to find housing on the ground floor to accommodate wheel chairs.[610] During the war, this disparity could be felt even more and often meant more work for mothers.

In addition, access to physicians, hospitals, rehabilitation facilities, and physical therapists were all highly dependent on local conditions.[611] These local differences did not necessarily correspond to rates of infection, but rather the social, political, and economic climate of the region. In the American South, segregation and poverty made access to services highly dependent on class. In Texas, a mid-century economic and population boom combined with

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[606] Tony Gould, *A Summer Plague: Polio and Its Survivors* (New Haven: Yale University Press, 1997); Kathryn Rosemary Brigidt McGowan, "A Body History of Polio-related Impairments in the United States: How Individuals' Experiences of their Polio-Related Impairments Responded to Socio-Cultural Shifts in Contemporary American Society," (PhD. Diss., Case Western University, 2005); Flora McIntyre, "A Wheelbed for the Invalid," *Ladies' Home Journal* (April 1916), 81.

[607] Silver and Wilson, *Polio Voices*, 78.

[608] Davis, *Passage through Crisis*, 33.

[609] "Polio Victim Needs Place to Live," *The Capital Times* August 22, 1950.

[610] "Seek Housing for Brave Jewish Polio Mother and Two Children," *The Wisconsin Jewish Chronicle* May 28, 1954, 4; "Jewish Polio Mother Restates Housing Need," *The Wisconsin Jewish Chronicle* June 11, 1954, 4.

[611] Wilson, "A Crippling Fear," 466.

climate to make the disease appear at a time when regional medical services were emerging to monopolize on the research opportunity.[612] States that chose to participate in the Crippled Children's Program were able to offer more services to children with polio (although, importantly, not adults).

In addition to the Crippled Children's Program, the Pepper-Boland Bill (1938) appropriated 11 million dollars to help educational facilities meet the special needs of physically disabled children. Even states that did not raise matching funds still received $40,000 outright.[613] This funding was significant because, depending on local conditions, polio patients received long term treatment in special orthopedic schools that had begun earlier for other childhood diseases, especially rheumatic fever patients. In Wisconsin, some parents of rheumatic fever survivors protested the mixing of the children with different disabilities in these schools.[614] The first orthopedic school in the state was in La Crosse and grew to treat polio, amputations, cerebral palsy, cardiac damage, muscular dystrophy, and other disabilities.[615] In Madison, Wisconsin, the State Bureau of Handicapped Children ran an orthopedic school open to any handicapped child. The school offered physical therapy for all children under the age of 21 and transportation, lunch, and academics for school age children. The March of Dimes contributed mechanical equipment, including special stairs, ladders, baths, and assistive technologies like braces and wheelchairs.[616]

As a polio patient progressed through their treatment, from the hospital to the

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[612] Heather Green Wooten, *The Polio Years in Texas: Battling a Terrifying Unknown* (College Station, TX: Texas A&M University Press, 2009).

[613] United States Congress, *The Pepper-Boland Bill*, Section 1634, *Public Laws of the United States of America*, 76th Congress, 1939-1949.

[614] "Seek School Facilities for Fever Victims," *The La Crosse Tribune* July 30, 1954, 1.

[615] "Parent Called Handicap Tot Who's Crippled, Group Hears," *The La Crosse Tribune* January 25, 1951, 14.

[616] "Dimes Help Braces Support Their Legs," *The Capital Times* January 13, 1954.

rehabilitation home, to the orthopedic school, they encountered an institutional and professional structure that had begun earlier for other childhood diseases. They benefitted from private and public funding, such as the March of Dimes and the Crippled Children's Program, as well as an increased standard of living in the mid twentieth century. Furthermore, polio patients also benefitted from a carefully constructed image of polio as a disease worthy of pity, aid, and accommodation. Finally, Americans who had been lucky enough to avoid the disease benefitted from the free labor of mothers across the country who played a crucial role in funding, testing, and delivering the polio vaccine.

VACCINE ADVOCACY AS DOMESTIC MEDICINE

In *Heart of Wisdom: American Women Caring for Kin, 1850-1940* Emily Abel argues that as medical care moved into hospitals, women's roles shifted from physical care giving to one of medical decision maker and mediator. They decided which advice to follow, which diagnosis to believe, and on what terms to accept medical opinions. They pushed back against scarlet fever quarantines, purchased sanitary products to protect their families from tuberculosis, and wrote letters to the government to get aid for their children with rheumatic fever. While many mothers worried about polio, the fact was that few had to face a case in their family. Despite this, many mothers worked to prevent the disease occurring in their families, from attending educational meetings of their local clubs to fundraising for the March of Dimes.[617] In addition to outreach and fundraising, mothers were essential to the polio vaccine rollout, volunteering their children

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[617] "Progress of Battle Against Polio Told La Crosse Woman's Club by Physician," *The La Crosse Tribune* January 26, 1954, 10.

for vaccine trials, being the first in line to get their children vaccinated, and going door to door to convince neighbors to get vaccinated.

Of course, mothers had been involved in organized health activism before. In particular, African American women had worked tirelessly to address health care inequities since the end of the Civil War.[618] White women's activism often took the form of consumer demands, in what Nancy Tomes termed a "two edged sword." The marketplace bound the health of workers with the health of the consumers who bought the products they made, inspiring women with buying power to demand better working conditions, not to protect the workers, but to protect their own families from the workers.[619] Mothers feared the transmission of tuberculosis on garments, in particular. Increasingly, women joined national health organizations, such as the National Anti Tuberculosis Association. For example, a female volunteer invented the "Christmas Seals" fundraising campaign in Delaware in 1907. From then on the national organization designed a yearly holiday seal, which sold for a penny each and funded tuberculosis research.

Historians often characterize the National Foundation for Infantile Paralysis as a unique development in health activism, but much of its organization and strategy was modeled on the National Tuberculosis Association. In particular, the groups employed professional staff and relied on fund raising campaigns rather than endowments. The groups created an image of modern philanthropy, rather than welfare for the deserving poor. Although not immune from blaming the poor or minorities for the prevalence of tuberculosis, the National Anti Tuberculosis Association at least saw that all aspects of society were connected and thus the battle against

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[618] Susan Lynn Smith, *Sick and Tired of Being Sick and Tired: Black Women's Health Activism in America, 1890-1950* (Philadelphia: University of Pennsylvania Press, 1995).
[619] Tomes, *The Gospel of Germs*.

tuberculosis had to be fought everywhere.

However, There were two important differences between the organizations. For one, the National Anti Tuberculosis Association focused its fundraising on funding research, sanatoriums, and educational campaigns. As we have already seen the National Foundation for Infantile Paralysis fundraising efforts focused on direct aid to patients. Need was broadly defined as anything that would change a family's standard of living, reducing the stigma attached to accepting assistance. Another important difference between the two organization, was the use of children as the poster children. The National Foundation for Infantile Paralysis used images of middle class children, stubbornly focused on getting well. Children were blameless, full of promise of recovery, and excellent motivators for fund raising.[620] The association of children with polio was not just more aesthetically "pleasing," but financially successful.

Both the National Anti Tuberculosis Association and the March of Dimes relied heavily on local chapters, which, of course, meant relying on women. In addition, mothers of children directly or potentially affected by polio, they were also victims of polio themselves. For mothers, a polio diagnosis meant, at best, weeks or years away from the home, and, at worst severe disability or death. One Wisconsin mother found out she had polio while pregnant with her second child. Fortunately, despite paralysis in her abdomen and legs, Mrs. Paul Werlein did not miscarry the pregnancy and was able to return home a month later. Her two- and half-year-old daughter, Kathy, helped fetch her crutches for her as she slowly regained strength in her lower body. Mrs. Werlein told *The Capital Times*, "the one I feel sorriest for in all this is Kathy [because] she just can't understand why I can't do everything I used to. We hope the new baby in the spring will be a real thrill to her."[621] Six "Polio Mothers" who had rehabilitated together at the Kenny Institute in Minnesota in 1946 held a reunion five years later. Some of the women

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[620] Rogers, "Polio Can Be Conquered," 85.

[621] "Kathy Can't Understand Why Mommie Doesn't Play," *The Capital Times* January 15, 1955.

spent as long at 14 months at the Institute, but they all recovered enough to have more children and conduct their housework. Mrs. Rene Harry used her wheelchair to do "all her own housework, including washing, ironing, scrubbing, baking and sewing." Another of the "polio mothers" reported that she still couldn't use one leg "but I get around alright. The only thing I can't do is carry the baby, so I wheel her along in a small cart. She's doing fine."[622]

Many mothers who had survived polio banded together to help other mothers. In Madison, Wisconsin, the "Polio Alums" formed to aid new polio patients. The local paper noted "cheerful and eager, they hasten to call on a new polio patient, offering words of hope and encouragement in the first dark days that follow 'homecoming' for most patients." Perhaps more importantly, they offered tips on how to manage housework and parenting while on crutches or in wheelchairs. More affluent women might sell their homes in order to move into one story houses, others learned to repurpose items like their children's backpacks for carrying items around the house. As one mother proudly declared "actually, we are doing the things that home economists have been preaching for years – saving steps and extra work around the house. Why, we're so efficient that we'd put the famous Gilbraith family to shame."[623]

Thus, polio survivors, mothers of polio patients, and mothers just hoping to protect their children from polio could organize on a local or national level. In fact, the March of Dimes organized its fundraising on a model that incentivized local participation, with local chapters keeping half of the money they raised. If these chapters ran out of funds during an especially bad epidemic year the national organization would advance them funds.[624] For example, in 1953, the La Crosse chapter of the March of Dimes was $10,000 in debt to the national organization due to the record number of cases the county has experienced in the preceding few years.[625] The money went towards everything from buying iron lungs

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[622] "Alma Woman Attends 'Polio Mother' Reunion," *The Eau Claire Leader* August 8, 1951, 3.
[623] "History of Polio Alums is Stirring Story of Courage," *The Capital Times* January 7, 1953.
[624] "Heavy Cost of Polio Listed as Annual Campaign Nears," *The Eau Claire Leader* December 30, 1949.
[625] "Mothers Join in Polio Drive," *The La Crosse Tribune* January 29, 1953, 1.

for hospitals to paying for transportation to physical therapy appointments, regardless of the patient's financial situation.

In *Polio: An American Story* David Oshinsky argues that the March of Dimes pivoted to focus on recruiting mothers after movie studios put an end to individual charity theatre donations. The March of Dimes did not want to rely on portions of fundraising conducted by federated giving (an "umbrella" charity, like the United Way) and it knew that images of children were a powerful tool, especially in appealing to mothers. In 1946, the organization introduced its first official "poster child," six-year-old Donald Anderson, who had contracted the disease when he was only three years old. The poster juxtaposed a forlorn looking baby in a full body cast peering out from a crib with a confident child marching toward the viewer. Acceptance of germ theory had primed American mothers to accept protecting their families from disease as part of their duties as a parent and the March of Dimes recognized fear and guilt as powerful motivators.[626]

The national organization, however, focused largely on events outside most mothers' experience. For example, in 1947 the March of Dimes created a Women's Division, but this group focused on events like a yearly fashion show and a traveling exhibit of Harry Winston jewels. Fundraising genius did not come from the top down, but from the bottom up and mothers were the heart and soul of local March of Dimes chapters. In 1950, a local chapter in Phoenix, Arizona organized a single night of fundraising that raised more than $45,000. More than 2,300 mothers organized into wards, mapped out routes, assigned bookkeepers, enlisted fire trucks, and created a model for a nationwide movement. During the "Mothers March," as it became known, Americans would leave their porch light on to signal that they wanted to donate and local mothers would walk around and collect donations. In just 7 years the fundraising

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[626] Oshinsky, *Polio*, 79-91.

technique made up one third of the March of Dimes fundraising income.[627] In its first four years alone the March raised $250 million dollars.[628]

While March of Dimes funds continued to help polio patients and survivors with their health care and rehabilitation costs, the organization increasingly shifted their efforts to funding vaccine research. For example, in 1954 the March of Dimes charged mothers with raising the $7.5 million dollars that would be necessary to test the vaccine.[629] Although the fundraising drives were local efforts, they were highly organized and innovative. In communities across Wisconsin, for example, mothers gathered in the hundreds – 900 mothers in La Crosse, 800 in Madison, 400 in Janesville, 250 in Monroe – to raise money. In Madison, the mothers enlisted the local police to act as couriers, carrying money from the volunteers to the bank.[630] Fifty four of the women acted as captains and the city was divided into three sections, headed by three ward captains.[631] The yearly event was always held in January, despite often freezing temperatures.[632]

The efforts of researchers, philanthropy, and governments to develop and distribute a polio vaccine have been covered extensively by other historians, but this focus often ignores the efforts of mothers to not only raise funds, but also for galvanizing support and turnout for the clinical trials and vaccine rollout. For example, the polio vaccine trials benefited from earlier clinical trials of Gamma Globulin to prevent the spread of the disease.[633] Once a local epidemic started, the March of Dimes would recruit participants to be part of study of short-term protection offered by the blood fraction (pool blood from people who have antibodies, or "passive immunization."). The first Gamma Globulin trial

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[627] "Mothers March Goes Viral," *Phoenix Magazine* October 26, 2020.
[628] Dawn Larsen, "The March of Dimes and Polio: Lessons in Vaccine Advocacy for Health Educators," *American Journal of Health Education* 43, no. 1 (January/February 2012): 50.
[629] "For a Knockout Punch on Polio," *The La Crosse Tribune* January 29, 1954.
[630] "Mothers in Polio March Thursday," *The Capital Times* January 25, 1955.
[631] "54 to Serve as Captains in Mothers' Polio March," *The Capital Times*, January 20, 1955.
[632] "400 Mothers Will March Tonight; Porchlight is Signal That You'll Give," *Janesville Daily Gazette* January 27, 1955.
[633] Stephen E. Mawdsley, "The Clinical Trials on Gamma Globulin for Polio: Victims of Marketing Success," *Canadian Medical Association Journal* 189, no. 29 (2017): 967-969.

was in Utah in 1951, where physicians offered their own children to be test subjects. Quickly, parents volunteered their children, but undermined the study by bringing their children to multiple clinics, hoping to ensure they did not get the placebo. A similar study conducted in Texas in 1952 faced the same problems, as parental meddling ruined the scientific value of the study. Parents in Wisconsin demanded Gamma Globulin treatments for their children as yearly epidemics loomed, but the treatment proved logistically difficult and of dubious efficacy, only preventing polio in 1/5 cases per 1,000.[634] Eventually a World Health Organization study proved the Utah and Texas studies flawed, but the March of Dimes learned that vaccine trials on small children were possible.

Finally, in 1952 Jonas Salk developed the first effective polio vaccine and it was tested on a small group of children and adults in 1953. Several slightly larger tests (at an elementary school and a home for crippled children) followed in 1954 and by April 1955 1.8 million American children from 44 different states had participated in the vaccine trials. The vaccine proved to be 60-70% effective against PV1 and over 90% effective against PV2 and PV3. Unfortunately, two pharmaceutical companies (Cutter and Wyeth) had not properly inactivated the poliovirus in over 100,000 of the doses they manufactured. As a result, the vaccine caused 40,000 instances of polio and 10 children died. The incident caused vaccine hesitancy among previously enthusiastic parents. By 1960 only 49% of Americans had received the vaccine.[635] In response, mothers began using their "Mothers Marches" to leave vaccine appointment cards on doorsteps.

These triumphs and setbacks played out on the local level, as communities decided whether to participate in the vaccine trials. When the March of Dimes announced its vaccine trials in Wisconsin, for example, most counties volunteered quickly and enthusiastically, but not all. Racine county replaced Milwaukee county in the vaccine trials because Milwaukee county wanted at least 100,000 vaccinated

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[634] "Dr. Feig Explains Why Gamma Globulin Not Used," *The Capital Times* May 5, 1954; "Medicine: Decision Reversed," *Time Magazine*, March 1, 1954.

[635] "Polio Epidemic Feared this Year," *Milwaukee Sentinel* May 22, 1960.

elsewhere before participating and at least 3,000 of those vaccinations needed to be from the same batch as Milwaukee would receive. The state board of health refused to meet the demands and chose Racine county instead.[636] In the Spring of 1954, children in La Crosse county, Wisconsin became "polio pioneers" as they were chosen for the first field trials of the Salk polio vaccine in the state. The vaccine was given to 822 first- and second-grade students in La Crosse County and those in eight other counties in the state. None of them contracted polio. The results in all the other 211 test counties were the same."[637] Two years earlier, a record 138 cases struck La Crosse County, but after the vaccine was released the numbers dropped to 15 cases in 1956 and 11 cases in 1959."[638]

The first child in Wisconsin to receive the polio vaccine was six year old Debra Briggs. When interviewed in 2021, Debra Briggs found many comparisons to the current COVID-19 pandemic and vaccine rollout.

> I don't know exactly why I was chosen to be the first person in my county to get Salk's vaccine, but I can only guess that my parents jumped at the chance to make me a "Polio Pioneer." They were firm believers in science and had always been proactive about getting my siblings and me vaccinated on schedule. I imagine they must have been at least a little bit worried. If the thought of getting a brand-new vaccine fills you with apprehension, imagine what it was like offering up your six-year-old daughter for one. But my parents never wavered, at least not in front of me. There was no discussion, no listing of pros and cons. No amount of concern over possible side effects or other unknowns associated with a new vaccine could compare to the terrifying threat of polio. Maybe because my parents didn't seem worried about me getting the polio vaccine, I wasn't, either. I don't remember feeling scared when I walked into the room where the doctor waited — along with a reporter from the local newspaper who was sent to cover the occasion. According to the article he wrote, I didn't even flinch when I got my shot. I still have a clipping of that article. And when I see news reports showing early recipients of the COVID-19 vaccine, I feel a kinship with these people. They're pioneers, too.[639]

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[636] "Racine County to Take part in Polio Test," *The Daily Telegram* April 30, 1954.

[637] Terry Rindfleisch, "50 Years after Polio Epidemic, Memories are Still Fresh," *The La Crosse Tribune* April 26, 2005.

[638] Terry Rindfleisch, "The Polio Breakthrough, 50 years Later: County Played Vital Role Testing Salk's Vaccine," *The La Crosse Tribune* April 11, 2005.

[639] Debbie Carlson, "I Was A Polio Pioneer, and I Can't Wait to Get the COVID-19 Vaccine," *Healthy Women* January 7, 2021.

Debra Briggs was chosen, in part, because she was six years old and enrolled in school. The March of Dimes had balanced the ideal vaccination scenario with the logistics of running such a large vaccine trial. So, while five-year-old children had the highest incidence of polio, they did not attend schools, which offered the best opportunity for record keeping. As a result, second graders received the real vaccine, and first and third graders acted as controls, with half receiving the real vaccine and half receiving a placebo. No vaccine had ever been released on such a large scale, however, and the March of Dimes had to prepare for the case of shortages.[640] Children had to have three doses of the vaccine and there were concerns that the pharmaceutical companies would not get the second two doses delivered. [641] As the director of the vaccination project explained, "the first two shots already administered have sensitized the child's system to produce antibodies – the chemical substances in the bloodstream that act as nature's own wonder drugs. But it is the third and final shot that is known to act as a booster to produce antibodies in great quantities. Until this action occurs, we cannot expect maximum protection."[642] State health officials worked with the March of Dimes to ensure these second and third doses arrived, but there were delays, as safety inspections held up shipments and laboratories struggled to produce enough vaccine.

Debra Briggs also received the vaccine because her parents were "firm believers in science." While the March of Dimes had been cultivating trust and faith in the vaccine through media campaigns, the effort also benefited from a nationwide growth in trust in science and medicine. Injecting over 1 million children with an experimental and possibly deadly vaccine put this trust to the ultimate test. Just a few decades earlier, researchers had balked at a scarlet fever vaccine due to the age of the test subjects. Two failed polio vaccine trials in the 1930s had already hampered polio vaccine research.[643] Although the polio vaccine rollout did suffer setbacks, largely due to the Cutter incident, the fact that there were so

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[640] Oshinsky, *Polio*, 186-187.

[641] "Parke-Davis Says Vaccine Checked Closely," *Waukesha Daily Freeman* may 21, 1955, 1.

[642] "Second Graders to Get Final Polio Shots Next Week," *The Capital Times* June 3, 1954, 3.

[643] Susan Lederer, *Subjected to Science: Human Experimentation in American before the Second World War* (Baltimore: Johns Hopkins University Press), 108.

many parents like Debra's demonstrates the ultimate triumph of the germ theory of disease. Furthermore, it reflects the changing understanding of domestic medicine in the mid twentieth century in America, as parents saw seeking out vaccinations and keeping their children on a vaccine schedule as part of their domestic medicine duties. Advocating for their children, acting as their mediator and spokesperson, and determining the acceptable risk of a medical procedure had largely replaced direct physical care for many parents.

CONCLUSION

"Polio pioneers," like Debra Briggs represented something new and exciting for Americans. A deadly disease had finally been conquered by state of art medical research and innovative national charities. Germ theory had finally lived up to its promise of conquering deadly disease. Yet, there were many elements of the battle against polio that had been building for quite some time and relied on the labor of a variety of experts and lay people. Earlier epidemics primed parents for sanitation and quarantine measures. Health activism created institutions and government agencies that patients could appeal to without stigma or shame. Mothers still carried out much of the invisible labor necessary to prevent and treat childhood disease, although the nature of that care had shifted to more of an advocacy role.

When polio first appeared in America in 1916 public health departments treated it with methods informed by germ theory, especially sanitation and quarantine. Unfortunately, scientists eventually learned that polio had emerged, in part, due to the success of germ theory. With better water quality, sanitation, nutrition, and other improvements in quality of life, children both survived more childhood diseases and were less exposed to them at an age that their mother's antibodies might protect them. Ultimately, however, germ theory, in the form of vaccines did conquer polio and parental involvement in all aspects of the fight against polio, from observing quarantines to obtaining the vaccine demonstrate the ultimate acceptance of germ theory by everyday Americans.

Still, although Americans had grown to accept germ theory as how diseases infected humans, this did not mean that they ascribed all improvements in health to quarantines, sanitation, and vaccines. As national sociological studies reveal, many Americans recognized that it was these improvements in quality of life, combined with the Welfare State, that was the largest factor in their family's health. Another way to uncover this set of beliefs is to focus on domestic medicine and polio. Polio patients could endure complex machinery and surgeries, but the majority of their recovery relied on a rather basic technique that mothers could perform at home. Techniques, like the Kenny method, could be done without fancy equipment, but electricity, hot water, reliable transportation, the addition of handicapped design to a home, and other basic quality of life issues made more of a difference in a patient's life than many medical interventions.

Focusing on polio reveals how domestic medicine in the mid-twentieth century still relied on old methods of caregiving, while also increasingly focusing on newer ones, especially advocacy. Emily Abel described the beginnings of this new kind of domestic medicine in the early twentieth century and Leslie Reagan explored the national impact domestic medicine as health advocacy could have with her study of german measles. The height of the polio epidemic occurred between these two periods, relying on the structures built to aid lesser known childhood diseases and building on them to formalize their existence as a basic right. By the time the March of Dimes could offer a polio vaccine mothers had worked at every step – from raising money to offering up their young children as test subjects.

Conclusion

On Thursday, March 12, 2020, the first case of COVID-19 was announced in my city.[644] I was wrapping up work in preparation for my baby shower that weekend followed by a "babymoon" over Spring Break. On Friday morning my friends in New York City suggested we postpone the baby shower since some people in their office were sick. "Better safe than sorry,' we agreed, and postponed for April. By Friday afternoon I had cancelled the baby shower and the vacation indefinitely, while telling my coworkers they might want to consider taking home their plants and cleaning out the staff refrigerator. I spent my third trimester working from home, reviving my bread making hobby, shopping during special hours for the "immune compromised," taking birthing classes online, and sewing dozens of cloth masks with my grandmother's 100-year-old sewing machine.

For many Americans, it is the face mask that is conjured to mind when they think of COVID-19, not just in its ubiquity, but the shifting, sometimes contradictory, guidance they received from government and health sources about them, especially in the first few months of the pandemic. As COVID-19 struck the United States in the first half of 2020, the Centers for Disease Control (CDC) initially told Americans that healthy individuals did not need to wear face masks to protect against transmission.[645] The Surgeon General went as far as to tweet, "Seriously people – STOP BUYING MASKS!" (the tweet has since been deleted). Part of this reasoning was that masks and other personal protective equipment (PPE) should be reserved for first responders to avoid shortages. On April 3, 2020, however, the CDC updated their previous

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[644] Jon Campbell and Joseph Spector, "UPDATE: Albany, Western New York gets first confirmed case of coronavirus," *Times Herald-Record,* March 12, 2020.

[645] Deborah Netburn, "A timeline of the CDC's advice on face masks," *Los Angeles Times*, July 27, 2021.

advice to recommend mask wearing "when social distancing measures are difficult to maintain."[646] By April 8, New Jersey became the first state to mandate mask wearing and by Thanksgiving 2020, 36 other states had some sort of requirement for mask wearing in public spaces or specific spaces, such as hospitals.[647]

Much like with tuberculosis sanatorium beds, however, the directive to perform a lifesaving task relied on the supply of the advised item. Thus, just as Americans improvised the sanatorium regimen at home due to shortages of beds a hundred years earlier, Americans in 2020 responded by improvising their own PPE. With a nationwide shortage of PPE, Americans broke out their dusty sewing machines, improvised materials, and churned out homemade face masks for their families, neighbors, and first responders. Just as with domestic medicine practices designed to combat tuberculosis, mask wearing had a real effect on COVID-19 transmissions, with one study stating that "our results imply that statewide mandates saved 87,000 lives through December 19, 2020, while a nationwide mandate could have saved 57,000 additional lives."[648]

Homemade face masks during the COVID-19 pandemic demonstrates how domestic medicine is both a historical continuity as well as a construct, subject to redefinition. Representing continuity, women made the masks through improvisation and crowd sourced instructions. They used materials on hand in the home and many provided masks for less domestically inclined neighbors. Some harnessed their anxiety induced energy to construct

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[646] German Lopez, "The CDC Now Recommends Everyone Use Cloth Masks in Public," *Vox*, April 3, 2020, accessed December 20, 2024, https://www.vox.com/2020/4/3/21202792/coronavirus-masks-n95-trump-white-house-cdc-ppe-shortage.

[647] Alex Harring, "More than half of U.S. states have statewide mask mandates,". *CNBC*, July 20, 2020, accessed December 20, 2024, https://www.cnbc.com/2020/07/20/more-than-half-of-us-states-have-statewide-mask-mandates.html.

[648] Niels-Jakob H. Hansen and Rui C Mano, "Mask Mandates Save Lives." *Journal of Health Economics* vol. 88 (2023): 102721.

hundreds of masks for their communities. Yet, the masks also represent a changing definition of domestic medicine. Women sewed masks at the direction of public health authorities, constantly adapting their patterns to meet the best current scientific guidance – what was the best fabric to use? Should the mask have an insert for a filter? How many layers of fabric?

Gender also continued to play a central role in mask making and wearing as modern domestic medicine. For one, women made the vast majority of homemade masks.[649] Due to historical patterns of domestic labor, women are more likely to have the knowledge and materials needed to make homemade masks. Women are also historically more likely to participate in health activism, especially volunteering time and labor to protecting their communities. Secondly, wearing masks became a gendered and politically charged act, with men much less likely to wear them.[650] On the one hand, this reflects ideas of masculinity that foreground strength, with mask wearing perceived by some, including the president at the time, as a sign of weakness. But mask wearing by women is also gendered – it represents a type of femininity closely tied to domestic medicine – protecting others.[651]

The continued centrality of gender to domestic medicine can be seen everywhere in the COVID-19 pandemic, not just in mask making and wearing. Although it is difficult to gauge the full extent, the US Department of Labor offers a conservative estimate of 2 million women who left the workforce due to COVID-19 who have not returned at least two years later. Women

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[649] Anna North, "The 'Women's Work' of the Pandemic," *Vox,* April 30, 2020, accessed December 20, 2024, https://www.vox.com/2020/4/30/21238454/coronavirus-face-mask-cooking-women-covid-pandemic.

[650] Brittany N. Hearne and Michael D Niño, "Understanding How Race, Ethnicity, and Gender Shape Mask-Wearing Adherence During the COVID-19 Pandemic: Evidence from the COVID Impact Survey," *Journal of Racial and Ethnic Health Disparities* 9, no. 1 (2022): 176-183.

[651] Heather Murray, "Fearing a Fear of Germs: How Did the Surgical Mask Transform from a Sign of Bigotry to a Sign of Care?" *Perspectives on History*, October 2, 2020.

were not only more likely to be in affected industries, such as service and hospitality, they also bore the burden of unpaid care work in families. Like the mothers in Milwaukee in 1935, but on a national scale, mothers had to find ways to educate and entertain well children sent home from school due to an epidemic. As day cares closed and schools went remote, many mothers left the paid workforce to become full-time caregivers for their families.

Also, much like historical epidemics, most Americans experienced COVID-19 as consumers. For many, the first sign that something was amiss was at the grocery store, as toilet paper and hand sanitizer disappeared off the shelves. Indeed, the pandemic eventually spawned its own economy. Working from home meant more time to try time consuming hobbies, like bread making, while closed gyms fueled a Peloton resurgence.[652] Every other week seemed to bring a new product affected by "supply chain shortages." The effect of COVID-19 on our society, health care industry, and economy will continue for decades. This will further impact domestic medicine, especially for families with a member suffering from long COVID. In addition, the departure of so many women from the workforce, even if just temporarily during the first year or two of the pandemic, will have lasting effects on gender disparities in wages, financial security, and retirement benefits. Lastly, but by no means of least consequence, the domestic violence, and psychological impacts of COVID-era departures from the workforce by women will have generational consequences.

Continuing trends from the first half of the twentieth century, local and federal governments began enacting business closures, mandatory mask wearing, and vaccination

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[652] Jordan Valinsky, "Peloton sales surge 172% as pandemic bolsters home fitness industry," CNN, September 11, 2020, accessed December 20, 2024, https://www.cnn.com/2020/09/11/business/peloton-stock-earnings/index.html.

requirements. Recommending that Americans make their own masks and wear them in public was one thing – mandating it was another, one that expanded domestic medicine to public spaces. Also echoing older epidemics, Americans resisted these compulsory measures. Parents pushed back at school closures, businesses argued for accommodations, and lawsuits ensued in reaction to mandatory vaccine work requirements. Even for Americans who had embraced the "Flatten the Curve" imperative, they still stretched the limits of "social distancing" and lengths of quarantines. This was especially true of parents of children under five, who were unable to be vaccinated until June of 2022, long after older age groups. Even in the landscape of business disruptions and vaccine rollouts, women found ways to work independently and cooperatively to navigate these hurdles. For example, many elderly or immune compromised American owe their COVID-19 vaccine appointment to a friend or family member who connected them to an underground network of volunteers who helped them find a vaccine appointment.

One of the features of the COVID-19 vaccine rollout that will continue to affect society for decades, if not generations, to come is the vaccine hesitancy that it fueled. Just as there were mothers desperate to get their families vaccinated, there were also mothers who not only prevented their children from getting vaccinated but have since become suspicious of other vaccines. As of May 3, 2023, the CDC reported that only 13% of children ages six months to four years had received at least one dose of the COVID-19 vaccine. For children five to eleven years old this increases to 39% and for children ages twelve to seventeen to 68%.[653] For other childhood vaccinations, such as DTap, MMR, polio and varicella, rates of vaccination have

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[653] American Academy of Pediatrics, "Summary of data publicly reported by the Centers for Disease Control and Prevention," *Children and COVID-19 Vaccination Trends*, (May 3, 2023), accessed December 20, 2024, https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-vaccination-trends/.

declined 1% every year since 2019.[654] A recent outbreak of measles in Florida brought to light that rates of vaccination for that disease in the state have dropped below the 95% threshold required for herd immunity.[655]

These features of the COVID-19 pandemic echo the cases in this dissertation, from the mothers in Milwaukee in 1935 thankful for school over the radio, to the proliferation of anti-tuberculosis hygienic products, to "cardiac cases" being told to change occupational expectations, and finally to vaccine advocacy. The details have changed, but domestic medicine is still widely practiced, primarily by women, and continues to have real benefits to society. That being said, trends away from direct care to advocacy continue, but both are still important. Expertise also increasingly dominates health care, but so too does conflicting messaging and opportunities for conflict to arise. Mothers continue to call attention to real world consequences of applying strict guidelines. What, if any, lessons from the history of domestic medicine can we utilize as we prepare for the next, inevitable, epidemic?

Firstly, we must recognize that domestic medicine still happens and is of value to society. Residents of large cities may recall the 7pm tradition of clapping for health care workers and first responders. Mothers enforcing quarantine on energetic toddlers in small apartments or daughters making deliveries to their elderly parents also contributed to the battle against COVID-19, but as unpaid labor largely taken as a given. As the paucity of sources in this dissertation has shown – the more routine, likely to be performed by women, and domestic an activity it, the less likely it

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[654] R. Seither R, K Calhoun K, OB Yusuf, et al., "Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten — United States, 2021–22 School Year," *MMWR Morb Mortal Wkly Rep* 72 (2023): 26–32.

[655] Kaelyn Jetelina and Kristen Panthagani, "Florida Risks Making a Dangerous Measles Outbreak Much Worse" *The Scientific American,* March 1, 2024.

is to be documented, let alone praised or compensated for. While decreasing the gender disparity in caregiving within the home may help shift these trends, as more men participate in an activity the more it is valued by society, simply acknowledging the role domestic medicine still plays is a start.[656]

Secondly, the expansion of the Welfare State during COVID-19 had real and lifesaving benefits. On March 18, 2020, Congress enacted by The Families First Coronavirus Response Act, granting the United States Department of Agriculture, which administers the Supplemental Nutrition Assistance Program (SNAP), authority to increase benefits. Trump-era restrictions limited these benefits to less than half of recipients, but in April of 2021, the Biden Administration expanded these benefits to the lowest income households. Studies show that these benefits kept 4.2 million Americans out of poverty and reduced child poverty by 14 percent in 2021. With female-headed households representing 17.8% of the American population, but 83.9% of families in poverty, this program had a significant impact on women, especially Black and Hispanic women.

These benefits are rooted in the maternal politics that pre-date the Welfare State, which saw female domestic labor as worthy of protection, if not compensation. As we saw in the case studies within this dissertation, these benefits grew as Americans began to articulate their access to monetary and institutional support as a right, not a privilege. Scientific studies show what mothers during the Great Depression wrote to the Children's Bureau – if you give them the resources, they will do what's right for their families. The New Deal operationalized these

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[656] Kimberly Kelly, et al., "Volunteer COVID-19 Personal Protective Equipment Makers: Third Sphere Labor, Caring Masculinities, and Redoing Gender," *Men and Masculinities* 26, no. 3 (June 7, 2023): 376-397.

entitlements, but still left many behind. One of the greatest failures of the Welfare State that COVID-19 made glaringly clear was the inability of governments to create access to affordable childcare. We saw the effect this could have on the economy in Depression era Milwaukee, but COVID-19 brings the issue into stark relief. One study estimates due to the departure of women from the workforce due, in large part, to a lack of reliable and affordable child care, that global GDP growth could be $1 trillion lower in 2030 than it would have if women had returned to the workforce at the same rate men had.[657] Expanding the Welfare State to provide affordable childcare for all families that want it would be an overall good that would also build in resiliency for future disruptions.

Thirdly, without diminishing that COVID-19 was a novel and monumental challenge, it was not unprecedented. As we saw with Scarlet Fever in 1935 in Milwaukee, in the face of uncertainty, the inability of public health officials to decrease contradictory and confusing messaging will result in resistance and conflict. With mistrust of a new immunization, disagreement between the medical community and the health department, and a tense political climate, the scarlet fever epidemic of 1935 and the COVID-19 pandemic have a lot in common. While the COVID-19 vaccine proved to be much more successful than the scarlet fever anti-toxin, that does not mean that public health outreach that went beyond immunization and considered socio-economic factors would have resulted in fewer deaths. In the face of uncertainty, focusing on factors beyond narrow scientific solutions not only fosters cooperation, but can save lives, as we saw with SNAP benefits.

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[657], Anu Madgavkar, Olivia White, Mekala Krishnan, Deepa Mahajan, and Xavier Azcue, “COVID-19 and Gender Equality: Countering the Regressive Effects,” *McKinsey Global Institute*, July 15, 2020, accessed December 20, 2024, https://www.mckinsey.com/featured-insights/future-of-work/covid-19-and-gender-equality-countering-the-regressive-effects.

Finally, one of the unfortunate legacies of COVID-19 is an increase in vaccine hesitancy. American have gone from a nation that donated dimes and willingly volunteered children as test subjects in the fight against polio to a nation with a declining herd immunity from decreasing vaccination rates.[658] While some of this trend is due to restricted access to health care during the first several years of the COVID-19 pandemic, other reasons include vaccine hesitancy that proliferated during the COVID-19 vaccine rollout.[659] These trends are alarming and represent a dangerous shift in health and scientific literacy. however, I would argue that, even the mothers who refused vaccination for themselves and their families see themselves as health advocates for their loved ones. Understanding these attitudes as a form of domestic medicine may assist public health officials in reaching them. The past has shown us that organized public health campaigns were successful when they built political coalitions, were flexible, and recognized cultural differences. Outreach efforts that take into account vaccine hesitancy as a type of domestic medicine could help create messaging that is not divisive or patronizing.

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[658] Luke Cunniff, et al. "The impact of the COVID-19 pandemic on vaccination uptake in the United States and strategies to recover and improve vaccination rates: A review." *Human Vaccines & Immunotherapeutics* 19, no. 2 (2023): 2246502.

[659] Amira Yunusa, et al. "The impact of the Covid-19 pandemic on the uptake of routine maternal and infant vaccines globally: A systematic review" *PLOS Global Public Health* 2, no. 10 (October 2022); Mirko Leonardelli, Federica Mele, Maricla Marrone, Cinzia Annatea Germinario, Silvio Tafuri, Lorenza Moscara, Francesco Paolo Bianchi, and Pasquale Stefanizzi, "The Effects of the COVID-19 Pandemic on Vaccination Hesitancy: A Viewpoint," *Vaccines* 11, no. 7 (2023): 1191.

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