

Typhoid Mary:  
A History of the Disease and Public Health

Valentina Sperini

HIST 228

Dr. Sen

December 15th, 2022



# TYPHOID

The most bacteria infection known as typhoid is a multi-systemic illness that affects many organs. While depicted as the great killer of the nineteenth century, the disease is still prevalent today in underdeveloped areas. There are two distinctively distinct and separate diseases known as typhoid and paratyphoid fever. The bacteria responsible for the disease are *Salmonella typhi* and *Salmonella paratyphi*. These bacteria are transmitted through contaminated water, food, and other contact with contaminated people, food, and water, especially in overcrowded, poor-hygiene places.

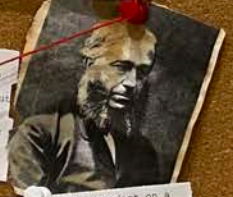
What?

Who?

How?

The main culprit responsible for the illness is the bacterium *Salmonella typhi* and *Salmonella paratyphi* both of which fall under the *Salmonella enterica* serotype. The bacterium is transferred via the fecal-oral route through contaminated water, food, fomites, and infected individuals who may present as "healthy carriers." English physician and epidemiologist William Budd highlighted these factors as reasons why the disease was highly contagious, noting its strong tendency, "once introduced into a family, to spread through the household."

By the closing chapters of the nineteenth century the medical world had accepted what we know today as "germ theory," replacing previously prevailing ideas such as the miasma theory. Budd, as mentioned prior, wrote about contamination of water with the feces of an infected individual. In 1879, doctor Karl Joseph Eberth isolated the bacillus responsible for the abdominal typhoid fever and spleen. His work was later verified by bacteriologists such as Robert Koch.



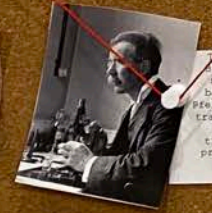
William Budd?

The pathophysiology of the disease is dependent on a plethora of factors including the infectious species the individual is infected with, the virulence, the individual's immunity, and the infectious dose. The greater the dosage, the greater the effects as the incubation period is shortened. Symptoms usually appear between 8-14 days after being infected, but this range is non-static as some may show as early as 3 days later and as late as 60 days later. Through his research Budd associated the specific nature of the disease on the intestine was as defining a mark as a pustular eruption of allopurinol.

"take the intestine away, and it becomes innocuous; in a common outward survey, at least, to distinguish the body of a man dead of typhoid fever, from that of a man killed by any other septic poison," take away the body, but leave the intestine, and by the marks upon it, death from this fever is, at once, distinguished from every other cause."

SYMPTOMS:

- Fever
- Cough
- Diarrhea
- Headache
- Tiredness
- Loss of appetite
- Constipation
- Rash on Chest/Abdomen
- IN MORE SEVERE CASES:
- Liver complications
- Spleen complications
- Intestinal complications

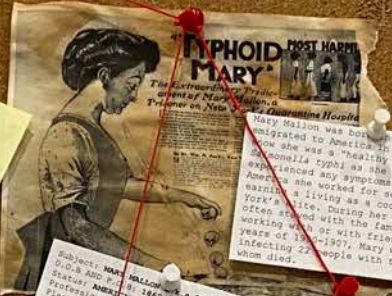


The first typhoid vaccine was patented in 1896 by English pathologist Albroth Wright however this is much debated as literature also points to German bacteriologist and student of Robert Koch, Richard Pfeiffer. Today typhoid vaccines are advised for those traveling to underdeveloped countries to prevent them from contracting typhoid. In 1948 an antibiotic treatment was introduced to combat the disease and prevent more severe symptoms from developing within diagnosed patients.

Civil engineer George Soper was commissioned by Henry Warren after his household fell ill with typhoid to investigate the case. While initially, he believed freshwater clams to be the culprit, his theory was quickly disproven as not all who fell ill had eaten the clams. He soon came to the conclusion that Mary Mallon was a "healthy carrier" of typhoid after essentially stalking her. He composed a chronology of her employment and those who subsequently fell stricken shortly after uncovering that of the 8 families she worked for, 7 of them developed cases of typhoid.

George Soper?

- Summer, 1900, Mass
- Winter, 1901-1902, NYC
- Summer, 1902, Dark River, Maine - lawyer J. Coombs Drayton
- Summer, 1904, Sand Point, Henry Grisey
- Summer, 1906, Oyster Bay, NY, Charles Henry Warren
- Autumn 1906, Tuxedo Park, NYC, Walter Browne, George Kester
- Winter, 1907, NYC, Walter Bowen



Mary Mallon was born in Ireland in 1869 and immigrated to America in 1884. Little did she know she was a "healthy carrier" of *Salmonella typhi* as she had never exhibited any symptoms of the disease. In 1894 she worked for several families, in New York City. During her time as a cook she often stayed with the families as a cook she worked for or with friends. Between the years of 1894-1917, Mary was responsible for infecting 22 people with typhoid, one of whom died.

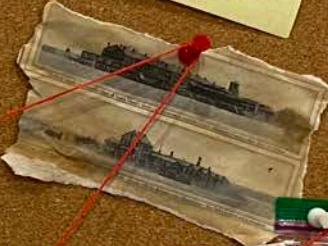


The constitution of the United States of America serves to protect the health and welfare of its citizens through mandates that enable health officials to take specific actions against public health threats. This includes occasional infringement on liberties as they had done with smallpox outbreaks as they had done with a set duration of time. However, Mary's case introduced new questions including, "whether forcible quarantines could be extended to healthy people and if they could be kept isolated so indefinitely." This argument was adopted by her defense lawyer George Francis O'Neill.

A Public health legacy?



Mary's case presents a timeless dilemma plaguing public officials, "how to protect the health of the public when it is threatened by an individual carrier of disease and at the same time preserve that individual's civil liberties." This question is very much prevalent in modern day as well as public health officials across the globe struggling with combating diseases pose similar questions. This dilemma revolves around a multitude of perspectives including that of the medical realm, the public policymakers, the law, and the social realm. From the perspective of the medical realm, Mary served as another statistic who was accused of improperly washing her hands at food preparation and transmitting the disease to her employers and their families. They, therefore, believed from a scientific perspective that unless contained, she would continue to pose a threat to public health as a "healthy carrier." Consequently, policymakers cataloged the new innovations of science that made it possible to diagnose healthy individuals as carriers and learn these individuals as "a menace to public health."

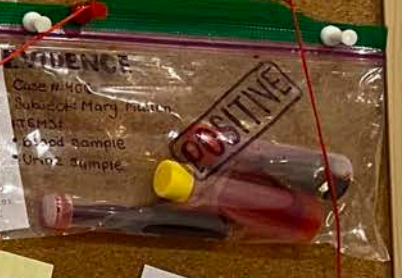
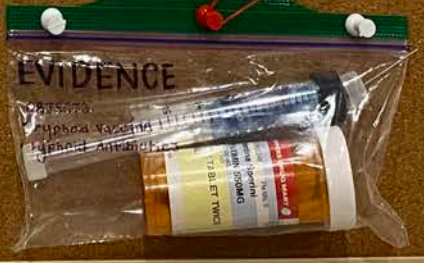


Mary was forced into giving stool samples by the public health services which tested positive for *Salmonella typhi*. She was then immediately transferred to North Brother Island without any explanation about her brother's case or reasoning for her confinement. They intended to remove her from the island as a cook, for the isolation her case was brought upon with a new health commissioner who revoked her quarantine sentences on the island. She worked in a kitchen, but eventually wound up in a cell. She was then sent back to North Brother Island where she remained in quarantine for the rest of her life.

Where?



is due to poor sanitation and food handling practices in the underdeveloped world and poor water treatment. As a result, it is a major cause of mortality and poor health in these areas. It also poses a threat to travelers as they do not have the same immunity as that of the locals.





The acute bacterial infection known as typhoid is a multi-systemic illness that affects many organs. While depicted as one of the worst killers of the nineteenth century, the disease is still prevalent today in underdeveloped areas. There are two clinically indistinct manifestations of the disease known as typhoid and paratyphoid. The bacterium *Salmonella typhi* and *Salmonella paratyphi* are the sources of the disease and are easily transmitted through contaminated people, food and drink, or fomites making the disease highly contagious especially in overcrowded, poor-hygienic places.

What?

Who?

How?

The main culprit responsible for the ailment is the bacterium *Salmonella typhi* and *Salmonella paratyphi* both of which fall under the *Salmonella enterica* serotype. The bacterium is transferred via the fecal-oral route through contaminated water, foods, fomites, and infected individuals who may present as "healthy carriers." English physician and epidemiologist William Budd highlighted these factors as reasons why the disease was highly contagious, noting its strong tendency, "once introduced into a family, to spread through the household."

By the closing chapters of the nineteenth century the medical world had accepted what we know today as "germ theory," replacing previously prevailing ideas such as the miasma theory. Budd, as mentioned prior, wrote about his findings that typhoid is transmitted via contamination of water with the feces of an infected individual. In 1879, doctor Karl Joseph Eberth isolated the bacillus responsible for the abdominal lymph node and spleen. His work was then verified by bacteriologists such as Robert Koch.



Civil engineer George Soper by Henry Warren after his work with typhoid to investigate initially, he believed free be the culprit, his theory disproven as not all who ate the clams. He soon came to that Mary Mallon was a "typhoid" after essentially composed a chronology of those who subsequently fell after uncovering that of worked for, 7 of them died typhoid.

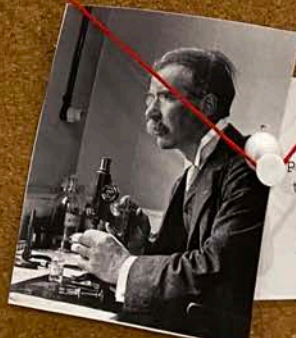
William Budd?

The pathophysiology of the disease is dependent on a plethora of factors including the infectious species the individual is infected with, the virulence, the individual's immunity, and the infectious dose. The greater the dosage, the greater the effects as the incubation period is shortened. Symptoms usually appear between 8-14 days after being infected, but this range is non-static as some may show as early as 3 days later and as late as 60 days later. Through his research Budd elucidated the specific nature of the disease on the intestine was as defining a mark as a pustular eruption of smallpox claiming:

"take the intestine away, and it becomes impossible, in a common outward survey, at least, to distinguish the body of a man dead of typhoid fever, from that of a man killed by any other septic poison; take away the body, but leave the intestine, and by the marks upon it, death from this fever is, at once, distinguished from every other cause."

- Summer, 1900
- Winter, 1901
- Summer, 1902  
Maine - 10  
Drayton
- Summer, 1903  
Henry G
- Summer, 1904  
Charles
- Autumn 1905  
Water
- Winter, 1906  
Bower

- SYMPTOMS:**
- fever
  - cough
  - diarrhea
  - tiredness
  - headache
  - loss of appetite
  - constipation
  - rash on chest/abdomen
- IN MORE SEVERE CASES:**
- liver complications
  - spleen complications
  - intestinal complications



The first typhoid vaccine was patented in 1896 by British pathologist Almroth Wright however this much debated as literature also points to German bacteriologist and student of Robert Koch, Richard Pfeiffer. Today typhoid vaccines are advised for those traveling to underdeveloped countries to prevent contracting typhoid. In 1948 an antibiotic treatment was introduced to combat the disease to prevent more severe symptoms from developing with diagnosed patients.



# TYPHOID

Who?



Mary Mallon was born in Ireland in 1869 and emigrated to America in 1884. Little did she know she was a "healthy carrier" of *Salmonella typhi* as she had never experienced any symptoms of the disease. In America she worked for several families, earning a living as a cook for many of New York's elite. During her time as a cook she often stayed with the families she was working with or with friends. Between the years of 1900-1907, Mary was responsible for infecting 22 people with typhoid, one of whom died.

Subject: MARY MALLON - A TYPHOID MARY  
 D.O.B AND P.O.B: 1869-IRELAND  
 Profession: AMERICAN IMMIGRANT SINCE (1884)  
 Place of Residency: FORMER COOK  
 NORTH BROTHER ISLAND

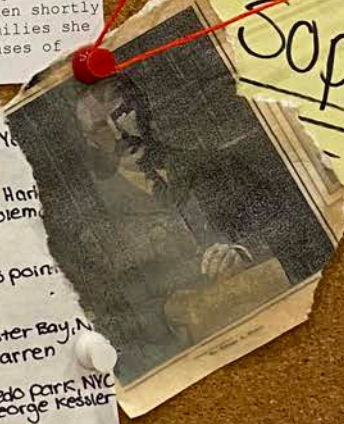


The constitution serves to protect citizens through officials to take health threats. T... infringement on... smallpox outbreaks... a set duration of... introduced new que... forcible quarantine... people and if they... indefinitely." This... defence lawyer Geo...

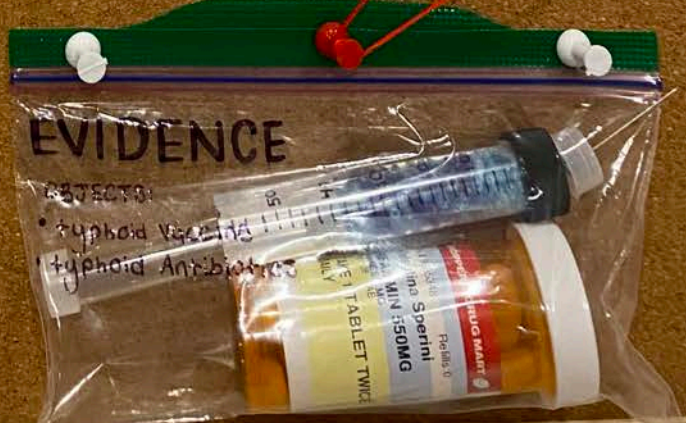
Civil engineer George Soper was commissioned by Henry Warren after his household fell ill with typhoid to investigate the case. While initially, he believed freshwater clams to be the culprit, his theory was quickly disproven as not all who fell ill had eaten the clams. He soon came to the conclusion that Mary Mallon was a "healthy carrier" of typhoid after essentially stalking her. He composed a chronology of her employment and those who subsequently fell stricken shortly after uncovering that of the 8 families she worked for, 7 of them developed cases of typhoid.

George Soper?

- Summer, 1900, Mass.
- ↓
- Winter, 1901-1902, NYC
- ↓
- Summer, 1902, Dark Harbor, Maine - lawyer J. Coleman Drayton
- ↓
- Summer, 1904, Sands Point, Henry Gilsey
- ↓
- Summer, 1906, Oyster Bay, N.Y. Charles Henry Warren
- ↓
- Autumn 1906, Tuxedo Park, NYC Walter Brown - George Kessler
- ↓
- Winter, 1907, NYC, Walter Bowen



Mary was forced into giving blood health services which tested positive typhi. She was then immediately Brother Island without any explanation of the situation or reasoning they offered to remove her. gal they offered to remove her. gal commissioner who revoked her promise that she refrained from while, she worked in laundry, cooking again and when the h down the next time she had i of whom had died. She was t Island where she remained i her life.



The first typhoid vaccine was patented in 1896 by British pathologist Almroth Wright however this is much debated as literature also points to German bacteriologist and student of Robert Koch, Richard Pfeiffer. Today typhoid vaccines are advised for those traveling to underdeveloped countries to prevent them from contracting typhoid. In 1948 an antibiotic treatment was introduced to combat the disease and prevent more severe symptoms from developing within diagnosed patients.



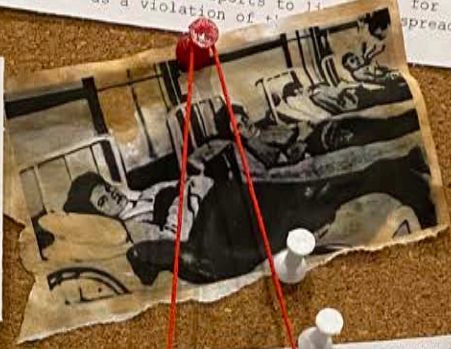
dependent on a... species... violence, the... dose. The... acts as the... usually appear... but this range... as 3 days later... research Budd... as on the... ustular eruption

survey, at... of a man... time, and... every



Mary's story depicts the common demonization and stigmatization that those suffering from diseases endured during this time. Many believed that Mary got what she deserved, failing to account for the reasons for their actions. The image of "Typhoid Mary" stuck around resonating with their public becoming a label for stigmatized groups associated with diseases as used in modern-day HIV and AIDS scenarios. Overall, the legacy of Typhoid Mary introduced health dilemmas still prevalent in society today as people argue to what extent should the government be allowed to infringe on civil liberties in the name of public health. Modernly, in relation to COVID-19, similar questions may be posed in debates over the government's civil mask and vaccine mandates as well as vaccine passports to limit the spread of the disease which many protested as a violation of their rights.

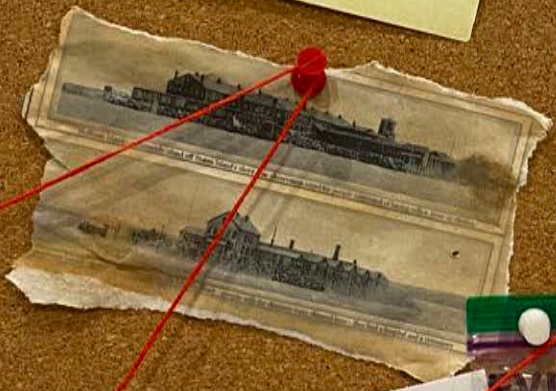
The constitution of the United States of America serves to protect the health and welfare of its citizens through mandates that enable health officials to take specific actions against public health threats. This included occasional infringement on liberties as they had done with smallpox outbreaks to quarantine the infected for a set duration of time. However, Mary's case introduced new questions including, "whether forcible quarantines could be extended to healthy people and if they could be kept isolated so indefinitely." This argument was adopted by her defence lawyer George Francis O'Neill.



eland in 1869 and 884. Little did she carrier" of ad never of the disease. In veral families, c for many of New ime as a cook she lies she was ds. Between the as responsible for yphoid, one of

A Public Health Legacy?

Mary's case presents a timeless dilemma plaguing health officials, "namely-how to protect the health of the public when it is threatened by an individual carrier of disease and at the same time preserve that individual's civil liberties." This question is very much prevalent in modern day as well as public health officials across the globe struggling with combating diseases pose similar questions. This dilemma revolves around a multitude of perspectives including that of the medical realm, the policymakers, the law, and the social realm. From the perspective of the medical realm, Mary served as another statistic who was accused of improperly washing her hands in food preparation and transmitting the disease to her employers and their families. They, therefore, believed from a scientific perspective that unless contained, she would continue to pose a threat to public health as a "healthy carrier." Consequently, policymakers catalyzed the new innovations of science that made it possible to diagnose healthy individuals as carriers and deemed these individuals as, "a menace to public health."



1. 2 3

Mary was forced into giving stool samples by the public health services which tested positive for Salmonella typhi. She was then immediately transferred to North Brother Island without any explanation about the gravity of the situation or reasoning for her confinement, rather they offered to remove her gallbladder. 3 years into isolation, her case was brought up with a new health commissioner who revoked her quarantine sentences on the premise that she refrained from working as a cook. For a while, she worked in laundry, but eventually wound up cooking again and when the health officials tracked her down the next time she had infected another 25 people, 2 of whom had died. She was then sent back to North Brother Island where she remained in quarantine for the rest of her life.

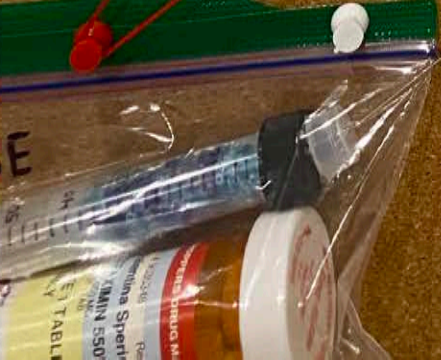
EVIDENCE  
Case #: 408  
Subject: Mary Mallon  
ITEMS:  
• Blood Sample  
• Urine Sample

POSITIVE

Where?



of illness worldwide. According to the World Health Organization, between 11-20 million people are infected with typhoid fever each year, with 0-161,000 of the infected dying from it. It is most prominent in the underdeveloped and lower-middle income countries within southern and eastern Africa. This prominence in the underdeveloped world is due to poor sanitation and food handling practices, overcrowding and poor water treatment. As a result, typhoid is a major cause of mortality and morbidity in these areas. It also poses a threat to travellers and whose bodies may not have the same immunity as that of the locals.





**Overview:**

The acute bacterial infection known as typhoid is a multi-systemic illness that affects many organs.<sup>1</sup> While depicted as one the worst killers of the nineteenth century, the disease is still prevalent today mainly in underdeveloped areas.<sup>2</sup> There are two clinically indistinct manifestations of the disease known as typhoid and paratyphoid referred to cumulatively as enteric fever. The bacterium *Salmonella typhi* and *Salmonella paratyphi* are the sources of the disease and are easily transmitted through contaminated people, food and drink, or fomites making the disease highly contagious especially in overcrowded, poor-hygienic places.<sup>3</sup>

**Etiology:**

The main culprit responsible for the ailment is the bacterium *Salmonella typhi* and *Salmonella paratyphi* both of which fall under the *Salmonella enterica* serotype. The bacterium is transferred via the fecal-oral route through contaminated water, foods, fomites, and infected individuals who may present as “healthy carriers.”<sup>4</sup> English physician and epidemiologist William Budd highlighted these factors as reasons as to why the disease was highly contagious, noting its strong tendency, “once introduced into a family, to spread through the household.”<sup>5</sup>

**Epidemiology:**

Typhoid is an ongoing cause of illness worldwide. According to the World Health Organization (WHO), between 11-20 million people are infected with typhoid annually with 128,000-161,000 of the infected dying from it.<sup>6</sup> It is especially prominent in lower-middle income countries within

---

<sup>1</sup>Jenish Bhandari, Pawan K. Thada, and Elizabeth DeVos. “Typhoid Fever.” In: *StatPearls* (Treasure Island (FL): StatPearls Publishing; 2022) Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557513/>

<sup>2</sup> Judith Walzer Leavitt. *Typhoid Mary: Captive to the Public's Health*. (Boston: Beacon Press, 1996,) 6. <https://hdl-handle-net.proxy.queensu.ca/2027/heb02042.0001.001>. EPUB.

<sup>3</sup> Bhandari, Thada, and DeVos. “Typhoid Fever.”

<sup>4</sup> Bhandari, Thada, and DeVos. “Typhoid Fever.”

<sup>5</sup> Budd, William. *Typhoid Fever : Its Nature, Mode of Spreading, and Prevention* (New York: Delta Omega Society, 1931,) 13.

<sup>6</sup>“Typhoid,” World Health Organization (World Health Organization, January 31, 2018), <https://www.who.int/news-room/fact-sheets/detail/typhoid>.

southern and central Asia and Southern Africa, This prominence in the underdeveloped world is due to poor sanitation and food handling practices, overcrowding and poor water treatment. As a result typhoid is a major cause of mortality and morbidity in these areas. It also poses a threat to travelers of these places whose bodies may not have the same immunity as that of the locals.<sup>7</sup>

**Pathophysiology/Symptoms:**

The pathophysiology of the disease is dependent on a plethora of factors including the infectious species the individual is infected with, the virulence, the individual's immunity, and the infectious dose. The greater the dosage, the greater the effects as the incubation period is shortened.<sup>8</sup> Symptoms usually appear between 8-14 days after being infected, but this range is non-static as some may show as early as 3 days later and as late as 60 days later.<sup>9</sup> Through his research Budd equated the specific nature of the disease on the intestine was as defining a mark as a pustular eruption of smallpox claiming:

“take the intestine away, and it becomes impossible, in a common outward survey, at least, to distinguish the body of a man dead of typhoid fever, from that of a man killed by any other septic poison; take away the body, but leave the intestine, and by the marks upon it, death from this fever is, at once, distinguished from every other cause.”<sup>10</sup>

Some of the symptoms highlighted by the government of Canada include, “fever, cough, diarrhea, tiredness, headache, loss of appetite, constipation, rash of flat, rose coloured spots on abdomen or chest.” In more severe cases the patient may experience liver, spleen and intestinal complications that if untreated, may become fatal.<sup>11</sup> With that being said, some infected

---

<sup>7</sup> “Risk of Typhoid Fever,” Canada.ca (The Government of Canada, July 3, 2019), <https://www.canada.ca/en/public-health/services/diseases/typhoid-fever/risks.html#shr-pg0>.

<sup>8</sup> Bhandari, Thada, and DeVos. “Typhoid Fever.”

<sup>9</sup> “Risk of Typhoid Fever,” Canada.ca

<sup>10</sup> Budd, William. *Typhoid Fever: Its Nature, Mode of Spreading, and Prevention*, 46.

<sup>11</sup> “Risk of Typhoid Fever,” Canada.ca

individuals go on to show no symptoms at all and in this case they are deemed, “healthy carriers” as in the infamous case of Mary Mallon.

### **TYPHOID MARY**

#### **Science/ Medical Knowledge of the Time:**

By the closing chapters of the nineteenth century the medical world had accepted what we know today as “germ theory,” replacing previously prevailing ideas such as the miasma theory.<sup>12</sup> Budd, as mentioned prior, wrote about his findings that typhoid is transmitted via contamination of water with feces of an infected individual. In 1879, doctor Karl Joseph Eberth isolated the bacillus responsible in the abdominal lymph node and spleen. His work was then verified by bacteriologists such as Robert Koch.<sup>13</sup>

#### **An Innocent Immigrant?:**

Mary Mallon was born in Ireland in 1869 and emigrated to America in 1884. Little did she know she was a “healthy carrier” of *Salmonella typhi* as she had never experienced any symptoms of the disease. In America she worked for several families, earning a living as a cook for many of New York’s elite. During her time as a cook she often stayed with the families she was working with or with friends. Between the years of 1900-1907, Mary was responsible for infecting 22 people with typhoid, one of whom died.<sup>14</sup>

#### **George Soper:**

Civil engineer George Soper was commissioned by the Warren’s after his household fell ill with typhoid to investigate the case. While initially he believed freshwater clams to be the culprit, his theory was quickly disproven as not all who fell ill had eaten the clams. He soon came to the

---

<sup>12</sup> Judith Walzer Leavitt. *Typhoid Mary: Captive to the Public's Health*, 6.

<sup>13</sup> Filio Marineli et al. “Mary Mallon (1869-1938) and the history of typhoid fever.” *Annals of gastroenterology*, 26(2), 132–134.

<sup>14</sup> Judith Walzer Leavitt. *Typhoid Mary: Captive to the Public's Health*, 1-3.



conclusion that Mary Mallon was a “healthy carrier” of typhoid after essentially stalking her. He composed a chronology of her employment and those who subsequently fell stricken shortly after uncovering that of the 8 families she worked for, 7 of them developed cases of typhoid.<sup>15</sup>

### **A Threat to Public Health:**

Mary was forced into giving stool samples by the public health services which tested positive for *Salmonella typhi*. She was then immediately transferred to North Brother Island without any explanation about the gravity of the situation or reasoning for her confinement, rather they offered to remove her gallbladder.<sup>16</sup> 3 years into her isolation her case was brought up with a new health commissioner who revoked her quarantine sentences on the premise that she refrained from working as a cook. For a while she worked in laundry, but eventually wound up cooking again and when the health officials tracked her down the next time she had infected another 25 people, 2 of whom had died. She was then sent back to North Brother Island where she remained in quarantine for the rest of her life.<sup>17</sup>

### **A Public Health Dilemma:**

Simultaneously it presents a timeless dilemma plaguing health officials, “namely—how to protect the health of the public when it is threatened by an individual carrier of disease and at the same time preserve that individual’s civil liberties...”<sup>18</sup> This question is very much prevalent in modern day as well as public health officials across the globe struggling with combating diseases pose similar questions. This dilemma revolves around a multitude of perspectives including that of the medical realm, the public policy makers, the law, and social realm. In the perspective of the medical realm, Mary served as another statistic who was accused of improperly washing her

---

<sup>15</sup> Filio Marineli et al. “Mary Mallon (1869-1938) and the history of typhoid fever.” *Annals of gastroenterology*, 26(2), 132–134.

<sup>16</sup> Filio Marineli et al.

<sup>17</sup> Judith Walzer Leavitt. *Typhoid Mary: Captive to the Public's Health*, 1-4.

<sup>18</sup> Judith Walzer Leavitt, 1.



hands in food preparation, transmitting the disease to her employers and their families.<sup>19</sup> They therefore believed from a scientific perspective that unless contained, she would continue to pose a threat to public health as a “healthy carrier.” Consequently, policy makers catalyzed the new innovations of science that made it possible to diagnose healthy individuals as carriers and deemed these individuals as, “a menace to public health.” Therefore health officers saw a “clear-cut necessity of infringing on individual rights in order to protect the public.”<sup>20</sup>

### **A Civil Liberties Dilemma**

The constitution of the United States of America serves to protect the health and welfare of their citizens through mandates that enable health officials to take specific actions against public health threats. This included occasional infringement on liberties as they had done with smallpox outbreaks to quarantine the infected for a set duration of time. However Mary’s case introduced new questions including, “whether forcible quarantines could be extended to healthy people and if they could be kept isolated so indefinitely.”<sup>21</sup> This argument was adopted by her defense lawyer George Francis O’Neill.

### **Legacy:**

Mary’s story depicts the common demonization and stigmatization that those suffering from diseases endured during this time. Many believed that Mary got what she deserved, failing to account for public health officials’ failures to inform Mary of the threat she posed or reasons for their actions.<sup>22</sup> The image of “Typhoid Mary” stuck around resonating with the public becoming a label for stigmatized groups associated with diseases as used in modern day HIV and AIDS scenarios.<sup>23</sup> Overall, the legacy of Typhoid Mary introduced health dilemmas still prevalent in

---

<sup>19</sup> Judith Walzer Leavitt, 7.

<sup>20</sup> Judith Walzer Leavitt, 8.

<sup>21</sup> Judith Walzer Leavitt, 8-9.

<sup>22</sup> Judith Walzer Leavitt, 1-3.

<sup>23</sup> Judith Walzer Leavitt, 10-11.



society today as people argue to what extent should the government be allowed to infringe on civil liberties in the name of public health. Presently, in relation to COVID-19 similar questions may be posed in debates over the government's call for mask and vaccine mandates as well as vaccine passports to limit the spread of the disease which many protested as a violation of their rights.

### **Treatment and Prevention:**

The first typhoid vaccine was patented in 1896 by British pathologist Almroth Wright however this is much debated as literature also points to German bacteriologist and student of Robert Koch, Richard Pfeiffer. Today typhoid vaccines are advised for those traveling to underdeveloped countries to prevent them from contracting typhoid. In 1948 an antibiotic treatment was introduced to combat the disease and prevent more severe symptoms from developing within diagnosed patients.<sup>24</sup> In the case of treatment, typhoid fever has a fatality rate of 1-4%, however in the case that it is not treated this number may rise to anywhere between 10-30%.<sup>25</sup>

---

<sup>24</sup> Bhandari, Thada, and DeVos. "Typhoid Fever."

<sup>25</sup> Geoffrey C. Buckle, Christa L. Fischer Walker, and Robert E. Black (2012). "Typhoid fever and paratyphoid fever: Systematic review to estimate global morbidity and mortality for 2010." *Journal of global health*, 2(1), 010401. <https://doi.org/10.7189/jogh.02.010401>



## Bibliography

- Budd, William. Typhoid Fever : Its Nature, Mode of Spreading, and Prevention New York: [Delta Omega Society], 1931.
- Bhandari, Jenish, Pawan K. Thada, and Elizabeth DeVos. "Typhoid Fever." In: StatPearls (Treasure Island (FL): StatPearls Publishing; 2022) Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557513/>
- Buckle, Geoffrey C. Christa L. Fischer Walker, and Robert E. Black (2012). "Typhoid fever and paratyphoid fever: Systematic review to estimate global morbidity and mortality for 2010." *Journal of global health*, 2(1), 010401. <https://doi.org/10.7189/jogh.02.010401>
- Leavitt, Judith Walzer. Typhoid Mary : Captive to the Public's Health Boston: Beacon Press, 1996.
- Marineli, Filio, Gregory Tsoucalas, Marianna Karamanou, and George Androutsos. "Mary Mallon (1869-1938) and the history of typhoid fever." *Annals of gastroenterology*, 26(2), 132–134.
- "Risk of Typhoid Fever." Canada.ca. The Government of Canada, July 3, 2019. <https://www.canada.ca/en/public-health/services/diseases/typhoid-fever/risks.html#shr-pg0>.
- "Typhoid." World Health Organization. World Health Organization, January 31, 2018. <https://www.who.int/news-room/fact-sheets/detail/typhoid>.