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Epidemiology in Higher Education: Scarlet Fever at Gettysburg College

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Abstract

Throughout the early 20th century, the relationship between higher education and the spread of epidemic disease evolved in the United States. Two notable epidemics of scarlet fever in 1915 and 1920 serve as a lens through which the larger roles of disease and higher education can be analyzed. By assessing the roles both the administration and the students played at Gettysburg College, then Pennsylvania College, historians can understand the process of combating health crises in the future. Although the Pennsylvania College scarlet fever epidemics of 1915 and 1920 impacted campus to a smaller extent than the 2020 COVID-19 pandemic, the documentation from the students and faculty demonstrate the development of a complex understanding of the roles of educational authority in response to health crises.

Keywords

Epidemics, Gettysburg College, Scarlet Fever, COVID-19

Disciplines

Epidemiology | Higher Education Administration | History of Science, Technology, and Medicine

Comments

Written for HIST 305: Global Epidemics: From Subjugation to Science.

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Epidemiology in Higher Education:

Scarlet Fever at Gettysburg College

By: Addison Lomax

Due: Saturday, May 6, 2022

HIST-305: Global Epidemics

Professor Downs

I affirm that I have upheld the highest principles of honesty and integrity in my academic work
and have not witnessed a violation of the Honor Code.

Throughout the history of Gettysburg College, there have been numerous epidemics which have shaped the College administration's response to health crises. Due to the impact of the COVID-19 pandemic on the everyday lives of communities around the world, it is important to look back on historical cases of epidemics on a smaller scale. Two notable epidemics include the scarlet fever epidemics of 1915 and 1920. The outbreaks at Gettysburg College, known as Pennsylvania College at the time, served as a lens through which the larger roles of disease and higher education can be analyzed.¹ By assessing the roles both the administration and the students played during past health crises, historians can understand the process of combating health crises in the future. Although the Pennsylvania College scarlet fever epidemics of 1915 and 1920 impacted campus to a smaller extent than the 2020 COVID-19 pandemic, the documentation from the students and faculty demonstrate the development of a complex understanding of the roles of educational authority in response to health crises.

In order to understand the relationship between scarlet fever and its victims, it is important to comprehend the infection itself. Scarlet fever is a bacterial infection presented in some individuals who contract strep throat. The disease is common in children and was once considered a serious life-threatening illness. The bacterium for scarlet fever releases a toxin when infected by a bacteriophage which results in a rash and a red tongue.² This is because the toxin damages the plasma membranes of blood capillaries. Regarding its presence in recorded history, scarlet fever has been traced back to the 16th century. For example, "according to most scholars, Johann Weyer of the Netherlands was the first to describe a sore throat occurring

¹ Hereafter, Gettysburg College will be referred to as Pennsylvania College. The name of the College was changed from Pennsylvania College to Gettysburg College on November 14, 1921.

² Betty Ferster, "Infectious Diseases: Viruses," BIO-102: Biological Basis of Disease (Class lecture, Gettysburg College, Gettysburg, PA, Feb. 21, 2022).

during epidemics of *scarlatina anginosa*, which he did in 1565.”³ In North America and Europe scarlet fever was prominent in the early 20th century; however, “it was not until the 1920s that George and Gladys Dick showed that scarlet fever was associated with a sore throat caused by hemolytic streptococci that produced a secreted toxin known as scarlet fever toxin, or Dick toxin.”⁴ Scarlet fever impacted the lives of many individuals until the advent of antibiotic treatment in the 1940s. As a result, scarlet fever epidemics continued throughout the early 20th century.

Because of the respiratory transmission of the disease, college campuses created an ideal environment for scarlet fever outbreaks. During the early 20th century, the population of those attending institutions of higher education in the United States increased. Specifically, “between 1899-1900 and 1909-10, enrollment rose by 50 percent. In the following decade, enrollment rose by 68 percent, and between 1919-20 and 1929-30, enrollment rose by 84 percent.”⁵ Because the student populations at colleges and universities was increasing, the number of students living on campus increased as well. As a result, more students were living closer together than previously. Additionally, since scarlet fever is transmitted through droplets spread from humans to other humans which are “expelled when an infected person coughs or sneezes,” the infection had the opportunity to easily spread throughout college campuses because of the frequent interaction between students.⁶ Since the incubation period is typically two to four days, many students would not know that they had scarlet fever; therefore, students continued to go to class and

³ Joseph Ferretti; Werner Köhler, “Streptococcus pyogenes: Basic Biology to Clinical Manifestations,” National Library of Medicine, Feb. 10, 2016, Accessed May 5, 2022, Available from: <https://www.ncbi.nlm.nih.gov/books/NBK333430/>

⁴ Ibid.

⁵ Thomas D. Snyder, “Higher Education,” *120 Years of American Education: A Statistical Portrait*, National Center for Education Statistics, 65.

⁶ Mayo Clinic Staff, “Scarlet Fever,” Mayo Clinic, Oct. 16, 2019, Accessed May 5, 2022, Available from: [Scarlet fever - Symptoms and causes - Mayo Clinic](#).

sports without knowing they were carriers.⁷ Furthermore, sharing food or utensils increases the likelihood of transmitting the disease. Due to the lack of proper sanitary measures, as well as limited scientific knowledge at the beginning of the 20th century, it is likely that scarlet fever was transmitted in these ways which were more prominent on college campuses.

Scarlet fever affected numerous institutions of higher education throughout the early 20th century. For example, the University of Illinois experienced an epidemic on their campus in 1914. The Dean of Men, Thomas A. Clark, “urged sick students to see a physician, to isolate themselves until their diagnosis was confirmed, and not to attend class if they were sick.”⁸ The University of Illinois reached out to the local health authorities, such as the Burnham Hospital in Champaign; however, the university’s administration realized that “the cities of Champaign and Urbana had no intention of assuming any responsibility for the care of students should any more of them fall ill.”⁹ As a result, Clark encouraged the creation of a small, private hospital known as the Service House, to care for the infected students on campus.¹⁰ The hospital operated from February 23rd, 1914, until its closure on April 30th of the same year, following the end of the epidemic.¹¹ Similarly, Cornell College noted the presence of a scarlet fever on campus during the 1918-1919 school year.¹² The limited resources were largely attributed to the strain on campus from both World War I and an earlier influenza epidemic on campus. Overall, the cases of scarlet fever at both the University of Illinois and Cornell College demonstrate the importance of the

⁷ Mayo Clinic Staff, “Scarlet Fever,” Mayo Clinic, Oct. 16, 2019, Accessed May 5, 2022, Available from: [Scarlet fever - Symptoms and causes - Mayo Clinic](#).

⁸ Cara Bertram, “‘In the Present Uncertain Situation’: Scarlet Fever at the University of Illinois, 1914,” University Library at the University of Illinois, March 19, 2020, Accessed on May 5, 2022, Available from: [“In the Present Uncertain Situation”: Scarlet Fever at the University of Illinois, 1914 – University of Illinois Archives](#).

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Dee Ann Rexroat, “A Century Later: Cornell College Adapts to Another Pandemic,” Cornell College, April 3, 2020. Accessed May 5, 2022, Available from: [A century later: Cornell College adapts to another pandemic - Cornell College](#).

relationship between local health authorities and college administrators, particularly in regard to epidemic control and student wellbeing.

In addition to the cases at the University of Illinois and Cornell College, Pennsylvania College experienced two scarlet fever epidemics over the course of the early 20th century. The primary source research conducted throughout this paper is heavily based on the historical evidence documented in the Gettysburg College Special Collections. Gettysburg College Special Collections is home to many founding documents of the College. This includes, College yearbooks, faculty minutes, student scrapbooks, and more. Local publications such as *The Gettysburgian*, as well as personal accounts of the quarantine conditions and faculty minutes of special administrative meetings, provide the context for Pennsylvania College at the turn of the century. Through assessing the numerous perspectives affected by the epidemics on campus, historians can understand the importance of epidemic diseases in higher education, as well as the impact of scarlet fever on rural communities at the beginning of the 20th century.

The campus climate at Pennsylvania College during the early 20th century contributed to the increased interaction between students and the resulting exposure to epidemic disease. The student body increased from 323 total students during the 1910-1911 school year, to 449 students during the 1914-1915 academic year.¹³ During the scarlet fever epidemic of 1920, there were 493 students enrolled at the College.¹⁴ In addition to an increased number of students living on-campus in fraternity houses and dormitories, the dining facilities at the College underwent

¹³ Charles A. Glatfelter, "Toward a Greater Gettysburg (1905-1945)," in *A Salutory Influence: Gettysburg College, 1832-1985* (Gettysburg, PA: Gettysburg College, 1987), 2: 586.

¹⁴ *Ibid.*, 585.

changes due to an increased amount of money allotted to the College for the preparatory department. As a result,

Ground was broken in the following fall [of 1915] and the structure was ready for use in September 1916. Called simply the Main Building, it contained facilities for all of the operations of the preparatory department, including a dining room. For the first time in more than forty years the College could provide meals for at least some of its students”¹⁵

Because of the changing residential and dining facilities on campus between 1910 and 1920, the likelihood of exposure to disease increased, as some health practices may have been overlooked due to the College’s focus on expansions and increasing enrollment. Furthermore, the social practices on campus likely contributed to the spread of disease. For example, fraternities hosted smoke parties in which, “Students and faculty listened to music of all kinds; patiently heard talks extolling the College; participated in toasts; devoured chicken salad, pickles, and coffee; and smoked cigars, cigarettes, and corn-cob pipes.”¹⁶ By encouraging smoking and sharing food, scarlet fever had the opportunity to thrive at Pennsylvania College. The increased enrollment, residential education, and social pastimes at the College provided an opportunity for infectious diseases to spread in an epidemic across the campus by 1915.

While the 1915 epidemic altered the student experience, it also served as a lens regarding disciplinary action and the role of administration in controlling the student body. Beginning in the fall of 1915, scarlet fever spread on the campus of Pennsylvania College, leading to an increased awareness of epidemic disease among the administration. Since scarlet fever was a

¹⁵ Charles A. Glatfelter, A Salutory Influence, 512-513.

¹⁶ *Ibid.*, 627.

deadly disease, specifically for children, it is likely that when the students on campus became aware of the spread of scarlet fever, they had already known about the serious nature of the disease. As a result, some students panicked and went home to their families.¹⁷ While this may have decreased the number of students on campus, it did increase the risk of scarlet fever being spread by students to their homes throughout the surrounding area. Because students were fleeing campus, a committee was created with Professors Wentz, Stahley, and Shipherd to combat the issue.¹⁸ Dr. S.G. Dixon, the State Commissioner of Health, stated this in a letter read to the student body in November.¹⁹ Once the committee was created, they announced at the special December 9th faculty meeting,

Whereas, Any effort to evade the laws or intentions of the Board of Health is unmanly, illegal, subversive of authority, and a menace to the health of both the student body and the general public... therefore be it Resolved, That it is regarded by the Faculty as a serious misdemeanor for any student of Pennsylvania College to attempt to escape from quarantine, whether that quarantine is actual or impending.²⁰

Despite previous health crises such as the mumps and the chicken pox, the College administration's response to the scarlet fever epidemic of 1915 demonstrated a transition into an active authority on campus. In order to keep students on campus, the College resorted to disciplinary action, enacting a misdemeanor punishment. The administration, however, quickly flipped their opinion two days later, moving Christmas recess to December 11, the day of the meeting, instead of its original date, December 17th.²¹ Overall, the original o of outbreak scarlet

¹⁷ Ron Crouchman, 1915 Faculty Minutes Highlights, Notes From Transcription Project, April. 2022.

¹⁸ Ibid.

¹⁹ Gettysburg College Faculty Minutes, December 9, 1915, Gettysburg College Archives (Hereafter GCA).

²⁰ Ron Crouchman, 1915 Faculty Minutes Highlights, Notes From Transcription Project, April. 2022.

²¹ Gettysburg College Faculty Minutes, December 17, 1915, GCA.

fever demonstrated a shift in the relationship between the administration and the students in regard to power and discipline on campus.

Although the College's response to the first scarlet fever epidemic in 1915 proved to be unprecedented, the scarlet fever epidemic of 1920 initiated an increase in the role of the local health board in the decision making of the College. This cooperation sets Gettysburg apart from the responses of local health officials at other universities such as the University of Illinois. The second epidemic of scarlet fever began on Friday, February 6th, 1920.²² This epidemic impacted campus to a greater extent, since major changes were implemented such as "Pennsylvania Hall and McKnight Hall [were] under modified quarantine because of cases of scarlet fever."²³

Additionally, the administration acted quicker to ensure that students did not leave the campus because "within two hours, local health officials had placed the dormitory under quarantine. The students in the dorm could exit for one hour for meals but were otherwise confined to the building."²⁴ The relationship between the College and the local health authorities strengthened since the 1915 outbreak. An example of the growth of the partnership is presented in the minutes from the special faculty meetings conducted over the course of the lockdowns. The minutes enforced action in following the guidance of the Board of Health to "report violations of the rules to the Board," and "recommend that the residence on the corner of Washington and Lincoln Streets be fitted up for an infirmary until a regular infirmary be built."²⁵ Signage including notes of "Segregation Camps," and yellow bags enforcing students to stay clear of the quarantine locations which were located throughout campus.²⁶ A continued reliance on local authorities to

²² Ron Crouchman, Health Issues, Notes From Transcription Project, April 2022.

²³ Gettysburg College Faculty Minutes, Feb. 18. 1920, GCA.

²⁴ Ron Crouchman, Health Issues, Notes From Transcription Project, April 2022.

²⁵ Gettysburg College Faculty Minutes, Feb. 18. 1920, GCA.

²⁶ Ron Crouchman, Health Issues, Notes From Transcription Project, April 2022.

promote health at Pennsylvania College created a relationship between the local health experts and the administration at the expense of the student opinion.

Consequently, student records reflect the influence the college administration's decision had on the college experience. Ralph Mahaffie, the last student to contract scarlet fever at the College during the outbreak, noted the significant role the quarantine played in regard to campus climate. He stated, "they fumigated every building in the College, every room in the fraternity houses...I was the last one to get it. And they hauled us out into the...observatory, that was it. We stayed there 'till the very last."²⁷ Additionally, a sign from outside his quarantine location stated,

WARNING-These premises are QUARANTINED. No person, other than the attending physician and trained nurse, shall enter or leave the premises...Any violation of quarantine is punishable by a fine of \$50 to \$100. And any tampering with this placard by a fine of \$10 to \$100, under the Act of Assembly approved May 28, 1915.²⁸

The experience of Pennsylvania College students relayed through both faculty minutes and student accounts reflect a chaotic environment in which many professors and students did not know how to respond to the epidemic. While students may have desired freedom to return to their families, the local health board and the administration responded with an increase in discipline and order.

Because of the administrators decisions to quarantine more students, as well as the extended length of the quarantine, disruptions to the campus climate were recorded in local and

²⁷ Ralph Mahaffie, "Oral History with Ralph Mahaffie," By Micheal Birkner and David Hedrick, June 1994, 47.

²⁸ Quarantine Sign, Ralph Mahaffie Scrapbook, Class of 1920, GCA.

school publications.²⁹ For example, the 1921 edition of *The Spectrum* emphasized the impact the epidemic had on the basketball sports season. The basketball page noted, “The splendid spirit of the team and enthusiasm of the students was unbounded until injuries, sickness, and the Scarlet Fever Epidemic made the completion of the schedule impossible.”³⁰ In addition to the disruption of sports seasons, newspaper publications such as *The Gettysburgian* noted “The quarantine of the Cottage Hall from Feb. 6 to 13 prohibited some of the members [of the Music Club] from practicing.”³¹ Those that were quarantined under the original orders in Cottage Hall had “only three hours out of their Dorm a day and no classes to attend, the fellows...[found] plenty of time to indulge in...sleeping, card playing, marble rolling, and many other sports.”³² Overall, student opinion was recorded through campus publications which reflected the sentiments towards the quarantine and disruption of everyday life.

The past epidemics provided context regarding the lack of inclusion of students in public health decisions at the College. Given the recent COVID-19 pandemic and the subsequent response of the Gettysburg College administration, it is important to look at the past in order to learn from it. In the fall semester of 2020, the student population at Gettysburg was sent home in short notice, similar to how the de-desification was conducted in the fall of 1915.³³ President Bob Iuliano noted in an email sent to the student body that “after consultation with our Board of Trustees and medical experts, we have determined it necessary to reduce the number of students on campus.”³⁴ Almost a century later, the College’s administration repeated the decision to

²⁹ The 1920 scarlet fever epidemic lasted from February 11th until March 10th when classes were resumed.

³⁰ “Basketball,” Gettysburg College, *The Spectrum* (Gettysburg, PA: 1920), 186, GCA.

³¹ “Music Club Trip Postponed,” *The Gettysburgian* (Gettysburg, PA), Feb. 18, 1920, Front Page.

³² “College Boys Making Best of Quarantine,” *The Gettysburgian* (Gettysburg, PA), Feb. 11, 1920, Front Page.

³³ Bob Iuliano, “College to De-Densify Student Body on Campus,” email, Sept. 4, 2020. Email can be found at <https://www.gettysburg.edu/opening/messages/20200904-de-densification-announcement>.

³⁴ Ibid.

quarantine briefly and then send students home. While the College had announced an early December break for students in the winter of 1915, the College noted that the “de-densification will occur over a three-day period...this process will begin as early as tomorrow.”³⁵As a result, the administration made the decision to remove 1,300 students from campus in 3 days, as well as relocate the remaining 900 students on campus to single dorm rooms.³⁶ The similarities do not end there. During the quarantine, much like the students in 1920 who needed to leave their rooms for food and laundry, the Office of Residential and First Year Programs permitted 1 hour of outside time for two of the days of the week-long quarantine while students were moved out of the school.³⁷

For the students that returned to campus for the spring semester, the College instituted a disciplinary action program for breaking quarantine protocol, which included removal from campus, room limits on permitted students, and solitary quarantines for breaking the rubric known as “short term and permanent remote study.”³⁸ Many students found themselves being sent home throughout the spring semester for disciplinary action. According to the February 26th email correspondence sent from the administration to the students during the second week of classes, those hosting more than the permitted number of students were punished such that “the host of the gather will be moved to remote study and those attending the gathering will be placed on short-term remote study.”³⁹ Within the first week, the number of students sent home for

³⁵ Bob Iuliano, “College to De-Densify Student Body on Campus,” email, Sept. 4, 2020. Email can be found at <https://www.gettysburg.edu/opening/messages/20200904-de-densification-announcement>

³⁶ Ibid.

³⁷ Keira Kant, “All Student Quarantine Update,” email, Sept. 6, 2020. Email can be found at <https://www.gettysburg.edu/opening/messages/20200907-all-student-quarantine>

³⁸ Darrien Davenport; Jeff Foster, “COVID-19 Dashboard Update for February 12,” email, February 12, 2021. Email can be found at <https://www.gettysburg.edu/opening/messages/20210212-covid-dashboard-update>.

³⁹ Darrien Davenport; Jeff Foster, “COVID-19 Dashboard Update for February 26,” email, February 26, 2021. Email can be found at <https://www.gettysburg.edu/opening/messages/20210226-covid-dashboard-update>.

disciplinary action doubled from 3 to 6 students.⁴⁰ Similar to the scarlet fever epidemics of both 1915 and 1920, the administrators at the College quarantined students and instated disciplinary punishment in the name of public health.

A primary difference between the early 20th century epidemics on campus and the most recent COVID-19 pandemic was the role the surrounding community health board played in the College's decision making. In the past, the Board of Health had a larger influence on the administrative decisions regarding disease control. During the COVID-19 pandemic, however, the Gettysburg College administration turned to national guidance for advice. For example, Adams County did not have an outdoor mask mandate throughout the 2020-2021 academic year; however, the College required all students to wear masks both indoors and outdoors for both the fall and spring semesters. Additionally, the College mandated vaccinations in the fall of 2021 despite the Adams County community having low vaccination rates. By the beginning of first day of classes on August 30th, the College anticipated a vaccination rate of 93%; however, at the same time the population of Adams County residents fully vaccinated was 42.32%, or 42,155 people.⁴¹ Overall, the College administration turned to national health authorities such as the CDC, Center for Disease Control, in order to determine the protocols for the 2020-2021 academic year. This can be attributed to the national affect COVID-19 had. Because COVID-19 was a global issue, national standards took priority, unlike during the limited outbreak during the 1915 and 1920 scarlet fever epidemics.

⁴⁰ Darrien Davenport; Jeff Foster, "COVID-19 Dashboard Update for February 26," email, February 26, 2021. Email can be found at <https://www.gettysburg.edu/opening/messages/20210226-covid-dashboard-update>.

⁴¹ "Adams County, PA COVID-19 Vaccine Tracker," Statesman Journal, <https://data.statesmanjournal.com/covid-19-vaccine-tracker/pennsylvania/adams-county/42001/>; Anne Ehrlich; Jen Lucas, "COVID-19 Campus Update," email, Sept. 1, 2021. Email can be found at <https://www.gettysburg.edu/opening/messages/20210901-covid-19-campus-update>.

Another difference between the previous epidemics and COVID-19 was the role students played in the development of COVID-19 protocols. The administration hosted numerous virtual town halls throughout the spring and summer of 2020 to determine the best ways to approach disciplinary action and community health on the campus of the College.⁴² Additionally, a COVID-19 task force organized by the administration allowed students to voice their opinions and assist directly in the College's decision-making process. While the faculty of the College in 1915 and 1920 facilitated the majority of the discussion regarding the steps to take during the epidemic, the administration allowed students a voice during the COVID-19 pandemic during the 2020-2021 academic year.

The response of institutions of higher education to health crises, specifically infectious diseases spread by community contact, demonstrates the necessity for institutions to reflect upon their pasts in order to look forward. The case of Pennsylvania College exemplifies the importance of holistic approaches to the understanding of health crises. The scarlet fever epidemics, as well as the COVID-19 outbreak on campus, emphasize the ability for disease to spread due to the nature of close-knit residential communities. While not many students were diagnosed with scarlet fever, the campus was affected due to quarantine and mandated breaks. The COVID-19 outbreak, however, impacted a greater number of students directly with the aftermath impacting every student on the campus. Despite their differences, the similarities depict the changing interactions between the administration, students, and local health officials in regard to the priorities of public health on college campuses.

⁴² Julie Ramsey, "Upcoming Town Halls on 7/30 and 8/5," email, July 29, 2020. Email can be found at <https://www.gettysburg.edu/opening/messages/20200729-upcoming-town-halls>.

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