## Introduction

A brief timeline of modern medicine in Brooklyn

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1832</td>
<td>A cholera epidemic in NYC. Even then, cholera was known to be associated with dirty water. Many fell ill, died, or fled the city. (<a href="https://nyam.org">NY Academy of Medicine</a>)</td>
</tr>
<tr>
<td>1866</td>
<td>Development of the Metropolitan Board of Health (encompassing Kings, Richmond, Westchester, part of Queens, and New York counties). Health was no longer in sole control of politicians; by 1892, the Department opened a bacteriological laboratory, the first municipal laboratory of its kind in the world.</td>
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<tr>
<td>1875</td>
<td>In 1875 and even after, many people (including those working in public health) believed in the “filth theory” of disease: that disease was caused by unclean things, such as sewer gas.</td>
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<td>1888</td>
<td>Hoagland Laboratory of Bacteriology, the second municipal bacteriological laboratory of its kind, was funded by Andrew Carnegie at Long Island College Hospital in Cobble Hill, Brooklyn (<a href="https://www.brooklynda.com">Brooklyn Daily Eagle, 7 October, 1888</a>).</td>
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<tr>
<td>1894</td>
<td>First polio epidemic in the U.S. (however, it was not until 1905 that doctors realized the contagious nature of the virus).</td>
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<tr>
<td>1900</td>
<td>Although diphtheria and typhoid were killing many, tuberculosis was the largest cause of death among adults in NYC in 1900. Due to new clinics, mandatory reporting and examinations, the city’s death rates fell by half between 1900 and 1920.</td>
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<tr>
<td>1908</td>
<td>Poliovirus was identified, however the virus itself would not be visible to researchers until the 1950s when the electron microscope was available.</td>
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<tr>
<td>1910</td>
<td>Mary Mallon was released after 3 years in quarantine for typhoid. Nicknamed “Typhoid Mary,” she was later linked to another deadly outbreak and sent back to quarantine.</td>
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<tr>
<td>1916</td>
<td>Polio reached epidemic proportions in the NYC metropolitan area; the Health Department isolated cases and quarantined exposure, ordering a delay in opening the public schools.</td>
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<tr>
<td>1918</td>
<td>Worldwide influenza pandemic begins. This pandemic was also known as the Spanish Flu, although it originated in the United States. There was broad criticism of Dr. Copeland, the New York City Health Department’s Commissioner, who was the first to use the media as a means of publicity.</td>
</tr>
<tr>
<td>1929</td>
<td>Diphtheria vaccination campaign started in the metropolitan New York City area; using public service announcements on the radio, on the subway (posters) and in film previews, the campaign vaccinated over 522,000 children through 1931.</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
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<td>------</td>
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<tr>
<td>1936</td>
<td>Pfizer, a family company started in Brooklyn in the late 1840s, developed a method for producing vitamin C. On a 24-hour-a-day, 7-day-a-week operating schedule, it became the world’s largest producer of many vitamin supplements.</td>
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<tr>
<td>1939</td>
<td>In the 1939 New York World’s Fair (in Corona, Queens), Health Department exhibits on diseases included information on tuberculosis, pneumonia, children’s health, and more.</td>
</tr>
<tr>
<td>1941</td>
<td>Using new equipment, Pfizer developed a fermentation process that produced penicillin, an antibiotic, the first real defense against bacterial infection.</td>
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<tr>
<td>1944</td>
<td>Pfizer became the world’s largest producer of penicillin, the “miracle drug;” the drug is also used on the war front.</td>
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<tr>
<td>1947</td>
<td>Over 6.3 million New Yorkers were vaccinated for smallpox in a single month.</td>
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<tr>
<td>1952</td>
<td>Polio cases surged in the United States to over 57,000, more than 21,000 of them causing paralysis,</td>
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<tr>
<td>1955</td>
<td>Polio vaccine (inactivated), developed by Jonas Salk, was put into use and more than 40,000 New York City schoolchildren received the vaccine as part of a nationwide field trial.</td>
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<tr>
<td>1959</td>
<td>The 1950s saw drastically reduced rates of tuberculosis and sexually transmitted diseases with the availability of antibiotics (created by Pfizer).</td>
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<tr>
<td>1977</td>
<td>The last known case of smallpox; smallpox is now thought to be eradicated.</td>
</tr>
<tr>
<td>1981</td>
<td>The AIDS epidemic begins, and in 1983 the NYC Health Department provided free tests to people in high-risk groups. 1986 saw an even bigger push for AIDS prevention and treatment.</td>
</tr>
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</table>

Compiled by Rachel Chapman
GREAT INCREASE IN SMALLPOX

THE BROOKLYN AUTHORITIES DECLARE IT EPIDEMIC.

Over One Hundred Cases Quarantined
—The Contagious Disease Hospital Nearly Filled and Arrangements Made with the State for Tents to Accommodate the Overflow—The Work of Vaccination Being Pushed—Commissioner Emery’s Warning.
1. Read **Document 1a**. This is a newspaper headline. What words stand out to you the most? List at least three here:


2. Based on your observations of the language used in **Document 1a**, what impact do you think it had on newspaper readers? How do you think it made people feel?


3. Examine **Document 1b**. This is a political cartoon. Examine the skeleton and the actions it is taking. What do you think the skeleton represents? Why do you say that?


4. What do you think the intent or purpose of **Document 1b** was? How do you think it was supposed to make people feel?
Text on envelope containing sample of unidentified prescription, “One at night in glass hot milk. Dr. Brooks.” Stamped date: “OCT 31 1900.”
1. Examine Document 2. What was the name of the business that created this? What is the name of the doctor identified on the item?

2. Examine Document 2. Look closely at the image and read the text above and below. What was Document 2 used for?

3. Think about anything you have seen that contains medicine: either something like Advil or Tylenol, or a prescription. How is Document 2 similar? How is it different?

4. Do doctors and pharmacies still use items like we see in Document 2? Why do you think this is?
1. Examine **Document 3**. List three things you observe in this photograph.

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2. Based on your observations, what would you infer that the people in **Document 3** are doing?

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3. The people in **Document 3** are nurses. Based on what you know about nurses today, how do these people look the same? How do they look different?

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4. Examine the background details in **Document 3**; look closely at the room these people are in. Based on your observations, what would you infer that this building was usually used for?

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1. Examine **Document 4**. When was this item created?

2. Examine the image of people on **Document 4**. What do you see happening in this drawing?

3. The headline on **Document 4** reads, “The Terrible Tempered Mr. Bang does not Wish to Take the Slightest Chance of Catching the Spanish Influenza.” Using context clues, what would you infer about the Spanish Influenza?

4. **Document 4** is a political cartoon. Political cartoons often use humor or exaggeration to make a point. What kind of humor or exaggeration do you see in **Document 4**?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Single Male</th>
<th>Single Female</th>
<th>Married Male</th>
<th>Married Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>25-44 yrs</td>
<td></td>
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<td></td>
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<tr>
<td>45+ yrs</td>
<td></td>
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</tbody>
</table>

- City of New York
1. **Document 5a** is a bar graph. According to the title of the graph, what does it show?

2. **Document 5a** shows information for different categories of people. What are some of those categories?

3. **Document 5b** is a line graph. According to the title of the graph, what does it tell us?

4. Why do you think someone would use a line graph instead of a bar graph? Why might you use one or the other?

5. Look carefully at **Document 5a** and **5b**. What tools do you think were used to make these graphs? What tools would you use to make a graph now?
1. **Document 6** is a certificate. According to the caption, what does it mean if someone has this certificate?

2. Examine **Document 6** closely. What personal information can you learn about the person who owned this certificate? Look for information like name, age, and home address. Write your observations here:

3. Why do you think it would be useful or important for someone to the certificate shown in **Document 6**?

4. Imagine you were receiving a vaccination. What kind of certificate would you want to receive, to prove you had received the vaccination? What information should it include?
Department 7a: *Family Products*. Pfizer. [1950s.] Brooklyn Collection, Center for Brooklyn History.

Accompanying article on next page
Boro Firm Leads World Production Of Vital Penicillin

A Brooklyn "first" of the utmost importance in saving life on the battlefield while also meeting critical civilian needs is exemplified by the research on and production of penicillin at the borough plant of Charles Pfizer & Co., Inc., 11 Bartlett St.

Supporting its claim of being the world's largest producer of penicillin, the Pfizer organization reports that it is supplying from 33.1-3 to 40 percent of the entire output. Until other American companies recently increased production, an official said, Pfizer was providing at least half the world quantity.

Pfizer, one of the first American companies to manufacture penicillin commercially, has increased production from a monthly average of 415,000 units in 1942 to 120,000-000,000 units last December.

Teamwork Gets Credit

The company credits plant teamwork for the phenomenal growth in penicillin production, which stems from long experience in manufacturing products by fermentation. The results, the company stresses, are due to co-operation of the executive, biological, chemical and engineering departments and all production staffs of men and women with parts of the plant operating 24 hours a day, seven days a week.

In the Winter of 1941-42 Pfizer supplied the first penicillin for experimental clinical use. By the following Spring the company started supplying the American armed forces. Continuing research and the completion in 1944 of the present large-scale production plant, costing $5,000,000, have enabled Pfizer, together with other American pharmaceutical manufacturers, to supply adequate amounts to all armed forces, both American and Allied in all war zones and to increase the quantities available for essential civilian use.

Stressing the exacting and involved method of production, a member of the research staff pointed out that only 60 parts of penicillin result from 1,000,000 parts of broth. The plant's research program, he said, has made the Pfizer product effective for a year after bottling, whereas it was at first deemed potent for only 90 days.
1. **Document 7a** shows a set of medications created by Pfizer in the 1950s. Write a claim you see being made by one of the medications in this box:

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2. The first photograph for **Document 7b** shows inside the Pfizer factory in Brooklyn. List four things you see in this photograph:

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3. Look at the newspaper article from **Document 7b**. Skim the headlines. What big event was this article announcing?

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4. Based on what you have observed in **Documents 7a & 7b**, why would you say that Pfizer was important?

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1. Examine Document 8 closely. Write at least four observations of things you see in this photograph:

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2. Based on your observations of Document 8, what would you say is happening in this photograph?

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3. Based on your observations and inferences, what questions would you ask to learn more about what is happening in Document 8? Write at least two questions.

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4. Have you observed any events like we see in Document 8b? Describe them:

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1. Examine the photograph in Document 9. Write three observations of things you see in this photograph:

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2. Based on your observations, what would you infer the Red Cross is?

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3. Read the caption underneath Document 9. This caption includes some unfamiliar words. Write down at least three words that stand out to you:

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4. Three of the people pictured in Document 9 are students. Why do you think these students are learning about medical practices?

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Transcript

I know that all of us here, interested in education and therefore interested in children, would like to get the latest word that we just received from Ann Arbor.

It says here that at last, mankind has scored a brilliant victory in the long battle against disease. The Salk Vaccine has licked polio. In the words of the scientists, there can be no doubt now that children can be inoculated successfully against polio.

And it says the Salk Polio Vaccine has been reported 80 to 90 percent effective in preventing paralytic polio and remarkably safe. Licensing of the vaccine that will be given to possibly 45 million children this year may come later this week.
**FIGURE 1. Crude death rate* for infectious diseases — United States, 1900–1996†**

*Per 100,000 population per year.
1. **Document 10a** is an oral history. Read the transcript. What important announcement is being made?

2. According to **Document 10a**, how many children would be impacted by this announcement?

3. **Document 10b** is a graph. Examine the graph; what general trend or change does this graph show us?

4. **Document 10b** shows the death rate for infectious diseases in the United States from 1900 to 2000. Overall, does the graph show this rate increasing or decreasing? Why do you say that?
The Teen’s Guide to AIDS: Knowledge, Understanding & Protection

How Much Do You Really Know?

A brochure developed by PROJECT REACH YOUTH

This is a brochure written for teens by other teens from Project S.A.F.E. (Speakout on AIDS Facts and Education) at Project Reach Youth in Brooklyn, New York. We wrote this because we wanted to make a brochure that would be fun to read and give accurate information. We think it is important for other teens to learn about AIDS because AIDS affects all of us. We hope you use the information in this brochure.

© 1992 PROJECT REACH YOUTH
Brochure Design by multimedia, Port Jefferson, NY
Printing by Waste Ink of New York, New York, NY
For additional copies of this brochure, please write to:
PROJECT REACH YOUTH
199 14th Street, Brooklyn, NY 11215
HIV "n" AIDS

Yo! I'm Freda Antibody and I'm here to tell you about how HIV affects your body and can lead to AIDS.

The immune system is where HIV strikes.

The IMMUNE SYSTEM is what helps your body fight off infections such as chicken pox or the common cold.

Antibodies are part of the army that fights for your immune system.

Document 11b:
1. Examine **Document 11a**. Look at all three pages included in this primary source packet. What kind of document does this look like?

2. Read page 2 of **Document 11a**. What have you learned about why this document was created?

3. Page 3 of **Document 11a** contains a series of illustrations. What kind of information do these illustrations share?

4. **Document 11b** is a sticker that someone placed around Brooklyn. Why do you think someone would put this sticker up around Brooklyn?
1. **Document 12** shows a photograph. List three things you see in this photograph:

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2. **Document 12** shows us something that was only created to be temporary. We often refer to this as *ephemera*. Why do you think it would be important to keep a photograph of this?

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3. What does the sign in **Document 12** tell you about the events happening in this location? What does it not tell you?

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4. What questions do you have about **Document 12**?

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GLOSSARY

**Antibiotic**: medicine that fights bacterial infections in people and animals. They work by killing the bacteria or by making it hard for the bacteria to grow and multiply.

**Bacterial Infection**: a proliferation of a harmful strain of bacteria on or inside the body. Bacteria can infect any area of the body. Pneumonia, meningitis, and food poisoning are just a few illnesses that may be caused by harmful bacteria.

**Cholera**: an infectious and often fatal bacterial disease of the small intestine, typically contracted from infected water supplies and causing severe vomiting and diarrhea.

**Contagious**: spreading easily from person to person

**Diphtheria**: an acute, highly contagious bacterial disease causing inflammation of the mucous membranes, formation of a false membrane in the throat that hinders breathing and swallowing, and potentially fatal heart and nerve damage by a bacterial toxin in the blood. It is now rare in developed countries because of immunization.

**Epidemic**: a widespread occurrence of an infectious disease in a community at a particular time.

**Eradicate**: to destroy completely; to put an end to

**HIV/AIDS**: HIV (human immunodeficiency virus) is a virus that attacks cells that help the body fight infection. If left untreated, HIV can lead to the disease AIDS (acquired immunodeficiency syndrome).

**Immune**: resistant to a particular infection or toxin owing to the presence of specific antibodies or sensitized white blood cells.

**Influenza**: a highly contagious viral infection of the respiratory passages causing fever, severe aching, and catarrh, and often occurring in epidemics.

**Pandemic**: a disease prevalent around the entire country or the entire world.

**Paralysis**: the loss of the ability to move (and sometimes to feel anything) in part or most of the body, typically as a result of illness, poison, or injury.

**Polio**: short for poliomyelitis, caused by a viral infection (poliovirus, or PV) is a disabling and life-threatening disease which is very contagious and spreads easily from person to person; polio infects a person’s spinal cord, causing paralysis (inability to move parts of the body). Polio vaccines are now widespread across the world.

**Smallpox**: caused by the variola virus, smallpox is an infectious deadly disease that is thought to have existed since the Egyptian Empire in the 3rd Century BCE (Before Common Era);
**Tuberculosis:** an infectious bacterial disease characterized by the growth of nodules (tubercles) in the tissues, especially the lungs.

**Typhoid:** an infectious bacterial fever with an eruption of red spots on the chest and abdomen and severe intestinal irritation.

**Vaccine:** a substance used to stimulate the production of antibodies and provide immunity against one or several diseases.

**Virus:** Viruses are very small particles that can infect animals and plants and make them sick. Viruses hijack the cells of living organisms. They inject their genetic material right into the cell and take over. They then use the cell to make more viruses and take over more cells.