


[also see slides](#)


**You are: Francis Moon, Lord Mayor of London**

**Theory: Airborne-Poverty:** People get cholera after inhaling polluted air but also infect each other in severely overcrowded quarters with unsanitary conditions (improved sanitary conditions would reduce disease risk). ([#4 in cholera theories 1-pager](#))

**Non-Contagious & Contagious**

Certain situations temporarily promote person-to-person transmission by non-contagious victims.





**CONTINGENTLY CONTAGIOUS**

An atypical (contingent) suspension of non-contagion due to severe overcrowding and poor ventilation in filthy settings, correctable by sanitary improvements.

4

→ Primary non-contagionist explanation for incontestable instances of person-to-person transmission for most of the century.

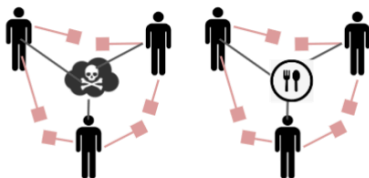
You have seen the population of London explode from one million at the beginning of the 19<sup>th</sup> Century to two and half million by the 1850's. London is now the largest city in the world. With this growth, London has become the international center of trade and finance. Housing the world's largest port, London is experiencing large waves of immigration from Ireland and mainland Europe. Despite the affluence of certain areas, London is also home to the extremely poor, often within a short distance of the wealthiest areas like Westminster and City of London. Generally, the eastern and southern portions of London are the poorest. You believe poor people in these overcrowded areas are more likely to inhale polluted air and infect each other.

## You are: Edwin Chadwick, Sanitation Commissioner, General Board of Health

**Theory: Locally Airborne-Noncontagious:** People get sick by inhaling locally polluted air (e.g. coming from sewage through gullies, or pest field: avoid inhaling air from sewers or move away from pest field) or ingesting something that was air-polluted. ([#5 in cholera theories 1-pager](#))

### Non-contagious:

Since atmospheric changes produce the morbid cholera matter that people may inhale or ingest, they cannot communicate it to each other.



### LOCAL ATMOSPHERE



Breathing air in filthy localities causes blood disorders characteristic of cholera.

→ proposed in 1830s for all non-contagious epidemic diseases; widely accepted for cholera from 1849-90s.

5



Blood absorbs morbidly contaminated food and drink from the stomach.

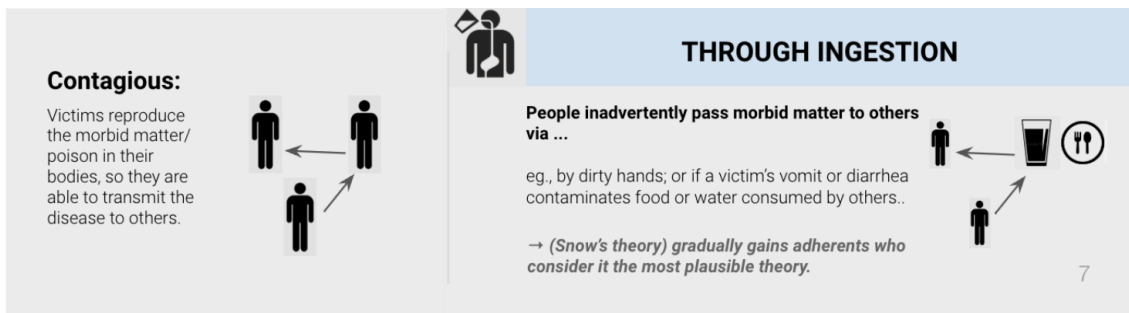


→ began during 1849 epidemic, increasingly accepted by localists until end of century.

The quick growth of the city has strained its infrastructure. You became Sanitation Commissioner in 1832. One of the biggest public nuisances is the smell of the city. With inadequate methods of waste disposal, the Metropolitan Commission of Sewers passed an ordinance in 1847 requiring all waste to be discharged into the sewers. During your tenure, you have strongly defended the theory that cholera is transmitted through locally contaminated air. You are also head of the General Board of Health, where your job is also to combat disease. You are a strong supporter of government's role in helping the poor and promoting public health, e.g. by adding ventilators to sewer grates. With respect to fighting disease, you unquestionably follow your nose. You believe that diseases such as cholera are caused by local sources of noxious smells. If you remove the smells, you remove the disease.

## You are: A Night-Soil Man

**Theory: Waterborne/Foodborne-Contagious:** People infect each other by ingesting food or drink that was contaminated by someone who had cholera (e.g. soiled hands from changing diapers that are then used for cooking). Cholera risk could be reduced through better sanitation and avoiding sewage in water sources. ([#7 in cholera theories 1-pager](#))



Many homes use a cesspool to collect human waste. These cesspools often overflow and landlords call you to remove the “night soil”. You wonder if sewage-contaminated water in houses with people who got sick from cholera is causing others to get sick who drink this dirty water. You generally work as an independent contractor and while the work is grim, your wages are better than many of the skilled trades and definitely better than the toshers (sewer scavengers), mudlarks (river scavengers), and pure (dog poop) gatherers. There is a secondary market for night soil. After working through the night with your team of four to empty the cesspool, you transport the night soil out of the city where you sell it to farmers to use as fertilizer. Since the work is hard and dangerous (you have had colleagues drown), it is not cheap. The going rate for a clean out is one shilling, a price many landlords cannot or will not pay. As a result, it is not uncommon for cesspools to be allowed to overflow, often filling the cellar or spilling out into the yard.

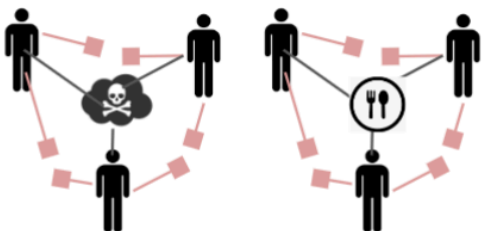
**You are: William Farr, Registrar General of London**

**Theory: Airborne-Elevation:** *People get cholera after inhaling polluted air that settles in low elevation areas (move out of low-elevation areas).* ([#6 in cholera theories 1-pager](#))


You are responsible for recording births, deaths and marriages in London. You have also set up a detailed system that records the cause of death. Over the years, you have kept meticulous records on a variety of statistics related to public health. Specifically, you have aggregated data on professions and living locations and corresponding mortality rates. Every once in a while, an outbreak of cholera will kill hundreds, or even thousands of Londoners. The death toll during an outbreak in 1833 was over 20,000, and 1849 saw the worst outbreak of the disease, killing 50,000 people. You believe that disease, including cholera, is spread through the air. In your data analysis, you have been focusing on meteorological conditions such as temperature and humidity. Most importantly, you have identified a very strong correlation between the lower elevations along the Thames River and the incidence of cholera. You theorize that the disease carrying air settles in these low-lying areas.

**Non-contagious:**

Since atmospheric changes produce the morbid cholera matter that people may inhale or ingest, they cannot communicate it to each other.



**ELEVATION**



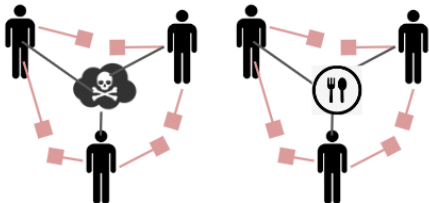


(Farr's theory) Cholerine (choleraic morbid matter) on water surfaces evaporates and eventually settles in greatest quantities at lowest elevations.

→ Modified after 1866 to accommodate Snow's theory.

6

## You are: Dr. William Rogers

**Theory: Generally Airborne-Noncontagious:** People get cholera by inhaling generally polluted air (source is somewhere from earth's surface: hard to avoid unless you leave the area). ([#2 in cholera theories 1-pager](#))

<p><b>Non-contagious:</b></p> <p>Since atmospheric changes produce the morbid cholera matter that people may inhale or ingest, they cannot communicate it to each other.</p> 	<p></p> <p><b>GENERAL ATMOSPHERE</b></p> <p> Earth exudes mysterious organic matter that contaminates the upper atmosphere and spreads via prevailing winds.</p> <p>→ Generally rejected after evaluating evidence from 1831–32 cholera epidemic.</p> <p>2</p>
--	--

You have a practice on Berners Street in Golden Square. Treating cholera patients is a regular occurrence, just like consumption (tuberculosis). The progression of symptoms for cholera usually starts with vomiting, diarrhea and/or abdominal cramps. This is followed by the onset of “rice water stools”, where the victim expels large amounts of odorless water with white flecks in it. These “evacuations” occur rather dramatically and usually mean that the victim will be dead within hours. As the blood thickens, respiratory failure sets in and the patient dies shortly thereafter. There is no consensus on how to treat cholera amongst the medical community. You personally believe people get cholera by inhaling generally polluted air and prescribe purgatives (laxatives) such as castor oil or rhubarb.

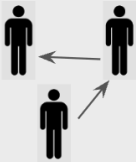
**You are: Blanche Smith, Wife of a Brass Finisher**


**Theory: Airborne-Contagious:** *People infect each other through the air (students will find this familiar because of covid: greater distancing would reduce risk). ([#3 in cholera theories 1-pager](#))*

You live in one of the poorest areas of London; Southwark, on the south side of the Thames. Your family lives in the attic of a three-story building (the higher in the house, the poorer you are) that houses several families, about 30 people in all. Your husband works long hours just to pay the rent and put food on the table. Your day is filled with household tasks such as cooking, laundry and taking care of the 3 children. You have given birth six times, but one was stillborn and the other two died within months, one from cholera, the other from scarlatina. Another family member also died from cholera. Fortunately, the children help with chores such as fetching water from the pump down the street and cleaning. You wonder if the family member who got sick from cholera contaminated the air, which infected the baby.

**Contagious:**

Victims reproduce the morbid matter/poison in their bodies, so they are able to transmit the disease to others.






**THROUGH INHALATION**

**People infect each other through the air**

Called infection at the time; victims may infect anyone who inhales the morbid matter emitted by their skin and breath.



→ Phased out by early 20th century as advocates gradually switched to ingestion mode.

3