

BRIEF HISTORY OF INFECTIOUS DISEASES IN CHINA AND THE WORLD

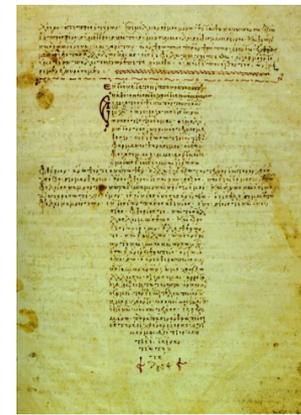
Infectious diseases, caused by bacteria or viruses, are as old as mankind. However, their incidence has increased manifold in the last 2,000 years. Epidemics are relatively new, perhaps 3-4 centuries. In primitive communities of hunters-gatherers, any infection would quickly burn itself out.

In fact, in such small communities, the infection by bacteria and viruses would cause the death of a few individuals but, with them, the bacteria and viruses themselves would die.

Many other individuals in such community would develop antibodies, and therefore immunity, and survive. As communities were very small and spread out, there would have been no possibility of spread of infections.



**There is no measles
or smallpox in
Hippocratic writing.**



Another factor in the spread of infectious diseases is the domestication of animals and living in close proximity with them. Probably all viruses and bacteria were originally transferred from domesticated cattle to humans. This happened about 3,000 BC.

**Measles related to
canine distemper**

**Small pox to
cowpox**

**Influenza to
swine flu**

CHINA

Earliest evidence of epidemics dates back to AD 161-162 and AD 310-312. Earliest description of a fever with rash is from He Kong (281-361).

“Recently there have been persons suffering from epidemic sores which attack the head, face and trunk. In a short time, the sores spread all over the body. They have the appearance of hot boils containing some white matter. While some of the pustules are drying up, a fresh crop appears. If not treated early, the patients usually die. Those who recover are disfigured by purplish scars which do not fade until after 1 year.”

This is a description of either smallpox or measles. Smallpox and measles appeared in China somewhere between AD 37 and AD 653. Another epidemic occurred in AD 762.



Chinese population was 58 millions in AD 2. Declined after AD 762.

The population of China in 1200 was about 100 million and it became vulnerable to epidemics.

Since the Tang but particularly Song dynasty, there was a shift in the centre of Chinese civilization from North to South, with a prevalence of diseases from Heat and particularly Damp-Heat.

-Before and during Han: cold weather, Cold diseases, no parasites, Chinese civilisation around Yellow river.

- After Han: hot weather, diseases from Heat, parasites, Damp Heat, Chinese civilisation around Yangzi river.

Chinese Population

Year	Population
2	58m
1200	100m
1300	123m
1400	65m
1600	150m
1700	150m
1794	313m

After 1600 until 1950s
China went through its
worst period in history
with widespread famines,
floods, civil wars and
epidemics.

With the increase in trade and wars, germs were easily transferred from one pool to another.

In Ancient Rome there were major epidemics in 387 BC, AD 65 and a big one in AD165, probably small pox.

The first description of rash and fevers was given by Gregory of Tours (south of France) who mentioned an epidemic with rash and fever in Southern France in AD580.

The next more accurate description of rash and fever is given by Al-Razi (AD890-923) from Baghdad.

The Middle Ages witnessed a great increase in infectious diseases and plague, also aided by a pre-existing economic decline and a weakened state of the population. A major plague epidemic occurred in 1348

Population in England

Year	Population (million)
1086	1.1
1348	3.7
1377	2.2
1430	2.1
1603	3.8
1690	4.1

By 1600 measles and small pox became established as childhood diseases and were the major mortality cause in children.

With the industrial revolution and consequent urbanisation, there was a dramatic increase in infectious diseases due to population density, dirty water, poor sewage. Prevalent diseases were cholera, typhus, plague, diphtheria, measles and scarlet fever.

Urbanisation in England

Year	Population in towns %
1800	20%
1851	54%
1911	80%

Epidemics recurred every 5-10 years and became endemic. By recurring at frequent intervals most adults would either develop immunity or die, hence these diseases became childhood diseases. Thus, epidemics from societies point of view, epidemics became less destructive because they only affected children who were “expendable”.

From society’s point of view the high infant mortality rate is far less destructive than massive adult death rates in epidemics. England did not recover from the plague of 1348 until the 1500s. Thus the change of epidemics into childhood diseases occurred between 1500 and 1700.

PRESENT SITUATION

The present situation differs greatly in poor from rich countries. In developed countries many infectious diseases have disappeared due to cleaner water, improved sewage, better diet and better hygiene. The diseases that have largely disappeared are cholera, plague, smallpox, diphtheria, scarlet fever, typhus and tetanus.

Still existing:

whooping cough

measles

meningitis

encephalitis

chicken pox

german
measles

influenza

In addition we have new infections such as

polio

**glandular fever
(mononucleosis)**

AIDS

**myalgic
encephalomyelitis**

Polio is actually an infectious disease paradoxically caused by better hygiene, as in older times, immunity was developed by exposure to mild infections. Hence the clean water, sewage disposal and better hygiene have eliminated a lot of subclinical infections that immunised young children harmlessly.

The situation is of course very different in poor countries, where it resembles conditions that we had 150 years ago: cholera, typhus, measles, malaria.

Deaths of Children in 1980

1999

Measles	2, 200, 000	900,000
Whooping cough	1, 600, 000	295,000
Tetanus	1, 200, 000	3-500,000
Polio	50, 000	785 (2003)
Diphtheria	5, 000	3,000