

PUBLIC HEALTH

-ancient and modern

Apothecaries' course March 2021



-Dr Rosalind Stanwell-Smith

-Hon Asst Professor, London School of Hygiene
and Tropical Medicine
-Hon Fellow, Royal Society for Public Health
--Hon Member, American Public Health
Association

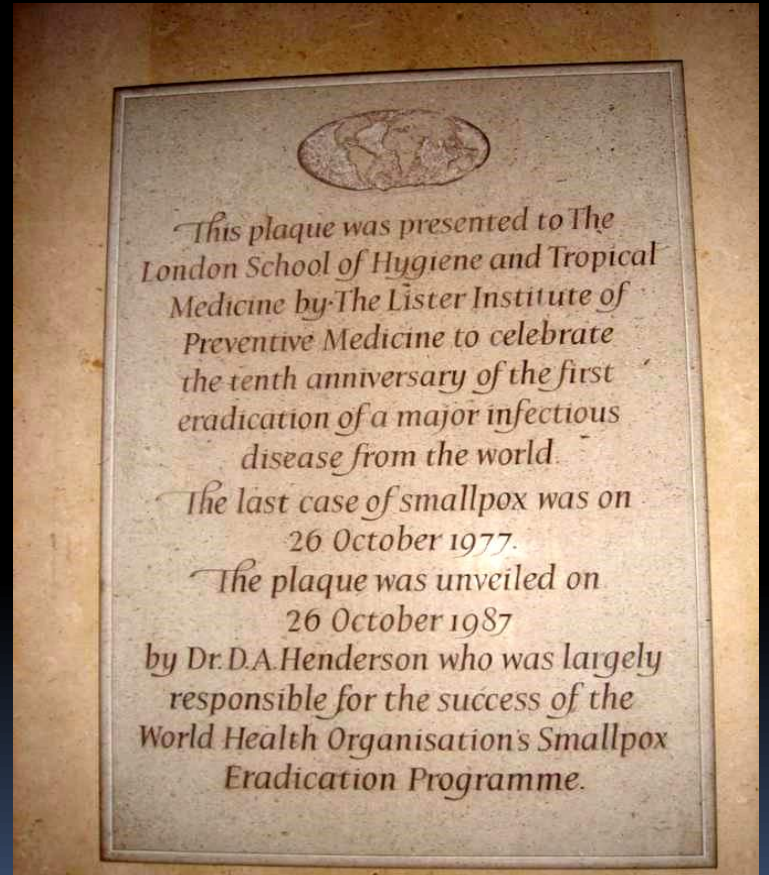
Summary:

- Role of public health in NHS
- How the definition of 'public health' has evolved
- Legislation and state intervention
- Modern influences on public health – what will happen after Covid?

London School of Hygiene and Tropical Medicine



23 names on building: Edwin Chadwick introduced registration of births, marriages & deaths in UK. Also report on conditions of the London poor.



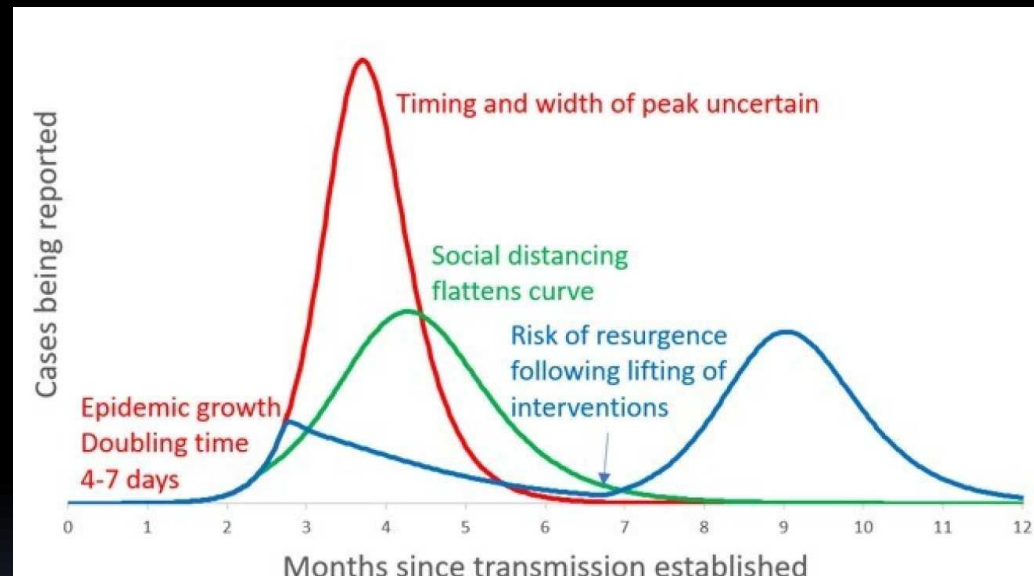
Plaque to last case of smallpox, 1977

Royal Society for Public Health

- Founded late 19th century primarily for 'medical men' working in sanitary science
- Now a multi-disciplinary organisation for all aspects of public health



Covid-19: a turning point for public health?



"...most changes have occurred because of a failure in the systems or as a response to a crisis"

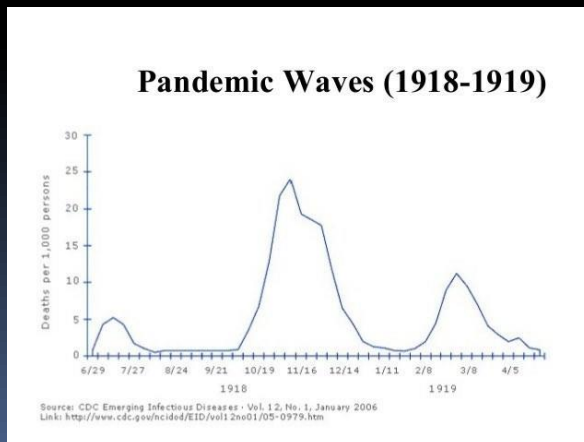
Kenneth Calman when CMO, 1998

'The 1848 Public Health Act and its relevance to improving public health in England now'

BMJ 1998; 317:596-598

Influenza pandemic 1918/19

- *"I had a little bird, it's name was Enza: I opened up the window and in flew enza.."*
 - Children's rhyme 1918
- 50-100 million deaths in 2 waves
- Half the deaths in ages 20-40



The R number

- First used in demography for the reproduction of people
- First epidemic in which it has been so widely used [and mis-used]



Spending Review 2020 – a new chance for public health budgets?

- Kings Fund review 2020
- Local gov PH budget reduced by almost 25% between 2014/19.
- “The coronavirus epidemic is above all a public health crisis”
 - Institute for Government, UK

Can history help us to see how Covid-19 will change PH?



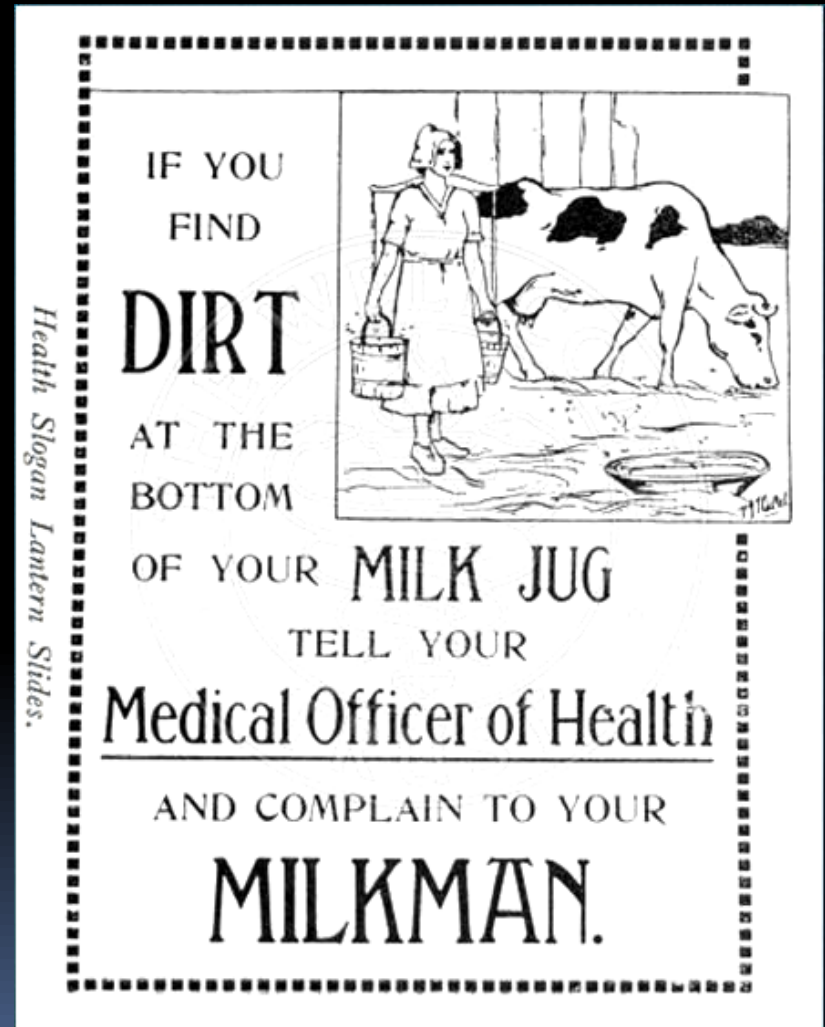
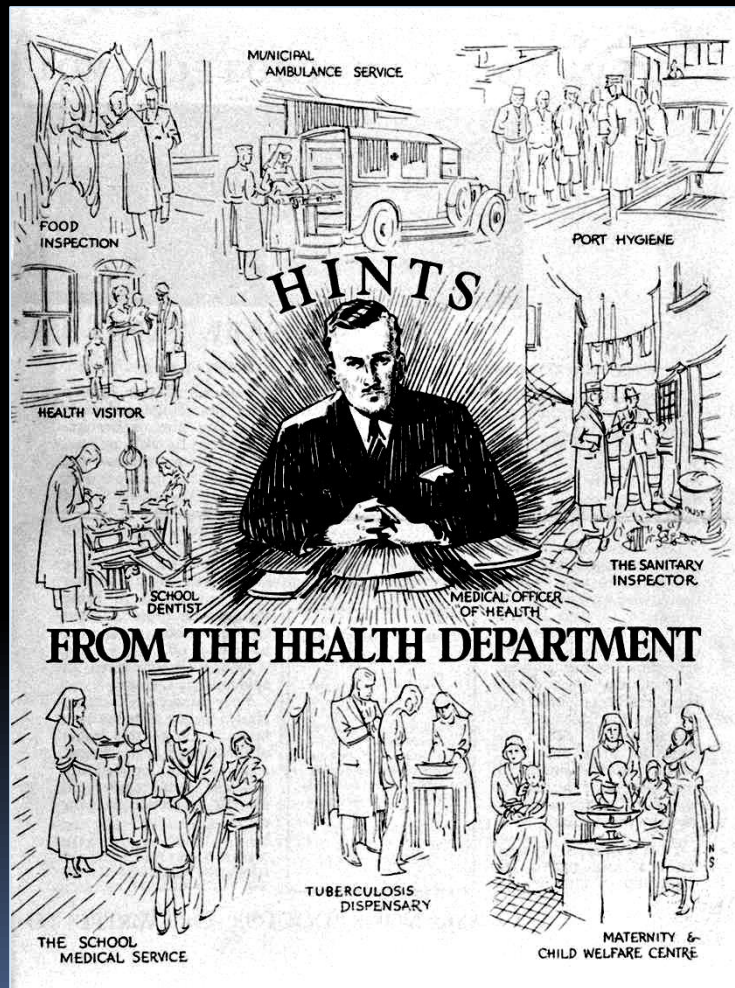
Hygiene worker on a bus in Zimbabwe

- Billions in investment
- But mainly in vaccines and treatment?
- “Each country has discovered further its fragility...”
 - Organisation of African, Caribbean & Pacific States

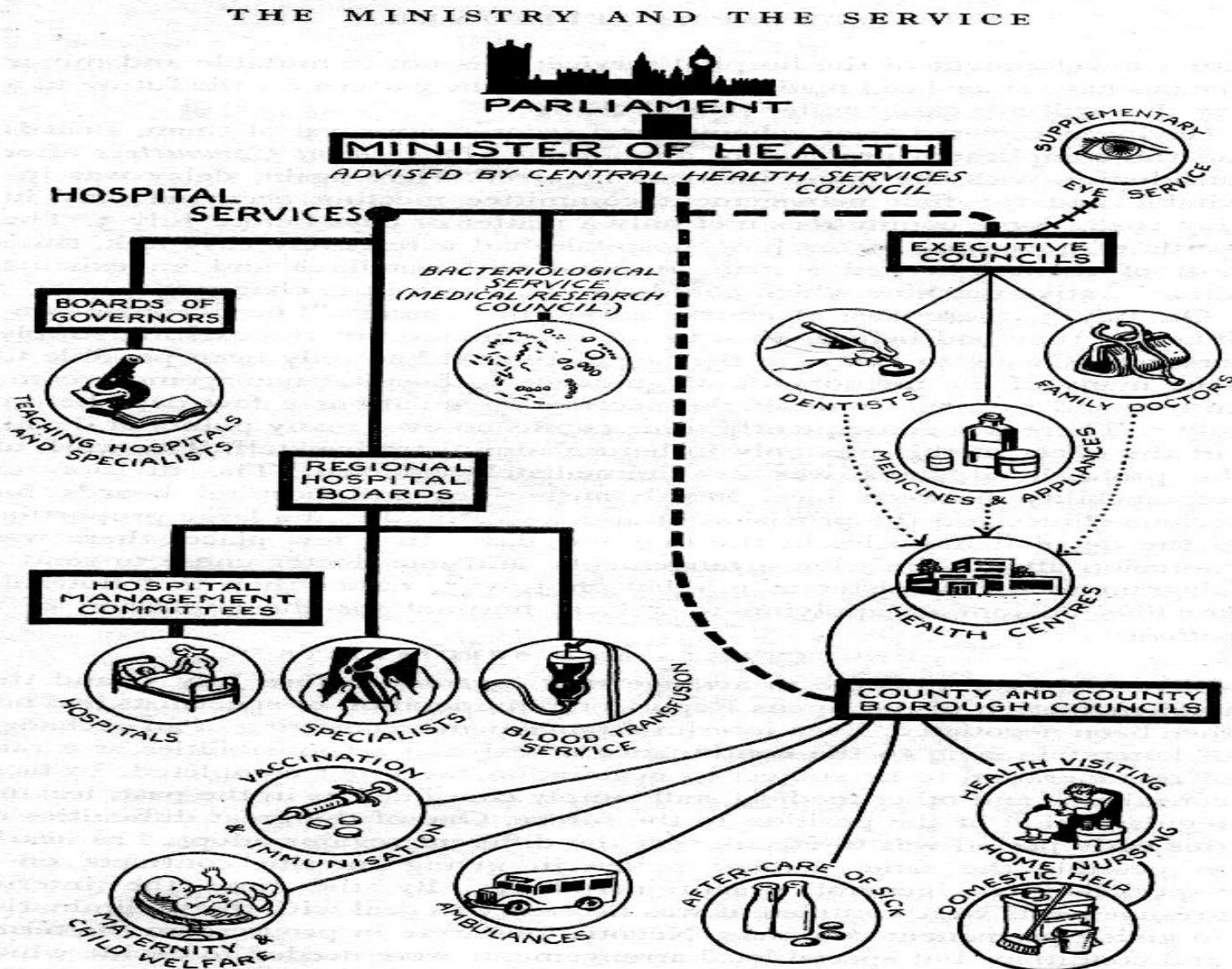
Public health 'evolution'

- 1948-1970s: Social medicine
 - Doctors in charge, including hospital services and environmental health
- 1970s-1980s: Community medicine
 - Still largely medically led, including community services such as vaccination, child health, school health
- 1990s: Public health medicine
- 2000 to date: Public Health
 - De-medicalised also no longer including community services

THE INTERWAR YEARS: Golden age of the medical role in public health?



NHS structure 1930s



1950s recognition of changing needs in public health

- “The 19th century epidemics arose from failures of the social system.... The responsibility of the individual for his own health will be greater than formerly. It will not be possible to impose from without [e.g. drains] the new norms of behaviour.... They will only come about in a new kind of partnership between the community and the individual.” Dr. Jerry Morris, Social Medicine Unit, radio interview

1950s.

‘Modern’ Public health – a 19th century concept



Fig.1 The Albert Dock Branch Hospital, opened in 1890, where it all began in 1899.

(Courtesy Wellcome Institute Library, London)

...but claiming ancient roots



Hygieia, goddess of good health, daughter of Asklepios, sister to Panacea & Iaso



Apollo & Artemis on school seal, LSHTM

When was this definition of public health?

- 'The primary and most important measures within the recognised province of public administration are drainage, the removal of all refuse of habitations, streets and roads, and the improvement of all supplies of water.'

1842

Edwin Chadwick

And the date of this one?

- 'The interpreter of Preventive Medicine uses bacteriology as an aid to diagnosis, prognosis and treatment. He appreciates the processes of infection and swabs throat and nose.'

1931

**George Newman (Chief
Medical Officer)**

And the date of this?

- 'Preventive medicine ... is merely another way of saying health by collective action.'

1952

Aneurin Bevan
Architect of the NHS



**Public health heaven – universal sanitation,
clean water & healthy population free from
infectious & other disease**

**20th c: Public health systems, education,
community medicine, quantifying health &
disease, broadening scope**

**19th c: sanitation, sewers, public baths, discovery of
bacteria; public health reforms & laws**

**18th c: population rights, statistics & invention of flushing
toilet**

**Medieval period: legislation re: waste,
quarantine, hospitals**

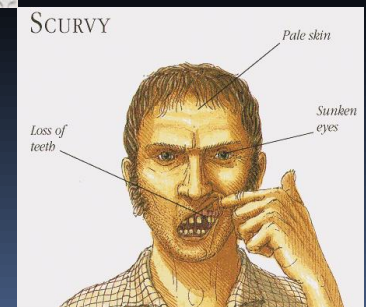
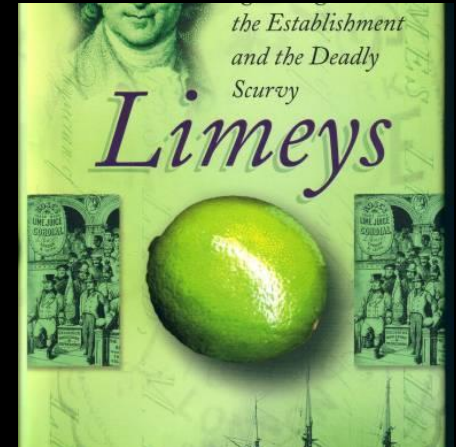
**Biblical period and Romans: baths, hygiene, aqueducts, sewers. But little sense of
health of whole population**

Tradition of reform and applying science to public health problems

- Health of soldiers and sailors
- Health of the workforce
- Engineering – infrastructure across the Empire
 - Understanding of disease broadened
- New discoveries and naming of specialties
 - Legacy of 'Enlightenment' 18th c
 - Influence from abroad

James Lind (1716-94) and scurvy

- Credited with performing one of the earliest controlled trials
- Treatise on Scurvy 1753
- Royal Navy acted on it 40 years later



Smallpox vaccination, the first preventive programme

- Inoculation established 18th c.
- Jenner's breakthrough
- Statutory compulsion
 - Sweden 1816
 - Britain 1853
 - France 1902
 - USA 1905 (Boston 1809)

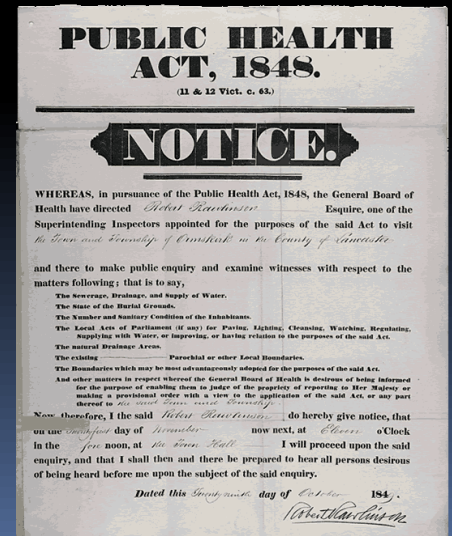


James Phipps, son of his gardener, receiving cowpox inoculation 1796

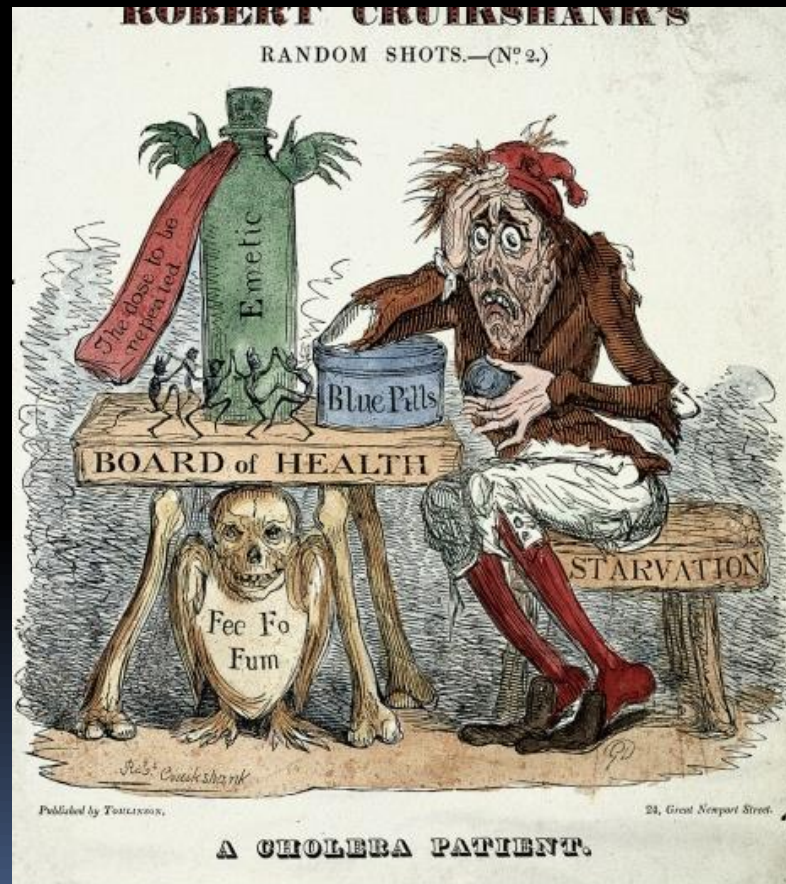
Public Health Act 1848

- First public health Act
- Wide ranging framework for public health
 - Identified all the major issues of the time in food, water, sanitation, environment etc
- But no powers to compel action

Why at this time, why in England?

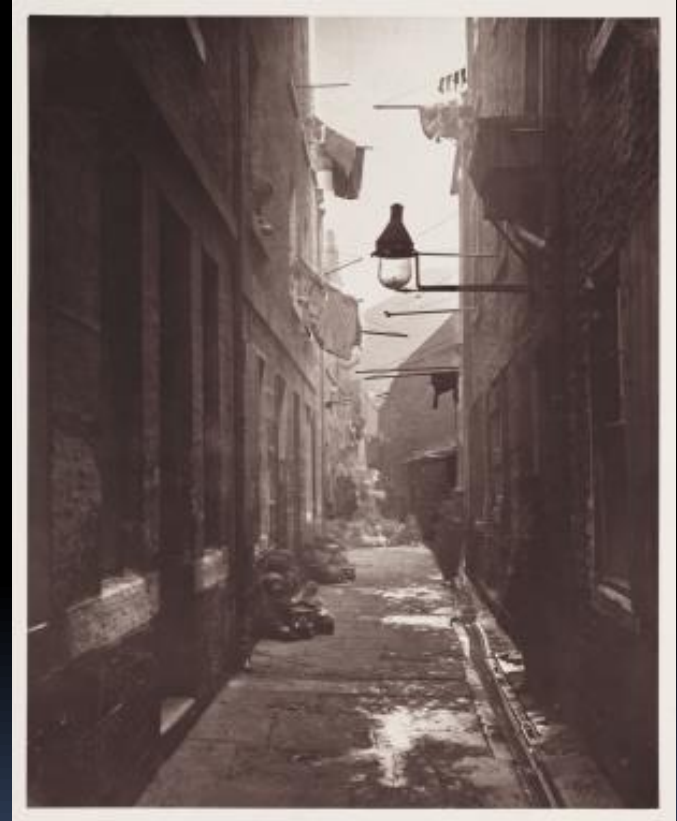


The 'why': fear of the new killer disease, Cholera morbus



Miasmatism

- Fitted with ancient theory
- Rapid urbanisation and industrialisation creating filthy smelly environments
 - ▣ Putrefying matter made Miasma
- Poisonous vapours would imbalance body & allow disease to generate



Glasgow Street 1868

Population growth and urbanisation

| | Europe <i>% urban</i> | England & Wales <i>% urban</i> |
|------|--------------------------|-----------------------------------|
| 1600 | 8 | 4 |
| 1700 | 9 | 5 |
| 1800 | 10 | 5 |
| 1850 | 17 | 41 |
| 1890 | 30 | 62 |

Urban = cities > 10,000



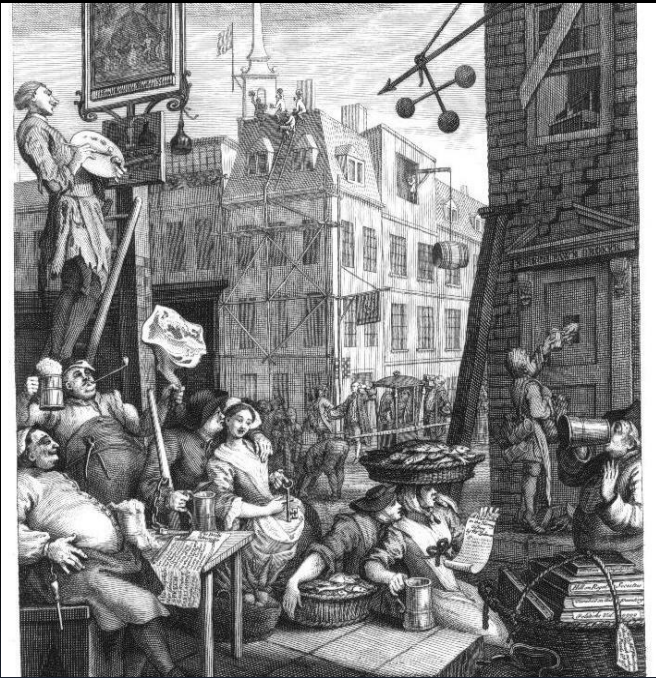
Hogarth: Gin
Lane
[St. Giles
Parish,
Holborn]

Gin cellar
lintel reads:
“Drunk for a
penny, dead
drunk for two
pence, clean
straw for
nothing.”

1750: 25% of shops in St. Giles were selling gin

From Gin Lane to Beer Street

Beer Street



- William Hogarth, 1751.
- Beer portrayed as a good British drink, unlike foreign gin!
- To control gin drinking, a Gin Act was passed in 1751 to put up duty and licences.

Gin Lane re-imagined for now

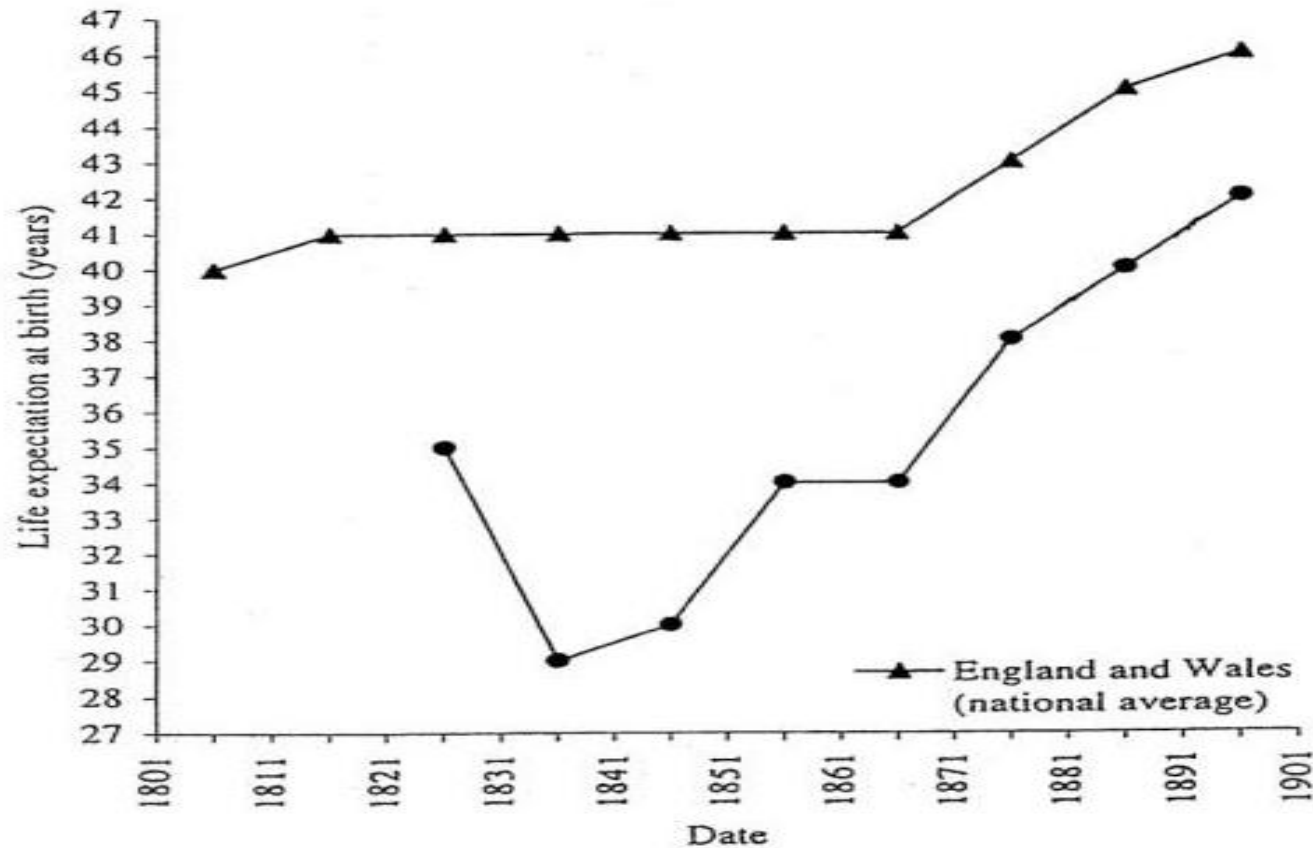


Artist: Thomas Moore. Fast food shops, payday lenders, mental ill health & obesity. Commissioned by RSPH

Life expectation and the 'urban penalty' (*Gerry Kearns*)



Life expectancies English provincial cities compared with national trend



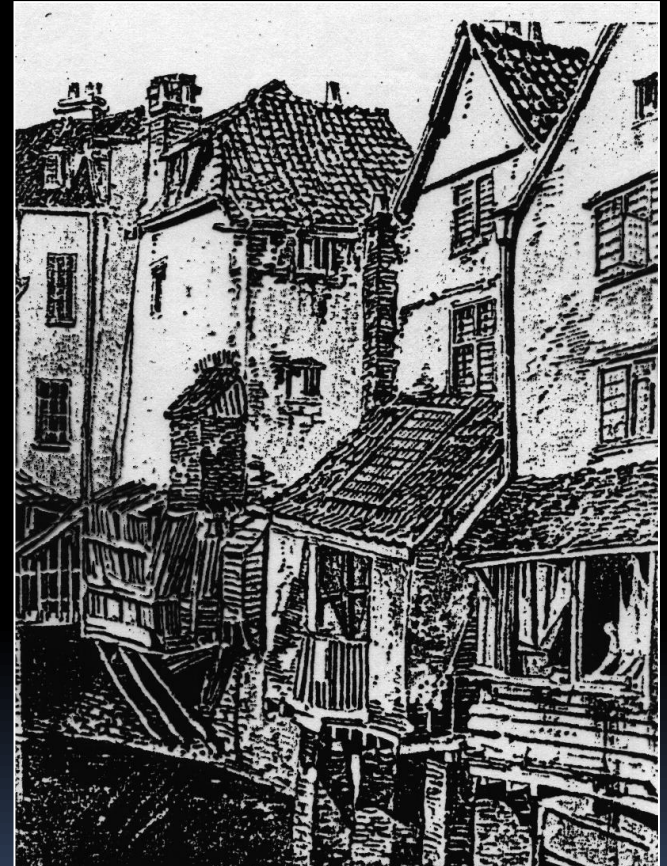
Szreter S, The population approach in Historical Perspective, Am J Pub Health, 2003

Fouling of water sources

Street drainage



Northern Britain, late-19th c.



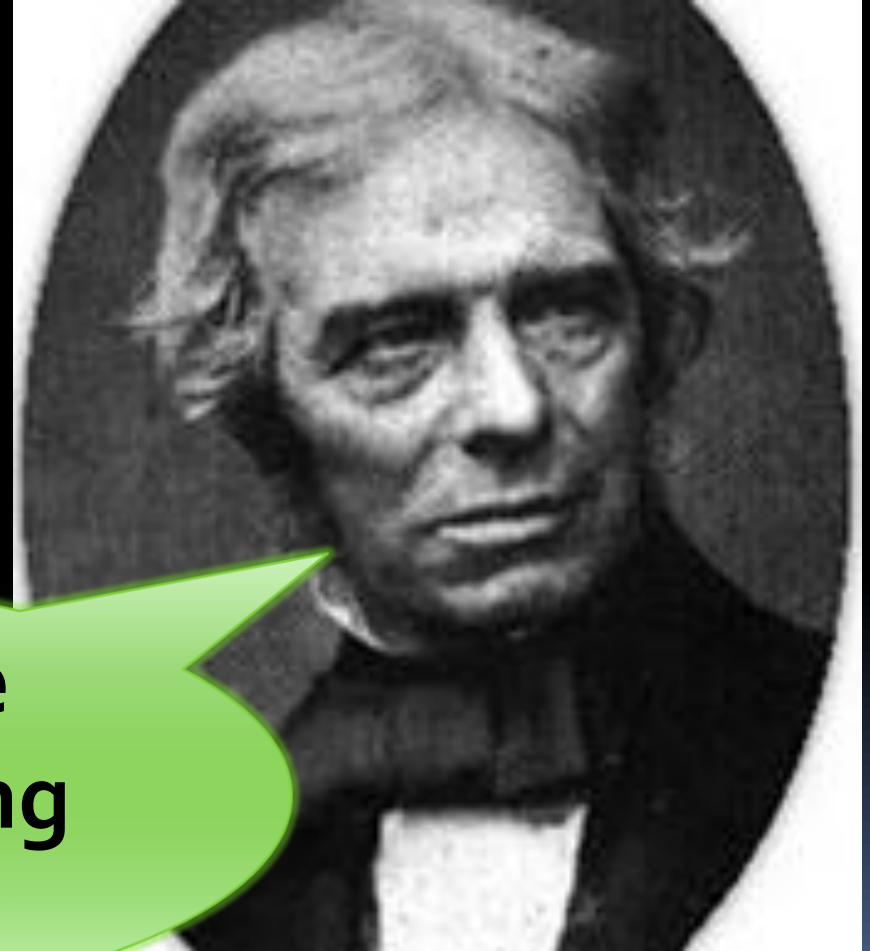
Bristol, over-hanging privies,
Early 19th c.

The state of London water, 1830 (Cruikshank)



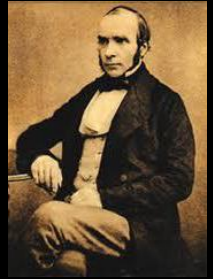
Faraday – experiments on quality of water in the Thames

- Interest in chlorine
- Described Thames water as an opaque brown fluid
- Letter to Times 1855



**“Nothing more
than a fermenting
sewer”**

Outbreak of Cholera, London 1854 – Dr John Snow



- **29 Aug- ~8 Sep 1854: 700 cases, 500 deaths** – only 12 of 49 houses in Broad Street escaped death.
- **He showed that it was due to sewage contamination of the street pump water.**



The Great Exhibition 1851



- Public toilets installed by George Jennings
- Initially provided only for men
- 827,280 people paid a penny to use them
- Flushing toilets became even more popular....

The Great Stink, June-July 1858

Hottest summer on record

7 June: *"Hon.gentlemen sitting in the Committee Rooms and the Library were utterly unable to remain there in consequence of the stench"*

"Stygian pool reeking with ineffable and unbearable horror!"

Things dropped into Thames (including sewage) take 3-11 weeks to reach open sea.....

Bazalgette

- Sir Joseph Bazalgette, 28 March 1819-91
- Chief Engineer to Metropolitan Board of Works for 33 years (became London County Council)
- Metropolitan Management Act to get sewer scheme funded (coal tax)
- Thames Embankment 1864-70



Flumini vincula posuit = He put the river in chains

Sanitarianism – 19th century obsession ignoring other ills?

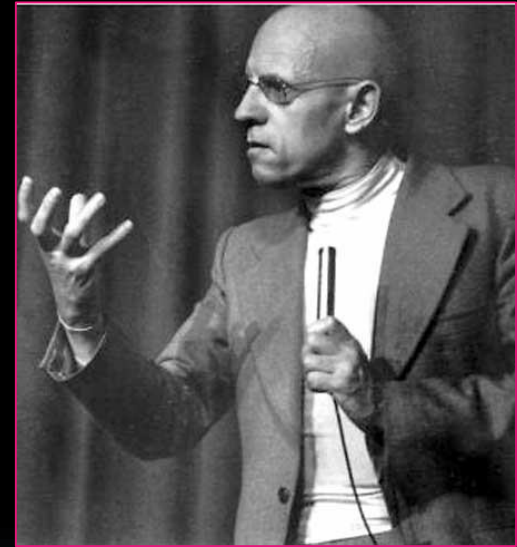
- Many contemporary doctors pointed to poverty as the problem
- Chadwick & co. rejected role of work, wages and food

Christopher Hamlin: *Public health and social justice in the age of Chadwick*

Foucault's critique of 'social medicine'

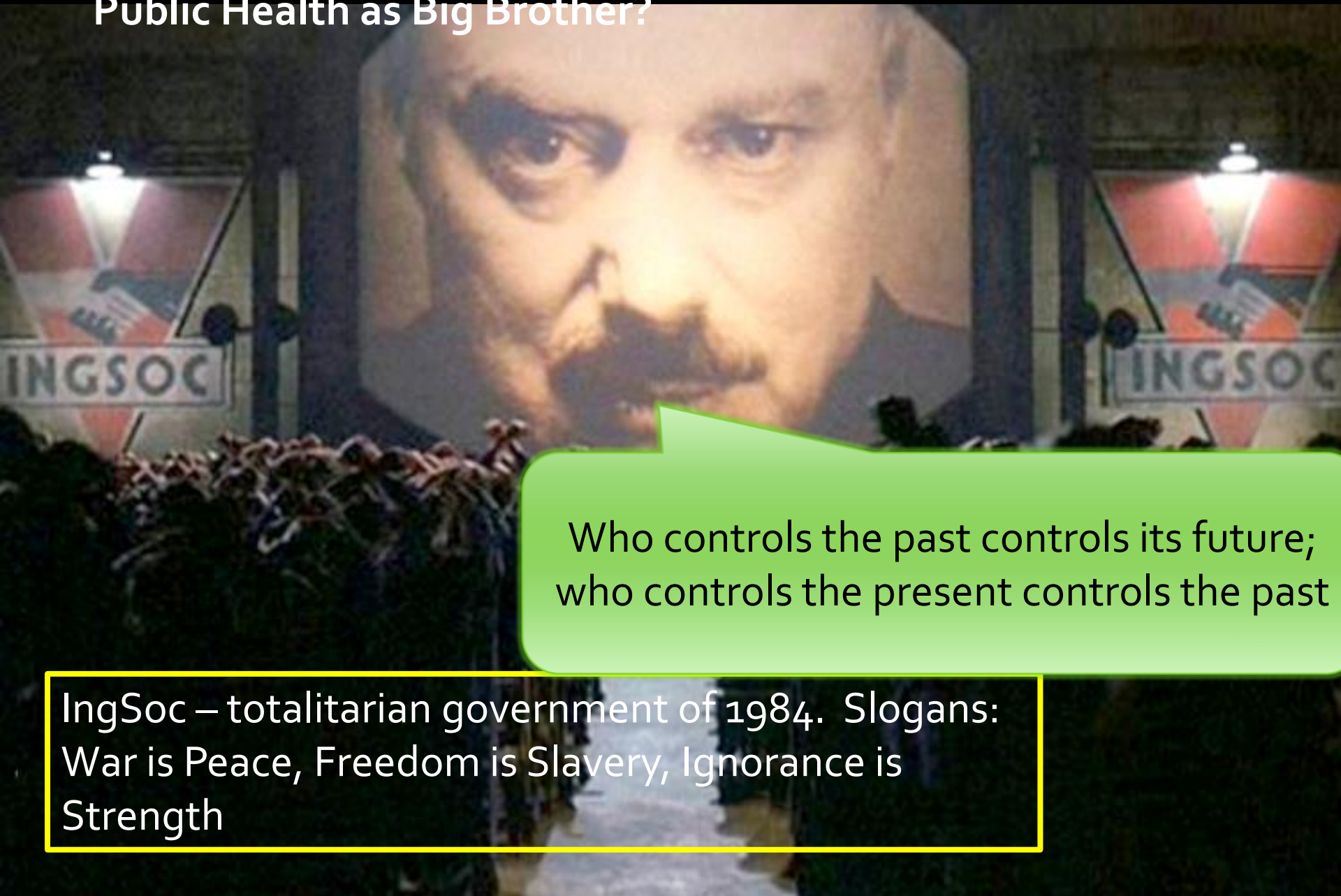
- 'There appeared in the 19th century – above all in England – a medicine that consisted mainly in a **control of the health and the bodies** of the needy classes to make them more **fit for labour** and **less dangerous** to the wealthy classes.'

M.Foucault 'The birth of social medicine', 1974



Michel Foucault 1926-1984

Public Health as Big Brother?



Who controls the past controls its future;
who controls the present controls the past

IngSoc – totalitarian government of 1984. Slogans:
War is Peace, Freedom is Slavery, Ignorance is
Strength

Florence Nightingale



Illustrated London News, 1855,
showing Nightingale with patients at
Scutari hospital

- 1820-1910
 - Nurse & hospital reformer
 - Ran a small hosp. in Harley Street, London
 - Crimean war 1854
 - Planned new design for hospitals (St Thomas's)

Bicentenary 2020

Public health enters politics

- *"Physicians and public health officials, like soldiers, are always equipped to fight the last war"*
 - Rene Dubos, 1961 – The Dreams of Reason
- *"The real public health problem, of course, is poverty"*
 - Wendell Willkie (1892-1944) – One World
- *"The basic resource of a nation is its people. Its strength can be no more than the health and vitality of its population."*
 - John F Kennedy, Message to Congress 1962

Rise of demography in PH

- Mainly 19th century onwards
- Bills of mortality 16th century in England (plagues)
- 1837- registration of births, marriages, deaths
- Increasingly detailed statistics

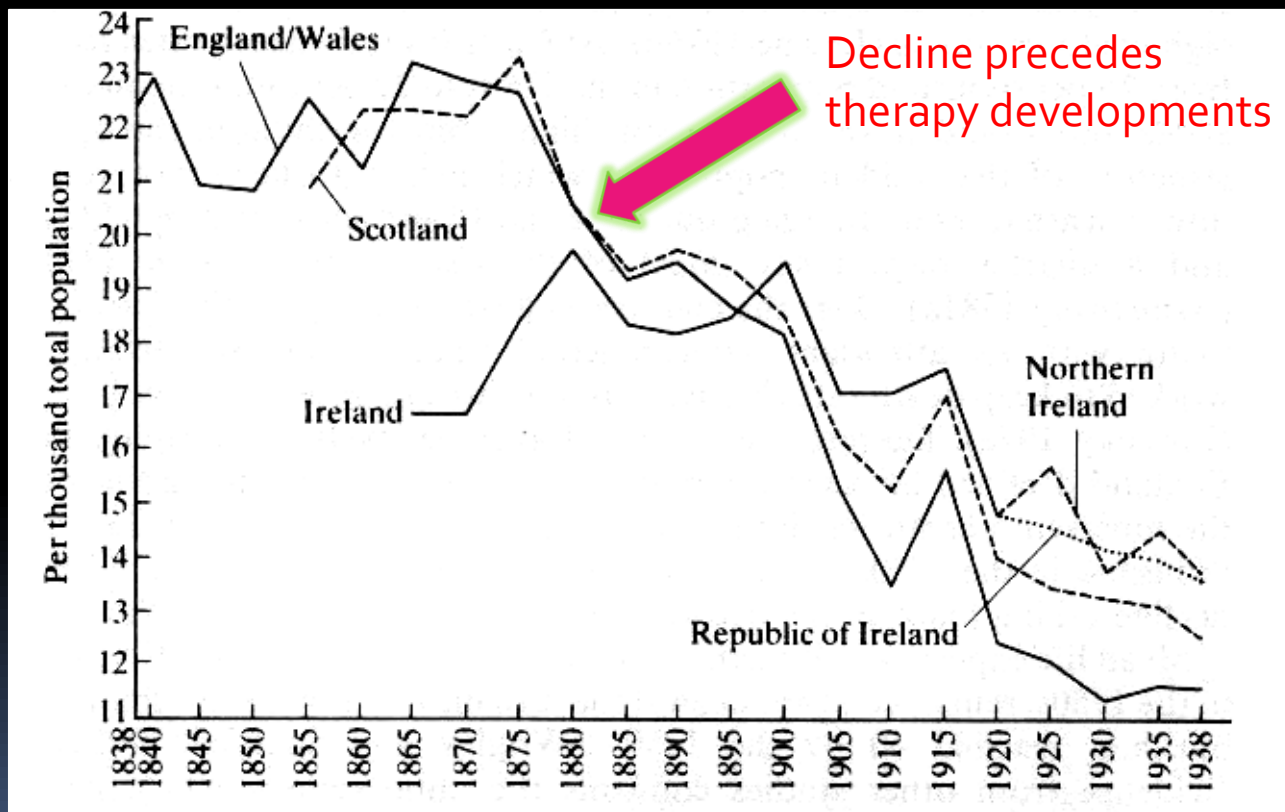
270 *Causes of Death in t*

Mean Population, 1851-61, and D

| CAUSES OF DEATH. | ALL AGES. | Total under 1 Year. | | | | |
|--|-----------|---------------------|------|------|-----|-----|
| | | 1 | 2 | 3 | 4 | |
| Mean Populⁿ, } 1851-61 - - | 59163 | - | - | - | - | - |
| TOTAL DEATHS - | 16830 | 5492 | 2088 | 1001 | 554 | 338 |
| Small-pox - - - | 250 | 58 | 36 | 32 | 17 | 19 |
| Measles - - - | 664 | 106 | 250 | 160 | 73 | 30 |
| Scarlatina - - - | 641 | 47 | 118 | 128 | 104 | 78 |
| Diphtheria - - - | 53 | 8 | 8 | 7 | 6 | 6 |
| Whooping-cough - - | 278 | 135 | 77 | 34 | 13 | 9 |
| Typhus - - - | 806 | 68 | 76 | 73 | 55 | 38 |
| Cholera, Diarrh., Dysent ^y | 1096 | 638 | 209 | 54 | 22 | 2 |
| Other Zymotic Dis. - | 557 | 144 | 78 | 49 | 39 | 31 |
| Cancer - - - | 86 | 3 | 1 | 1 | - | 1 |
| Scrofula, Tuberc. Mesent. | 324 | 141 | 70 | 27 | 16 | 8 |
| Phthisis - - - | 1341 | 106 | 57 | 34 | 10 | 6 |
| Hydrocephalus - - | 179 | 70 | 55 | 21 | 15 | -6 |
| Diseases of Brain - - | 2030 | 1178 | 133 | 62 | 31 | 14 |
| Heart Dis. and Dropsy - | 690 | 36 | 22 | 12 | 12 | 4 |
| Dis. of Lungs - - - | 3236 | 1068 | 544 | 192 | 72 | 33 |
| Dis. of Stom. and Liver | 609 | 163 | 34 | 15 | 5 | 4 |
| Dis. of Kidneys - - | 146 | - | 3 | 1 | 2 | 1 |
| Dis. of Gener. Organs - | 3 | 2 | 1 | - | - | - |

Explaining the mortality transition...

McKeown and the 'mirage' of medicine: claimed that the main factor influencing mortality was nutrition



Deaths per 1,000 population in Britain, 1838-1948

The demographic transition

| | <i>c.1800</i> | <i>today</i> |
|-------------------------|---------------|--------------|
| <i>life expectation</i> | 34-37 yrs | 75-79 yrs |
| <i>No. children</i> | 5-6 | 1-2 |

- **Health transition.** Increased survival chances
- **Epidemiologic transition.** From acute infectious to chronic diseases.

CAUSES: economic development and public health interventions mattered **more** than biomedicine

The NHS: universal, comprehensive, free at the point of use

- '... to encourage a new attitude to health - the easier obtaining of advice early, the promotion of good health rather than only the treatment of bad.'

1944 NHS White Paper

Was there any more need for public health after 1948 ?

Last Public Health Act was 1936

MoH job abolished 1974

Newspeak in action: the shift in PH interests after the 1960s....



"It is time to close the book on infectious diseases, and declare the war against pestilence won."

- Dr William H Stewart, Surgeon General US 1965-

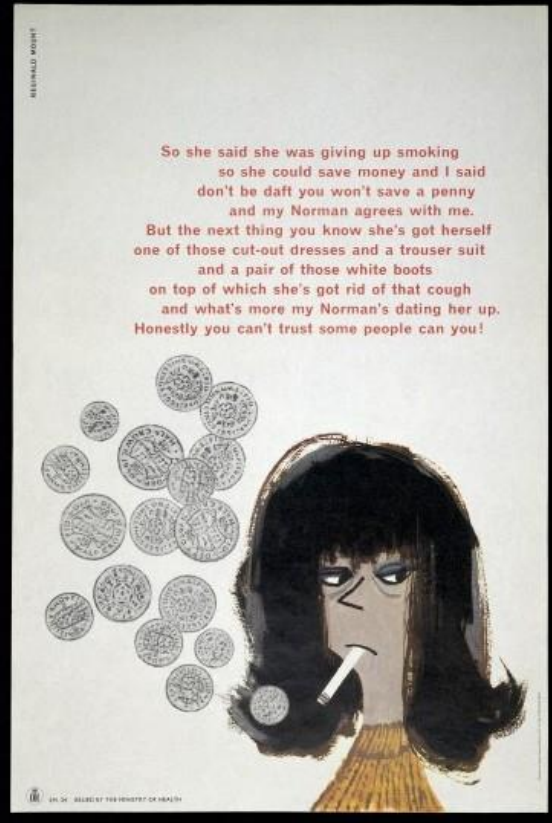
⁶⁹
**Much quoted and acted upon –
although there is no evidence that he
said it...**

On the exoneration of Dr. William H. Stewart: debunking an urban legend. Spellberg B, Taylor-Blake B. *Infect Dis Poverty* 2013; 2:3

Post WWII consumerist techniques



1950s



1960s and 1970s: behaviour modification

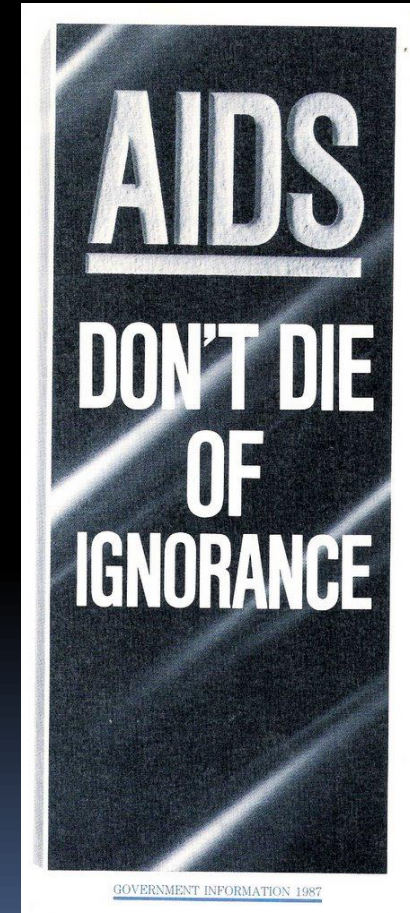


1970s Road traffic accidents
Use of television and celebrities



1980s – increasing our scientific literacy?

- Deficit model of citizens: correct behaviour would follow if they acquired scientific knowledge





(1993 rear seat belt law)



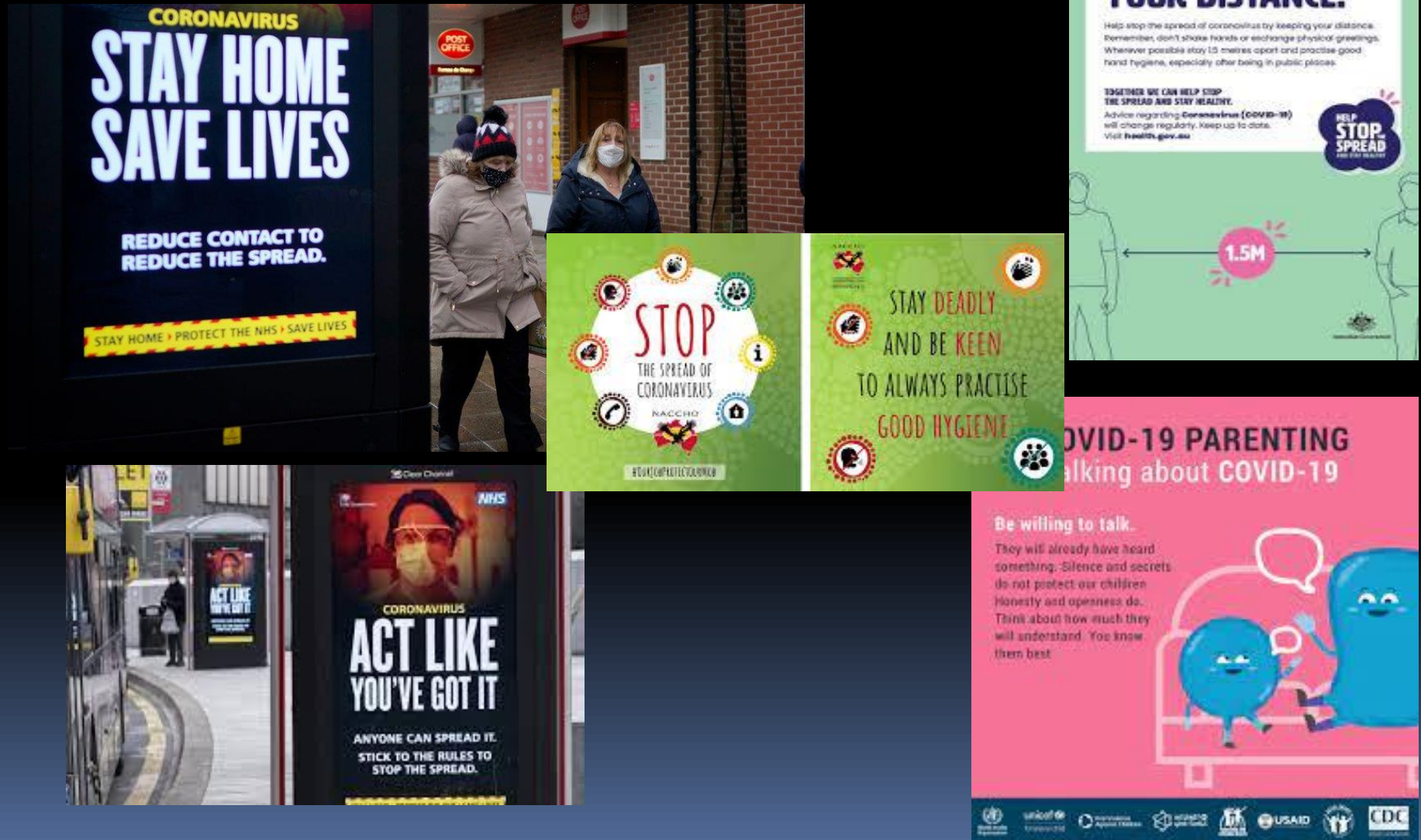
1990s, 2000s use of shock
tactics / graphic images

Current trend: nudges to alter our behaviour

- Swine Flu: Catch it, bin it, kill it (2009)
- Food labelling e.g. sugar content
- Making stairs appeal



Covid era – social responsibility?



Old style health promotion: scary or patriotic

LIGUE NATIONALE FRANÇAISE CONTRE LE PÉRIL VÉNÉRIEN

LA COURSE A LA MORT



TUBERCULOSE : 150.000 MORTS PAR AN
SYPHILIS : 140.000 " "
CANCER : 40.000 " "

OFFICE D'HYGIÈNE SOCIALE de TARN-&GARONNE

Vu
Le Ministre du Travail
du Régime des Pensions
et de Prévoyance Sociales

**You kept fit
and defeated the Hun**



Now—
set a high standard
A
**CLEAN
AMERICA**

STAMP OUT VENEREAL DISEASES—

Does public health still need its sanitary heroes?

- 2.3 billion people in the world still have no adequate sanitation
- No legislation requiring public toilets in England (or other parts UK)
 - Hence declining & largely unplanned provision
- *"...the toilet is the barometer of civilization. How a society disposes of its human excrement is an indication of how it treats its humans, too".*
 - Rose George, The Big Necessity



- RSPH released this report on the European Election day 2019
- [No politics can be discussed on an election day]
- Survey on decline in public toilets and impact on public health.

<https://www.rsph.org.uk/our-work/policy/healthy-places/taking-the-p.html>

Public Health future...

- Is Public Health still 'a minor niche in the NHS bureaucracy'?
- 'incapable of reframing priorities, or deflecting resources according to priorities dictated by criteria of objective need because they possess neither the power nor the independence'
- Charles Webster: official historian of the NHS

The 'public' in public health

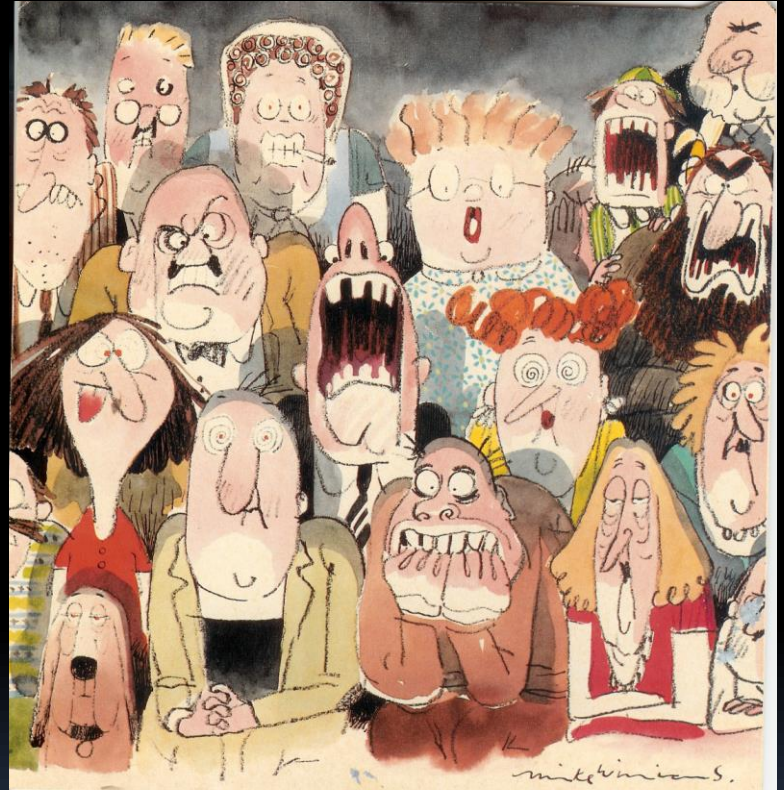
From: Unruly population
needing guidance and
rules

To:

Increasing demand for a
say in how environment
and health is managed

+

Increased vested interests
and dislike of 'Nanny State'
(while still blaming state...)



Covid influence on Public Health

- PHE to be dismantled, replaced by National Institute for Health Protection
- No indication of restoring/ increasing budget so far
- Emphasis on labs?
- STIs, suicide, drug poisoning deaths all on the rise + obesity etc.