

INFECTIOUS DISEASE:

FROM PREHISTORY TO FORENSIC MENTAL HEALTH

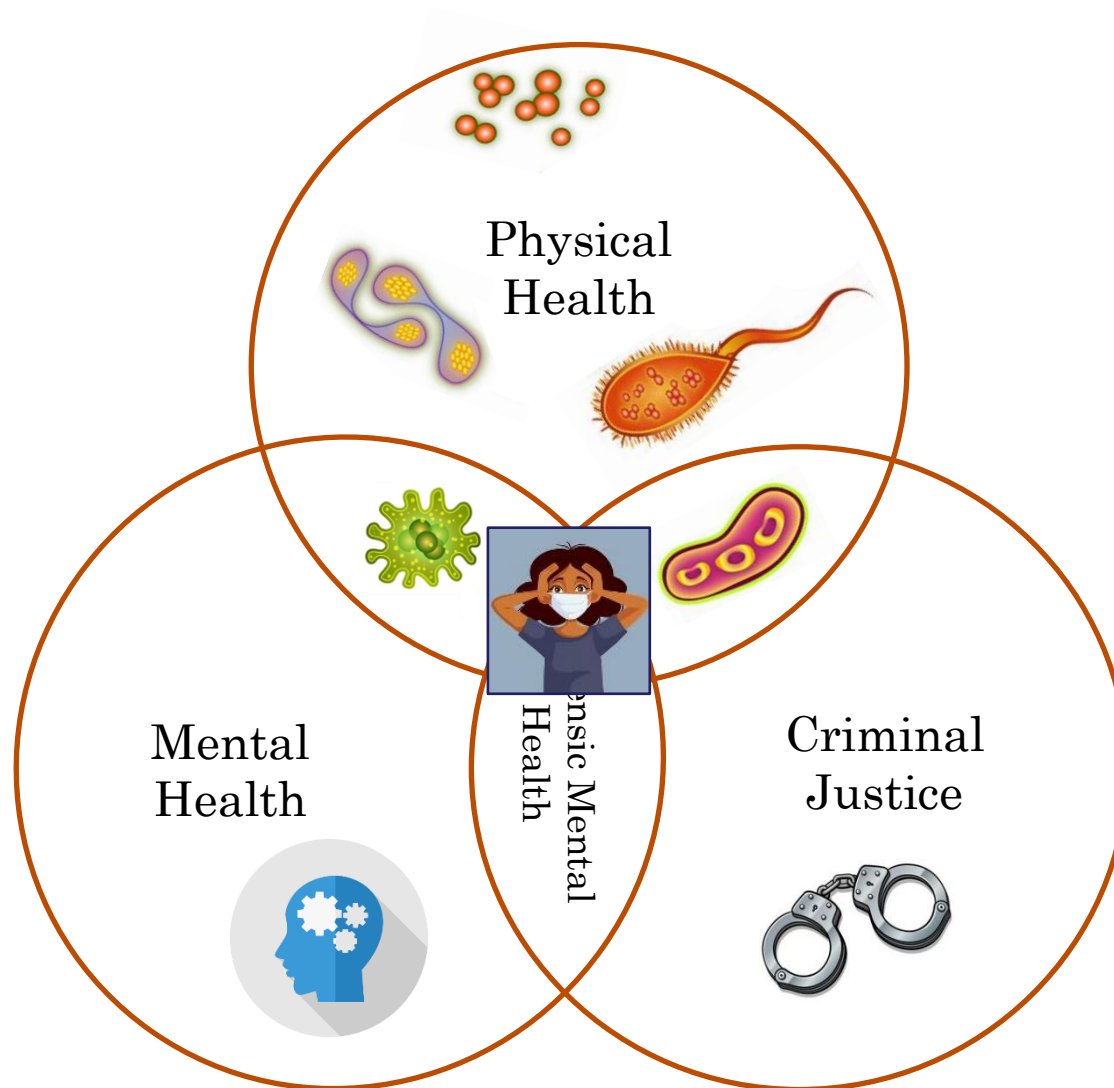
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JENNY SINGH RN CNS

AUCKLAND REGIONAL FORENSIC PSYCHIATRY SERVICES

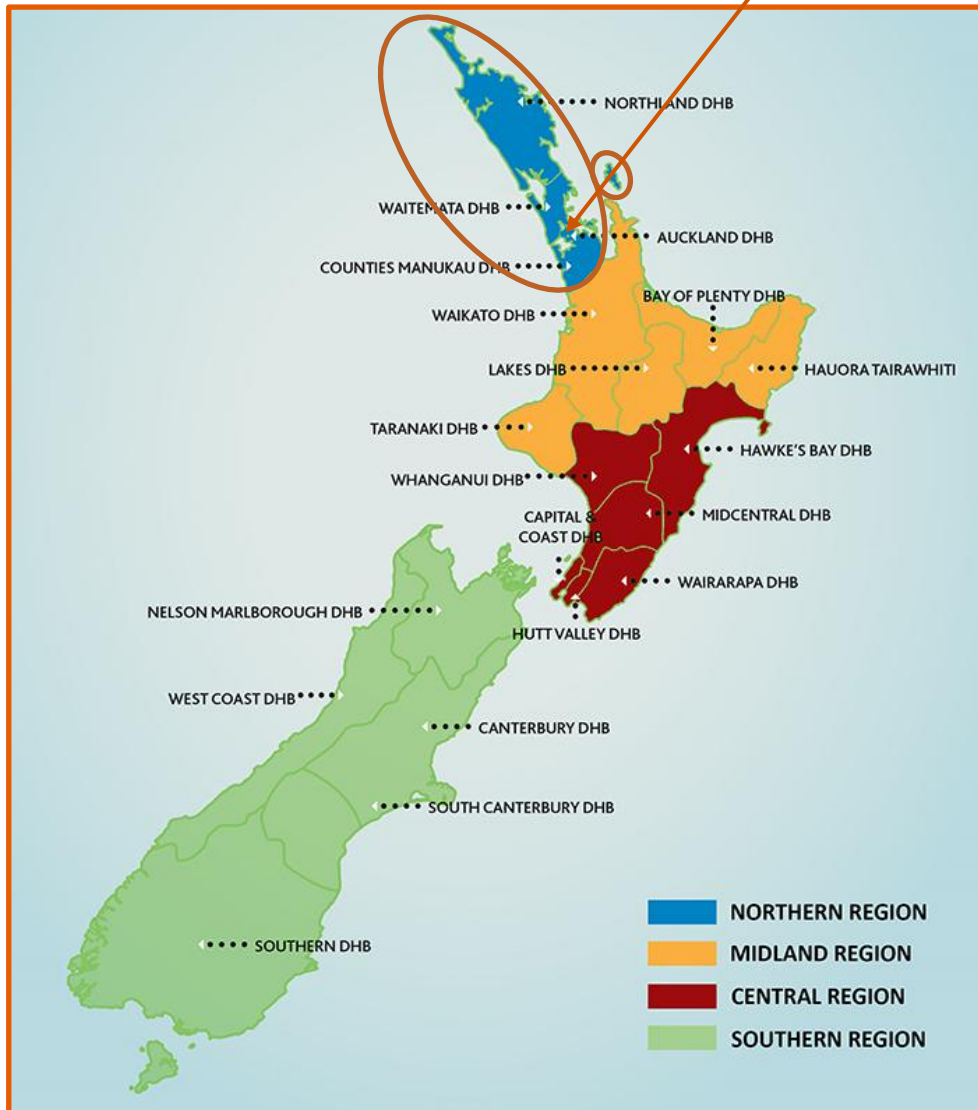
FORENSIC MENTAL HEALTH



Not Guilty by Reason of Insanity, Prisoners, Unfit to Stand Trial, Unable to be managed by General Mental Health, Court Liaison.



MASON CLINIC IS HERE



- 113 inpatient beds – the largest psychiatric hospital in NZ
- ~ 55 community whaiora
- ~ 600 cases open to Court Liaison
- ~ 270 case open to Forensic Prison Team
- ~ 25 waitlisted in prison

MASON CLINIC



Rimu Hostel:
Reintegration
Open secure mixed

Kahikatea:
Rehabilitation
Minimum secure male

Rata:
Rehabilitation
Medium secure male

Kauri:
Acute
Medium secure male

Tōtara:
Subacute
Medium secure male

New Build:
1 minimum secure, 2
medium secure and 1
high secure HERE

E Tu Tanekaha:
Medium secure women
and minimum secure
men



Tāne Whakapiripiri:
Kaupapa Māori
rehabilitation
Minimum secure mixed

Te Aka:
Kaupapa Māori acute and
rehabilitation
Medium secure mixed

Pohutakawa:
Medium intellectual
disability male

Kowhai Centre:
Forensic Community
Team

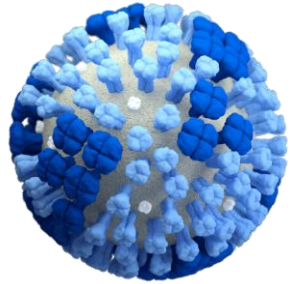


THERAPEUTIC SECURITY

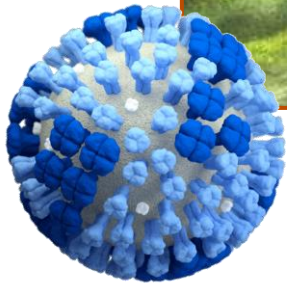
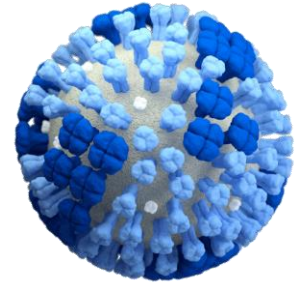
- We are a hospital not a prison
- Environmental Security
 - Lines of sight
 - Furniture that can't be used as weapons
- Procedural Security
 - Two, one or no escorts into the community.
 - Counting cutlery after meals.
- Relational Security
 - Trauma Informed Care.
 - Understanding whaiora's Early Warning Signs.



THE INFECTIOUS DISEASE WITH THE
EARLIEST EVIDENCE?



INFLUENZA

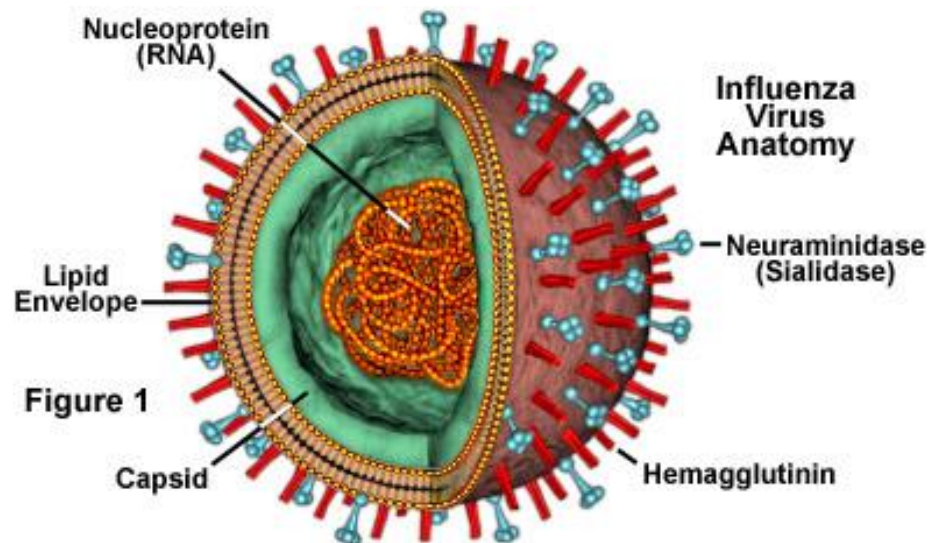


600 Million Years and
Still Going Strong



INFLUENZA: 600 MILLION YEARS OLD

- A flu virus has been found in a sturgeon which is similar to what scientists think the flu virus ancestor was like.
- Molecular techniques have indicated that flu viruses may have originated 600 million years ago.



1510 FLU PANDEMIC

- The first chronicled, inter-regional flu pandemic generally recognized by medical historians and epidemiologists.
- Flu emerged in Asia before spreading through North Africa and Europe.

Map of the known world
by Juan de la Cosa, 1500



1510 FLU PANDEMIC



○ Treatments included:

- Bloodletting.
- Philosopher's egg, a concoction of egg, saffron, mustard seed and ground unicorn horn.
- Water of dragons.
- Sheepskin, take a sheep or lamb, rapidly skin them, and then place the still-warm, bleeding skin on the chest of the sufferer ☹

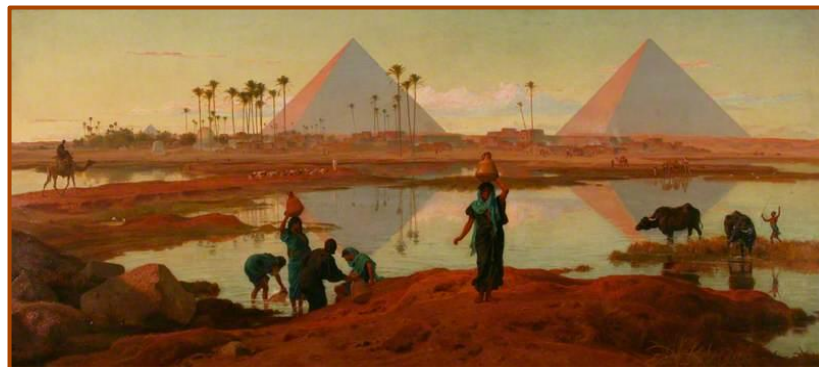


Blood letting
tool found on
Etsy for €79.00
plus postage



TUBERCULOSIS: 250 MILLION YEARS

- Skeletal evidence of a TB like illness has been found on dinosaur skeletons dated at around 250 million years old.
- TB like infectious lesions have been found on a Homo erectus fossil from 500 thousand years ago
- TB has been identified in nearly a third of Egyptian mummies examined in a 2007 study.



TB AND THE INDUSTRIAL REVOLUTION

- TB spread rapidly during the crowded conditions of the industrial revolution.
- At one hospital in Paris in the early 1800s TB was identified as the cause of death in 1/3 of all autopsies.
- TB became fashionable during this time. The fragile state of breathlessness and weight loss brought about by TB was praised as the height of femininity.



ANTONINE PLAGUE

ROMAN EMPIRE 165-180 A.D.

- Estimated at 5–10 million, roughly 10% of the population of the empire.
- Most likely caused by smallpox and maybe measles.



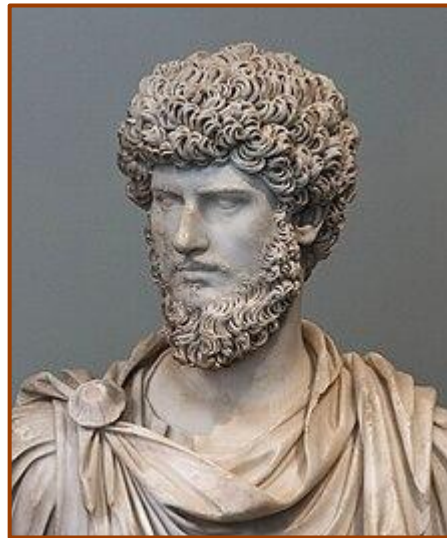
Plague in Rome by Jules Elie Delaunay, 1869



ANTONINE PLAGUE

ROMAN EMPIRE 165-180 A.D.

- The disease was particularly deadly in the cities and in the Roman Army.
- Up to 2,000 deaths a day in the city of Rome.
- Probably caused the death of Roman Emperor Lucius Verus.



Bust of Lucius Verus
RIP



THE PLAGUE





THE PLAGUE



- Plague is caused by the bacteria *Yersinia pestis*, usually found in small mammals and their fleas.
- Bubonic plague is caused by the bite of an infected flea with the bacteria travelling to the lymph nodes causing “buboes”. 30% to 60% fatal if untreated.
- Pneumonic plague is droplet spread and infects the lungs. 100% fatal if untreated.
- Systemic plague is when bacteria enters the blood stream. 100% fatal if untreated.



EARLY GERM WARFARE 1344: THE MONGOL SIEGE OF CAFFA

- At the Siege of Caffa the plague struck the Mongol Army causing devastation and forced it to retreat.
- The final act of the Mongol Army was to lob the bodies of plague victims over the Caffa city walls.
- This was likely the cause of the beginning of the Black Death in Europe.



THE BLACK DEATH – 14TH CENTURY

- The Black Death swept through Asia, Europe, and Africa in the 14th century.
- Killed an estimated 50 million people, including about 25% to 60% of the European population.



Black Death at Tournai by Giles Le Muisit, 1349



17TH CENTURY PPE



YOU CAN BUY YOUR OWN PLAGUE PPE

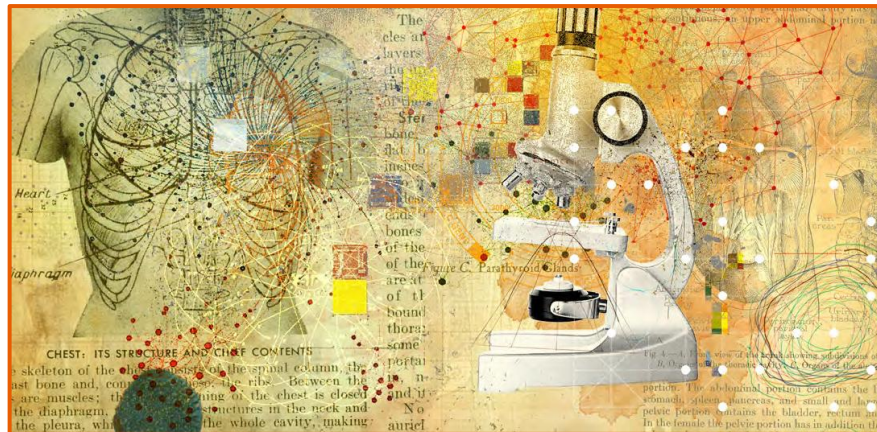


€214.04 plus postage on Etsy



COCOLIZTLI EPIDEMICS

- Outbreaks of a mysterious illness characterized by high fevers and bleeding in North and Central America.
- The first epidemic in 1545 is estimated to have killed 5 to 15 million people. There were at least 12 epidemics.
- The symptoms don't match any known pathogen but was likely caused by a disease/s brought by colonisers and exacerbated by post colonisation living conditions.



TOKOTOKO RANGI (SPEAR FROM HEAVEN)

- When Europeans first arrived in New Zealand Māori had no immunity against many of the virulent diseases they brought with them.
- Problematic diseases included sexually transmitted diseases, measles, influenza, typhoid fever, dysentery and tuberculosis.

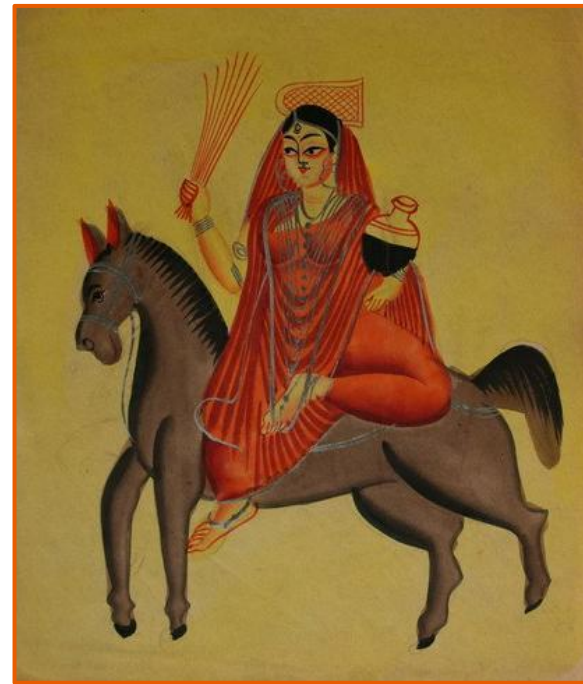


Tamariki Māori being vaccinated against TB in 1950



INOCULATION

- Inoculation is the practice of implanting an unmodified pathogen into a person to induce a mild illness and immunity.
- Inoculation has ancient origins in India, Africa, and China.



INOCULATION



- One method was to blow dried and powdered smallpox pus up your nose. Left for nostril for girls and right for boys.



VACCINATION

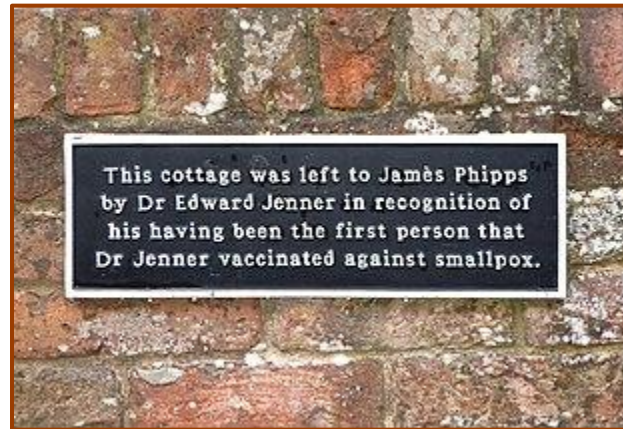


A painting of Edward Jenner performing the first vaccination against smallpox by Gaston Melingue, 1879

- Vaccination uses a modified pathogen to induce immunity.
- Edward Jenner vaccinated James Phipps, the 8 year old son of his gardener, against smallpox using cowpox.
- He then exposed James to smallpox. Who fortunately lived

JAMES PHIPPS

- Later in Phipps's life, Jenner gave him, his wife, and his two children a free lease on a cottage in Berkeley.



- So at least he got a house ...



AN HONOURABLE MENTION TO BLOSSOM AND HER MILKMAID SARAH NELMES

- Blossom gave Sarah Nelmes cowpox the Edward Jenner used to vaccinate James Phelps.



'Blossom', the Cow, attributed to Stephen Jenner



WITH THE FIRST VACCINE CAME THE FIRST ANTI-VAXXERS ...



WITH THE FIRST VACCINE CAME THE FIRST ANTI-VAXXERS ...

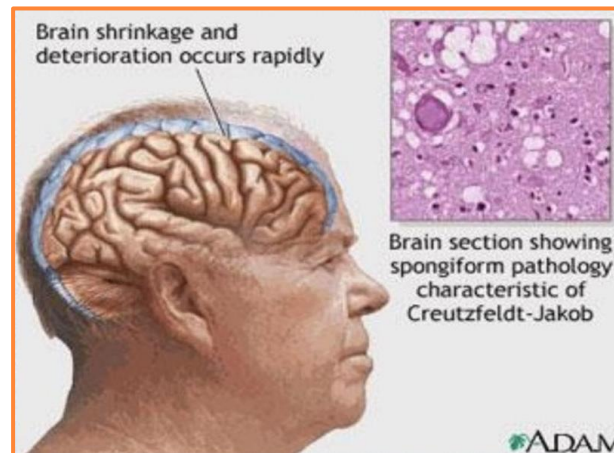


And they're still going ...



PRION DISEASES (THERE ARE FIVE)

- Prion diseases are caused by normal cellular prion proteins misfolding in mammals.
- Once misfolded the prion goes on to cause other proteins to misfold.
- Resulting in untreatable and fatal spongiform encephalopathy.



UK 1995: VARIANT CREUTZFELDT-JAKOB DISEASE AKA MAD COW DISEASE

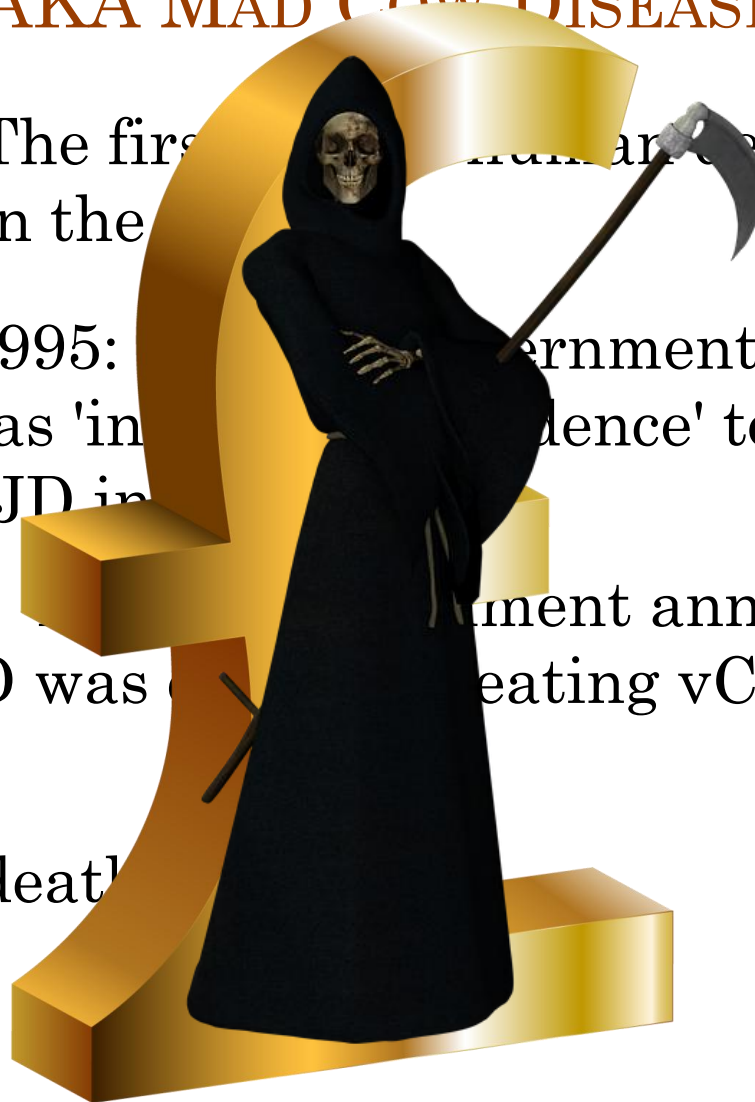
- Variant Creutzfeldt-Jakob disease (vCJD) is spread between cattle when diseased cow products are used in their feed.
- vCJD is spread from cattle to humans through humans eating diseased meat.



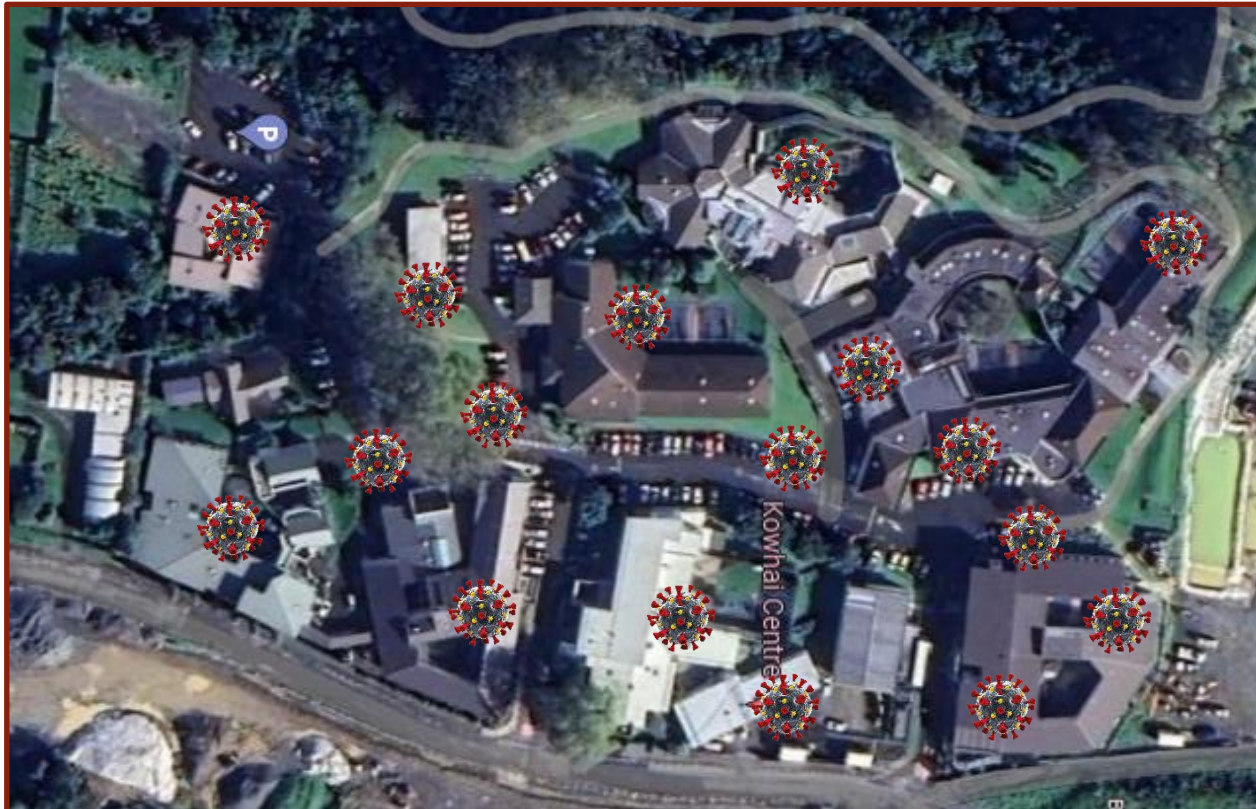
UK 1995: VARIANT CREUTZFELDT-JAKOB DISEASE AKA MAD COW DISEASE



- May 1995: The first human death from vCJD in the UK
- September 1995: The government concluded that there was 'insufficient evidence' to link vCJD in cows and vCJD in humans
- March 1996: The government announced that human vCJD was caused by eating vCJD infected cow meat.
- 177 human deaths



MASON CLINIC



Vision Statement

*Improving Lives through Responsive Forensic Services:
Mauri Ora! Mauri Kaha!*



MASON CLINIC



- We were rated as an **“Ultra Green”** due to our whaiora’s vulnerability.



MASON CLINIC



○ Our whaiora are uniquely vulnerable to physical illness:

- Backgrounds of deprivation
- Communal living
- Psychiatric medications
- Low levels of physical activity
- Approx 50% Māori and 20% Pasifika



WHAIORA WERE MORE RESTRICTED THAN EVER

- Initially all leave outside the units was cancelled by MOH.
- Sometimes whaiora couldn't leave their rooms.
- Everyone went onto hospital food.
- Restrictions were lifted more slowly than in the community.



WHAIORA WERE MORE RESTRICTED THAN EVER

- On the bright side we did get two visits from Mr Whippy!



NURSES HAD TO RE-LEARN HOW TO BE MEDICAL NURSES

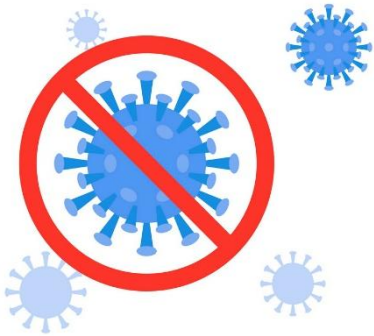
- From wearing mufti to wearing PPE.
- PCRs and RATs involve a body cavity!
- Feeling incompetent when we had to do E-learning in case of reassignment to a covid ward.
- Nurses were shown to be the backbone of the service (with an honourable mention to the OTs)!



ZOOM TRAUMA INFORMED YOGA



Mason Clinic Outcome



No Deaths!



THE END



The Triumph of Death by Pieter Bruegel the Elder, c.1562

