Female scientists and vaccine research



Elizabeth Wynn She/her 24/6/21



Lady Mary Montagu and smallpox

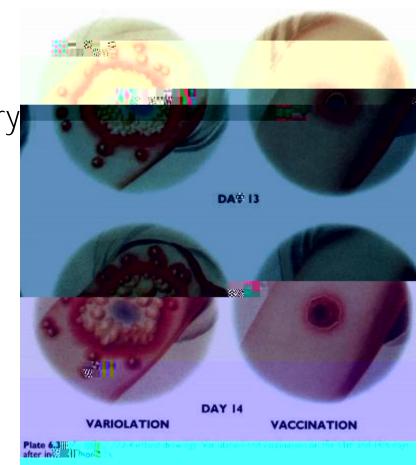
- 15 May 1689 21 August 1762
- English aristocrat and writer
- Her brother died of smallpox in 1713

ullet



Lady Mary Montagu and smallpox

- Variolation
 - China 15th century
 - India, Sudan and Ottoman Empire 18th century
- Introduction to UK
 - Montagu children
 - Newgate Prison
 - Princes Octavius and Alfred
- Replaced by Jenner's vaccine





Pearl Kendrick, Grace Eldering, Loney Gordon and pertussis

Pearl Kendrick (24 August 1890 – 8 October 1980)

- Started working as a researcher at the Michigan Department of Health in 1919
- Gained her PhD in bacteriology in 1934
- Grace Eldering (5 September 1900 31 August 1988)
 - Joined the Michigan Department of Health in 1928
 - Gained her PhD in bacteriology in 1942
- Started developing a whooping cough (vaccination in 1932
- Low funding so they relied on volunteers and community involvement
- Small scale vaccine production started in 1933 and a large vaccine trial in 1934

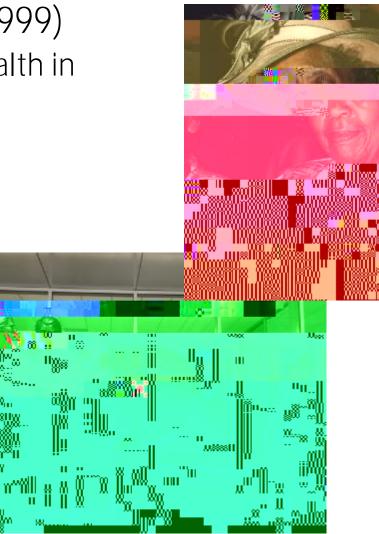




Pearl Kendrick, Grace Eldering, Loney Gordon and pertussis

Loney Clinton Gordon (October 8 1915 – 16 July 1999)

- Chemist who joined the Michigan Department of Health in 1944
- Tested '1000s' of culture plates to discover the best medium for growing
- Developed first combined DTP (diphtheria, tetanus, and pertussis) vaccine in 1949



Dorothy Horstmann, Isabel Morgan and polio

Dorothy Horstmann

- 2 July 1911 11 January 2001
- Became a doctor in 1940, first specialising in internal medicine before switching to infectious diseases
- Studied poliovirus transmission and



Isabel Morgan

- 20 August 1911 18 August 1996
- Gained her PhD in bacteriology in 1938
- Identified the three serotypes of poliovirus
- Performed successful killed-virus vaccine trials in monkeys in 1948
- Left research in 1949 to become a homemaker
- Retrained as a biostatistician in the 1960s





Kizzmekia Corbett

- American viral immunologist at the Vaccine Research Center where she is the scientific lead on their coronavirus team
- Central to the development of the Moderna mRNA vaccine and the Eli Lilly therapeutic monoclonal antibody





Female scientists and COVID-19





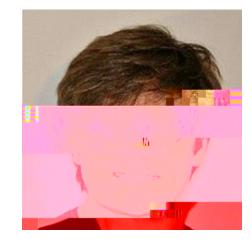
- Kizzmekia Corbett Sarah Gilbert
- Kathrin Jansen
- Head of Vaccine Research and Development at Pfizer
- Worked on the Pfizer–BioNTech COVID-19 mRNA



Kizzmekia Corbett Sarah Gilbert Kathrin Jansen

Katalin Karikó

- Co-founder and former CEO of RNARx before becoming senior vice president of BioNTech
- Her patent on nucleoside modifications relating to RNA-mediated immune activation was licensed for both the Moderna and BioNTech vaccines





Female scientists and COVID-19



- Kizzmekia Corbett Sarah Gilbert Kathrin Jansen Katalin Karikó Nita Patel
- Özlem Türeci
- Co-founder and chief medical officer of BioNTech
- Using the profits from their COVID-19 vaccine, BioNTech plans to pursue its original goal of creating an mRNA-based cancer vaccine





Michelle Linterman and work at BI

- Michelle Linterman
 - ٠



Michelle Linterman and work at Bl

- Patricia Amé-Thomas
- Alice Denton
- Sigrid Fra-Bido
- Xin Ge
- Danika Hill
- Silvia Innocentin
- Jia Le Lee
- Marisa Stebegg
- Ine Vanderleyden
- Louise Webb



Discussion time



Further reading

- How One Daring Woman Introduced the Idea of Smallpox Inoculation to England
- Pearl Kendrick, Grace Eldering, and the Pertussis Vaccine
- Whooping Cough Killed 6,000 Kids a Year Before These Ex-Teachers Created a Vaccine
- The Unsung Women in the Race for the Polio Vaccine
- Women in science who are making a difference during the pandemic
- Meet the women leading the fightback against COVID-19
- <u>Michelle Linterman Babraham Institute</u>

