Socio-economic aspects of veterinary vaccine development

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• Brief recall of vaccine history
• ‘Subjective and meaning-laden elements of technology development’\(^1\) with some illustrations from the vaccine sector
• Role of sciences in influencing veterinary vaccine development
• Examining the social representations of ‘impact’ and ‘impact assessment’ in academic circles
• Implications for the future of vaccine research and animal health policy

Children receiving diphtheria immunization, New York City, 1920s
Source: Metropolitan Life Insurance Co.

Dog vaccination campaign, Kenya, 2017
Source: Anawfrica
The History of Inoculation and Vaccination for the Prevention and Treatment of Disease. Lecture Memoranda.

A.M.A. Meeting, Minneapolis. Burroughs Wellcome and Co. London, 1913

Source: Royal Mummy Hall of the Museum of Egyptian Antiquities, Cairo, Egypt


Source: Wellcome Images, a website operated by Wellcome Trust, a global charitable foundation based in the United Kingdom.
Jose Esparza

Vial containing the 1902 smallpox sample
CONQUEROR OF SMALLPOX

DR. EDWARD JENNER

I. E. LEVINE
A group of eminent persons attending the 1921 conference visits France’s National Veterinary School of Alfort (ENVA)

‘Rinderpest: first animal disease eradicated in human history’

By FAO, 25 June 2011

British veterinarian Dr. Walter Plowright (center) became the 1999 World Food Prize Laureate for his work developing a cattle-use rinderpest vaccine, which is credited with substantially helping eradicate the disease worldwide.

Source: BBSRC media
Dr Murchison (1830-1879), wrote to The Times (30 January 1866) saying that: ‘the analogies between smallpox and rinderpest were so obvious that it was logical to try to vaccinate cattle against rinderpest’
Jasanoff, Sheila, "New Modernities: Reimagining Science, Technology and Development"

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

1924-2011
The Odyssey of Rinderpest Eradication

UM NOVO MARCO DA PECUÁRIA BRASILEIRA
President George Washington’s decision to inoculate the Continental Army against smallpox very likely helped the American Colonies win the Revolutionary War (1779). Source: “The March to Valley Forge” by William B. T. Trego.

An emergency hospital at Camp Funston, Kansas, 1918. “Of the 12 men who slept in my squad room, 7 were ill at one time,” a soldier recalled. (New Contributed Photographs Collection / otis historical Archives / National Museum of Health and Medicine)
The meatpacking plant of Chicago's Union Stockyards was a sprawling facility that handled the slaughter, processing, packaging and distribution of cattle and swine. In operation by 1865, it was among the earliest U.S businesses to exemplify the industrial model. (Photo credit: John Vachon, 1941. Public domain)

The William Davies Company facilities in Toronto, Canada, circa 1920. This facility was then the second largest hog-packing plant in North America.
This youngster was just one of millions forced to play among rubble and debris on a housing estate, Manchester, 1971 (Source: Dailymail)

‘The slum children who shocked Swinging Sixties Britain’ (1968-1972)
‘Cholera Epidemic Envelops Coastal Slums in West Africa’


The shore of a quarter in Freetown, Sierra Leone, was littered with trash. Credit Holly Pickett

Source: Gavi/2018.
‘Young male have increased risk of respiratory disease during transport’
By Amy Stewart, 2012
Beware! The Vaccine

From a French caricature of the XVIII century
DO NOT VACCINATE!!

Photo credit: Small World FS

Cartoon, FMD, G. Thompson

Courtesy of The Historical Medical Library of The College of Physicians of Philadelphia, 1894

Photo credit: Alpha/Flickr

Photo credit: Lindsay Perry
Vaccinating cattle against bovine tuberculosis in France, 1921-1963: between the epistemic value of the animal model and an alternative to sanitary policies

Summary – This paper focuses on the trajectory of the BCG vaccine used against bovine tuberculosis in France between 1921 and 1963. It shows how public health issues related to this disease are intimately linked with other issues, whether professional, industrial or of political economy. First, it analyses the way the Pasteur Institute, veterinarians and farmers got mobilized to transform the French legislation in order to gain more direct responsibilities in the control of bovine tuberculosis between 1930 and 1950. Second, it studies how farmers’ appropriation of prophylactic techniques contributed to redefine the sanitary policy against this disease in a global context of agricultural modernization promoted by the post-war French government, whereas at the same time, the new research orientation of the Pasteur Institute led to the abandon of the veterinary vaccine.

Keywords: bovine tuberculosis, BCG vaccine, sanitary policy, veterinary professionalization, expertise

‘The Republic of vaccines
The pact of Macron with labs to forcibly vaccinate’

By Media Press, 11 July 2017
‘Department of Agriculture to ensure cattle imports from Brazil will be free from foot-and-mouth disease’

By Jasper Y. Arcalas - November 6, 2017
The current problems experienced in cold chain transportation

By Unicef, 5 August 2015

Army joins foot-and-mouth battle

Soldiers will join efforts to contain the disease

2010 FMD outbreak, Korea
Figure 2. Last occurrence of wild rinderpest virus (red), and outbreaks of vaccine-derived rinderpest (blue).

From: Roeder et al., Phil. Trans. R. Soc. B. 368: 20120139
‘Farmers sue for damages in Pirbright foot-and-mouth outbreak’

By Guardian, 17 October 2008

Police secure the Pirbright laboratory in Surrey in August 2007. Photograph: Cate Gillon/Getty Images
Vaccine link to bleeding calf syndrome confirmed

Monday 13 June 2011 9:24
Gemma Mackenzie

Results from a Defra-funded study have found a calf was more than 10 times more likely to develop Bleeding Calf Syndrome if its mother had been given the PregSure BVD vaccine prior to its birth.

The study carried out by the Animal Health and Veterinary Laboratories Agency, Scottish Agricultural College, and Moredun Research Institute, found a “significant association” between the PregSure BVD vaccine and Bovine Neonatal Pancytopenia (BNP), commonly known as Bleeding Calf Syndrome.
The main target audience for this guide is economists and health service researchers in the public and private sectors who conduct and critically appraise economic evaluations of immunization programmes at the local, national, regional and global levels.

Source: WHO guide for standardization of economic evaluations of immunization programmes, 2008
Published papers (N)

- NEW TECHNOLOGY: 121
- EPIDEMIOLOGY: 70
- REVIEW: 48
- AMR: 33
- IMPACT ASSESSMENT: 22
- POLICY: 5
The centrality of vaccine development for sustainable future will only be justifiable if it does not rely on privileged knowledge, predictive capability and unique right to formulate scenarios for the future.

Merci beaucoup!

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