

Vaccines keep disease on run



Detail from Defeating the Ministers of Death, by David Isaacs

- By TINA ALLEN
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Neanderthal men and women lived in caves and died from malnutrition, tooth abscesses and wounds inflicted by wild animals.

Our shift from being hunter-gatherers to cultivators of crops as part of an agrarian lifestyle about 10,000 years ago created more complex societies that made communicable diseases such as typhoid and influenza possible.

The deadliest of these diseases was smallpox, which killed six million people across the Roman Empire in the year AD165 alone. Such epidemics became increasingly likely due to wars, trade and the creation of large cities across Europe.

In 18th-century London, one in three babies died of smallpox before they reached one year of age.

Survivors were rendered blind and/or permanently disfigured with deep facial scars, leading the English historian Lord Macaulay to label this disease “the most terrible of all the ministers of death”.

David Isaacs, clinical professor in paediatric infectious diseases at the University of Sydney, draws on Macaulay’s quote for the title of his book, *Defeating the Ministers of Death: A Compelling History of Vaccination*.

He explores the history of vaccination by providing inspiring stories of vaccine discoveries as well as tragic accounts of those whose lives could have been saved by them.

This book has chapters devoted to vaccines and patient groups as well as ethics and the future of vaccines, making it the ideal handbook for pregnant women, parents, travellers, childcare and aged-care workers, GPs and anyone with an interest in public health.

Isaacs is passionate and knowledgeable about vaccination, having sat on various Australian immunisation advisory committees over the past 25 years.

In 1950, the year Isaacs was born, 10 million people still died each year of smallpox; however, by 1978 immunisation had eradicated this disease and he says many doctors practising today have never seen a case.

The demise of smallpox is “a triumph of science, philanthropy and public health policy”. Isaacs says another great achievement is the dramatic decline in the incidence of polio, with only 29 cases reported worldwide in 2017.

However, he warns that “we can’t become complacent and forget the past”.

Increased world population, travel and mobility have made pandemics involving novel strains of bacterium and viruses, such as coronavirus (COVID-19), more likely today than they were during the 1918 Spanish influenza outbreak, which infected 500 million people and killed more than 50 million.

He says diseases such as measles and diphtheria are still around and “if we let our guard down and stop immunising, (they) will return with a vengeance”.

Isaacs has seen healthy children whose brains were destroyed by measles, which is a highly infectious disease that can still “kill or maim a child in any country in the world”.

When measles enters poorly immunised populations, such as those with cultural and religious objections, it can cause large outbreaks as happened recently in the US, New Zealand, Samoa and Tonga. This is because, as Isaacs explains, “at least 93 per cent of children need to be immunised to achieve herd immunity and prevent measles from circulating in a community”.

He discusses topical issues such as Australia’s national “no jab, no play” legislation and the anti-immunisation movement, including cases of fraudulent research and the individuals behind scare campaigns that have caused immunisation rates to plummet at various times.

Isaacs tells the story of a devastated couple whose six-week-old son has just died of whooping cough. An older immunised sibling had brought home the disease from school where whooping cough had spread among unimmunised children.

The parents were angry and asked Isaacs, who is a consultant paediatrician at the Children’s Hospital at Westmead in Sydney, “why had the other parents not had their children immunised?”

How could they have been so selfish? Shouldn't there be a law against it?".

His personal view is that "people who do not immunise their children are making a poor choice".

He says "we should let them decide for themselves, even if we do not agree with their choices".

Isaacs argues there is undeniable evidence of the "extraordinary potential of immunisation to save lives".

He shines a light on the philanthropy of groups such as the Bill and Melinda Gates Foundation, which through the creation of the Global Alliance for Vaccines and Immunisation (GAVI) in 2000 has immunised more than 700 million children in 73 countries and prevented 13 million deaths.

Isaacs concludes that the improvement in life expectancy compared with 100 years ago is due to multiple factors.

These include antibiotics and clean water, but he emphasises that "immunisation has certainly contributed significantly".

Tina Allen is a medical writer and medical scientist. Her debut book is Bill Gibson: Pioneering Bionic Ear Surgeon.

Defeating the Ministers of Death: A Compelling History of Vaccination

By David Isaacs. Harper Collins, 357pp, \$34.99