

Life & Times

In harm's way

'The greatest confidence may be expressed in the intelligence and enthusiasm of the doctors of this country who will surely find a method of cure.' (*The Sunderland Herald*, October, 1831).¹

This optimistic declaration was made by a journalist of a local newspaper just as the UK was on the verge of an epidemic of Asiatic cholera. The gaze of a nation lifted towards the doctors and scientists of their time in the hope that the impending disaster could be averted.

As the country is gripped by fear of a new pandemic it places doctors and other healthcare workers once again in the spotlight. There is understandable fear among the public about the nature of the current pandemic and how it may affect them.

This fear, however, is shared by those on the frontline too. They carry the greater responsibility of having to ensure the safety of the public at large but also loved ones at home. Serious concerns have been raised about the availability of appropriate protective equipment for front-line staff. Consternation has been exacerbated by news of huge numbers of healthcare workers falling ill with tragic consequences in some.

WHERE DOES ONE TURN TO FOR GUIDANCE IN SUCH UNPRECEDENTED TIMES?

As the famous American polymath Carl Sagan (1934–1996), put it, *'you have to know the past to understand the present.'* We stand on the shoulders of people who took many risks to provide us with the information and techniques that we rely on as we go to work every day.

A Dorset farmer Benjamin Jesty (1736–1816), a few decades before the more well-known Edward Jenner, rubbed matter from cowpox pustules onto the arms of his wife and children to protect them from smallpox. Jenner, famously, learnt that milkmaids



Vaccination: "Dr Jenner performing his first vaccination, 1796". Oil painting by Ernest Board. Credit: Wellcome Collection.

infected with a milder virus called cowpox seemed immune to smallpox and carried out the more formal inoculation on the son of his gardener and then later his own child, which eventually led to the eradication of smallpox from the world.

The American virologist Jonas Salk (1914–1995), tested his polio vaccine on himself and his family, which, after a few setbacks, led to the plummeting of polio cases in the US. The Italian physician and zoologist Giovanni Battista Grassi (1854–1925), took his sense of duty to new heights as he infected himself with the eggs of the giant roundworm *Ascaris lumbricoides*. He later discovered its eggs in his faeces thus helping elucidate the lifecycle of the worms.

Scientists such as Vincent Zigas (1920–1983), and Daniel Carleton Gajdusek (1923–2008), spent months trekking through the remote regions of Papua New Guinea, observing and documenting cases of kuru, a rare spongiform encephalopathy, among the Fore people (the highest prevalence occurring during the 1950s and 1960s). Their work not only led to the discovery of ritualistic cannibalism being the cause of transmission of 'the laughing death', but also contributed towards elusive prions being identified as a causative agent of disease.

Marie Curie, who died from leukaemia in

1934, was just one of the early radiographers dying as a result of excessive exposure to radiation. These are just a few examples from among the annals of medical history where self-regard and preservation were disregarded for the benefit of others.

Recklessness is not, however, to be the desired default and an excuse for government inaction. It would be prudent not to follow the rash actions of Max Joseph von Pettenkofer (1818–1901). A German hygienist, Pettenkofer was a contemporary of the more renowned Robert Koch (1843–1910). Disagreeing with Koch's idea that cholera was caused by bacteria, Pettenkofer asked the famous microbiologist to send him a flask containing a culture infected with the cholera bacillus. Himself being a proponent of the miasmatic theory of disease, Pettenkofer, in front of witnesses, proceeded to quaff the contents of the flask. To further disprove Koch, he followed it up with some bicarbonate of soda to counter Koch's argument that stomach acid could render the bacteria ineffective. How he survived remains a mystery!

The optimism of the young journalist of *The Sunderland Herald*, and undoubtedly countless others, was misplaced. Within a few months of the article, cholera had swept through Sunderland and the rest of Europe and eventually into North America creating mass panic, death, and misery. Despite the best efforts of doctors and scientists a cure was not found. However, they did their best with what they could and probably saved countless lives.

So, as was in the past, and will be in the future, new names will come to the fore, selfless men and women putting themselves in harm's way as they forge the path for those to come, to follow.

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REFERENCE

1. Dobson M. *Murderous contagion. A human history of disease*. London: Quercus, 2015.

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