Legacy of MMR fiasco... antivaxxers threaten Covid vaccine success

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Opposition to vaccines has existed for over two centuries, from the time of Edward Jenner and Blossom the cow. It was caricatured in the copperplate engravings of James Gillray, a vision of quaint Georgian England. The cartoons have a contemporary relevance.

The Covid pandemic and the introduction of new vaccines create an urgent need for an effective anti-antivaxxer strategy. Opposition to Covid vaccines is real and widespread; it threatens the uptake of the vaccine, and so public health itself. It must be addressed; the challenge is how. The MMR story is instructive.

The modern antivaxxer movement has a discrete origin in space and time: 26 February 1998, the Royal Free Hospital London. At a press conference Andrew Wakefield and collaborators presented the notorious *Lancet* study: an "early report", a case series which postulated an association of MMR vaccine, bowel disease, and autism. The authors stated: "We did not prove an association between measles, mumps, and rubella vaccine and the syndrome described...". Fraudulent or not, this study was incapable of proving anything and has been widely overinterpreted. However, it seeded a massive health scare. It provided the evidential basis of the MMR vaccine litigation which enjoyed vast public funding by Britain's legal aid system (the research was subsequently found to be funded by legal aid – a fatal conflict of interest). The central allegation was based on Wakefield's theory that MMR caused autism, with or without bowel disease. There was no peer reviewed published evidence to support the theory, and abundant evidence to refute it.

Wakefield enjoyed huge support: endorsement by so many editors and columnists of our free press, so many legal aid millions, so many litigants. Fact and hope, proof and hypothesis, evidence and belief – all merged. Vaccination rates fell, endangering the health of children, especially the vulnerable. Meanwhile lawyers and experts were enriched. The MMR health scare though unsubstantiated by evidence was sustained by popular belief.

Just as a negative cannot be proven - so vaccine safety too cannot be proven; it is a matter of inference. Safety of medicinal products is a relative not absolute concept. The public demand an unattainable certainty. Accordingly, the response of the medical establishment and the health service to reassure the alarmed and suspicious public was largely ineffectual, but understandably so. A nuanced and reasoned approach was inevitably doomed to fail given the high level of public hysteria.

The litigation was the undoing of the MMR story. Expensive and ponderous, the legal process imposes rigor, objectivity, independence, and fairness. It examined the evidence required to prove causation; it applied the balance of probability civil law

standard of proof (itself a fiction of certainty). By 2003 the litigation had collapsed as legal aid was withdrawn; the legal aid authority stated: "This was the first case in which research had been funded by legal aid. In retrospect, it was not effective or appropriate... to fund research. The courts are not the place to prove new medical truths."

But why was the research ever funded? The law provided that legal aid should not be granted unless there were reasonable grounds to bring a claim. Can it be reasonable to grant legal aid to fund primary research to establish "reasonable grounds"? Is litigation supported by hope or evidence? Wouldn't any scientist demand legal aid for crackpot research? The courts are not intended to establish "new medical truths" but rather can consider if alleged injuries are instances of established "medical truths". This funding fiasco shows the failure of the state's governance of civil legal aid: systemically wasteful and overgenerous. Thankfully, state funding for civil claims has now been effectively abolished. Too often the only beneficiaries have been lawyers and experts.

This all happened years ago. Why does it matter now?

The introduction of new vaccines creates conditions for scare stories and fake news. We must devise counter measures and learn from the past.

Parading safety data has had limited success.

Attacking Wakefield merely martyrises him and enhances his status as an antivaxxer figurehead, a creation of UK government ineptitude. Acceptance of vaccines demands trust; therefore, the UK government should have the honesty to take ownership of the MMR fiasco: scoring a spectacular own goal, in sponsoring junk science. The antivaxxer movement owes more to government lunacy, than any originality of scientific genius.

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