

Junk Science Isn't a Victimless Crime

Vaccines don't cause autism—and there was never any proof that they do. Too bad kids had to die while we figured that out.

By Paul Offit

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In 1998, a British surgeon named Andrew Wakefield published a paper claiming that the measles-mumps-rubella (MMR) vaccine might cause autism. To support his case, Dr. Wakefield reported the stories of eight children who had developed symptoms of autism within one month of receiving MMR. He proposed that measles vaccine virus travels to the intestine, causes intestinal damage, and allows for brain-damaging proteins to enter children's blood streams.

The problem with Dr. Wakefield's study—published in the *Lancet*, a leading medical journal—was that it didn't study the question. To prove his hypothesis, he should have examined the incidence of autism in hundreds of thousands of children who had or hadn't received MMR. This kind of study has now been performed 14 times on several continents by many investigators. The studies have shown that MMR doesn't cause autism.

As several different investigations—summed up in a *British Medical Journal* (BMJ) editorial this month—have shown, not a single aspect of Dr. Wakefield's notion of how MMR causes autism has proven correct. He wasn't just wrong, he was spectacularly wrong. Moreover, some of the children in his report had developed symptoms of autism before they had received the vaccine—and others never actually had autism.

In addition, as journalist Brian Deer found, Dr. Wakefield received tens of thousands of pounds from a personal-injury lawyer in the midst of suing pharmaceutical companies over MMR. (After Mr. Deer's discovery, Dr. Wakefield admitted to receiving the money.) Last year, when the *Lancet* found out about the money, it retracted his paper. But it was far too late.

Dr. Wakefield's paper created a firestorm. Thousands of parents in the United Kingdom and Ireland chose not to vaccinate their children. Hundreds of children were hospitalized and four killed by measles. In 2008, for the first time in 14 years, measles was declared endemic in England and Wales.

Dr. Wakefield's claim sparked a general distrust of vaccines. In recent years—as more parents chose not to vaccinate their children—epidemics of measles, mumps, bacterial meningitis and whooping cough swept across the United States. The whooping cough epidemic currently raging in California is larger than any since 1955.

Although it's easy to blame Andrew Wakefield, he's not the only one with dirty hands. The editor of the *Lancet*, Richard Horton, sent Dr. Wakefield's paper to six reviewers, four of whom rejected it. That should have been enough to preclude publication. But Mr. Horton thought the paper was provocative and published it anyway.

Many others in the media showed similar poor judgment, proclaiming Dr. Wakefield's paper an important study even though it was merely a report of eight children that, at best, raised an untested hypothesis.

Meanwhile, public-health officials and scientists were slow to explain in clear, emphatic terms that Dr. Wakefield's hypothesis didn't make a bit of sense.

Even today, important voices aren't drawing the right conclusions. The BMJ, for example, wrote in its editorial that "clear evidence of falsification of data should now close the door on this damaging vaccine scare." But it's not Dr. Wakefield's lapses that matter—it's that his hypothesis was so wrong.

Even if Dr. Wakefield hadn't been fraudulent, his hypothesis would have been no less incorrect or damaging. Indeed, by continuing to focus on Dr. Wakefield's indiscretions rather than on the serious studies that have proved him wrong, we only elevate his status among antivaccine groups as a countercultural hero.

The American astronomer and astrophysicist Carl Sagan once wrote that, "Extraordinary claims should be backed by extraordinary evidence." Dr. Wakefield made an extraordinary claim backed by scant evidence. Undoubtedly, bad science will continue to be submitted for publication. Next time, one can only hope that journal editors and the media will be far more circumspect.

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