

Should we believe the latest CDC vaccine study?

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Abstract

A recent CDC study entitled, *Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States*, alleges to show a variety of benefits accrued as a result of vaccination. The CDC has a long history, however, of: a) exaggerating the benefits of vaccines while at the same time ignoring and/or dismissing their long-term risks and b) exaggerating the long-term consequences of diseases. This paper compares known death rates, pre- and post-vaccine for measles and pertussis, to those used in the CDC article. Insofar as pertussis and measles vaccine are concerned, CDC continues their pattern of ignoring significant declines in deaths for these diseases prior to vaccination.

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The CDC recently released a study titled *Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States*, just published in *JAMA* and reported on in the *New York Times* [1]. It purports to demonstrate that vaccines were responsible for nearly all of the decline in deaths for most “vaccine-preventable” diseases.

You can almost hear the collective sigh of relief. But are the CDC’s claims true?

To understand whether or not the CDC has fairly made their case, we need to examine and discuss the pertinent data concerning the history of the measles and pertussis diseases in the United States.

1. An Unbiased View of the U.S. History of Measles Deaths

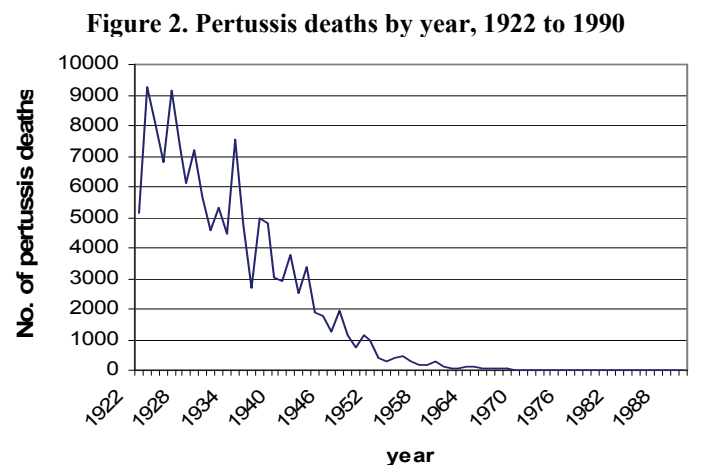
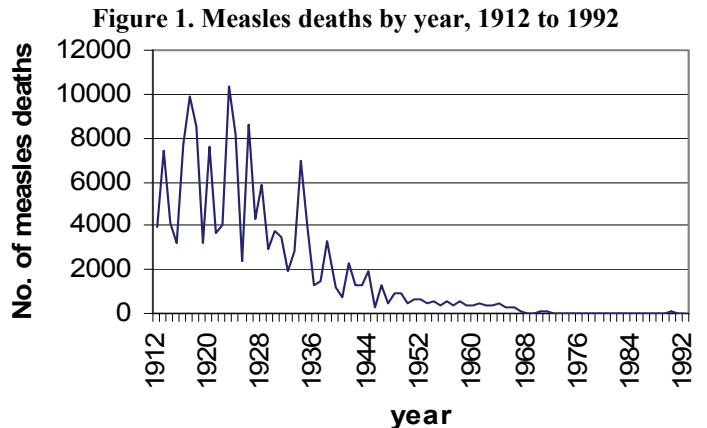
When comparing pre-vaccine cases/deaths to post-vaccine cases/deaths, the CDC study chose measles data for the years immediately prior to introduction of the vaccine. When all the years for which data exist are considered, it is clear that most of the dramatic declines in measles deaths occurred before the introduction of an effective measles vaccine. For instance, the estimated annual average pre-vaccine cases and deaths for measles in the CDC study were based on the years 1953-1962. By then, see Fig. 1 [2,4], the total number of deaths and deaths per 100,000 people had already dropped around 95% from the peak rates in 1915-1924. Ignoring the earlier years falsely portrays the decline in deaths as being predominantly due to vaccination. In fact, given that most of the decline in measles deaths occurred prior to measles vaccination, other factors had to have been responsible. Among the most likely factors were improvements in living conditions, including significant increases in the availability of pathogen-free potable water and improvements in sanitation.

2. An Unbiased View of the U.S. History of Pertussis Deaths

Since the first pertussis vaccine was introduced before the measles vaccine, the CDC selected an earlier pre-vaccine period for pertussis, 1934-1943. Even so, see Figure 2 [3,4], average

pertussis deaths and death rates had already declined considerably by the “pre-vaccine” period and continued to do so during it. Ignoring the earlier years, again falsely attributes most of the decline in deaths to vaccination.

Note that these declines are even more dramatic when one considers that the population was growing at the same time deaths from these two diseases were declining.



3. An Odd View of the U.S. Pertussis-Vaccine History

For reasons that are not clearly justified, this CDC study selected 1914 as the beginning date for pertussis vaccines, even though:

- The early vaccines were not particularly effective or widely used, and
- Based on the study's text, the CDC considered the period 1934-1943 "pre-vaccine".

Was their purpose in using an earlier starting date to make it seem that any early declines could be attributed to vaccination, when obviously they were not vaccination related?

4. CDC Distortion of the Data It Reports

Instead of presenting the data for cases and deaths from the same year, the data reported as the "most recent post-vaccine reported numbers", came from different years—2006 for the "cases," 2004 for the "deaths." Such data amalgamations are obviously inappropriate. If the CDC only had the 2004 deaths, it should have used the 2004 cases rather than, as the study did, to use cases from a different year.

An interesting example of how cleverly a graph can be manipulated can be seen in the 1982 MMWR article "Pertussis (Whooping Cough) – Reported cases and deaths per 100,000 population, by year, United States, 1922-1981.[5]" Upon examination of their pertussis incidence and deaths graph, a number of important things become apparent. First, the CDC inap-

propriately used a logarithmic scale to show the declines (Fig. 3). A logarithmic scale shows "rate of" change rather than absolute change. This particular graph shows 90% declines.

The graph (Fig. 3) also indicates that the vaccine's "minimum potency (was) established" around 1950 and that the "standard unit" was established around 1955.

Now a 90% drop from 10 is more significant in people terms than a 90% drop from 0.1. Moreover, although it is not easily discerned from the graph, most of the big drops in deaths occurred prior to standardization of the pertussis vaccine. In fact there were two approximately 90% drops by the time the standard unit had been established.

Had the y-axis, which shows the incidence, been plotted on absolute numbers rather than 90% rates of decline, as in the referenced graph, the reader would have easily seen the huge declines prior to the standardization of the pertussis vaccines' potency.

When the y-axis is plotted properly, as it is in the "pertussis deaths by year" graph (Fig. 2), it clearly shows that significant declines occurred prior to the 1934-1943 CDC-designated "pre-vaccine" period. Moreover, unless vaccine standardization added almost nothing to pertussis vaccine effectiveness, the "pre-vaccine" period should have extended to around 1955. Had the pre-vaccine period been more meaningfully enumerated, the apparent drop in pertussis deaths (see Fig. 2) as well as the death rate (see Fig. 4) prior to the deployment of effective pertussis vaccines would have been shown to be even more dramatic [3].

Figure 3. Pertussis (whooping cough)—cases and deaths by year, United State, 1922-1981 [4] (shown with a logarithmic scale for rate on the y-axis)

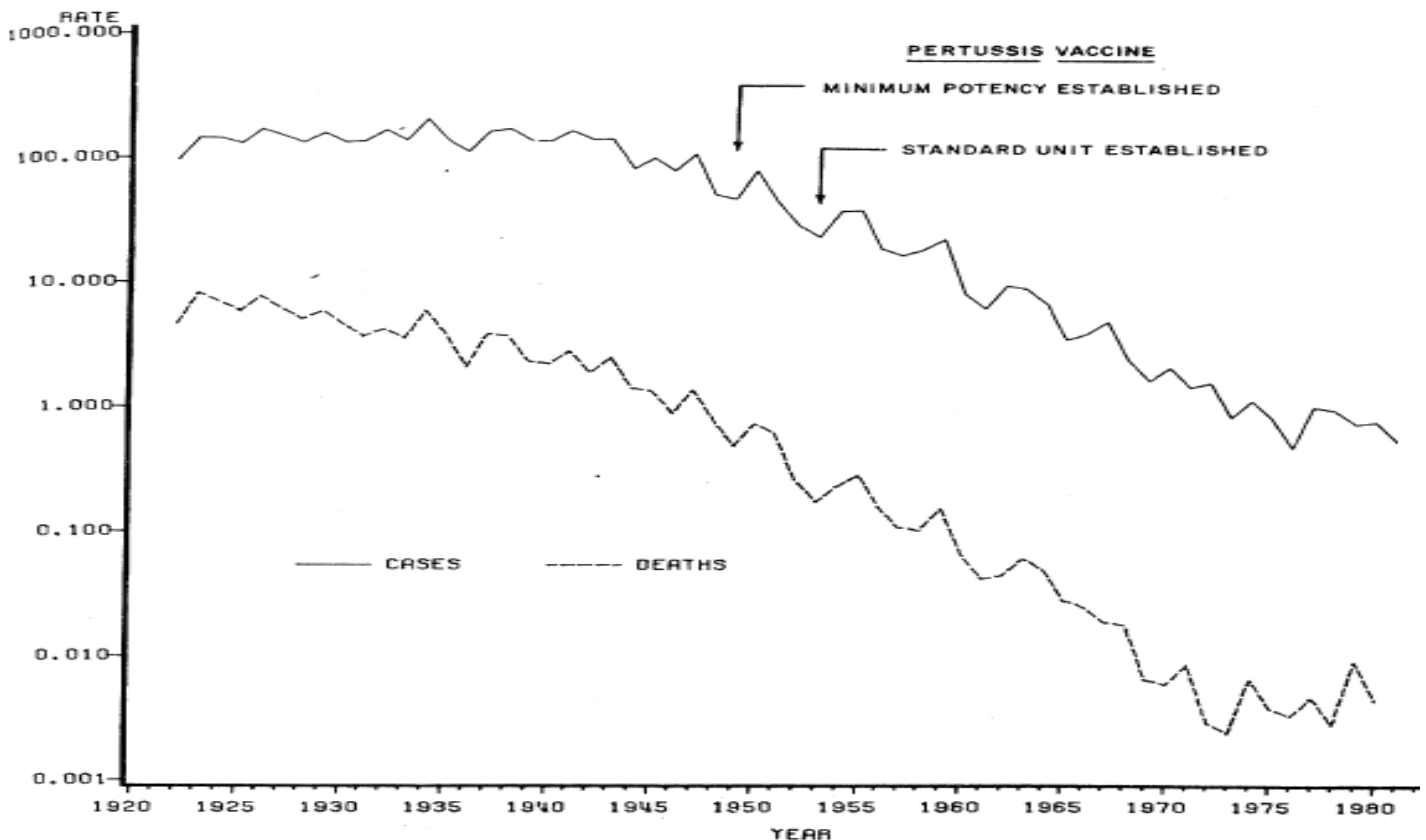
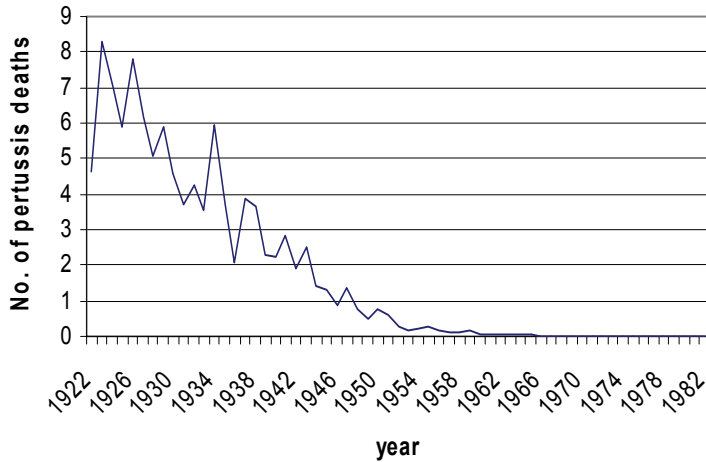


Figure 4. Pertussis deaths per 100,000 by year, 1922 to 1982

Furthermore, since the CDC has data going back to 1922, why didn't they designate the 1922-1943 period as the "pre-vaccine" period rather than start in 1934? Is it because the drop in deaths prior to vaccination would have been shown to be even more striking?

5. Concluding Remarks

The preceding arguments and supporting documentation lend credence to the notion that the CDC, in the recent JAMA article being reviewed here, seems to be continuing its pattern of attempting to ignore and/or minimize the huge declines in deaths for both measles and pertussis prior to the deployment of these vaccines.

Thus, this article is but another instance in the CDC's long history of exaggerating:

- a. The benefits of vaccines while, at the same time, ignoring and/or dismissing the long-term risks associated with these vaccines, and
- b. The long-term consequences of diseases.

At least insofar as pertussis and measles are concerned, this most recent article appears to be merely more of the same. For those seeking increased confidence in these two vaccines, this study does not appear to be the place to find it.

Acknowledgement

This paper is dedicated in loving memory to Nicholas Regush, my mentor, my adviser, my inspiration, but most of all, my friend.

References

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