Views & Reviews Personal View

Vaccine mandates in the US are doing more harm than good

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Tightening the rules for non-medical exemptions is not justified and will increase parental mistrust and resistance, argues **Allan S Cunningham**

Since my medical career began in 1962 I have seen the harmful effects of nearly all of the vaccine preventable diseases on the US immunization schedule. I have enthusiastically administered many thousands of vaccine doses and am glad that my children and grandchildren are well vaccinated. However, the current attitudes of public health officials about vaccine mandates and exemptions are arrogant and patronizing.

In the US all 50 states and the District of Columbia require children and adolescents to be vaccinated before they attend school, college, or preschool programs.[1] Rhode Island has the most extensive requirements, including mandates for vaccination against hepatitis A and B, *Haemophilus influenzae* type B, rotavirus, human papillomavirus, and influenza.[2] Medical exemptions are granted in all jurisdictions, and religious exemptions are granted everywhere but Mississippi and West Virginia. Only 20 states grant personal exemptions.

The recent US measles outbreak has given rise to a lot of media hyperventilation about vaccine exemptions. There have been calls for outright bans on non-medical exemptions and financial penalties for parents whose children are not up to date with the immunization schedule. Some of the rhetoric directed against parents who obtain non-medical exemptions has been venomous.[1]

Vaccines are among the greatest medical advances of modern times,[3] but public health officials have become intoxicated by success and have lost their sense of perspective. A case can be made for mandating vaccination against measles, which used to infect 3-4 million US children a year,[4] but it is over-reach to mandate vaccination against hepatitis B, which was reported to infect only 300 children aged 1-9 years annually in the US.[5]

It may seem invidious to suggest that anything but humanitarian motives drive vaccine policy, but it is hard not to notice the professional and financial incentives that encourage strict adherence to the standard immunization

schedule, and the tendency for officialdom to report the good news about vaccines but not the bad news. Most vaccine research is sponsored by the manufacturers and consists mainly of studies to establish short term efficacy with little real effort to look for rare but serious adverse effects. Our Vaccine Adverse Events Reporting System (VAERS) is passive and records only a tiny percentage of adverse events after vaccination.

Natasha Crowcroft and her public health colleagues in Toronto have been concerned about the safety, effectiveness, and cost of some of the newer vaccines, and they worry that expanding vaccine schedules threatens children's uptake of truly life saving and cost effective vaccines such as the measles vaccine.[6] Furthermore, they perceive serious ethical problems in the vaccine approval process and suggest that public trust has been undermined by allowing manufacturers and professionals with close links to industry to be involved in lobbying and decision making. I share their concern. We have forgotten that children given the DPT vaccine during the 1949 British polio epidemic had a 20-fold risk of developing paralytic polio,[7] and there have been other unpleasant vaccine surprises since then, such as intussusception with the first rotavirus vaccine.[8]

In retirement, I am still asked questions about vaccine safety and effectiveness by parents and grandparents; they are not "vaccine skeptics" and they are not given to "free riding" at the expense of their neighbors. They simply want to protect the health of their children and grandchildren. Nevertheless, vaccine hardliners have lumped them together, mostly in the name of "herd immunity."

Herd immunity is an important concept, but it has been used to bully parents into rigid adherence to the immunization schedule. It is commonly suggested that 90-95% of children should be vaccinated to maintain herd immunity and prevent the spread of infections to vulnerable individuals. These numbers come mainly from mathematical models pertaining to measles, but their estimates actually range from 55% to 96%.[9] The numbers are irrelevant to other vaccine preventable diseases. Nevertheless, they have been used to foster public disapproval of parents who decline any vaccine—and to enforce mandates.

Public health and pediatric officials in the US want to reduce the number of non-medical exemptions by increasing the cost and inconvenience to families who request them.[1] This is a mistake and will only increase mistrust and resistance. In general, Canada has better vaccine coverage than the US, mostly without mandates. Without mandates 96% of 2 year olds in Newfoundland and Labrador receive the MMR vaccine[10]; the figure is only 86% in West Virginia, which has rigid mandates and no non-medical exemptions.[11] A case can be made for mandating vaccines with a long record of safety and broad protection against highly contagious diseases. Even for these vaccines, however, knowledge is incomplete and some flexibility must be allowed for non-medical exemptions. In any case, we should not force parents and children into a procrustean bed of rigid mandates for every vaccine on the immunization schedule.

Canadian scientists recently published data suggesting that this season's flu vaccine doubled the risk of illness from influenza in children (crude odds ratio 2.18, 95% confidence interval 1.03 to 4.61, calculated from their table 3A).[12] This is unpleasant news, particularly for jurisdictions that mandate flu vaccine for children, but it is not likely to be publicized in the US.

Notes

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Footnotes

- Competing interests: I have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

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