

Should the MMR vaccine be compulsory?

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A proposed link between the MMR vaccine and autism has led to a decreased uptake in some areas of the UK, resulting in outbreaks of measles and even some deaths. Measles, mumps and rubella are kept at bay in the US by compulsory vaccination. Should this be introduced in the UK?

You may wonder if this is an issue that should be raised at all, particularly if you consider the study that this type of question stems from. In 1998, Andrew Wakefield and colleagues suggested a link (in eight out of 12 children) between the MMR vaccine and a form of autism associated with a bowel disorder; this finding is now generally regarded as misleading. Despite the fact that the authors themselves stated that 'We did not prove an association between MMR vaccine and the syndrome described', the study was latched on to by the press, amongst others, and a whispering campaign began. Individuals, like Wakefield, who are not against vaccination *per se*, but are against the combination of all three attenuated viruses in one shot, worry about a supposed onslaught on the immune system. However, the immune system is designed to cope very well with multiple challenges. Indeed, it has been estimated that 10000 challenges at once would not be beyond its capacity. Even discounting this, the components of the MMR vaccine have different incubation periods of up to 6 weeks after the vaccination. Thus, there would be a phased activation of the immune system, rather than the implied sudden bombardment.

Many would argue that these are diseases that people had as children and recovered from. This was often the case, but it reflects the success of the MMR vaccine programme that began in 1988 and there is little recent experience of the effects of disease outbreaks. Parents perceive they can opt out of the vaccine program without running the risk of their children getting these diseases. Perhaps the time has come to introduce a compulsory vaccine program? After all, the diseases that the MMR vaccine protects against are often not trivial. For example, a bad reaction to German measles can result in death and the effects of congenital rubella syndrome on the unborn child can be devastating.

If there were any vaccine that would be suitable for a compulsory vaccination program, MMR would be a good candidate. Over 90 countries have introduced the MMR vaccine and more than 500 million doses have been used, with no consistent reports that the MMR is anything other than a safe and effective vaccine. There was more than a decade of experience in the US before it was used in the UK. Countries like the US and France, where admission to school is dependent on proof of vaccination, have run a successful compulsory vaccination program for a number of years. The downside to this is the culture of litigation that this encourages. For example, parents in the US whose failure to vaccinate results in disease outbreaks, face prosecution.

One of the problems in persuading the general public to have their children vaccinated is the perception of risk. How do you portray the element of risk involved in any medical intervention and weigh that up against the risk of complications from the diseases themselves? For example, the risk of SSPE (Subacute Sclerosing PanEncephalitis – a delayed

complication of measles that can result in brain damage and death) is 1 in 8000 versus zero after the MMR vaccine. Similarly, the risk of meningitis or encephalitis is 1 in 200 to 1 in 5000 after having had the natural diseases, versus less than 1 in a million after the first dose of MMR. A little discussed phenomenon that may play a part here is the perception that a lack of action carries an inherently lower risk than having the vaccine.

There is an altruistic component to having your child immunised to maintain the appropriate level of population immunity; there being obvious cases of individuals who can not have the vaccines for very good reasons, for example children who are immuno-suppressed on chemotherapy. However, appealing for a sense of public duty is very difficult when parents are considering their individual child. Use of terms like 'population immunity' makes people feel as though they're being treated like cattle. And in light of the government's perceived response to the BSE crisis, any government action that smacks of the 'Big Brother' approach is likely to cause suspicion. Indeed, both the Department of Health and the British Medical Association do not currently recommend compulsory vaccination, particularly in the current climate of high levels of parental anxiety about vaccinations.

We live in a society with a National Health Service that values personal choice. But personal choice can only be made in the light of the facts. Perhaps the answer lies in easy access to presentable information and an emphasis on the relative risks. The scare about autism and the MMR focuses our need to understand the causes and development of autism. Similarly, efforts need to be made to discourage public misunderstanding that science is exact, rather than having defined limits with scope for error within those limits. Maybe we should step back from the suggestion that the MMR vaccine itself should be compulsory and combine reading of the current NHS literature with a compulsory short verbal or written test, before we are made to choose whether to vaccinate or not?

References

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