



Griffith Journal
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WHO SPEAKS FOR “WE” SPEAKS NOT FOR “ME” — THE VACCINATION DEBATE

DR STEPHEN S HOLDEN*

Vaccinations are widely regarded as one of the greatest advances of modern medicine, having saved many lives and prevented many disabilities. However, their very success has stirred up a conflict between the ethics of the common good versus the ethics of individual rights. Growing vaccine hesitancy and policies increasing pressure on non-vaccinators to vaccinate are inflaming the debate. The key question examined is whether there is justification for limiting individual rights, particularly in the removal of conscientious objection as implemented in Australia's "no jab no pay" policy. The conclusion is that targeting conscientious non-vaccinators has few benefits. Herd immunity levels in Australia (approximately 90 per cent) ensure that the risk of disease outbreaks are low. Mortality risks, contingent on infection, are also typically low, especially in the Western world. While approximately 10 per cent of children are unvaccinated or incompletely vaccinated, it is difficult to justify targeting conscientious non-vaccinators who are a small part of this segment. They are likely to be hard-headed and probably willing to accept the withdrawal of benefits as a price they pay for their beliefs. Rather, attention and resources might be better directed at vaccinating the larger group who are unvaccinated for other reasons (access to health resources, single parent, psychological distress, etc.). In general, the ongoing vaccination debate distracts efforts from more promising unvaccinated target groups (those lacking access), and more generally, from other more useful public goods. It is concluded that promoting vaccination for the common good is to be encouraged, but so is the option allowing an individual to conscientiously object.

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I INTRODUCTION

[Y]our zeal is invaluable, if a right one; but if wrong, the greater the zeal,
the greater the evil.¹

Vaccination is regarded as one of the major advances in modern medicine. However, its success has given rise to a different problem, a war between two opposing ethical factions: the utilitarian ethics of the “common good” versus the deontological ethics of individual rights. This is the central dilemma of public health: a private medical practitioner’s concern is for the best interests of their patient, but a public health practitioner’s concern is for the best interests of the community.²

¹ Plato, *Crito* (Benjamin Jowett trans, ebooks@Adelaide, 2014) 46b [trans of: *Crito* (first published 360 BCE)].

² S Dandoy, 'A Piece of My Mind: Have You Ever Practiced Medicine?' (1988) 260(14) *The Journal of the American Medical Association* 2113; Stephen S Holden and Damian Cox, 'Public Health Marketing: Is it Good and is it Good for Everyone?' (2013) 52(1) *Journal of International Marketing* 15; Stephen Holland, *Public Health Ethics* (Polity, 2007).

In Australia, the vaccination debate has been intensifying of late. On the one hand, the proportion of the population who refuse to vaccinate has been steadily increasing. The percentage of adults conscientiously objecting to their child being vaccinated (based on the parent's 'personal, philosophical or religious belief' that immunisation should not occur)³ has doubled from 0.86 per cent in 2004 to 1.77 per cent in 2014.⁴

On the other hand, the Australian government, 'extremely concerned at the risk non-vaccinated children pose to public health',⁵ has implemented a "no jab no pay" policy as of 1 January 2016 which will withdraw childcare and parenting benefits of up to \$15,000 per annum to parents with incompletely vaccinated children.⁶ To some extent this shores up and extends existing policies limiting benefits to non-compliant parents so as to encourage childhood vaccinations. However, the more significant and more draconian element of the new policy is to remove the exemption for conscientious objection. The only legitimate basis for exemption now is one based on a medical opinion that a vaccine is contraindicated.

The immunisation debate has long been characterised by polarised views reflecting the balance of risks and benefits. The earliest evidence of the practice of inoculating individuals with material from smallpox sores as a means of immunising against smallpox comes from China 500–1000 years ago.⁷ While the practice saved many lives over the centuries, it has long been acknowledged as risky. The inoculation procedure could lead to various effects including full-blown smallpox and attendant risks: disfigurement, disability, or death.

³ Department of Human Services, *Changes to immunisation requirements starting January 2016* (24 November 2015) Australian Government: Department of Human Services <<https://www.humanservices.gov.au/health-professionals/news/changes-immunisation-requirements-starting-1-january-2016>>.

⁴ Immunise Australia, *ACIR - National Vaccine Objection (Conscientious Objection) Data* (11 February 2016) Immunise Australia Program <<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-cons-object-hist.htm>>.

⁵ Michael Klapdor and Alex Grove, *Budget Review 2015-16: "No jab no pay" and other immunisation measures* (May 2015) Parliament of Australia <http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/BudgetReview201516/Vaccination>.

⁶ Immunise Australia, *No Jab, No Pay – New Immunisation Requirements for Family Assistance Payments* (2 December 2015) Immunise Australia Program <<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/fact-sheet-no-jab-no-pay>>.

⁷ Joseph Needham, Lu Gwei-Djen and Nathan Sivin, *Science and Civilization in China: Volume 6, Biology and Biological Technology, Part 6, Medicine* (Cambridge University Press, 2000) 134, 154.

In his *Lettres Philosophiques*, Voltaire outlined with some clarity the two sides of the debate in his remarks about the practice of inoculation with smallpox. He noted that Europeans regard the English as ‘madmen because they wantonly communicate a certain and dreadful distemper to their children, merely to prevent an uncertain evil’,⁸ while the English regard Europeans as ‘cowardly because they are afraid of putting their children to a little pain; [and] unnatural, because they expose them to die one time or other of the small-pox.’⁹

The vaccination polemic continues today with zealous champions representing both sides. More importantly, the polemic from each side appears to insist on one side ceding to the other. That is, the imposition of increasingly coercive policies to achieve the common good will necessarily deny some individual autonomy, and allowing individuals the choice to not vaccinate may threaten the common good. Does one side have greater justification than the other? How do the two sides stand up?

II COMMON GOOD

Vaccination is widely recognised as a major medical advance that has saved the lives of many millions of people, and prevented the hospitalisations, lifelong injuries, and disabilities of many more.¹⁰ For example, the World Health Organisation (‘WHO’) estimates the measles vaccine alone has saved over 17 million lives worldwide since 2000.¹¹ Vaccination offers a spectacularly successful removal of at least some of the scourges that plague the human population.

Vaccination confers two benefits, one direct and the other indirect. The first benefit is to directly reduce the probability of the vaccinated individual contracting the disease. The second is to indirectly reduce the probability of the disease spreading through a community and therefore, reducing the probability that individuals without immunity will be infected. This indirect benefit is conferred by what is termed “herd immunity” —

⁸ François Marie Arouet de Voltaire, *Letters on the English* (Charles Eliot William trans, Bartleby.com, 2001) Letter XI: On Inoculation [trans of: *Lettres Philosophiques* (first published 1733)].

⁹ Ibid.

¹⁰ Sandra W Roush, Trudy V Murphy and the Vaccine-Preventable Disease Table Working Group, ‘Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States’ (2007) 298(18) *Journal of the American Medical Association* 2155.

¹¹ World Health Organisation, ‘Measles vaccination has saved an estimated 17.1 million lives since 2000’ (News release, 20 November 2015) <<http://www.who.int/mediacentre/news/releases/2015/measles-vaccination/en/>>.

as the number of immune individuals in a community increases, and in particular, when the proportion exceeds some threshold, the chances of anyone lacking immunity contracting the disease are significantly reduced. In the best-case scenario, coordinated vaccination programs providing both direct and indirect benefits can eliminate a vaccine-preventable disease ('VPD') from a community, a region, a country, or even the world as was achieved with smallpox in the late 1970s.¹²

Given the direct and indirect benefits of vaccination, public health authorities around the world have been understandably keen in their promotion of mass vaccination and such efforts have resulted in marked success with high levels of compliance. Australia, for example, enjoys high childhood vaccination rates in general. For instance, 92.3 per cent of children at 12-15 months and 89.3 per cent at 24-27 months were up-to-date on all vaccines in the schedule at December 2015.¹³

III INDIVIDUAL RIGHT

Those reluctant to vaccinate express concern about the danger of adverse events associated with vaccination; that the vaccination could cause a side effect, a negative reaction, an infection, etc.

The risks of vaccination are typically fairly small, but they vary in probability and severity. For instance, the procedure of immunising people against smallpox by variolation (inoculation with smallpox) was, as previously noted, dangerous — and so approximately 1–2 per cent of those immunised, died.¹⁴ While modern vaccines are generally considered to be much safer, they are not risk-free. For instance, a systematic review of the effects and side effects of the measles, mumps and rubella ('MMR') vaccine acknowledge that side effects such as aseptic meningitis, febrile convulsions, and thrombocytopenic purpura (an autoimmune disease) can result.¹⁵

¹² Edward A Belongia and Allison L Naleway, 'Smallpox Vaccine: The Good, the Bad, and the Ugly' (2003) 1(2) *Clinical Medicine and Research* 87.

¹³ Immunise Australia, *ACIR – Annual Coverage Historical Data* (27 April 2016) Immunise Australia Program <<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-ann-cov-hist-data.htm>>.

¹⁴ U.S. National Library of Medicine, *Smallpox: A Great and Terrible Scourge* (30 July 2013) U.S. National Library of Medicine <https://www.nlm.nih.gov/exhibition/smallpox/sp_variolation.html>.

¹⁵ Vittorio Demicheli et al, 'Vaccines for measles, mumps and rubella in children (Review)' (2012) 2 *Cochrane Database of Systematic Reviews* <<http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD004407/frame.html>>.

The concern that individuals express about the dangers of vaccination are valid — even if the events are rare and of variable severity. At times, pro-vaccinators appear inclined to minimise these risks and even argue that they are non-existent. Disturbingly, this tendency may even extend to those providing primary research results with the abovementioned systematic review of MMR noting that the ‘design and reporting of safety outcomes in MMR vaccine studies... are largely inadequate.’¹⁶

Is it reasonable to dismiss small risks? In treating any patient, it is typically considered important, even obligatory, that the patient is fully informed about possible offsetting risks of the treatment such as the list of possible side effects provided in the product information accompanying a medication. In short, vaccines can have negative effects, and most clinical settings would consider it proper that an individual only be treated if they provide informed consent.

That the risks of vaccination are unduly minimised is also reflected in the lack of any formalised system within Australia for compensating those who should be unfortunate enough to experience an adverse reaction to a recommended vaccination. Saba Button was an 11-month old child who became brain-damaged and quadriplegic after receiving Fluvax in 2010, a then-recommended flu vaccination.¹⁷ The parents pursued a claim for compensation through legal action and ultimately received an undisclosed multi-million-dollar settlement through mediation in 2015.¹⁸

Individuals are therefore faced with two competing risks. One is the risk of contracting a vaccine preventable disease (‘VPD’) and, if contracted, a risk of suffering morbidity or mortality. The second is the risk of suffering a negative reaction to the vaccination. Accordingly, it may be reasonable, even “logical” for an individual to choose not to

¹⁶ Ibid.

¹⁷ Immunise Australia, *Australian Technical Advisory Group on Immunisation (ATAGI) advice for immunisation providers regarding the administration of seasonal influenza vaccines in 2016* (2 March 2016) Immunise Australia Program <<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/ATAGI-advice-influenza-vaccines-providers>>.

¹⁸ ‘Girl left disabled by flu jab wins millions’, *The Australian* (online) 7 June 2014 <<http://www.theaustralian.com.au/national-affairs/health/girl-left-disabled-by-flu-jab-wins-millions/story-fn59nokw-1226946277194>>; ‘Settlement for Saba Button, severely disabled after flu vaccine’, *ABC News* (online) 8 June 2014 <<http://www.abc.net.au/news/2014-06-06/settlement-for-saba-button-severely-disabled-by-flu-vaccine/5505632>>.

vaccinate when immunity levels are high, and especially if they are above the herd immunity threshold, and/or equal to the risk of consequences from the disease.¹⁹

Some parents are concerned about vaccinations for diseases which they do not perceive as representing high threats. For instance, measles is highly infectious, but is, in the vast majority of cases, at least in the West, a fairly mild disease. It can lead to hospitalisation, complications (pneumonia), and in rare instances even death. The Centers for Disease Control and Prevention ('CDC') information site indicates that '[f]or every 1,000 children who get measles, one or two will die from it.'²⁰ However, another CDC report based on an outbreak of measles in France in 2008-2011 shows that, of over 22 000 reported infections, 10 people died.²¹ This implies a considerably lower mortality rate of 0.45 persons per 1000, and the real rate may be lower still as up to 50 per cent of infections were thought to have been unreported.²²

IV OVERCOMING NON-VACCINATION

Public health is therefore confronted by a problem. While the benefits of mass-vaccination in terms of protection both to individuals and to the community at large through herd immunity are solid, are the benefits sufficient to justify limiting individual choice about vaccination? What justification can be offered for applying more pressure to ensure compliance?

A Threat to herd immunity

A key concern for public health is that if individual choice about whether to vaccinate or not is allowed, the objective of achieving the herd immunity threshold will be undermined if too many choose not to vaccinate. Public health advocates are therefore understandably concerned as growing numbers exhibit 'vaccine hesitancy.'²³ The extreme form of vaccine hesitancy is those that refuse to vaccinate; those who in Australia in the past were entitled to register as conscientious objectors. However,

¹⁹ Paul E M Fine, 'Herd Immunity: History, Theory, Practice' (1993) 15(2) *Epidemiologic Reviews* 265.

²⁰ Centers for Disease Control and Prevention, *Complications of measles* (3 November 2014) Centers for Disease Control and Prevention <<http://www.cdc.gov/measles/about/complications.html>>.

²¹ Denise Antona et al, 'Measles Elimination Efforts and 2008–2011 Outbreak, France' (2013) 19(3) *Emerging Infectious Disease Journal* 357 <http://wwwnc.cdc.gov/eid/article/19/3/12-1360_article>.

²² *Ibid.*

²³ Eve Dubé et al, 'Vaccine Hesitancy' (2013) 9(8) *Human Vaccines & Immunotherapeutics* 1763.

vaccine hesitancy is a broader concept that reflects a crisis of confidence in which a growing proportion of the general public is beginning to have doubts about the safety, the efficacy, and the number of required vaccinations. While not all those who are vaccine-hesitant refuse to vaccinate, historical evidence suggests the number of conscientious non-vaccinators has been growing.²⁴

However, any person lacking immunity — not just those who are conscientious non-vaccinators — threatens the herd immunity. Any individuals susceptible to the disease can serve as a vector for an outbreak of the disease. Those lacking immunity and who therefore threaten herd immunity, are made up of four groups.

One group comprises persons who are exempt from required vaccinations based on medical advice. These may be individuals who are too young, immunocompromised, or are otherwise considered to be at risk of an adverse outcome in response to the vaccination.

Another group, the one of primary interest here, are those unvaccinated of their own cognisance. The individual or parent may refuse due to a medical belief, or for some other personal, philosophical or religious belief.

Yet others remain unvaccinated due to a range of other issues that might be loosely labelled as problems of accessing the vaccination. Many children are unvaccinated due to parental lack of social contact, limited access to services, psychological distress, and other reasons.²⁵

A final group is made up of individuals who have been vaccinated, but who may remain susceptible to the disease. That is, they lack immunity due to vaccine failure highlighting that vaccinations may offer ‘imperfect immunity.’²⁶

These four groups together threaten or undermine herd immunity thresholds. While conscientious objectors may be the most visible target, they are recognised as representing a minority of non-vaccinators.²⁷ While approximately 90 per cent of children were vaccinated up until December 2015 (it varies by age and by disease), just

²⁴ Immunise Australia, above n 4.

²⁵ Anna Pearce et al, 'Barriers to Childhood Immunisation: Findings from the Longitudinal Study of Australian Children' (2015) 33(29) *Vaccine* 3377.

²⁶ Paul Fine et al, "'Herd Immunity": A Rough Guide' (2011) 52(7) *Clinical Infectious Diseases* 911.

²⁷ Klapdor and Grove, above n 5.

1.8 per cent of children had been registered by their parents as conscientious objectors.²⁸ That is just 20 per cent of incompletely vaccinated children. Longitudinal research offers further support showing that only 16 per cent of incompletely immunised infants have a mother who disagrees with vaccination.²⁹ This implies that the remainder — the majority — are unvaccinated for other reasons such as being cared for by a solo parent, having recently moved, experiencing psychological distress, etc. Depending on estimates, vaccine failure can also be fairly significant, for example between 2-10 percent for measles.³⁰

Conscientious non-vaccinators do not help in the effort to achieve or maintain herd immunity thresholds, but it is difficult to see that they are the principal problem. More importantly perhaps, even if they were forced to vaccinate, it is unclear that herd immunity thresholds and therefore, the common good, would be much changed. While the concept of a herd immunity threshold is valuable and a worthy objective, it is an extremely complex, even elusive, concept.³¹ For instance, threshold immunity estimates vary by disease and, importantly, even by source, with different estimates being expressed by different experts.³²

While herd immunity is a useful goal, in practice, it appears to be insufficient for elimination and/or eradication of vaccine preventable diseases. Reasons for this are that thresholds typically assume that populations mix randomly and that the vaccinated are randomly spread throughout the population.³³ Neither of these assumptions are likely to hold as has been shown in the field where global eradication of smallpox and the regional elimination of poliomyelitis appeared to rely on selective vaccination within unprotected pockets, and quarantine to fully achieve their goals.³⁴

B *Free-riding*

²⁸ National Health Performance Authority, *Healthy Communities: Immunisation rates for children in 2012-2013* (2014) My Healthy Communities <http://www.myhealthycommunities.gov.au/Content/publications/downloads/NHPA_HC_Report_Imm_Rates_March_2014.pdf>.

²⁹ Pearce et al, above n 25.

³⁰ Gregory A Poland and Robert M Jacobson, 'The Re-Emergence of Measles in Developed Countries: Time to Develop the Next-Generation Measles Vaccines?' (2012) 30(2) *Vaccine* 103.

³¹ Fine et al, above n 26.

³² Fine, above n 19.

³³ Fine et al, above n 26.

³⁴ Fine, above n 19; Fine et al, above n 26.

One frequently mentioned concern relates to the distribution of costs and benefits associated with vaccination. While the majority of the population are vaccinated, a key concern is presented by those who gain a benefit via herd immunity, without having borne any of the cost.

The argument raises a legitimate moral harm relating to justice, but it is unclear that it justifies limiting the freedom of those that are opposed to vaccination. Public health advocates are in a bit of a bind when raising this issue. First, there has to be some notion that the vaccinators are shouldering the “cost” while the non-vaccinators are not. Public health must therefore acknowledge that vaccination *does* have risks, exactly those risks that the conscientious non-vaccinators are seeking to avoid. Public health goes on to argue that it is only fair that everyone share in those risks and that everyone participates in the lottery whereby negative effects might be experienced.

However, the argument would appear to fail to some degree on utilitarian grounds if the non-vaccinators are not sufficient to threaten herd immunity. While it may well be objectionable that someone would choose to not vaccinate, it is unclear that there is a moral justification for rectifying the problem. Expending resources to force people to vaccinate without changing the common good (because herd immunity is unchanged, or irrelevant due to other risks like non-random distribution of vaccination and non-random mixing) is difficult to justify from a utilitarian point of view.

If vaccines work as intended, forcing free-riders to vaccinate seems churlish to a degree, as individual immunity and herd immunity are unchanged. The effort appears to have little to do with the common good.

C Misinformation

While vaccination does have risks, conscientious non-vaccinators are often criticised for focusing on sensational, even false, claims. One much repeated defence for not vaccinating is the claimed link between the MMR vaccine and autism. The purported evidence is from a paper published in *Lancet*.³⁵ The paper styled as an “early report” provided evidence on just 12 cases. A retraction was later published by (most of) the

³⁵ A J Wakefield et al, 'RETRACTED: Ileal-Lymphoid-Nodular Hyperplasia, Non-Specific Colitis, and Pervasive Developmental Disorder in Children' (1998) 351(9103) *The Lancet* 637.

authors, then retracted formally by Lancet, and ultimately challenged as a case of intellectual fraud.³⁶ Despite being debunked, the claim continues to be debated by many.

Another issue that frequently arouses concern is the presence of mercury in thimerosal (also known as thiomersal) used as a preservative in some vaccines. Public health authorities typically proffer assurances that the mercury poses no risk of harm.³⁷ In any case, and perhaps in order to allay any fears, Australia — like the United States — has not used thimerosal in routine childhood vaccines since 2000.³⁸

Does the fact that individuals may be misinformed and/or lack the expertise to even judge the evidence justify the application of more coercive pressure to vaccinate? In this regard, it is perhaps instructive to observe that at least some misinformation has been sown by medical and public health experts as a community with changing opinions and policies:

- While Fluvax was recommended and used for young children in Australia up to 2010, the reporting of a series of adverse events in Australia in 2010 (including the earlier reported case of Saba Button) led to the vaccine being not recommended for children under nine unless there were no alternatives, and not registered for use at all for those under five.³⁹
- The claimed (and now debunked) link between MMR and autism appears to have originated with a peer-reviewed publication accepted and published by the respected medical journal, Lancet.⁴⁰ That the article was later retracted highlights that even among experts, mistakes can be made.
- The concern about thimerosal perhaps reflects an earlier public health concern about the dangers of mercury and that exposure to this substance should be avoided if at all possible. It can be understood that a later claim that thimerosal is safe is likely to appear contradictory to the general public. The subsequent elimination of the use of thimerosal from all vaccines may be

³⁶ T S Sathyanarayana Rao and Chittaranjan Andrade, 'The MMR Vaccine and Autism: Sensation, Refutation, Retraction, and Fraud' (2011) 53(2) *Indian Journal of Psychiatry* 95.

³⁷ National Centre for Immunisation Research & Surveillance, *Thiomersal Fact Sheet* (December 2009) National Centre for Immunisation Research & Surveillance
<http://www.ncirs.edu.au/assets/provider_resources/fact-sheets/thiomersal-fact-sheet.pdf>.

³⁸ *Ibid.*

³⁹ Immunise, above n 17.

⁴⁰ Wakefield et al, above n 35.

viewed as being a positive response to public concern, but might also have unfortunately served to further undermine the faith that individuals may place in expert opinions.

While policy-makers and public health may hope that the words “expert” and “expertise” offer some confidence, at least some individuals realise that the words do not ensure certainty: experts can disagree, the truth may be disputed. For important medical decisions, at least some individuals will actively seek a second opinion for personal medical problems. In public health, alternative opinions are unhelpful. They can be accommodated in an individual rights view, but can undermine confidence in public health announcements promoting a common good such as mass vaccination.

The truth is uncertain, and differing expert opinions highlight that this is so. Policies for vaccinations vary over time: the vaccines included in the schedule, the age of administration, the timing of boosters are all subject to change. Moreover, policies vary between countries highlighting that one country’s experts do not necessarily agree with experts in other countries. Japan’s policies for example, differ a great deal from other countries for a variety of public and historical reasons.⁴¹ Notably, the Japanese government withdrew the multi-vaccine MMR in 1993 due to reports of adverse events. In its place, the monovalent options for measles and rubella (but not mumps) were recommended.⁴²

Much is known about vaccinations, but when talking about and dealing with low-probability risks (to be discussed more in the following section), what is certain is less clear. This inevitably contributes to some of the confusion that might be experienced by individuals with concerns about vaccinations. While the individual’s misinformation may be unhelpful, it is not clear that this offers sufficient reason to move the individual to an act that they prefer not to do.

D Incompetence

A criticism of conscientious non-vaccinators (related to the idea of misinformation) is that they misunderstand the risks of vaccination, are poor at assessing those risks, or

⁴¹ A Saitoh and N Okabe, ‘Current issues with the immunization program in Japan: Can we fill the “vaccine gap”?’ (2012) 30(32) *Vaccine* 4752, 4752-4756.

⁴² *Ibid* 4753.

both. Does this provide a condition where applying more coercive pressure would be considered reasonable? If a person was unaware that she was about to be killed by a runaway vehicle because she failed to see it or hear it, we would generally permit that she could be pushed out of the way even without her consent being sought or granted. That is, their incompetence does not preclude coercion.

However, a problem is that danger of infection with a disease (and of serious consequences) is only probabilistic; what *will* happen is uncertain. We are not pushing someone out of the road of a vehicle, but pushing them out of the road because there *might* be an oncoming vehicle.

The criticism continues that non-vaccinators may overplay vaccination risks and underplay disease risks. However, the rates of vaccination reaction, vaccine-failure, herd immunity thresholds, and even risks of infection, morbidity, and mortality are not known with certainty. Indeed, they are frequently contested by various experts. There are significant “differences of opinion” among authorities such that herd immunity thresholds are necessarily approximate and best reported as ranges.⁴³ The risks of infection if unvaccinated, and of morbidity or mortality if infected, can also be contested. As noted earlier, the CDC gives the probability of death from measles to be one to two cases per 1000 infections at one page, and as 0.45 deaths per 1000 infections at another.⁴⁴

However, if we leave aside the issue of uncertainty about the risks, does the claim that lay people misunderstand the risks and lack the expertise to make assessments validate stronger interventions?

What assurance do we have that the public health experts are better at assessing risks than individuals? Unfortunately, not much. Humans, expert or otherwise, tend to be subject to many biases in their decision-making.⁴⁵ Just one such important bias, especially in the context of the highly controversial and divided topic of vaccination, is that people tend to find evidence to support what they believe: a confirmation bias. In this respect, given that the debate about vaccination is so heated, most participants

⁴³ Fine, above n 19.

⁴⁴ Antona et al, above n 21.

⁴⁵ J S Blumenthal-Barby and Heather Krieger, 'Cognitive Biases and Heuristics in Medical Decision Making: A Critical Review using Systematic Search Strategy' (2015) 35(4) *Medical Decision Making* 539 <<http://www.ncbi.nlm.nih.gov/pubmed/25145577>>.

enter with an established point of view and then marshal data that confirms their point of view. Given the different diseases, the different balancing risks associated with each, and the differing expert opinions about those risks, both sides will likely find support for the risks they consider important.

To illustrate the point about how difficult it is to manage risks, we might consider what would happen if Australia was to experience a measles outbreak as observed in France between 2008 and 2011 where over 22 000 from a population of 64 million were infected, and 0.45 per 1000 reported as infected died. If a similar pattern was observed in Australia, then approximately 8080 people out of 24 million Australians would be infected, and just under four people (3.6) would die. While we of course do not wish to see any fatalities, these four deaths are contingent on whether there is a disease outbreak or not. In short, we are dealing with very low probabilities relative to other much more numerous, and arguably preventable deaths: annually, about 1100 people die in road fatalities,⁴⁶ 300 are murdered,⁴⁷ 260 drown,⁴⁸ and about one person each year dies in a shark attack.⁴⁹

Vaccination is still important because there are hospitalisations and morbidities aside from the few deaths to consider. Moreover, the consequences often appear among young children, which can evoke a great deal of compassion. But the issue remains, is it even possible to conduct a real analysis of the costs versus benefits at all?

Another issue is that while public health and policy-makers deal with probabilities, individuals deal with eventualities. Public health and policy-makers speak in terms of base-rate information: x per cent of children will experience a vaccination reaction, y per cent of infected people will die in the event of an outbreak. Parents however, deal with case-based information: “my child reacted” or “my child died.”

⁴⁶ Department of Infrastructure and Regional Development, *Road Deaths Australia – Monthly Bulletins* (13 May 2016) Department of Infrastructure and Regional Development
<http://bitre.gov.au/publications/ongoing/road_deaths_australia_monthly_bulletins.aspx>.

⁴⁷ Australia Institute of Criminology, *Homicide statistics* (7 July 2015) Australia Institute of Criminology
<<http://www.aic.gov.au/statistics/homicide.html>>.

⁴⁸ Royal Life Saving Society – Australia, *Royal Life Saving National Drowning Report 2014* (2015) Royal Life Saving Society
<http://www.royallifesaving.com.au/_data/assets/pdf_file/0007/11995/RLS_NDR2014_LR.pdf>.

⁴⁹ Taronga Zoo, *Australian Shark Attack File* (2016) Taronga Zoo
<<https://taronga.org.au/conservation/conservation-science-research/australian-shark-attack-file>>.

An important corollary highlights an oft-overlooked limitation of evidence-based medicine, namely that base-rates fail to capture the inevitable variability within the population. Most people will not be allergic to peanuts, but we make a potentially grave error when we treat *all* as being the same. This is, of course, the role of medical exemptions, but even allowing such exemptions acknowledges that not all individuals can be assumed able to tolerate a vaccination. With or without expertise about base-rates, case-based information, or both, the decision to not vaccinate may be a mistake, whether made by a doctor or a parent. We hope that the doctor makes a “better” judgment, but that does not help if the wrong decision is made.

The decision of whether to vaccinate the community is one of greys. The decision of whether to vaccinate an individual is black and white. The individual has “more skin in the game.” The difference is perhaps best illustrated by understanding how a decision-maker responds to mistakes. A public health vaccination program can be changed if concerns arise — for example, replacing oral polio vaccine (‘OPV’) with inactivated polio vaccine (‘IPV’), or removing thimerosal from vaccines. However, an individual who makes a “mistake” cannot correct the mistake.

If the probabilities are clearly in favour of promoting universal vaccination, the public health agency operating from a utilitarian perspective may feel justified in proceeding even if there are known risks for some few unknown individuals. The policy may achieve its objectives, even allowing for the cost borne by some individuals. But now those individuals bear an unfair portion of the burden. While compensation programs might help to alleviate their loss, the issue is different for an individual than the community, even if the two are linked.

V RESISTING COERCION

The problem is that efforts to ensure higher vaccination rates may require, as per Australia’s new “no jab no pay” policy, more coercive pressure. However, the evidence for the harms caused by non-vaccinators is arguably more equivocal than the polemic might encourage us to believe. Even if it were less equivocal, do the ends justify the means?

A Over-claiming

How much pressure is it appropriate to apply to non-vaccinators to ensure their compliance with the policy? The enthusiasm to encourage vaccination sometimes leads to some morally dubious claims. A recent newspaper poll suggested that a solid majority (86 per cent) supported compulsory vaccinations.⁵⁰ While those for vaccination have might through numbers, do they have right through ethics? Allowing individual rights is an apt cure for an appeal to popularity.

At times, the effort to encourage broader vaccination coverage seems to press too far. A 2011 book, *Deadly Choices: How the Anti-Vaccine Movement Threatens Us All* reflects good intentions, but overstated claims.⁵¹ Only some are threatened by the unvaccinated, mostly the unvaccinated themselves, and also vaccine failures. With vaccination rates of 90 per cent, the threat is not to “all” but rather, to a small and relatively difficult-to-measure minority.

B Motivation

Medical experts, like others, are inclined to be subject to self-serving biases.⁵² Accordingly, the zeal of those supporting vaccination may at times encourage omission of inconvenient facts, misrepresentation of information and over-claiming. But even if stretching what is true, does the public good that results offer sufficient justification for the action? Is the harm suffered by a few justified by the greater good? We might be tempted to say yes, but this might be challenged by the scenario of the transplant surgeon faced with five mortally-ill patients in need of life-saving organs.⁵³ Meanwhile, one patient who is in hospital for a routine check-up happens to be compatible with the five who need organs. Is it right to kill the one for the benefit of the five?

The promoter of universal vaccinations, like the surgeon, must make a decision about whether it is right to harm a few for the benefit of the many. The decision is likely to

⁵⁰ Samantha Maiden, ‘Galaxy Poll: 86 per cent of Australians want childhood vaccination to be compulsory’, *The Sunday Telegraph* (online) 4 April 2015 <<http://www.dailytelegraph.com.au/news/nsw/galaxy-poll-86-per-cent-of-australians-want-childhood-vaccination-to-be-compulsory/story-fni0cx12-1227290503812>>.

⁵¹ Paul Offit, *Deadly Choices: How the Anti-Vaccine Movement Threatens Us All* (Basic 2011).

⁵² Shashi S Seshia, Michael Makhinson and G Bryan Young, ‘“Cognitive Biases Plus”: Covert Subverters of Healthcare Evidence’ (2016) 21(2) *Evidence Based Medicine* 41, 41-45.

⁵³ Philippa Foot, ‘The Problem of Abortion and the Doctrine of Double Effect’ (1967) 5 *Oxford Review* 1.

depend critically on the motivations of the decision-maker. In particular, is she seeking to maximise the greater good, or treat each and every individual as deserving dignity and autonomy?

Are we even aware of our true motivations and intentions? Is the Australian Government's new "no job no pay" policy for the common good or are there other hidden objectives, other motives at play? The intention to help the common good seems undermined by the lack of evidence or even rationale for how this policy will help:

The Government holds that removing non-medical exemptions will 'reinforce the importance of immunisation and protecting public health' and that 'the choice made by families not to immunise their children is not supported by public policy or medical research nor should such action be supported by taxpayers in the form of child care payment.'⁵⁴

The Government shows a marked lack of concern about the effectiveness of the policy in increasing the vaccination rate. Rather, the primary benefit declared by the government is that it will save \$509 million in the budget over five years. Perhaps the view is that the conscientious non-vaccinators are so hardened in their views that they will be unlikely to change, and this policy is simply a means of recouping moneys to pay for the additional health expenses that will be incurred by their continued non-vaccination. More usefully perhaps, in the same 2015 budget, the government has committed to spending \$26 million over the same five-year period in efforts to improve vaccination rates, especially among children.

Meanwhile, in addition to the doubtful benefits of the "no job no pay" policy in increasing vaccination rates, it creates additional costs and burdens for some who are arguably ill-equipped to cope with extra stresses. Incompletely vaccinated children tend to come from socio-economically disadvantaged parents (lower education, lower income), and are unvaccinated for reasons such as psychological distress, not objection to vaccines.⁵⁵

Ultimately, motivations offer a poor basis for ethical action as they are often, unfortunately invisible. Some motivations and intentions may even be invisible to the

⁵⁴ Klapdor and Grove, above n 5.

⁵⁵ Pearce et al, above n 25.

individual themselves. Just as non-vaccinators may be deluded in the real reasons for their stance, so too may those promoting vaccination.

VI CONCLUSION

Vaccination brings into conflict the common good and individual rights. The question examined here is whether, in the case of vaccination, the common good can legitimately dominate the individual right to refuse to vaccinate. The general benefits of vaccination are not disputed. But the indirect benefits, those gained by achieving a herd immunity threshold, are more contested. Moreover, the threat posed by conscientious non-vaccinators in reducing herd immunity, this indirect benefit, is questioned.

There are other bases that might be used for building a moral claim for applying more pressure to non-vaccinators to vaccinate (non-vaccinators are free-riders, that they are misinformed and/or they are incompetent to make the decision), but most fail to be compelling.

Inevitably, the nature of the polemic has led both sides to engage in deception and misinformation. Coupled with cognitive biases, each side inevitably mines the complex labyrinths of arcane and contradictory evidence and opinions. Ultimately, the arguments reduce to discussing for most purposes, very low probability risks. In effect, it probably matters little whether non-vaccinators vaccinate or not. What inflames the debate perhaps is the success of mass vaccination programs, which, through herd immunity, have made the risks of infection and consequent morbidity/mortality very low. So the individual who vaccinates is unlikely to react, and the individual who does not vaccinate is unlikely to be infected.

So what value is there in pursuing a small minority of the population that refuse to vaccinate? The apparent gain is minimal — herd immunity levels will be little changed. In any case, other unvaccinated groups probably offer greater promise for conversion, both in numbers and susceptibility to influence. The cost is a curtailment of conscientious non-vaccination: removal of a relatively minor individual liberty with relatively low risk. Promoting vaccination for the common good is to be encouraged, and so too is the option allowing an individual to conscientiously object.

REFERENCE LIST

A Articles/Books/Reports

- Antona, Denise, Daniel Lévy-Bruhl, Claire Baudon, François Freymuth, Mathieu Lamy, Catherine Maine, Daniel Floret and Isabelle Parent du Chatelet, 'Measles Elimination Efforts and 2008–2011 Outbreak, France' (2013) 19(3) *Emerging Infectious Disease Journal* 357 <http://wwwnc.cdc.gov/eid/article/19/3/12-1360_article>
- Belongia, Edward A and Allison L Naleway, 'Smallpox Vaccine: The Good, the Bad, and the Ugly' (2003) 1(2) *Clinical Medicine and Research* 87
- Blumenthal-Barby, Jennifer S and Heather Krieger, 'Cognitive Biases and Heuristics in Medical Decision Making: A Critical Review using Systematic Search Strategy' (2015) 35(4) *Medical Decision Making* 539 <<http://www.ncbi.nlm.nih.gov/pubmed/25145577>>
- Dandoy, Suzanne, 'A Piece of My Mind: Have You Ever Practiced Medicine?' (1988) 260(14) *The Journal of the American Medical Association* 2113
- Demicheli, Vittorio, Alessandro Rivetti, Maria Grazia Debalini and Carlo Di Pietrantonj, 'Vaccines for measles, mumps and rubella in children (Review)' (2012) 2 *Cochrane Database of Systematic Reviews* <<http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CD004407/frame.html>>
- Dubé, Eve, Caroline Laberge, Maryse Guay, Paul Bramadat, Réal Roy and Julie A Bettinger, 'Vaccine Hesitancy' (2013) 9(8) *Human Vaccines & Immunotherapeutics* (2013) 1763
- Fine, Paul E M, 'Herd Immunity: History, Theory, Practice' (1993) 15(2) *Epidemiologic Reviews* 265
- Fine, Paul, Ken Eames and David L Heymann, "'Herd Immunity": A Rough Guide' (2011) 52(7) *Clinical Infectious Diseases* 911
- Foot, Philippa, 'The Problem of Abortion and the Doctrine of Double Effect' (1967) 5 *Oxford Review* 1

Holden, Stephen S and Damian Cox, 'Public Health Marketing: Is it Good and is it Good for Everyone?' (2013) 52(1) *Journal of International Marketing* 15

Holland, Stephen, *Public Health Ethics* (Polity, 2007)

Needham, Joseph, Lu Gwei-Djen and Nathan Sivin, *Science and Civilization in China: Volume 6, Biology and Biological Technology, Part 6, Medicine* (Cambridge University Press, 2000) 134

Offit, Paul, *Deadly Choices: How the Anti-Vaccine Movement Threatens Us All* (Basic 2011)

Pearce, Anna, Helen Marshall, Helen Bedford and John Lynch, 'Barriers to Childhood Immunisation: Findings from the Longitudinal Study of Australian Children' (2015) 33(29) *Vaccine* 3377

Plato, *Crito* (Benjamin Jowett trans, ebooks@Adelaide, 2014) 46b [trans of: *Crito* (first published 360 BCE)]

Poland, Gregory A and Robert M Jacobson, 'The Re-Emergence of Measles in Developed Countries: Time to Develop the Next-Generation Measles Vaccines?' (2012) 30(2) *Vaccine* 103

Rao, T S Sathyanarayana and Chittaranjan Andrade, 'The MMR Vaccine and Autism: Sensation, Refutation, Retraction, and Fraud' (2011) 53(2) *Indian Journal of Psychiatry* 95

Roush, Sandra W, Trudy V Murphy and the Vaccine-Preventable Disease Table Working Group A, 'Historical Comparisons of Morbidity and Mortality for Vaccine-Preventable Diseases in the United States' (2007) 298(18) *Journal of the American Medical Association* 2155

Saitoh, Akiko and Nobuhiko Okabe, 'Current issues with the immunization program in Japan: Can we fill the "vaccine gap"?' (2012) 30(32) *Vaccine* 4752

Seshia, Shashi S, Michael Makhinson and G Bryan Young, "'Cognitive Biases Plus": Covert Subverters of Healthcare Evidence' (2016) 21(2) *Evidence Based Medicine* 41

Voltaire, François Marie Arouet de, *Letters on the English* (Charles Eliot William trans, Bartleby.com, 2001) Letter XI : On Inoculation [trans of : *Lettres Philosophiques* (first published 1733)]

Wakefield, A J, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, 'RETRACTED: Ileal-Lymphoid-Nodular Hyperplasia, Non-Specific Colitis, and Pervasive Developmental Disorder in Children' (1998) 351(9103) *The Lancet* 637

B Other

Australia Institute of Criminology, *Homicide statistics* (7 July 2015) Australia Institute of Criminology <<http://www.aic.gov.au/statistics/homicide.html>>

Centers for Disease Control and Prevention, *Complications of measles* (3 November 2014) Centers for Disease Control and Prevention <<http://www.cdc.gov/measles/about/complications.html>>

Department of Human Services, *Changes to immunisation requirements starting January 2016* (24 November 2015) Australian Government: Department of Human Services <<https://www.humanservices.gov.au/health-professionals/news/changes-immunisation-requirements-starting-1-january-2016>>

Department of Infrastructure and Regional Development, *Road Deaths Australia – Monthly Bulletins* (13 May 2016) Department of Infrastructure and Regional Development <http://bitre.gov.au/publications/ongoing/road_deaths_australia_monthly_bulletins.aspx>

'Girl left disabled by flu jab wins millions', *The Australian* (online) 7 June 2014 <<http://www.theaustralian.com.au/national-affairs/health/girl-left-disabled-by-flu-jab-wins-millions/story-fn59nokw-1226946277194>>

Immunise Australia, *ACIR – Annual Coverage Historical Data* (27 April 2016) Immunise Australia Program <<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-ann-cov-hist-data.htm>>

Immunise Australia, *ACIR - National Vaccine Objection (Conscientious Objection) Data* (11 February 2016) Immunise Australia Program

<<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/acir-cons-object-hist.htm>>

Immunise Australia, *Australian Technical Advisory Group on Immunisation (ATAGI) advice for immunisation providers regarding the administration of seasonal influenza vaccines in 2016* (2 March 2016) Immunise Australia Program

<<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/ATAGI-advice-influenza-vaccines-providers>>

Immunise Australia, *No Jab, No Pay – New Immunisation Requirements for Family Assistance Payments* (2 December 2015) Immunise Australia Program

<<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/fact-sheet-no-jab-no-pay>>

Klapdor, Michael, and Alex Grove, *Budget Review 2015-16: “No jab no pay” and other immunisation measures* (May 2015) Parliament of Australia

<http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/BudgetReview201516/Vaccination>

Maiden, Samantha, ‘Galaxy Poll: 86 per cent of Australians want childhood vaccination to be compulsory’, *The Sunday Telegraph* (online) 4 April 2015

<<http://www.dailytelegraph.com.au/news/nsw/galaxy-poll-86-per-cent-of-australians-want-childhood-vaccination-to-be-compulsory/story-fni0cx12-1227290503812>>

National Centre for Immunisation Research & Surveillance, *Thiomersal Fact Sheet* (December 2009) National Centre for Immunisation Research & Surveillance

<http://www.ncirs.edu.au/assets/provider_resources/fact-sheets/thiomersal-fact-sheet.pdf>

National Health Performance Authority, *Healthy Communities: Immunisation rates for children in 2012-2013* (2014) My Healthy Communities

<http://www.myhealthycommunities.gov.au/Content/publications/downloads/NHPA_HC_Report_Imm_Rates_March_2014.pdf>

Royal Life Saving Society – Australia, *Royal Life Saving National Drowning Report 2014* (-2015) Royal Life Saving Society

<http://www.royallifesaving.com.au/_data/assets/pdf_file/0007/11995/RLS_NDR2014_LR.pdf>

'Settlement for Saba Button, severely disabled after flu vaccine', *ABC News* (online) 8 June 2014 <<http://www.abc.net.au/news/2014-06-06/settlement-for-saba-button-severely-disabled-by-flu-vaccine/5505632>>

Taronga Zoo, *Australian Shark Attack File* (2016) Taronga Zoo

<<https://taronga.org.au/conservation/conservation-science-research/australian-shark-attack-file>>

U.S. National Library of Medicine, *Smallpox: A Great and Terrible Scourge* (30 July 2013)

U.S. National Library of Medicine

<https://www.nlm.nih.gov/exhibition/smallpox/sp_variolation.html>

World Health Organisation, 'Measles vaccination has saved an estimated 17.1 million lives since 2000' (News release, 20 November 2015)

<<http://www.who.int/mediacentre/news/releases/2015/measles-vaccination/en/>>