

This Evidence Bulletin summarises a Cochrane systematic review.

In a systematic review the researchers aim to locate, quality appraise and synthesise all of the available evidence related to a specific research question.

Cochrane review authors adopt rigorous methods to minimise bias as a way of producing reliable findings with the ultimate goal of making the evidence more useful for practice. For more information see: <http://cccrg.cochrane.org/about>.

The intended audience of this Evidence Bulletin is decision-makers and clinicians involved in informing and/or educating community members about early childhood vaccinations.

Interventions aimed at communities to inform and/or educate about early childhood vaccination

Cochrane review summary

In this Cochrane systematic review, Dr. Ingvil Saeterdal and colleagues sought to answer:

Do information and/or education interventions targeting communities about early childhood vaccinations change vaccination rates, knowledge and attitudes towards vaccinations and vaccine-preventable diseases?

What are information and education interventions targeting communities?

These are informational or educational communication strategies aimed at an entire community or groups within that community, for example at public meetings, through radio or through leaflets.

Key findings

There is limited evidence that interventions to inform or educate community members about early childhood vaccination may probably:

- slightly improve knowledge of vaccines or vaccine-preventable diseases
- increase the number of children who are vaccinated
- slightly change attitudes in favour of vaccination among parents with young children, but they may make little difference to the involvement of mothers in decision-making regarding childhood vaccination.

These interventions may achieve most benefit when targeted to areas or groups that have low childhood vaccination rates.

Full citation for this Cochrane review:

Saeterdal I, et. al. [Interventions aimed at communities to inform and/or educate about early childhood vaccination](#). *Cochrane Database of Systematic Reviews* 2014, Issue 11. Art. No.: CD010232. DOI: 10.1002/14651858.CD010232.pub2.

Detailed review information

Background

Routine childhood vaccination is an important issue in both high- and low-income countries. In high-income countries, vaccination coverage can be impacted by a number of elements including religious beliefs, financial limitations, urban or rural residence, immigration status or lack of education.

Vaccination decision-making is a complex process, influenced by many factors. The degree of indecision or uncertainty parents feel about vaccination is known as 'vaccine hesitancy'. A contributing factor to vaccine hesitancy is a lack of understanding or awareness about the benefits and side effects of vaccination, where and how to access vaccines, and how vaccination works. Misinformation and safety concerns can also influence vaccination decision-making. Successful vaccination programs rely on people having sufficient and appropriate knowledge to make an informed decision to participate.

Information about this review

Saeterdal and colleagues conducted a detailed search of studies published up to July 2012. Using pre-determined criteria they looked for:

Types of studies

- Randomised controlled trials (including quasi randomisation or randomised at either individual or cluster level); interrupted time series; repeated measures and controlled before-and-after studies.

Participants

- Included: groups of people from the general public (e.g. parents and other caregivers and family members of young children, community leaders, teachers, and influential community members)
- Excluded: interventions that targeted individuals directly.

Types of intervention

- Early childhood (<6 years) vaccination education and/or information interventions targeting groups.

Comparisons

- Routine immunisation practices
- Other interventions to promote immunisation uptake
- No intervention.

Outcomes

- Participant knowledge of vaccine or vaccine-preventable disease
- Participant knowledge of vaccine service delivery

- Immunisation status of child
- Unintended adverse effects due to the intervention
- Participant attitudes towards vaccination
- Participant involvement in decision-making regarding vaccination
- Participant confidence in the decision made regarding vaccination
- Resource use or cost of the intervention.

Main results

This review included two trials. In these trials, the study participants were randomised in groups (clusters). One study included 32 clusters, each consisting of 4 to 5 villages, and involved 5,641 children. The other study clustered participants by households (defined as a group of persons who commonly live together with at least one child going to public primary school). 1,050 households were included in this study.

About the studies

Both studies were conducted in lower middle income countries (India and Pakistan). In one trial (India), the baseline vaccination rate was 46% and in the other trial (Pakistan) coverage was between 45 and 51% for measles and DPT vaccines (i.e. diphtheria, pertussis (whooping cough) and tetanus) and 99-100% for polio.

The interventions in both studies targeted community members. In the study in India, families, teachers, children and village leaders attended information meetings where they received information about childhood vaccination and could ask questions. In the study from Pakistan, people who were considered to be trusted in the community attended meetings to discuss vaccine coverage rates in their community and the costs and benefits of childhood vaccination. They were asked to develop local action plans and to share the information they had been given and continue the discussions in their communities.

Effects of interventions

There is low certainty evidence that interventions aimed at communities to inform and/or educate about childhood vaccination may probably:

- slightly improve knowledge of vaccines or vaccine-preventable diseases
- increase the number of children who are vaccinated
- slightly change attitudes in favour of vaccination among parents with young children, but they may make little difference to the involvement of mothers in decision-making regarding childhood vaccination.

No studies assessed participant knowledge of vaccine service delivery; participant confidence in the

vaccination decision; intervention costs; or any unintended harms resulting from the intervention.

What this review does not show

This review identified no eligible studies that used large-scale media (e.g. billboards, newspaper, television, or radio) to inform or educate or that used electronic media (e.g. videos, slide shows, web-based programs or virtual online communities).

In addition, there were no studies of (i) interventions aimed at communities to inform and/or educate compared with those directed specifically to individuals or caregivers of children, or (ii) one type of intervention to inform and/or educate aimed at communities compared with another.

Results table: Intervention aimed at communities versus usual care

	Impact with usual care	Impact with interventions aimed at communities	Relative effect (95% CI)	Number of participants	Evidence quality (GRADE)#
Knowledge of vaccines or vaccine-preventable diseases	59 per 100 people had increased vaccine knowledge	71 per 100 people (from 65 to 78)	Adjusted MD 0.121 (95% CI 0.06 to 0.19)	5582	Low
Knowledge of vaccine service delivery	The included studies did not assess this outcome				
Immunisation status of child	Study 1 (India) showed that the intervention probably increases the number of children who received vaccinations (RR 1.67, 95% CI 1.21 to 2.31)			228	Moderate
	Study 2 (Pakistan) showed that there is probably an increase in the uptake of both measles (RR 1.63, 95% CI 1.03 to 2.58) and DPT vaccines (RR 2.17, 95% CI 1.43 to 3.29)			956 (measles) 957(DPT)	Moderate
	Study 2 showed but there may be little or no difference in the number of children who received polio vaccine (RR 1.01, 95% CI 0.97 to 1.05)			952	Low
Attitudes towards vaccination	86 per 100 parents thought it worthwhile to vaccinate children	91 per 100 parents (from 87 to 96)	Adjusted MD 0.054 (95% CI 0.01 to 0.11)	5636	Low
Involvement in decision-making	55 per 100 mothers were included in decisions about vaccination	60 per 100 mothers (from 54 to 65)	Adjusted MD 0.043 (95% CI -0.01 to 0.1)	5565	Low
Confidence in decision made	The included studies did not assess this outcome				
Unintended or adverse effects	The included studies did not assess this outcome				
Resource use or cost of the intervention	The included studies did not assess this outcome				

For more information about GRADE, see www.gradeworkinggroup.org; MD = Mean difference; 95% CI = 95% confidence interval; RR = relative risk; DPT = diphtheria, pertussis (whooping cough) and tetanus.

What does this mean for health care in Victoria, Australia?

<p>The broader policy and clinical context</p>	<p>Australia has relatively high vaccination rates overall. However, maintaining good coverage (depending on the vaccine, 90-95% coverage is considered optimal) and improving rates in particular communities and populations requires ongoing effort and innovation.</p> <p>Communication strategies are integral to vaccination strategies at the State and National levels. The Victorian strategy includes communication with consumers and the general public via face-to-face interactions with immunisation service providers and other health professionals; immunisation information leaflets; a State web-site; an immunisation reminders app for Victorian parents and a telephone help-line; and periodic press releases, typically in response to adverse media coverage of immunisation-related issues. Similarly, the National Immunisation Strategy for Australia, in its Strategic Priority 5, seeks to maintain and ensure community confidence in the National Immunisation Program through effective communication strategies by focusing on the following key communication actions:</p> <ul style="list-style-type: none"> • Identify ways to strengthen the current communications strategy, particularly for population groups with low and/or delayed immunisation coverage. • Monitor and revise communication resources and campaigns to improve the reach of immunisation awareness and confidence for key target groups. <p>In 2015, the following percentages of Victorian children were fully immunised according to the National Immunisation Program Schedule: 91.53% at age 12 months, 89.05% at 24 months and 92.75% at 60 months. In Australia, the rate of vaccine refusal or rejection has been relatively low, with conscientious objections recorded for only 1.71% of children at the end of 2014. However, the public health impact of parents who refuse vaccines is heightened because they tend to cluster in particular regions or communities. From January 2016, conscientious objection has been removed as a valid reason for vaccination exemption under both the federal government's No Jab No Pay and Victoria's No Jab No Play policies. This means vaccine objection data is no longer collected, so it may become more difficult to monitor potential clusters of vaccine refusal. Historically, examples of problematic areas include Lismore, NSW (where the rate of objection was 7% in 2014) and the Bayside Medicare local catchment area, which recorded the lowest rate of Victorian children aged 5 years fully immunised in 2012-13 at 82.9%.</p> <p>Nearly a third of parents in Australia may be considered 'vaccine hesitant' - that is, they have concerns about or are distrustful of vaccines. Vaccine hesitancy is driven by societal influences, making targeted communication about vaccination in communities with lower uptake particularly important.</p>
<p>The populations and settings in which this relevant</p>	<p>The findings of this review are most readily transferable to countries in South Asia, and other low and middle income countries. There are significant differences between Australia and the study settings in India and Pakistan. While this may affect the applicability of these particular interventions to the Australian context, addressing vaccination at the community level is a transferable concept.</p> <p>Determining how these findings apply to high-income countries like Australia requires additional thinking, such as:</p> <p>Are there important differences in on-the-ground realities and constraints that might substantially alter the feasibility and acceptability of the intervention?</p> <p>In Australia, health information of all kinds - including information about vaccines - is available from a wide range of sources, both valid and erroneous. The challenge for Australian vaccination communication initiatives is to reach parents and to be accepted as trustworthy.</p>

What does this mean for health care in Victoria, Australia? (continued)

<p>The populations and settings in which this relevant (continued)</p>	<p>Even in the media-rich environment of Australia, people are still significantly influenced by trusted individuals such as physicians or community leaders, as well as by their peers: the Australian Breastfeeding Association, for example, trains volunteers to be breastfeeding counsellors and community educators for other mothers. Identifying and targeting key members of the community may still be an effective strategy for communication efforts, despite differences in setting and resources. Identifying geographical groups with lower vaccination rates may allow for specific community hubs to be targeted to allow for the interventions to be delivered in a similar way.</p> <p>Are there important health system differences?</p> <p>Australia has a much better-resourced health system than India or Pakistan, with a potentially stronger focus on vaccination communication strategies delivered at the individual level.</p> <p>Are there important differences in the baseline conditions?</p> <p>Australia has a much higher vaccination rate than the baseline vaccination rates in the two studies. However, there are geographical pockets where vaccination rates are not optimal. As such, it may be more cost-effective to use interventions aimed at communities only in the local areas where vaccination rates are low. Additionally, literacy rates in Australia are higher and there is greater access to media, so interventions may be able to take additional forms while retaining the idea of being aimed at communities, or community leaders.</p> <p>Is there routine data available to identify areas of greatest need?</p> <p>Australia has good data on the level of vaccination coverage in Australia, meaning communication interventions can target those with sub-optimal vaccination rates.</p>
<p>Implications for decision-makers</p>	<p>Some of these interventions, such as community meetings or some forms of mass media, may be resource-intensive when implemented more broadly (e.g. state-wide). Such interventions may need to target areas or groups that have low childhood vaccination rates and therefore have the potential to benefit most.</p> <p>Other interventions, such as the use of electronic media directed to communities, may be less costly and possibly more feasible when implemented more broadly. However, it is also important to consider that interventions aimed at communities may be cost-effective in some settings even if these interventions result in only small increases in vaccination uptake, as the costs of non-vaccination are likely to be very high.</p> <p>This review identified no eligible studies that used large-scale media such as billboards, newspaper, television, and radio to inform or educate or that used electronic media such as videos, slide shows, web-based programs or virtual online communities. Rigorous evaluations of these approaches are needed.</p>
<p>Implications for clinicians</p>	<p>The National Health Performance Authority, in its healthy communities report, notes that overall vaccination rates are quite high but there are some pockets that are low, i.e. small geographic areas with socio-economic, ethnic or other commonalities. Although interventions aimed at communities to inform and/or educate about early childhood vaccination wouldn't be a way to increase vaccination rates over the whole country, the findings of the review indicate they achieve most benefit when targeted to areas or groups that have low childhood vaccination rates. They may also be of use in areas with growing vaccine hesitancy. However, as there is no reliable way to use coverage data to identify people who have concerns about vaccination, clinicians may be best-placed to monitor potential trends among the parents in their communities.</p>

Related Resources

- Australian Department of Health 2013 [National Immunisation Strategy for Australia 2013-2018](#)
- Department of Health and Human Services, Victoria, Australia 2013 [Victorian Immunisation Strategy 2009-2012](#)
- National Health Performance Authority 2014 [Healthy Communities: Immunisation rates for children in 2012-13](#)
- Department of Health and Human Services, Victoria, Australia [VaxOnTimeApp](#)
- Australian Childhood Immunisation Register 2014 [National vaccine objection \(conscientious objection\) data](#)
- Leask 2011 [Target the fence-sitters](#)
- Danchin 2014 [A positive approach to parents with concerns about vaccination for the family physician](#)
- Leask 2014 [The big picture in addressing vaccine hesitancy](#)
- Larson 2014 [Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: A systematic review of published literature, 2007-2012](#)

Examples of communication interventions to improve vaccination

- Willis 2013 [‘Communicate to vaccinate’: the development of a taxonomy to organise the evidence of communication interventions to improve vaccination in low- and middle-income countries](#)
- NPS Medicinewise 2013 [Vaccination communication](#)

Related Cochrane systematic reviews

- Kaufman 2013 [Face to face interventions for informing or educating parents about early childhood vaccination](#)
- Oyo-Ita 2011 [Interventions for improving coverage of child immunization in low- and middle-income countries](#)
- Ryan 2014 [Interventions to improve safe and effective medicines use by consumers: an overview of systematic reviews](#)

Related Evidence Bulletins

- Face to face interventions for informing or educating parents about early childhood vaccination

Evidence Bulletins are available [here](#)

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Centre for Health Communication and Participation

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