

Costs and cost-effectiveness of immunisation programmes: the role of lay health workers

Adrijana Corluca¹, Damian G. Walker¹, Simon Lewin², Claire Glenton³, Inger B. Scheel³

1. Johns Hopkins Bloomberg School of Public Health, Baltimore, USA; 2. Norwegian Knowledge Centre for Health Services, Oslo, Norway; 3. SINTEF Technology and Society, Oslo, Norway

Background

A recently updated Cochrane systematic review on the effects of lay or community health workers (LHWs) in primary and community health care concluded that LHW interventions could lead to promising benefits in the promotion of childhood vaccination uptake. However, understanding of the costs and cost-effectiveness of involving LHWs in vaccination programmes remains poor.

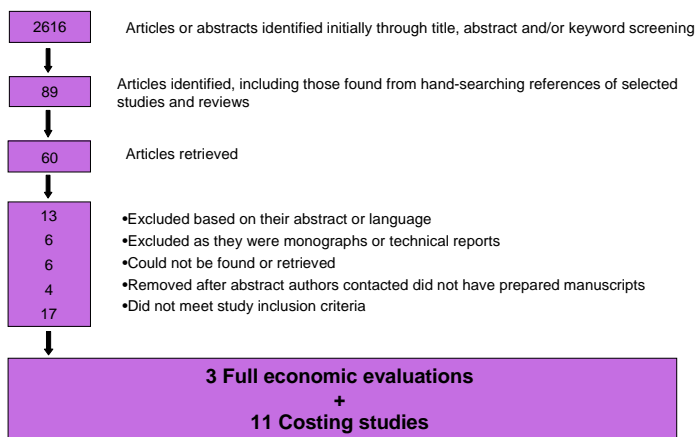
The overall aim of this paper was to review the costs and cost-effectiveness of vaccination programme interventions involving LHWs. This paper sought to:

1. Identify studies which evaluate the costs and cost-effectiveness of vaccination programme interventions involving LHWs;
2. Summarize included studies narratively and evaluate them according to a methodological quality checklist;
3. Identify factors, such as affordability and sustainability, that may contribute to the costs and cost-effectiveness of LHWs and vaccine interventions, and in particular examine how theories of institutional economics can contribute to understanding the costs and cost-effectiveness of LHW programmes.

Methods

- We conducted a systematic literature review on the cost and cost-effectiveness of involving lay health workers in immunisation programmes.
- Articles were retrieved if the title, keywords or abstract included a combination of two or more terms related to health workers, economics or vaccination.
- Reference lists of studies assessed for inclusion were also searched and attempts were made to contact authors of all studies included in the Cochrane review.
- Studies were included after screening of the full-text article and selected articles were reviewed against a set of background and technical characteristics.

QUORUM Flowchart



Background Characteristics of the Full Economic Evaluations

	Deuson et al. (2001)	San Sebastian et al. (2001)	Weaver et al. (2001)
Area studied	Philadelphia, USA	Low-Napo area in Napo province, covering 300km of the Napo river	Seattle, USA
Timing of the study	October 1994 – February 1996	1993 - 1995	October– November 1996
Type of intervention	Promotion prior to a catch-up campaign	Campaign	Promotion
Type of LHW / role of LHW	Staff of community-based organisation	CHWs	Senior volunteers, i.e. older people
Comparator(s)	(Implicitly) Doing nothing	Centrally planned strategy (District Hospital strategy) of immunizing children <1 year	(Implicitly) Doing nothing
Study type	CEA & CUA	CEA	CEA
Vaccines delivered	Hepatitis B	Routine childhood vaccines	Pneumococcal and influenza vaccines
Age group(s) targeted	2-13 year-olds	0-5 years-old	65 years +
Perspectiv(e)s	Societal	Societal	Societal
\$ per child vaccinated	Costs per child, per dose, and per completed series were \$64, \$119, and \$537, respectively	\$32 per FVC	Not stated
CE results	The cost per discounted year of life saved was \$11,525 and the benefit-cost ratio was 4.44:1	CHW intervention dominated the District Hospital comparison	The ratio of the intervention as implemented was \$35,486 / QALY for the combined outreach initiative, whereas it was \$53,547 / QALY for the pneumococcal vaccine and \$130,908 / QALY for the influenza vaccine. For seniors who had never received a vaccine, the cost-effectiveness ratios were \$11,771 / QALY for the combined outreach initiative, \$38,030 / QALY for the pneumococcal vaccine, and \$22,431 / QALY for the influenza vaccine
Funded by	CDC	Medicus Mundi Andaluacia, Spain	CDC

Discussion

Methodologically, the studies were strong but for ignoring affordability and sustainability and being highly heterogeneous in terms of settings and LHW outcomes, limiting their comparability. There were insufficient data to allow any conclusions to be drawn regarding the cost-effectiveness of LHW interventions to promote vaccination uptake. Studies focused largely on health outcomes and illustrated to some extent how the institutional characteristics of communities, such as governance and sources of financial support, influence sustainability.

There exist enormous gaps in our knowledge due to this limited evidence base. We saw highly disparate uses of lay health workers in a range of settings, and that issues of sustainability also relate to the institutional characteristics of a community. It has been argued elsewhere that conventional economic evaluations, particularly cost-effectiveness analysis, focus too narrowly on health outcomes, and are ill-equipped to deal with institutional change.

Conclusion

The included studies suggest that conventional economic evaluations, particularly cost-effectiveness analyses, generally focus too narrowly on health outcomes, especially in the context of vaccination promotion and delivery at the primary health care level by LHWs. We recommend that further studies on the costs and cost-effectiveness of vaccination programmes involving LHWs should be conducted, and these studies should adopt a broader and more holistic approach, incorporating elements of institutional economics.



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