

Increasing Appropriate Vaccination: Provider Education When Used Alone (2010 Archived Review)

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Review Summary

Intervention Definition

Provider education when used alone involves giving information regarding vaccinations to providers to increase their knowledge or change their attitudes. Techniques by which information is delivered can include:

- Written materials
- Videos
- Lectures
- Continuing medical education programs
- Computer-assisted instruction
- Distance-based training with access to the educator using the internet or satellite

Summary of Task Force Recommendations and Findings

The Community Preventive Services Task Force finds insufficient evidence to determine the effectiveness of provider education interventions when implemented alone in improving vaccination rates or in reducing vaccine-preventable illness. Evidence is considered insufficient because the five identified studies observed changes in vaccination rates that were both small in magnitude and inconsistent.

Results from the Systematic Review

The Task Force finding is based on evidence from a Community Guide systematic review published in 2000 (search period 1980-1997) combined with more recent evidence (search period 1997-2009). The systematic review was conducted on behalf of the Task Force by a team of specialists in systematic review methods, and in research, practice, and policy related to increasing appropriate vaccination.

Five studies with six study arms qualified for the review (two from the previous review and three from the more recent search). Across the studies, results were inconsistent.

- Median increase in vaccination rates: 2.9 percentage points (Interquartile Interval [IQI]: -4.7 to +10.3 percentage points; 4 studies)
- Provider education was less effective than standing orders and provider reminders (1 study).

Economic Evidence

An economic review of this intervention was not conducted because the Task Force found insufficient evidence to determine its effectiveness.

Task Force Finding and Rationale Statement

Intervention Definition

Provider education when used alone involves giving information regarding vaccinations to providers to increase their knowledge or change their attitudes. Techniques by which information is delivered can include written materials, videos, lectures, continuing medical education programs, computer-assisted instruction, and distance-based training with access to the educator using the internet or satellite.

Task Force Finding (March 2010)

The Community Preventive Services Task Force finds insufficient evidence to determine the effectiveness of provider education interventions when implemented alone in improving vaccination rates or in reducing vaccine-preventable illness. Evidence is considered insufficient because the five identified studies observed changes in vaccination rates that were both small in magnitude and inconsistent.

Rationale

In 1997, the Task Force found insufficient evidence to determine the effectiveness of provider education when used alone in increasing vaccination rates. Based on the results of this systematic review update, completed in 2010, the Task Force finding remains unchanged. Despite the common and continued use of educational efforts directed at providers, there remains a paucity of published studies regarding effectiveness. Furthermore, evidence suggests that provider education when used alone does not lead to increases in vaccination rates among clients.

The Task Force review identified only five studies providing six measurements of change in vaccination rates. Overall, the median absolute increase in vaccination rates was only 2.9 percentage points (range of values: -4.7 to +10.3 percentage points), and the individual study arm results were inconsistent across the small body of evidence.

There were no studies examining more recent and potentially innovative approaches to provider education such as distance-based training. These approaches might increase opportunities for vaccination providers to both share and learn from the experiences of peers and experts in the field. While distance-based education may provide an avenue for future implementation research, the Task Force is increasingly skeptical that reliance on the education of providers will translate into improvements in vaccination rates among clients.

One potential area for continued intervention research noted by the Task Force is education of vaccination providers regarding new vaccines and expanded recommendations for specific vaccinations. Given the rapid pace of changes in Advisory Committee on Immunization Practices (ACIP)-recommended vaccines and vaccination schedules over the last decade, the effectiveness of provider education in increasing or improving the implementation of new recommendations remains unclear and may warrant further intervention research.

The Task Force identified, but did not consider in this review, the emerging body of evidence regarding education of vaccination providers in the process of quality improvement. The Task Force did not examine this evidence here because education about quality improvement was considered to be distinct from education about vaccines and vaccinations, and thus worthy of a separate review. Secondly, implementation of the quality improvement approach typically results in the adoption of additional interventions to increase vaccination rates, and this evidence will be considered by the Task Force in their upcoming updated review of health systems-based interventions implemented in combination.

The Task Force identified no specific evidence on harms of provider education interventions and no significant barriers to the use of these interventions.

Disclaimer

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

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