The Guide to Community Preventive Services
THE COMMUNITY GUIDE
What Works to Promote Health

Increasing Appropriate Vaccination: Home Visits to Increase Vaccination Rates (2009 Archived Review)

Table of Contents

Review Summary 2

- Intervention Definition 2
- Summary of Task Force Recommendations and Findings 2
- Results from the Systematic Review 2
- Economic Evidence 3

Task Force Finding and Rationale Statement 4

- Intervention Definition 4
- Task Force Finding 4
- Rationale 4
- Disclaimer 5

Review Summary

Intervention Definition

Home visits intended to increase vaccination rates:

- Provide vaccinations to clients in their homes, or
- Promote recommended vaccinations with referral to available immunization services

Home visits may be conducted by either vaccination providers, such as nurses, or by other providers, such as social workers. Visits generally include an assessment of client vaccination status and a brief discussion of the importance of the indicated immunizations.

The intervention may be directed to:

- All clients in a designated population, such as low-income single mothers, or
- Only those clients who have been unresponsive to previous intervention efforts, such as client reminder and recall systems

Home visits may be the primary or sole intervention or one component of a larger healthcare system or community-based program to increase vaccination rates.

Summary of Task Force Recommendations and Findings

The Community Preventive Services Task Force recommends home visits based on strong evidence of their effectiveness in increasing vaccination rates.

However, the Task Force also notes that home visits can be resource-intensive and costly relative to other options for increasing vaccination rates. Evidence on effectiveness was considered strong based on a body of evidence that included studies of home visits delivered to all clients or only to those unresponsive to other interventions, home visits focused on vaccination alone or in combination with other health concerns, and home visits that provided vaccinations on-site or referred clients to vaccination services outside the home.

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. This finding updates and replaces the previous Task Force finding on Home Visits to Increase Vaccination Rates (read the evidence review and Task Force finding in our library).

Nineteen studies qualified for the review (seven from the previous review and twelve from the more recent search).

- Median increase in vaccination rates overall: 10 percentage points (interquartile interval [IQI]: 3 to 17 percentage points; 17 studies, 18 study arms).
- Improvements were observed in home visits delivered universally (12 study arms) and to clients who were unresponsive to previous intervention efforts (6 study arms).
- Home visits led to a change in vaccination rates whether they were delivered as the sole intervention or as part of a larger healthcare system or community-based program.

Economic Evidence

This economic review includes four studies from the previous review and 5 from the updated review. Monetary values are reported in 2009 U.S. dollars.

- Home visits tend to be resource intensive partly because multiple contacts and visits to the home may be necessary for a successful vaccination.
- Two studies from the previous review reported cost per additional up-to-date vaccination ranged from $513 to over $13,000.
    - Greater expenses were attributed to high start-up costs and intense evaluations of each client's well-child and immunization status.
- Four studies from the updated review provided estimates of cost per person with a median of $51.96 (IQI: $37.98 to $72.88), and cost per up-to-date vaccination with a median of $1022.78 (IQI: $472.34 to $1420.68).
- One study from the updated review modeled the cost-effectiveness of hepatitis B vaccination in a high-risk population, and estimated incremental cost per QALY of $6808 to $81,838 under best and worst case assumptions.

Task Force Finding and Rationale Statement

Intervention Definition

Home visits intended to increase vaccination rates provide vaccinations to clients in their homes or promote recommended vaccinations with referral to available immunization services. Home visits may be conducted by either vaccination providers, such as nurses, or by other providers, such as social workers. Visits generally include an assessment of client vaccination status and a brief discussion of the importance of the indicated immunizations. The intervention may be directed to all clients in a designated population, such as low-income single mothers, or to only those clients who have been unresponsive to previous intervention efforts, such as client reminder and recall systems. Home visits may be the primary or sole intervention or one component of a larger healthcare system or community-based program to increase vaccination rates.

Task Force Finding (March 2009)

The Community Preventive Services Task Force recommends home visits based on strong evidence of their effectiveness in increasing vaccination rates. However, the Task Force also notes that home visits can be resource-intensive and costly relative to other options for increasing vaccination rates. Evidence on effectiveness was considered strong based on a body of evidence that included studies of home visits delivered to all clients or only to those unresponsive to other interventions, home visits focused on vaccination alone or in combination with other health concerns, and home visits that provided vaccinations on-site or referred clients to vaccination services outside the home.

Rationale

The Task Force finds strong evidence on the effectiveness of home visits to increase vaccination rates, based on their updated systematic review (search period 1980-2009). The Task Force notes that home visiting interventions are potentially effective in addressing a wide range of public health problems and that the focus of this review is the subset of interventions specifically addressing vaccination rates.

The Task Force considered evidence from 19 studies of home visits, with 17 studies and 18 study arms using a common measure of change in vaccination rates. The overall effect was a median absolute change of 10 percentage points, with an interquartile interval (IQI) of 3 to 17 percentage points. Meaningful improvements were observed in home visits delivered to all clients (12 study arms, hereafter referred to as “studies”) and to only those clients unresponsive to other interventions (6 studies), home visits focused on vaccination alone (9 studies) and in combination with other health concerns (9 studies), and home visits providing on-site vaccinations (7 studies) and referring clients to vaccination services outside the home (11 studies). Home visits delivered as the sole intervention (7 studies) and home visits delivered as part of a larger healthcare system or community-based program (11 studies) produced meaningful change in vaccination rates.

An additional benefit of the intervention identified in this body of evidence is the opportunity during home visits to assess previously undetected health risks or medical problems. Although no specific evidence of harms was identified in the included studies, potential harms described in the larger literature include threats to the safety of home visitors in some settings, difficulties in managing clients with adverse reactions to vaccinations, and stigmatization of socially or economically disadvantaged clients identified as needing special services.

The findings from the economic review indicate that home visits are resource-intensive and high-cost interventions relative to other available options to increase vaccination rates. These findings are based on 9 studies (2 UK, 1 Australia, and 6 US), which report cost per child ranging from $29.65 to $7,051 (adjusted to 2007 dollars). Cost per additional fully-vaccinated child ranged from $219 to $2,478 (2007 dollars) based on 5 studies.

Effectiveness studies were conducted primarily in urban settings (12 studies) and in lower SES populations (6 of the 11 studies reporting SES). Increases in rates were comparable for home visits directed at children (14 studies) and adults (5 studies), as well as for influenza (5 studies) and childhood vaccinations (13 studies).

The Task Force calls for more research on implementation and on both the effectiveness and cost-effectiveness of home visits to increase vaccination rates in adolescents and in rural settings. Additional economic research is needed to estimate the portion of home visits that can be attributed solely to improving vaccination rates when home visits include other activities and objectives.

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.

Document last updated March 1, 2016