

Evidence-Based Strategies to Increase Adult Vaccination Rates

Recommendations of the Task Force on Community Preventive Services

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The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control & Prevention.

Presentation Outline

- **Task Force on Community Preventive Services Recommendations**
 - As of October 2011
 - Presented by intervention type
 - Summary table
 - One slide per recommended intervention
- **Priority strategies to increase coverage**
 - Evidence from recent studies

TASK FORCE ON COMMUNITY PREVENTIVE SERVICES RECOMMENDATIONS

<http://www.thecommunityguide.org/vaccines/index.html>

Categories of Task Force Recommendations

- **Recommended**
 - Strong or sufficient evidence that intervention is effective
 - “Strong” and “sufficient” indicate confidence in evidence, not magnitude of expected benefits
- **Recommended against**
 - Strong or sufficient evidence that intervention is harmful or not effective
- **Insufficient evidence**
 - Available studies do not provide sufficient evidence to determine whether intervention is effective or not
 - Does not mean that intervention does not work

<http://www.thecommunityguide.org/about/methods.html>

Group 1: Strategies to Enhance Access to Vaccines

Intervention	Status of Task Force Review
Home visits to increase vaccinations	Recommended
Reducing client out-of-pocket costs for vaccinations	Recommended
Expanded access in healthcare settings when used alone	Insufficient evidence

<http://www.thecommunityguide.org/vaccines/universally/index.html>

Strategy: Home Visits to Increase Vaccinations

- Can be used alone or as part of a multicomponent intervention
- Includes providing vaccinations in home or promoting vaccination with referral to available immunization services
 - May be conducted by vaccination providers or other providers (e.g. social workers)
 - May include assessment of vaccination status & brief discussion of importance of vaccination

Strategy: Reducing Client Out-of-Pocket Costs for Vaccinations

- **Effective in a range of populations, settings, and scales (individual up to state level)**
 - Alone or as part of a multicomponent intervention
- **Includes:**
 - Paying for vaccines or administration
 - Providing insurance coverage
 - Reducing co-payments at point of service

Group 2: Strategies to Increase Community Demand for Vaccines

Intervention	Status of Task Force Review
Client or family incentive rewards	Recommended
Client reminder/recall systems	Recommended
Client-held paper immunization records	Insufficient evidence
Clinic-based client education when used alone	Insufficient evidence
Community-wide education when used alone	Insufficient evidence
Monetary sanctions	Insufficient evidence

Strategy: Client or Family Incentive Rewards

- **Can be used alone or as part of a multicomponent intervention**
- **Includes:**
 - Monetary or non-monetary awards: e.g. food vouchers, gift cards, lottery prizes
 - For keeping an appointment, getting a vaccination, returning for a series dose, or producing documentation of vaccination status

Strategy: Client Reminder/Recall

- **Effective in a range of populations, settings, and scales (individual up to state level)**
 - Alone or as part of a multicomponent intervention
- **Includes:**
 - Reminders (vaccine due) or recalls (vaccine late) for target population
 - Varying content: most involve specific notification for specific client & may include educational message
 - Delivered via telephone, letter, postcard, etc.

Group 3: Healthcare Provider- or System-Based Strategies

Intervention	Status of Task Force Review
Health care-based interventions when implemented in combination	Recommended
Provider reminder systems	Recommended
Provider assessment and feedback	Recommended
Standing orders when used alone	Recommended
Provider education when used alone	Insufficient evidence
Immunization information systems	Recommended
Community-based interventions when implemented in combination	Recommended

Strategy: Healthcare System-Based Interventions in Combination

- **Task Force recommends combination of:**
 - One intervention to increase client demand
 - Client reminder/recall, clinic-based education, manual outreach & tracking
 - One or more interventions for enhanced vaccine access, provider/system-directed interventions, or both
 - Expanded access in healthcare settings, reduced out-of-pocket costs, home visits
 - Provider reminders, provider assessment & feedback, standing orders

Strategy: Provider Reminder Systems

- **Effective in a range of populations, settings, and scales (individual up to state level)**
 - Alone or as part of a multicomponent intervention
 - Across a range of delivery methods
- **Includes:**
 - Reminder to vaccination provider that an individual client is due for specific vaccinations
 - Variable delivery methods e.g. pre-printed notes in client charts, reminders in electronic medical records, or mailed letters

Strategy: Provider Assessment and Feedback

- **Effective in a range of populations, settings, and scales (individual up to state level)**
 - Alone or as part of a multicomponent intervention
- **Includes:**
 - Retrospectively evaluating performance of vaccination providers and giving feedback
 - Can include incentives or benchmarking

Strategy: Standing Orders

- **Effective in a range of populations, settings, and scales (individual up to state level)**
 - Alone or as part of a multicomponent intervention
- **Includes:**
 - Protocol enabling assessment of vaccination status and vaccine administration w/o direct physician order
 - Can include one or more specific vaccines
 - State laws vary as to which non-physician providers may administer vaccines under standing orders

Strategy: Immunization Information Systems

- **Can be used at the clinic level or population level**
- **Majority of U.S. registries have lifespan capabilities**
- **Effectiveness depends on completeness, which varies by state/local area**
- **Capabilities include:**
 - Support reminder/recall for clients or providers
 - Generate & evaluate public health response to outbreaks
 - Facilitate vaccine management and accountability
 - Determine client vaccination status
 - Surveillance of vaccination rates, missed opportunities, etc.

Strategy: Community-Based Interventions in Combination

- **Activities coordinated in a community to increase vaccination rates in a targeted population**
 - Focus on increasing community demand & enhancing access. May include provider-based interventions.

- **May include:**
 - Client reminder/recall
 - Manual outreach and tracking of clients
 - Educational activities
 - Mass and small media
 - Expanded access to vaccination services

Worksite Interventions to Promote Seasonal Influenza Vaccinations among Healthcare Personnel (HCP)

Intervention	Status of Task Force Review
Interventions with on-site, free, actively promoted vaccinations	Recommended
Interventions with actively promoted, off-site vaccinations	Insufficient Evidence

Strategy: Interventions with on-site, free, actively promoted vaccinations

- **Can be implemented alone or as part of a multicomponent intervention**
 - Multicomponent interventions included policy changes, providing information/education, etc.

- **Influenza vaccines are:**
 - Provided at facility where HCP normally work
 - Provided at no cost to workers
 - Formally announced via newsletters, e-mails, or paycheck inserts

Worksite Interventions to Promote Seasonal Influenza Vaccinations among Non-HCP

Intervention	Status of Task Force Review
Interventions with on-site, reduced-cost, actively promoted vaccinations	Recommended
Interventions with actively promoted, off-site vaccinations	Insufficient Evidence

Strategy: Interventions with on-site, reduced-cost, actively promoted vaccine

- **Can be used alone or as part of a multicomponent intervention**
 - Multicomponent interventions included health education, mobile carts, etc.
- **Influenza vaccines are:**
 - Provided at facility where recipients normally work
 - Provided at reduced cost to workers
 - Formally announced via newsletters, e-mails, or paycheck inserts

Limitations & Points to Consider

- **Many studies were specific to influenza vaccination, although interventions should be applicable to other recommended adult vaccines**
- **Some studies were conducted only among older adults, i.e. persons ≥ 65 years old**
- **Certain interventions may be resource-intensive and should only be used when there is demonstrated need and available resources**

PRIORITY STRATEGIES TO INCREASE COVERAGE

Characteristics of Priority Strategies

- **Robust evidence of effectiveness**
- **Substantial potential impact**
- **Less resource-intensive**
- **Sustainable**

Meta-Analysis of Interventions to Increase Use of Adult Immunization

Intervention	Odds Ratio*
Organizational change (e.g., standing orders, separate clinics devoted to prevention)	16.0
Provider reminder	3.8
Patient financial incentive	3.4
Provider education	3.2
Patient reminder	2.5
Patient education	1.3

Potential Impact of Strategies to Increase Adult Vaccination Coverage

Intervention	Population	Median increase
Immunization information systems	Adults	*
Client reminder/recall systems	Adults	6.1-12 percentage pts.
Health care-based interventions in combination	Adults	8 percentage pts.
Client or family incentive rewards	Adults	8.5 percentage pts.
Provider assessment and feedback	Adults	9-16 percentage pts.
Home visits	Adults	10 percentage pts.
Provider reminder systems	Adults	10-16 percentage pts.
Community-based interventions in combination	Adults	15 percentage pts.
Reducing client out-of-pocket costs	Adults	15-22 percentage pts.
Worksite: on-site, reduced-cost, actively promoted influenza vaccine	Adults, HCP	21 percentage pts.
Standing orders when used alone	Adults	27-28 percentage pts.

Provider Reminders

- **In an RCT of older adults served by urban primary care centers, eligible seniors seen in practices using provider chart reminders and patient recall/outreach were more likely to receive influenza vaccination (64% vs. 22%)¹**
 - Effective in patients of all races but did not eliminate disparities

- **In one clinic, including a prompt to discuss influenza vaccination in the electronic medical records of pregnant women increased coverage²**
 - 61% of women vaccinated versus 42% the previous season
 - 90% of patients discussed influenza vaccine with provider

1. Humiston et al. Increasing inner-city adult influenza vaccination rates: a randomized controlled trial. Public Health Rep. 2011.
2. Klatt & Hopp. Effect of a best-practice alert on the rate of influenza vaccination of pregnant women. Obstet Gynecol. 2012.

Standing Orders

- **Use of a clinical decision support tool in an integrated urban healthcare system increased pneumococcal vaccination among adults ≥65 years and high-risk adults 18-64 years.¹**
 - Searched ICD-9 codes in billing data and vaccination history to generate provider alerts, which also served as standing orders for certain non-physician providers

- **Use of nurse standing orders to support an opt-out vaccination policy at a low-income urban family medicine center significantly increased influenza vaccination (to 49% from 36% the prior season).**
 - Worked across gender, race/ethnicity, age, high-risk status

1. Swenson et al. Using information technology to improve adult immunization delivery in an integrated urban health system. Jt Comm J Qual Patient Saf. 2012.
2. Logue et al. An opt-out influenza vaccination policy improves immunization rates in primary care. J Hlth Care Pr Undrsrvd. 2011.

Standing Orders

Home Clinical Scenarios Presentations Pics of Diseases

Shots Pertussis Cough DTP Supplement ACIP Reports

Standing Orders Protocols
for Adult Immunizations
Toolkit

Toolkit Manual

Manual

Toolkit Presentation (pdf)

Links Related to SOP

Toolkit Presentation with Voice

<http://www.immunization.org/standingorders/>

Provider Recommendation

Influenza vaccination of pregnant women, November 2011	
	Coverage (%)
Recommendation & offer	75.0%
Recommendation only	37.5%
Neither	10.1%

- Women who reported that a provider recommended and offered influenza vaccine were twice as likely to be vaccinated as women who received a recommendation but no offer.
- Women who reported a provider recommendation for vaccination but no offer of vaccine were nearly four times as likely to be vaccinated as women who did not receive a recommendation.

<http://www.cdc.gov/flu/professionals/vaccination/pregnant-women.htm>

Questions?

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