Vaccinations are recommended throughout life to prevent infectious diseases and the long-term health problems they may cause. The good news is most vaccine-preventable diseases are at or near record lows. The not so good news is even though most infants and toddlers have received all recommended vaccines by 2 years old, many children, adolescents, and adults remain, under-immunized, leaving the potential for disease outbreaks.¹-³ This fact sheet provides proven intervention strategies—including programs and services—for improving vaccination rates in the general population and in people at higher risk for certain diseases. It can help decision makers in both public and private sectors make choices about what intervention strategies are best for their communities.

This fact sheet summarizes information in The Guide to Community Preventive Services (The Community Guide), an evidence-based resource of what works in public health. Use this fact information to select intervention strategies you can adapt for your community to:

- Improve access to vaccinations.
- Increase community demand for vaccinations.
- Encourage providers and health care systems to regularly administer vaccinations.

The Community Guide provides evidence-based findings and recommendations from the Community Preventive Services Task Force (CPSTF) about community preventive services and programs to improve health. The CPSTF—an independent, nonfederal panel of public health and prevention experts—bases its findings on systematic reviews of the scientific literature. Learn more about The Community Guide and what works to get more people vaccinated by visiting www.thecommunityguide.org/topic/vaccination.
**WHAT WORKS** Increasing Appropriate Vaccination

**THE PUBLIC HEALTH CHALLENGE**

Under-vaccination in communities leaves vulnerable populations

Since 2010, flu-related hospital stays for children under the age of 5 years have ranged from 6,000 to 26,000 in the United States each year.²

HPV vaccination coverage, as of 2016, shows 60% of adolescents 13-17 years old have started the HPV series. Each year in the U.S., an estimated 31,500 newly-diagnosed cancers in men and women are associated with HPV.³

An estimated 850,000 to 2.2 million people in the U.S. have chronic hepatitis B.⁵

Thousands of people die from flu-related causes every year; between 71% and 85% of them are age 65 or older.⁴

Vaccines have proven track records of protection

Vaccine-preventable diseases remain at low levels in the United States due to the use of vaccines. Only two cases of diphtheria were reported between 2004 and 2014, and 15 cases of rubella were reported between 2012 and 2014.⁶

Mumps and measles cases have decreased more than 99% since starting vaccination programs against these diseases in the 1960s.⁷

Acute hepatitis B rates have dropped more than 80% since the early 1990s, when routine vaccinations began.⁸

Chickenpox (varicella) cases have declined 90% since a vaccine became available in 1995. Both hospitalizations and deaths related to the disease are down more than 80%.³

Acute Hep B

Flu vaccines vary in how well they work. Some recent studies show that they can protect about 40 to 60% of people who get them. Effectiveness depends on the person’s age, health status, and how well the vaccine matches circulating viruses.¹⁰

For more information on vaccinations and the diseases they can prevent, see www.cdc.gov/vaccines.
SUMMARIZING THE FINDINGS ON INCREASING APPROPRIATE VACCINATION

All CPSTF findings and recommendations on improving vaccination rates are available online at www.thecommunityguide.org/topic/vaccination. Some of the interventions recommended by the CPSTF to increase universally recommended vaccinations for all people in specific age groups are provided below by general strategy. There is strong evidence that combining different intervention strategies in communities can increase targeted vaccination rates for hepatitis B, influenza, and pneumococcal disease in at-risk populations.

- **Enhancing access to services.** Interventions that make it easier for people to get vaccinated can increase rates. Interventions that have proven successful include the following:
  - Reducing out-of-pocket costs by paying for vaccinations, providing insurance coverage, or reducing copayments.
  - Providing vaccinations in schools and organized child care centers.
  - Coordinated vaccination interventions in Special Supplemental Nutrition Program for Women, Infants and Children (WIC) settings, where assessment of children’s immunization status and referral to a vaccination provider was combined with additional interventions or provision of vaccinations on-site.
  - Home visits can also increase vaccination rates, but may be expensive and labor-intensive.

- **Increasing Community Demand.** Programs and systems that encourage people to get vaccinated can increase coverage.
  - Notifying people when they are due or late for a vaccination can remind them to follow through. These reminders and recalls can work in a range of settings, from individual health care centers to entire communities.
  - Providing people with incentives such as food vouchers, gift cards, and other prizes for keeping up with their vaccinations can also boost rates.
  - Laws and policies that require vaccinations as a prerequisite for attending child care, school, or college can increase coverage and reduce vaccine-preventable diseases in the community.

- **Using provider- or system-based interventions.** Putting systems, tools, or protocols in place in healthcare settings can improve vaccination rates. These may be particularly effective when combined with other vaccination interventions. Strong evidence supports the following healthcare-based interventions:
  - Establishing computerized immunization information systems for tracking vaccinations.
  - Evaluating providers’ vaccination records and giving feedback on their performance.
  - Using chart notes, computerized alerts, checklists, or other tools to remind providers when patients are due for vaccinations.
  - Establishing standing orders or policies that allow non-physician personnel to administer vaccines.

- **Combining interventions at the community level.** A coordinated approach that combines interventions that enhance access to services, increase community demand, or support providers can increase vaccination rates in a community. For example, combining community-wide education with client incentives can be particularly effective for promoting vaccinations in targeted populations, like children under 2 or older adults.

PUTTING THE CPSTF FINDINGS TO WORK

As a public health decision maker, practitioner, community leader, or someone who can influence the health of your community, you can use The Community Guide to create a blueprint for success.

- Identify your community’s needs. Review the intervention strategies recommended by the CPSTF and determine which ones best match your needs. Adopt, adapt, or develop evidence-based programs and services that aim to increase vaccination rates.

- See how other communities have applied the CPSTF recommendations and other intervention strategies for improving vaccination rates at www.thecommunityguide.org/content/the-community-guide-in-action. Get ideas from their success stories.

- Review CDC’s resources on reminder systems and strategies for increasing vaccination rates at www.cdc.gov/vaccines/recs/reminder-sys.htm. Use them to find recommendations and guidelines for implementing an effective vaccination program.

Reaching Immunization Targets in Duval County, Florida

Many infants and toddlers do not get their recommended vaccines by age 2, leaving them and their communities at increased risk for disease outbreaks. Before 2009, the percentage of 2-year-olds in Duval County, Florida with complete vaccination records fell consistently below the national target. Rates were particularly low in the urban center of Jacksonville. To increase vaccination rates, the Duval County Health Department implemented a quality improvement strategy combining several recommendations found in The Community Guide. Within a year, their plan—which included healthcare system-based and community-based interventions—brought the county's vaccination rates up to the national target.

An Evidence-based Approach to Montana’s Health Landscape

The Montana Department of Public Health and Human Services (DPHHS) turns to The Community Guide as a primary resource for program planning, funding applications, and partner collaboration. They have used CPSTF findings and recommendations to develop programs aimed at increasing vaccinations, reducing tobacco use, and controlling asthma. To increase vaccinations for people with diabetes, DPHHS worked with more than 40 primary practices across the state to carry out client reminder and recall systems, and provider reminders, as recommended in The Community Guide. As a result, DPHHS reported an increase of 6 percent in vaccination rates within the target population compared to pre-intervention rates during the pilot program.

Read more on these and other success stories in The Community Guide in Action series at www.thecommunityguide.org/content/the-community-guide-in-action

FOR MORE INFORMATION

The Community Guide: Vaccinations to Prevent Diseases
www.thecommunityguide.org/topic/vaccination

Vaccines and Immunizations, CDC
www.cdc.gov/ncird

Immunization Action Coalition
www.immunize.org

Advisory Committee on Immunization Practices (ACIP), CDC
www.cdc.gov/vaccines/hcp/acip-recs

REFERENCES


Last updated: November 2017
The Community Preventive Services Task Force (CPSTF) has released the following findings on what works in public health to improve vaccination rates. These findings are compiled in The Guide to Community Preventive Services (The Community Guide) and listed in the table below. Use the findings to identify intervention strategies you could use for your community.

Legend for CPSTF Findings:  
- **Recommended**  
- **Insufficient Evidence**  
- **Recommended Against**  

### CPSTF FINDINGS ON VACCINATIONS

The Community Preventive Services Task Force (CPSTF) has released the following findings on what works in public health to improve vaccination rates. These findings are compiled in The Guide to Community Preventive Services (The Community Guide) and listed in the table below. Use the findings to identify intervention strategies you could use for your community.

Legend for CPSTF Findings:
- **Recommended**
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<table>
<thead>
<tr>
<th>Intervention</th>
<th>CPSTF Finding</th>
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<tbody>
<tr>
<td><strong>Enhancing Access to Vaccination Services</strong></td>
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<td>Vaccination programs in WIC settings</td>
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<tr>
<td>Home visits to increase vaccination rates</td>
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<tr>
<td>Reducing client out-of-pocket costs</td>
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<td>Vaccination programs in schools &amp; organized child care centers</td>
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<tr>
<td>Expanded access in healthcare settings when used alone</td>
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<tr>
<td><strong>Increasing Community Demand for Vaccinations</strong></td>
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<td>Client or family incentive rewards</td>
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<td>Client reminder &amp; recall systems</td>
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<td>Vaccination requirements for child care, school, &amp; college attendance</td>
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<tr>
<td>Community-based interventions implemented in combination</td>
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<td>Community-wide education when used alone</td>
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<td>Monetary sanction policies</td>
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<td>Client-held paper immunization records</td>
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<td>Clinic-based education when used alone</td>
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<td><strong>Provider- or System-Based Interventions</strong></td>
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<td>Health care system-based interventions implemented in combination</td>
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<td>Standing orders when used alone</td>
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For more information on vaccination findings, visit The Community Guide website at [www.thecommunityguide.org/topic/vaccination](http://www.thecommunityguide.org/topic/vaccination). Other related resources include one pagers and Community Guide in Action stories.

*The Centers for Disease Control and Prevention provides administrative, scientific, and technical support for the Community Preventive Services Task Force.*
UNDERSTANDING THE FINDINGS

The CPSTF bases its findings and recommendations on systematic reviews of the scientific literature. With oversight from the CPSTF, scientists and subject matter experts from the Centers for Disease Control and Prevention conduct these reviews in collaboration with a wide range of government, academic, policy, and practice-based partners. Based on the strength of the evidence, the CPSTF assigns each intervention to one of the categories below.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Icon</th>
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<tbody>
<tr>
<td>Recommended</td>
<td>There is strong or sufficient evidence that the intervention strategy is effective. This finding is based on the number of studies, how well the studies were designed and carried out, and the consistency and strength of the results.</td>
<td><img src="green.png" alt="" /></td>
</tr>
<tr>
<td>Insufficient Evidence</td>
<td>There is not enough evidence to determine whether the intervention strategy is effective. This does not mean the intervention does not work. There is not enough research available or the results are too inconsistent to make a firm conclusion about the intervention strategy’s effectiveness. The CPSTF encourages those who use interventions with insufficient evidence to evaluate their efforts.</td>
<td><img src="yellow.png" alt="" /></td>
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<tr>
<td>Recommended Against</td>
<td>There is strong or sufficient evidence that the intervention strategy is harmful or not effective.</td>
<td><img src="red.png" alt="" /></td>
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EVALUATING THE EVIDENCE

- The CPSTF findings and recommendations for intervention strategies to improve vaccination rates are based on systematic reviews of the available evidence.

- The systematic reviews look at the results of research and evaluation studies published in peer-reviewed journals and other sources.

- Each systematic review looks at the intervention strategy’s effectiveness and how it works in different populations and settings.

- For each intervention strategy, a summary of the systematic review, included studies, evidence gaps, and journal publications can be found on the Vaccination section of the website at www.thecommunityguide.org/vaccination.

Visit the “Our Methodology” page on The Community Guide website at [www.thecommunityguide.org/about/our-methodology](http://www.thecommunityguide.org/about/our-methodology) for more information about the methods used to conduct the systematic reviews and the criteria the CPSTF uses to make findings and recommendations.