



# WHAT WORKS

## Increasing Appropriate Vaccination

*Evidence-Based Interventions for Your Community*



Vaccinations are recommended throughout life to prevent infectious diseases and the long-term health problems they may cause. The good news is vaccine-preventable diseases are at or near record lows. The not so good news is even though most infants and toddlers receive all recommended vaccines by age 2, many children remain under-immunized, leaving the potential for disease outbreaks.<sup>1-3</sup>

This brochure is designed to help public health program planners, community advocates, educators, and policymakers find proven interventions—including programs, services, and policies—for improving vaccination rates. It can help decision makers in both public and private sectors make choices about what intervention strategies are best for their communities. This brochure summarizes information in The Guide to Community Preventive Services (The Community Guide), an essential resource for people who want to know what works in public health.

Use the information in this brochure to help select intervention strategies you can adapt for your community to:

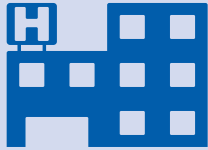
- Improve access to vaccinations.
- Increase community demand for vaccinations.
- Encourage providers and health care systems to regularly administer vaccinations.

The Community Guide provides evidence-based findings and recommendations from the Community Preventive Services Task Force (Task Force) about community preventive services, programs, and policies to improve health. Learn more about The Community Guide and what works to get more people vaccinated by visiting [www.thecommunityguide.org/vaccines](http://www.thecommunityguide.org/vaccines).

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

## THE PUBLIC HEALTH CHALLENGE

### Under-vaccination leaves communities vulnerable to disease



Each year, an average of **20,000 children** under the age of 5 is hospitalized for complications from **the flu**.<sup>4</sup>



Thousands of people will die from **the flu** every year; **90%** of them are age 65 or older.<sup>5</sup>



An estimated **800,000 to 1.4 million** people in the U.S. have **chronic hepatitis B**.<sup>6</sup>



**Human papillomavirus (HPV)** vaccination coverage is increasing, but slowly. As of 2011, only **53%** of adolescent girls have started the HPV series and only **35%** have received all three doses needed.<sup>7</sup>

### Vaccines have proven track records of protection



**Flu vaccines** vary in how well they work. Some recent studies show that they can **protect about 60%** of people who get them. Effectiveness depends on the person's age and health status, and how well the vaccine matches the type of virus circulating.<sup>8</sup>

#### Acute Hep B



**Acute hepatitis B** rates have **dropped more than 80%** since the early 1990s, when routine vaccinations began.<sup>9</sup>

#### Cases



#### Deaths



**Chicken pox** cases have **declined 90%** since a vaccine became available in 1995. Both hospitalizations and deaths related to the disease are **down more than 80%**.<sup>10</sup>

For more information on vaccinations and the diseases they can prevent, see [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines).

## EVALUATING THE EVIDENCE

- The Task Force 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 each intervention strategy's effectiveness and how it works in different populations and settings. If found effective, cost and return on investment are also reviewed when available.
- For each intervention strategy, a summary of the systematic review, evidence gaps, and journal publications can be found on the Increasing Appropriate Vaccination section of the website at [www.thecommunityguide.org/vaccines](http://www.thecommunityguide.org/vaccines).

### ▶ **Community Preventive Services Task Force**

The Guide to Community Preventive Services (The Community Guide) is an essential resource for people who want to know what works in public health. It provides evidence-based recommendations and findings about public health interventions and policies to improve health and promote safety. The Community Preventive Services Task Force (Task Force)—an independent, nonfederal, unpaid panel of public health and prevention experts—bases its findings and recommendations on systematic reviews of the scientific literature. With oversight from the Task Force, 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.

More information about how the Task Force conducts its reviews is available at [www.thecommunityguide.org/about/methods.html](http://www.thecommunityguide.org/about/methods.html).

## SUMMARIZING THE FINDINGS ON INCREASING APPROPRIATE VACCINATION

All Task Force findings and recommendations on improving vaccination rates are available online at [www.thecommunityguide.org/vaccines](http://www.thecommunityguide.org/vaccines). Some of the Task Force recommendations related to increasing vaccination coverage are below.

- ✓ **Enhancing access to services.** Interventions that make it easier for people to get vaccinated can increase the number of people vaccinated. 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 Women, Infants and Children (WIC) settings, where assessment of children's immunization status and referral to a vaccination provider is 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 healthcare centers to entire communities. Rewarding people with food vouchers, gift cards, and other prizes for keeping up with their immunizations 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 use of vaccines. These may be particularly effective when combined with other vaccination interventions. Strong evidence supports the following healthcare-based interventions:
  - Establishing computerized immunization tracking systems.
  - 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.

## PUTTING THE TASK FORCE 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 Task Force and determine which ones best match your needs. Adopt, adapt, or develop evidence-based programs, services, and policies that aim to increase vaccination rates in your community.
- ✓ See how other communities have applied the Task Force recommendations and other intervention strategies for improving vaccination rates at [www.thecommunityguide.org/CG-in-Action](http://www.thecommunityguide.org/CG-in-Action). Get ideas from their *Community Guide in Action* stories.
- ✓ Review **CDC's resources on reminder systems and strategies for increasing vaccination rates** at [www.cdc.gov/vaccines/recs/reminder-sys.htm](http://www.cdc.gov/vaccines/recs/reminder-sys.htm). Use them to find recommendations and guidelines for implementing an effective vaccination program.
- ✓ Consult **Partnership for Prevention** at [www.prevent.org/Topics/Immunization-Policy.aspx](http://www.prevent.org/Topics/Immunization-Policy.aspx) for information on immunization policy and suggestions for putting evidence-based recommendations into practice.



**FOR MORE INFORMATION**

**The Community Guide: Increasing Appropriate Vaccination**

[www.thecommunityguide.org/vaccines](http://www.thecommunityguide.org/vaccines)

**National Center for Immunization and Respiratory Diseases, CDC**

[www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)

**Immunization Action Coalition**

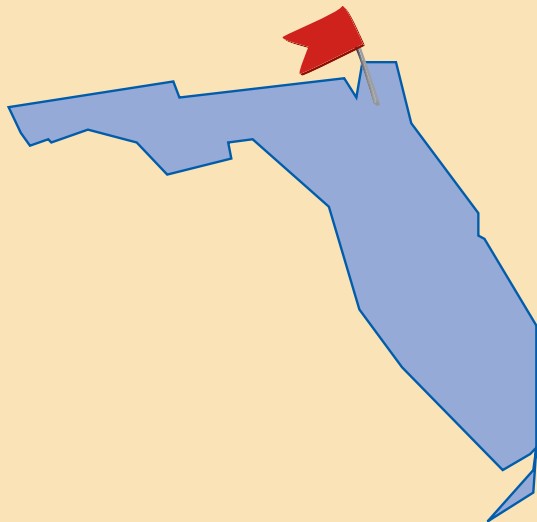
[www.immunize.org](http://www.immunize.org)

**Healthy People 2020 Interventions and Resources on Immunization and Infectious Diseases**

[www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=23](http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=23)



**THE COMMUNITY GUIDE IN ACTION**



**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. Read more on this and other stories in *The Community Guide in Action* series at [www.thecommunityguide.org/CG-in-Action](http://www.thecommunityguide.org/CG-in-Action).

**REFERENCES**

<sup>1</sup>Centers for Disease Control and Prevention. Adult vaccination coverage—United States, 2010. *Morbidity and Mortality Weekly Report* 2012;61:66-72.

<sup>2</sup>Centers for Disease Control and Prevention. National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months—United States, 2011. *Morbidity and Mortality Weekly Report* 2012;61(35):689–696.

<sup>3</sup>Centers for Disease Control and Prevention. National and State Vaccination Coverage Among Adolescents Aged 13–17 Years—United States, 2011. *Morbidity and Mortality Weekly Report* 2012;61(34):671–677.

<sup>4</sup>Thompson WW, Shay DK, Weintraub E, et al. Influenza-associated hospitalizations in the United States. *JAMA* 2004;292:1333–40.

<sup>5</sup>Centers for Disease Control and Prevention. Estimates of deaths associated with seasonal influenza—United States, 1976-2007. *Morbidity and Mortality Weekly Report* 2010;59(33):1057-1062.

<sup>6</sup>Centers for Disease Control and Prevention. Recommendations for identification and public health management of persons with chronic hepatitis B virus infection. *MMWR Recommendations and Reports* 2008;57(RR-8):1-20.

<sup>7</sup>Centers for Disease Control and Prevention. National and State Vaccination Coverage Among Adolescents Aged 13–17 Years—United States, 2011. *Morbidity and Mortality Weekly Report* 2012;61:671-677.

<sup>8</sup>Monto AS, Ohmit SE, Petrie JG, Johnson E, Truscon R, Teich E, et al. Comparative efficacy of inactivated and live attenuated influenza vaccines. *New England Journal of Medicine* 2009;361(13):1260-1267.

<sup>9</sup>Centers for Disease Control and Prevention. Viral Hepatitis Surveillance—United States, 2009. Available at [www.cdc.gov/hepatitis/Statistics/2009Surveillance](http://www.cdc.gov/hepatitis/Statistics/2009Surveillance).

<sup>10</sup>Guris D, Jumaan AO, Mascola L, et al. Changing varicella epidemiology in active surveillance sites—United States, 1995-2005. *Journal of Infectious Diseases* Mar 1 2008;197 Suppl 2:S71-75.





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### TASK FORCE FINDINGS ON VACCINES

The Community Preventive Services Task Force (Task Force) 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 and interventions you could use for your community.

**Legend for Task Force Findings:** Recommended Insufficient Evidence Recommended Against (See reverse for detailed descriptions.)




INTERVENTION	TASK FORCE FINDING
<b>Enhancing Access to Vaccination Services</b>	
Expanded access in healthcare settings when used alone	
Home visits to increase vaccination rates	
Reducing client out-of-pocket costs	
Vaccination programs in schools & organized child care centers	
Vaccination programs in WIC settings	
<b>Increasing Community Demand for Vaccinations</b>	
Client or family incentive rewards	
Client reminder & recall systems	
Client-held paper immunization records	
Clinic-based education when used alone	
Community-wide education when used alone	
Monetary sanction policies	
Vaccination requirements for child care, school, & college attendance	
Community-based interventions implemented in combination	
<b>Provider- or System-Based Interventions</b>	
Health care system-based interventions implemented in combination	
Immunization information systems	
Provider assessment & feedback	
Provider education when used alone	
Provider reminders	
Standing orders when used alone	

Visit the “Increasing Appropriate Vaccination” page of The Community Guide website at [www.thecommunityguide.org/vaccines](http://www.thecommunityguide.org/vaccines) to find summaries of Task Force findings and recommendations on improving vaccination rates. Click on each topic area to find results from the systematic reviews, included studies, evidence gaps, and journal publications.

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## UNDERSTANDING THE FINDINGS

The Task Force bases its findings and recommendations on systematic reviews of the scientific literature. With oversight from the Task Force, 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 Task Force assigns each intervention strategy to one of the categories below.

CATEGORY	DESCRIPTION	ICON
<b>Recommended</b>	There is strong or sufficient evidence that the intervention strategy is <b>effective</b> . 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.	
<b>Insufficient Evidence</b>	There is <b>not enough evidence</b> to determine whether the intervention strategy is effective. This does not mean the intervention strategy 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 Task Force encourages those who use interventions with insufficient evidence to evaluate their efforts.	
<b>Recommended Against</b>	There is strong or sufficient evidence that the intervention strategy is <b>harmful or not effective</b> .	

Visit the "Systematic Review Methods" page on The Community Guide website at [www.thecommunityguide.org/about/methods.html](http://www.thecommunityguide.org/about/methods.html) for more information about the methods used to conduct the systematic reviews and the criteria the Task Force uses to make findings and recommendations.

## RESOURCES

You can use the following resources to guide the implementation of evidence-based interventions and put the Task Force findings to work.

- The Community Guide in Action: Stories From the Field**  
*A Good Shot: Reaching Immunization Targets in Duval County*  
[www.thecommunityguide.org/CG-in-Action/Vaccinations-FL.pdf](http://www.thecommunityguide.org/CG-in-Action/Vaccinations-FL.pdf)
- Recommendations and Guidelines on Vaccines and Immunizations**  
 Centers for Disease Control and Prevention  
[www.cdc.gov/vaccines/recs](http://www.cdc.gov/vaccines/recs)
- Partnership for Prevention**  
[www.prevent.org/Topics/Immunization-Policy.aspx](http://www.prevent.org/Topics/Immunization-Policy.aspx)
- Healthy People 2020 Interventions and Resources on Immunization and Infectious Diseases**  
 U.S. Department of Health and Human Services  
[www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=23](http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=23)