Advisory Committee on Immunization Practices: Influenza Session

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Presentation Overview

- 2008-2009 influenza season surveillance
- Influenza vaccine coverage and effectiveness update – infants and toddlers
- Plans for monitoring antiviral resistance and vaccine effectiveness
- Adult vaccination recommendations
- Vaccination effectiveness among the elderly

Current Vaccinations for Adults Ages 19-49

- An estimated 50% already have an indication for annual vaccination
  - Women who will be pregnant during influenza season and their contacts
  - Persons who are contacts of
    - Children younger than 5 years old
    - Adults 50 and older
    - Children and adults with chronic medical conditions that confer higher risk of influenza complications
  - Healthcare workers

- Permissive recommendation for all: “Anyone who wants to be vaccinated”

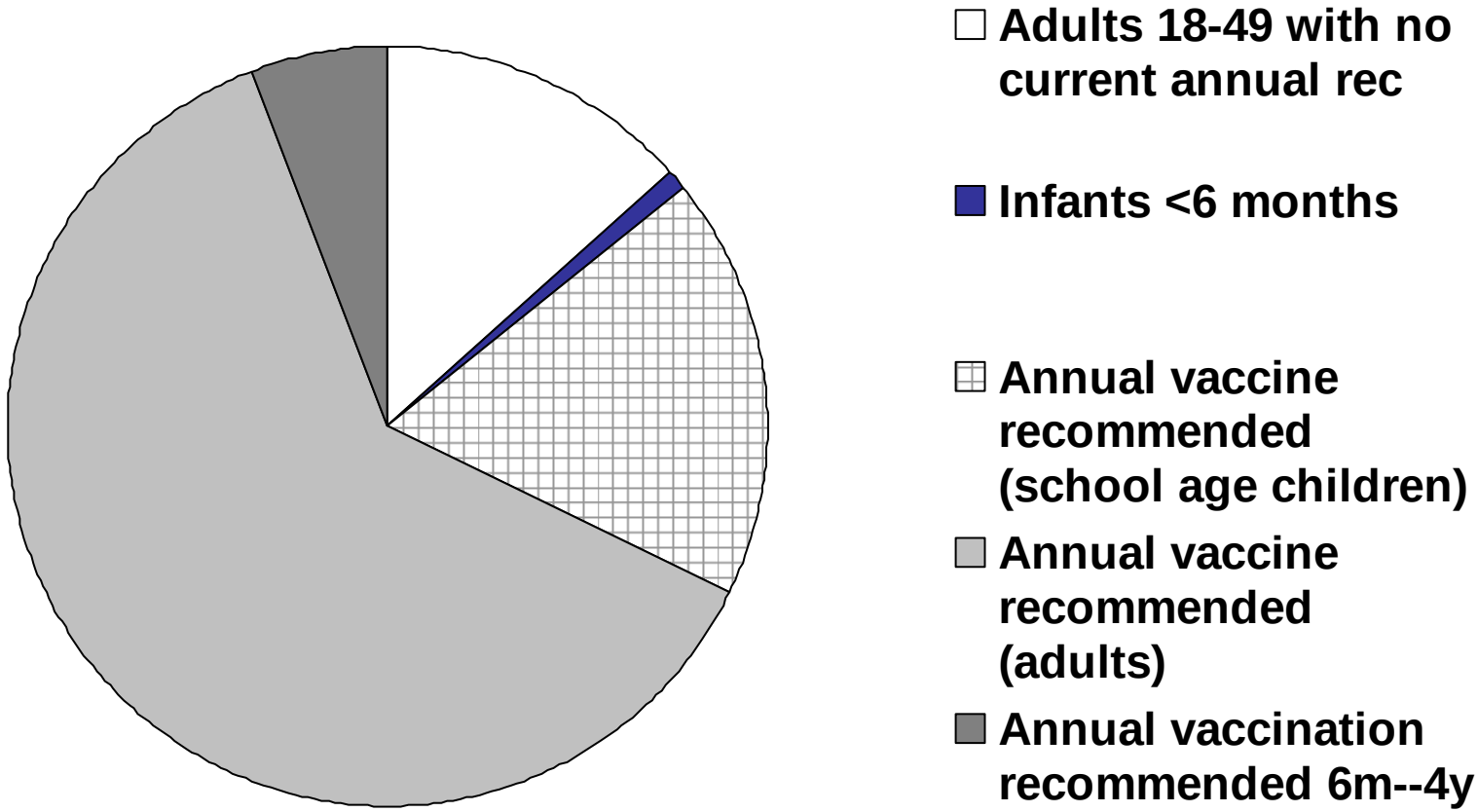
Critical factors: Expanding annual vaccination recommendations to include all healthy adults ages 19-49

- Vaccine supply
- Vaccine safety
- Vaccine effectiveness
- Disease burden
- Cost-effectiveness
- Feasibility
- Acceptability
- Implementation

Information needs that would inform decisions about adult vaccination

- Why do coverage rates among currently recommended adult groups (e.g., healthcare workers, pregnant women, contacts) remain low?
- Would more adults seek out vaccination if recommendation went from current permissive one to a universal one?
- What motivators might increase adult coverage?
- What are barriers to vaccinating in non-medical sites (e.g., workplace, retail settings)?
- What will happen with the expansion of the childhood recommendation (age 5-18), and how will we measure impact?

U.S. population groups by vaccination recommendation status



Current Discussions: Vaccination recommendations for healthy adults 19-49

- Continued support for routine vaccination of contacts of persons at risk for influenza complications, including healthy adult contacts of:
  - Persons 50 years old or older
  - Persons younger than 5 years old
  - Pregnant women
  - Persons with chronic medical conditions

- Continued support for permissive recommendation: any healthy adult who wants to be vaccinated should be vaccinated, and an ample supply of various vaccine formulations widely available (+/- preservative, nasal and injected vaccines)

- Continued support for innovative efforts to vaccinate adults in non-medical settings
  - No prescription
  - Clinics in community settings – retail, pharmacies, workplace
  - Public-private partnerships

Influenza Vaccine Effectiveness in the Elderly

Influenza Vaccine Effectiveness in the Elderly

- Recent publications with differing estimates of effectiveness of influenza vaccination for the elderly
- Outline working group deliberations to date and future plans

Observational Studies of Influenza Vaccine Effectiveness

- While post-licensure observational studies are important tools for monitoring vaccine effectiveness, such studies relating to influenza vaccine in the elderly are particularly challenging to perform and interpret.
  - Confounding
    - Inadequate adjustment for medical co-morbidities can affect effectiveness estimates
    - Difficult to adjust for other characteristics of vaccinees vs non-vaccinees (vaccine seeking behavior)
  - Non-specific and limited outcome measures
    - Influenza causes a range of non-specific clinical syndromes
    - Outcomes for influenza illness in observational studies have not included laboratory-confirmation outcomes

Recent re-analysis of randomized, controlled trial of influenza vaccine in persons 60 years and older

	Laboratory-confirmed influenza illness*				Seroprotection rate‡		
	Vaccine group	Placebo group	Risk ratio (95% CI)	Vaccine efficacy (95% CI)†	Vaccine group	Placebo group	Rate ratio (95% CI)
All ages	16/927 (1·7%)	38/911 (4·2%)	0·42 (0·23 to 0·74)	58% (26% to 77%)	601/909 (66·1%)	53/899 (5·9%)	11·2 (8·6 to 14·6)
60–69 years	12/649 (1·8%)	29/645 (4·5%)	0·41 (0·21 to 0·80)	59% (20% to 79%)	424/638 (66·5%)	31/634 (4·9%)	13·6 (9·6 to 19·2)
70 years and above	4/278 (1·4%)	9/266 (3·4%)	0·43 (0·13 to 1·36)	57% (–36% to 87%)	177/271 (65·3%)	22/265 (8·3%)	7·9 (5·2 to 11·9)§

Data are n/N (%). *Clinical diagnosis of influenza (made by family doctor using criteria reported elsewhere)[2] with at least a four-fold increase of haemagglutination inhibition titre between pre-epidemic and post-epidemic sera. †Vaccine efficacy=1–risk ratio. ‡A haemagglutination inhibition titre of at least 100 was deemed protective for influenza strain AB (A/Beijing/353/89 [H3N2]).[3] §Decline of rate ratio with age is significant (p=0·003; test for interaction between vaccine/placebo and age as continuous variable, logistic regression analysis, controlling for previous vaccination, age, and gender).

Mortality benefits of influenza vaccination in elderly people." The Lancet. August 2008, Volume 8, page 460.

Influenza Working Group

- Recognizes that influenza causes substantial morbidity and mortality in the elderly population
- Recognizes that influenza vaccine is safe and efficacious in the elderly population
- Reaffirms the recommendation that all persons 65 years of age and over should receive influenza vaccine each year
- Reaffirms the recommendation that contacts of persons 65 year of age and over should receive influenza vaccine each year

Influenza Working Group

- Supports prospective, population-based studies with laboratory-confirmed endpoints to monitor influenza vaccine effectiveness
- Encourages efforts to increase vaccine immunogenicity in frail elderly population
- Plans to review studies of new adjuvanted vaccines, novel delivery methods and alternative doses and schedules

EIP VE Study in Adults 50+

- Case-control study of TIV effectiveness in preventing influenza-confirmed hospitalizations in areas of 10 states, beginning in 2008-09 season
- Cases: hospitalized with community-acquired influenza infections as diagnosed by clinician-ordered tests
  - Chart reviews and interviews to identify vaccine status, medical conditions, and functional status indicators
- Controls: not hospitalized with influenza or respiratory infection up to the hospital admission date of corresponding case, matched by 5-year age band and county of residence
  - Potential controls identified through use of lists of households with information on ages of residents
- Plan to conduct for 3 consecutive influenza seasons
- Goal to enroll 1200 cases and 1200 controls

Influenza Vaccine Working Group Members
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