Issues in Implementing Hepatitis B Vaccination in Adolescents

Susan L. Rosenthal, Ph.D.
Department of Pediatrics
Sealy Center for Vaccine Development
University of Texas Medical Branch
Galveston, Texas, USA
Despite The Obvious Benefits of Vaccination...

Availability of a vaccine may not automatically translate into vaccine acceptance and . . .

And acceptance does not necessarily translate into uptake
Steps of Implementation

- Approval
  - Official Recommendations
  - Professional Organizations

- Providers Adopt Recommendations; Parents/Patients Accept Recommendations

- Strategies to Facilitate Implementation
Approval/Acceptance/Uptake Not Linear

- Vaccine Supply/Cost
- Competing Need For Resources
- Approval from the Government
- Health Care Infrastructure
Cartoon appeared following a flu supply problem in U.S.
Importance of Cost

- Countries have very different ways of funding
- In the U.S., the pediatrician may have to pay for the vaccines upfront
  - Total costs of vaccines keeps increasing
  - Dropped vial or freezer failure could be costly
- Those relying on government programs may get overwhelmed
- Cost influences cost-effectiveness analyses and the likelihood of government funding
Initially, ACIP recommendation to vaccinate at middle school entry (11-12 yr)
- Based on correspondence with preventive care visit at that age
- And consolidation with other vaccines for 11-12 year olds
- Despite mismatch with epidemiology of meningococcal disease
Pediatricians: Awareness of Scientific Evidence vs Ability to Implement

From Clark et al. *J Adolesc Health* 2006
Professional Organization Recommendations

- In the U.S., key for adoption
  - American Academy of Pediatrics
  - American Academy of Family Physicians
  - Society of Adolescent Medicine

- What are the equivalent in Europe?
Role of Recommendations: Necessary But Not Sufficient

- Providers report relying on ACIP/professional organization recommendations yet:
  - Three months after ACIP recommendation for universal infant hepatitis B immunization, 32% of pediatricians and 23% of family physicians in North Carolina agreed with the recommendations.
  - Eight months later after AAP and AAFP recommendations, a greater number agreed with the recommendations but only 53% of pediatricians and 23% of family physicians had adopted it into practice.

Freed et al, 1994
Type of Provider

- In U.S., pediatricians more likely to immunize than family physicians
- Equivalent issue in Europe???
Infrastructure for Accomplishing Adolescent Vaccination

- School entry or education//notification laws
- School based vaccination programs
- During health care visits:
  - Use already existing visits for health care (e.g., sports physicals)
  - Get the 1st shot in whenever you can
  - Use vaccines as an additional reason for preventive visits during early adolescents
Infrastructure for Accomplishing Adolescent Vaccination

- School entry or education/notification laws
- School based vaccination programs
- During health care visits:
  - Use already existing visits for health care (e.g., sports physicals)
  - Get the 1st shot in whenever you can
  - Use vaccines as an additional reason for preventive visits during early adolescents
School Entry Laws

- Successful U.S. strategy, not used in Europe
  - Differences of 72.8% versus 18.6% of 9th graders in Missouri schools with a law (Wilson, et al, 2005)

- Laws vary in terms of the ability to opt out
- Requires public funding for the vaccination
Infrastructure for Accomplishing Adolescent Vaccination

- School entry or education/notification laws
- School based vaccination programs
- During health care visits:
  - Use already existing visits for health care (e.g., sports physicals)
  - Get the 1st shot in whenever you can
  - Use vaccines as an additional reason for preventive visits during early adolescents
School Based Vaccination

- Scheduling easier
- Reduces time and transportation demands
- May decrease cultural barriers
Success of School Based Immunization

- School based has been effective for HBV in some places in U.S.
- Commonly used in many countries in Europe:
  - Belgium, Croatia, and Netherlands have used school-based for HBV
  - Germany, France, and Italy no strong vaccine school health facilities and rates of adolescent immunization have been low
Infrastructure for Accomplishing Adolescent Vaccination

- School entry or education/notification laws
- School based vaccination programs
- During health care visits:
  - Use already existing visits for health care (e.g., sports physicals)
  - Get the 1st shot in whenever you can
  - Use vaccines as an additional reason for preventive visits during early adolescents
Issues of Vaccination in Health Care Settings

- Role of reminder and recall systems
- Presence of tracking systems
- More barriers with older teens

Oster, et al, 2005
Timeline: HBV Vaccine in the U.S.

1981
Plasma-Derived Vaccine Licensed
Unwarranted safety concerns & high costs lead to poor rates of utilization.

1986
Recombinant DNA Vaccine Licensed
Initial strategy to target high-risk groups proves unsuccessful.

By 2000 90% of young children immunized.
Slow uptake initially for 11-12 group. Middle school entry requirements help.

1991
ACIP, AAP & AAFP Recommend Universal Infant Immunization
Slow uptake initially. School entry requirements help.

1995-96
ACIP, AAP & AAFP Recommend Vaccine for ages 11-12

2005
Many adults still unvaccinated and vulnerable to infection

(Zimet & Liau, 2006)