Reason to Examine HCP Barriers

- Pregnancy Risk Assessment Monitoring System (PRAMS) Georgia: 2006 data on reasons women did not receive flu vaccine in pregnancy
  - Second most common reason (45%): “My physician didn’t offer it.”
- Most important factor for pregnant women to decide to be immunized is a clear recommendation from their healthcare provider
  - CDC. MMWR. 2012;61(7):113-8
CDC Internet Patient Survey

- HCP vaccine recommendation in pregnancy led to
  - Higher vaccine rates (71% vs 14%)
  - Positive attitude/effectiveness (82% vs 54%)
  - Positive attitude/maternal safety (78% vs 53%)
  - Positive attitude/infant safety (75% vs 47%)
- Most pregnant women received flu vaccine from
  - Ob (61%) vs non-Ob (22%)
  - Pharmacy (8%)
  - Health Dept (5%)
  - Work/School (5%)


Ob/Gyn Practice, Knowledge, Attitudes

- Michigan ob/gyn general vaccine survey
- Despite most (62%) acknowledging within scope of care, did not screen or give vaccines in most patients because
  - Not usual practice 60%
  - Reimbursement issues 50%
  - Don’t stock 43%
  - Uncertain indications 30%
  - Patient doesn’t desire 30%
- General vaccine knowledge limited
- More likely to give if
  - Female
  - Newer in practice
  - Better knowledge
  - Primary care mantle
  - Performs office assessment of vaccine status

Ob/Gyn Vaccine Practices

- National ob/gyn vaccine survey
- With regard to flu vaccine, not offered because
  - Reimbursement 52%
  - No patient education materials 46%
  - Liability 45%
  - Ambiguous guidelines 30%
  - Questionable efficacy 25%
  - No time 20%
  - Safety 17%
- Higher vaccine rates if
  - PCP designation
  - Group/multispecialty practice
- Expressed interest/positive attitudes for vaccines more specific to ob/gyn (ie, HPV, HSV, maternal/newborn morbidities)
- Placed very high value on ACOG-derived recommendations and educational tools

Evidence of Ob/Gyn Progress

- Updated vaccine survey re-examining Michigan ob/gyn attitudes, knowledge, and practice patterns
- Despite poor marks for knowledge in previous Year 2000 survey, with regard to flu vaccine more recent data suggest significant improvement
  - 85% acknowledged need in pregnancy
  - Few (1%) expressed concerns for teratogenicity
  - Few (3.3%) said it couldn’t be given when breast-feeding
  - 90% indicated flu vaccine considered safe in pregnancy
- Improved general vaccine knowledge
- More ob/gyns assessed patient vaccine needs in office
- More disagree that vaccines are outside the scope of ob/gyn practice
- Now more concern that finances are a deterrent (may also be a marker of advanced knowledge!)

CDC Pregnancy/Flu Focused Expert Opinion Review after 2009 H1N1 Events

- Remaining barriers based on HCP surveys
  - Inadequate reimbursement
  - Logistical barriers
  - Liability concerns
  - Knowledge deficits
    - Risks of flu
    - Benefits of vaccine
  - Safety

Rasmussen SA et al. AJOG. 10.1016/j.ajog.2011.01.048

Adult Vaccine Barriers

- Healthcare provider survey (n=200)
- Most believe adults need immunizations
  - 90% discuss at WELL CARE visits; 29% at ACUTE CARE visit;
    >50% did not discuss missed vaccine consequences
  - 60% used “official” guidelines
  - 33% perform objectives in-office
  - >66% incorrectly assumed patients avoid vaccines because of fear of needles or vaccines will make them sick (not true when patients asked)
- For all adults, only 39% recommended flu vaccine

Non-physician Attitudes Regarding Flu Vaccine in Pregnancy

• Survey (n=267 non-physician HCPs)
• Almost 1/3 questioned vaccine efficacy
• <50% believed vaccines safe in pregnancy
• Although most (78%) know to recommend flu vaccine in pregnancy, only:
  – 57% knew of increased flu risk in pregnancy
  – 46% knew flu symptoms
  – 65% would recommend in pregnancy
• Only 65% would themselves receive flu vaccine in pregnancy
• Training level was not necessarily associated with improved response


What Recommendation Was Heard?

• Patient/physician survey re: flu vaccine discussion during pregnancy
  1
• The vaccine was offered if physicians
  – Knew guidelines, pregnancy risk, baby protected, stocked vaccine, they received flu vaccine (85% vs 45%)
  – Associated with a 2-4 fold higher discussion rates
• Physicians reported offering vaccine 74% of time (vs. 22% according to patients)
• 56% of patients would have received vaccine if they “heard” the HCP recommendation
  – 86% vs 28%  

Recent ACOG Influenza Vaccine Activities

• ACOG Committee Opinion (No. 468; Oct 2010)
  – Provides clinician education and practice guidance
  – Makes clear statement advocating flu vaccination
  – Addresses benefits, safety
  – Promotes “provider education with simple chart prompts” for office intervention to improve vaccine rates
  – Lacks a more detailed list of recommendations to improve office vaccine efficiencies

• Influenza Immunization During Pregnancy Mailing
  – During 2011-12 season
  – Included affirmative letter, CO, physician sample script, FAQ, VIS, immunizationforwomen.org website reference, suggestion for standing order usage

Resources Ob/gyns Want to Improve Office Vaccination Rates

Infectious Diseases Society of America (IDSA)
Guidelines for Improving Office Vaccination Rates

- Reminder/recall systems
- Vaccine registries
- Standing orders
- Review immunization status at each visit/provide immunization record
- HCP education
- Regular assessment and feedback of office vaccine coverage rates


Intervention: Education

- Pre-intervention Ob physician survey: highest (86%) rated suggestion to improve flu vaccination was develop information campaign
- Intervention
  - Physician education program
  - Office posters
- Post intervention outcomes
  - Patients reported improved offering of vaccine (28% vs 51%)
  - Vaccine administration rate improvement (19% vs 31%)
  - Clinic service vs private service patients, were more likely to be
    - Offered vaccine (66% vs 41%)
    - Receive vaccine (38% vs 27%)

**Intervention: Education/Logistics**

- Educational sessions, confirm flu vaccine availability, specific screening protocol, standing orders
- Retrospective chart review
- Improvement in vaccine rates
  - 2002/2003 (pre-intervention) <1%
  - 2003/2004 3%
  - 2004/2005 (standing orders added) 37%


**Intervention: Education/Chart Reminder**

- Ob population
  - Family medicine and ob/gyn physicians
  - Flu season
- Education
  - 5 minutes
  - Indications
  - Contraindications
  - Background info on flu
- Reminder: “Think Flu Vaccine”
- Used historical control data
- Discussion rates
  - Family medicine 3.2% to 44.9%
  - Obstetrics 1.2% to 19.4%

Strategies for Increasing Adult Vaccination Rates

• Standing orders
  – Most consistently effective method
  – Outpatient flu vaccine 81% vs 29%¹
  – ACIP recommendation for use²

• Computerized record reminders
  – Outpatient pneumococcal vaccine 86% vs 29%³

• Chart reminders
  – Outpatient flu vaccine 40% vs 18%⁴


Strategies for Increasing Adult Vaccination Rates

• Expanding access
  – Includes walk-ins, special clinics, etc.
  – Outpatient UK flu vaccine center 26% vs 19%¹

• Office-based patient education
  – Pre-discharge flu information 78% vs 0%²

• Personal health records
  – Pneumococcal vaccine rates 21% vs 5%³

Strategies for Increasing Adult Vaccination Rates

• Performance feedback
  – Comparing individual performance to established standard
  – Retrospective process
  – Outpatient flu vaccine 50% vs 34%

• Mailed/telephone reminders
  – Outpatient flu vaccine 37% vs 9.8%


Effectiveness of Adult Immunization Interventions: Meta-Analysis

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Adjusted Odds Ratio (95% CI)</th>
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<tbody>
<tr>
<td>Organizational change</td>
<td>16.0 (11.2-22.8)</td>
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<tr>
<td>Provider reminder</td>
<td>3.80 (3.3-4.4)</td>
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<tr>
<td>Provider education</td>
<td>3.21 (2.2-4.6)</td>
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<tr>
<td>Patient reminder</td>
<td>2.52 (2.2-2.8)</td>
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<tr>
<td>Patient education</td>
<td>1.29 (1.1-1.5)</td>
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<tr>
<td>Feedback</td>
<td>1.23 (1.0-1.6)</td>
</tr>
</tbody>
</table>

### Underutilization of Office Strategies (non-Ob)

- Counseling routine visits 93%
- Posters/patient information 52%
- Patient reminders 24%
- Provider/chart reminders 39%
- Vaccine clinics 27%
- Standing orders 29%
- Monitoring performance (high risk) 31%


### Immunization Registries

- Paucity of data regarding adult vaccination
- Most programs pediatric-focused
- Anticipation that registries can improve vaccination rates, reduce excess vaccinations
- Primary barriers include lack of familiarity, perception of increased office cost/complexity, confidentiality issues, and inconsistency of data
Final Thoughts

• Need to learn the art of being a vaccinator
  — When is a vaccine “recommendation” real?
  — How do the office logistics work?
• Office vaccine champion
• Easy and reliable access to vaccine documentation
• Clear, strong endorsements from ACOG with postgraduate educational initiatives

Final, Final Thoughts...really

• Continue to strengthen vaccines in “report card” assessments of quality
• Address pregnancy/fetus in national VICP materials; educate providers
• FDA approval for vaccines in pregnancy
• Need to address federal funding issues (VFC, Title 317)