

# **Missouri Immunizations: Victories and Challenges**

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# Victories

## ■ New adolescent vaccines added

- |                        |      |
|------------------------|------|
| – Intranasal influenza | 2003 |
| – Conjugate MCV        | 2005 |
| – Tdap                 | 2005 |
| – HPV4                 | 2006 |
| – HPV2                 | 2009 |

**All covered by VFC and most by commercial insurance**

# Trend in selected teen vaccines (Missouri vs. US) NIS data

Vaccine	2007	2008	2009
$\geq 1$ Tdap Mo	N/A	44.1	60.1 
$\geq 1$ Tdap US	30.4	40.8	55.6

# Trend in selected teen vaccines (Missouri vs. US) NIS data

Vaccine	2007	2008	2009
$\geq 1$ MenACWY Mo	N/A	35.3	45.5
$\geq 1$ MenACWY US	32.4	41.8	53.6

# Trend in selected teen vaccines (Missouri vs. US) NIS data

Vaccine	2009
$\geq 2$ MMR Mo	86.2
$\geq 2$ MMR US	89.1
$\geq 3$ HepB Mo	89.7
$\geq 3$ HepB US	89.9
$> 2$ Var/Dz Mo	78.8
$> 2$ Var/Dz US	75.7



# Mo AAP/DHSS Adolescent Immunization Education Project

## ■ Fifth year of project

- First two years provider centered, lunch and learn approach
- Focused on HPV, Tdap, MCV
- Third year large venue audiences added
  - Grand Rounds, Immunization Conferences
  - Webcasts
- Outcomes measured showed excellent process measures, providers valued adolescent vaccines, did not support increased mandates, rates increased overall but difficult to show causality



# Challenges

## ■ Anti-vaccine movement

- MMR and autism is not associated—but the damage is done
- Continued “myth-information” by media
- Hysteria breeds fear

## ■ Registry issues

- MOSAIC, private provider’s data input, city registries

## ■ Lack of balanced marketing for vaccines



# Challenges

## ■ Provider issues

- Immunization status not checked and updated at every visit. Many wait for preventive visit.
- Defining their own schedule and recommendations
  - Really??? Smarter than career vaccinologists?
- Mounting a concerted voice of reason for the public
- Propagating “myth-information”



# Trend in selected teen vaccines (Missouri vs. US) NIS data

Vaccine	2007	2008	2009
$\geq 1$ HPV Mo		31.6	32.7
$\geq 1$ HPV US	25.1	37.2	44.3
$\geq 3$ HPV Mo		15.1	19.9 
$\geq 3$ HPV US	N/A	17.9	26.7

# Challenges

■ Dead last in the U.S. for immunization rates of 19-35 month olds in 4:3:1:0:3:1:4

➔ (56%)

- 4 DPT
- 3 polio
- 1 MMR
- 0 Hib vaccine is excluded
- 3 or more doses of HepB
- 1 or more doses of varicella vaccine
- 4 or more doses of PCV



# Challenges

■ But wait!

– Virgin Islands were at 37%!



■ Oh, yeah!

– Iowa was number one!



# Challenges

- Dead last in the US for immunizations for 19-35 month olds in 4:3:1:0:3:1:4.
  - 4 DPT, 3 polio, 1 MMR, 0 Hib, plus 3 or more doses of HepB, 1 or more doses of varicella vaccine, and 4 or more doses of PCV. Hib vaccine is excluded (0)
- Should get better
  - New requirement for daycare starting 7/1/10

# New Daycare Requirement

## 7/1/10

Vaccines Required for Child Care and Preschool Attendance	DOSES REQUIRED BY THE TIME THE CHILD IS			
	3 Months	5 Months	7 Months	19 Months and older
DTaP/DT	1	2	3	4+
<b>PCV</b> (Pneumococcal)	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
IPV (Polio)	1	2	2	3+
Hepatitis B	2	2	2 or 3+	3+
Hib	1	1+	2+	3+
MMR				1
Varicella				1

# What works?

- Meta-analysis of the literature
- United States studies of adolescents
  - Included randomized controlled trial;
  - Descriptive comparative or correlational (including retrospective); or
  - Evaluation or impact (including record review following policy/regulation change)

Wilson TR, Bartlett JA, Lynch DA. *Interventions for vaccinating adolescents in the United States: a systematic review of the literature.* Submitted to the Journal of Adolescent Health, 10/9/10.



# What Works?

- Strong evidence for the use of school entry laws (mandates)
- Sufficient evidence for school-based immunization programs
- Sufficient evidence for media/educational/messaging efforts for parents and/or adolescents

Wilson TR, Bartlett JA, Lynch DA. *Interventions for vaccinating adolescents in the United States: a systematic review of the literature.* Submitted to the Journal of Adolescent Health, 10/9/10.

# What happened with Hep B in MO?

## ■ Results

- “Ninth graders in schools with the law had hepatitis B rates higher (72.8%) than those without the law (18.6%) ( $U = 2.0, p < .01$ ).”

Wilson TR et al. The impact of a school entry law on adolescent immunization rates. *Journal of Adolescent Health* 2005;37(6):511-516.

# “Reaped what we sowed”

- Multiple unnecessary doses of vaccines
  - My personal knowledge of most doses for one patient after we pull the data together
    - 14 Hep B
    - 5 MMR
    - 3 Tdap (only available since 2005)
- “Well, the school says she’s up-to-date”
- “No thanks, that shot has killed a bunch of girls.” **NOT TRUE!!!!**

# Children's Mercy Teen Clinic process for obtaining patient immunization data

- See what is in our EMR (and print it out because the electronic version is too difficult to read)
- Print out a paper copy of the MOSAIC
- Call the current and/or past schools attended (contend with FERPA, multiple messages)
- Call the KCMO Health Department
- Call the Wyandotte Co. Ks Health Department
- Call other county or state health departments
- Call previous private offices
- Try to read the various “chicken scratches” on the little green frayed card that mom has in her purse
- Stumble onto other data (health fair, free shot)



# Before we point fingers...

- Daryl A. Lynch's immunization records
  - Rely on my employer (CMH Hospital) to tell me when a vaccine is due
  - My primary care physician relies on me to give him my data
  - Received off-label vaccines from another provider; records not at my primary care office
  - Received flu vaccine at free site and my physician nor my employer got this data
  - I don't have a copy of my immunizations

# Hope for the future

- New delivery models of care within the medical home
  - School located immunization clinics with data given back to medical home
  - Consider alternate hours for vaccine clinics
  - Consider immunizing parents and other care givers at pediatric practices
  - Standing orders as appropriate



# Hope for the future

- Immunize at each visit
  - Check immunization status before family arrives
  - Contact schools, health departments, check state registry for data
  - Note vaccines needed

# Hope for the future

## ■ Nurses

– Lessons learned along the way:

- “Nurses rule, doctors drool!”
- “The physician is the head but the nurse is the neck, and she can spin the head!”
- If you want it done, get the nurses on it!
- If the patient tells the physician no thanks, send in the nurse

## ■ Improved registry (if used by all!)

Hallelujah!  
Thanks to the choir!