



Implications of an Immunization Status Survey

Melissa C Sanders; Linda K Ohri; Ted A Kasha

Creighton University School of Pharmacy and Health Professions; LOhri@Creighton.edu



Background and Purpose

The value of vaccines has been heavily promoted by vaccine providers (VPs). However, there is limited information on adherence of these providers to recommended immunization guidelines.

1. This immunization status survey project was aimed at assessing how closely vaccine providers follow their own immunization recommendations.
2. Immunization status surveys conducted annually at the Immunize Nebraska conference were analyzed for the 5 year time period 2010 through 2014.
3. Survey results provide an indication of immunization guidelines where further provider education and promotion is needed, to enhance personal adherence, as well as informing providers' patient education efforts.

Methods

The Immunization Status Survey (ISS) form was distributed to all registrants at the beginning of each annual conference. All respondents were assumed to be health care workers (HCWs) for the purpose of this analysis. The form inquired about respondent immunization status for all recommended adult vaccines. Respondents could respond in one of four ways: "Yes," "No," "Don't Know," or by leaving the survey cell blank.

Only a "Yes" response was recorded to indicate vaccinated status. Responses did not record compliance with all doses of multiple dose vaccines, and therefore, represented only initiation of the recommended regimen (e.g., 3 Hepatitis B, 2 Hepatitis A, 2 MMR, 2 Varicella). The survey also asked for age category and gender, as well as presence of certain high risk conditions: Asthma, Diabetes, and Smokers. Data analysis used SPSS 22 statistical software.

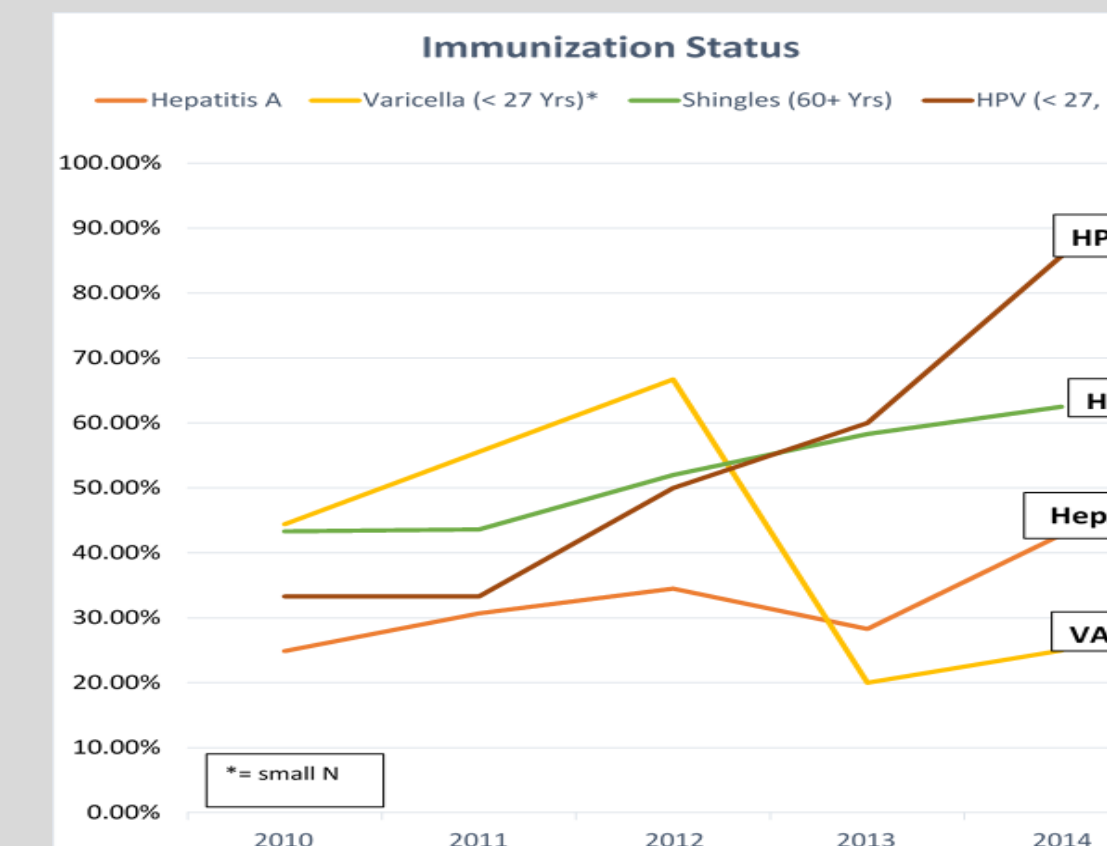
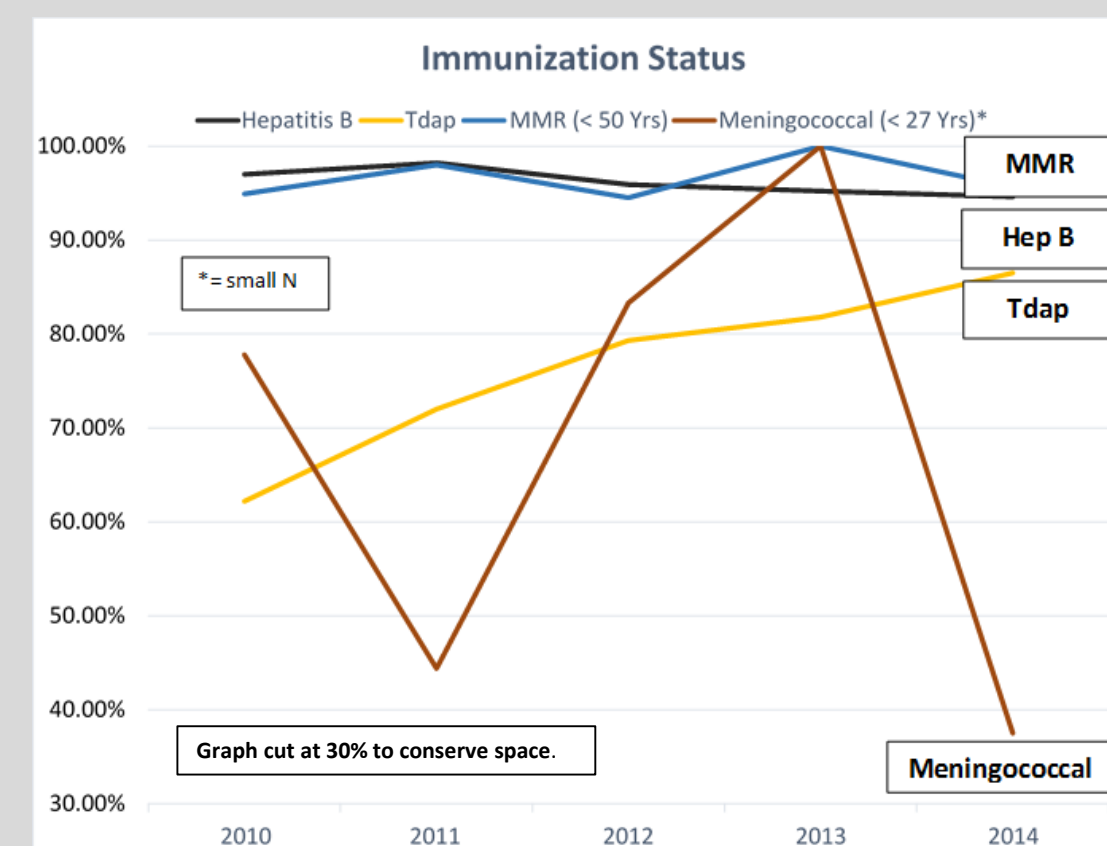
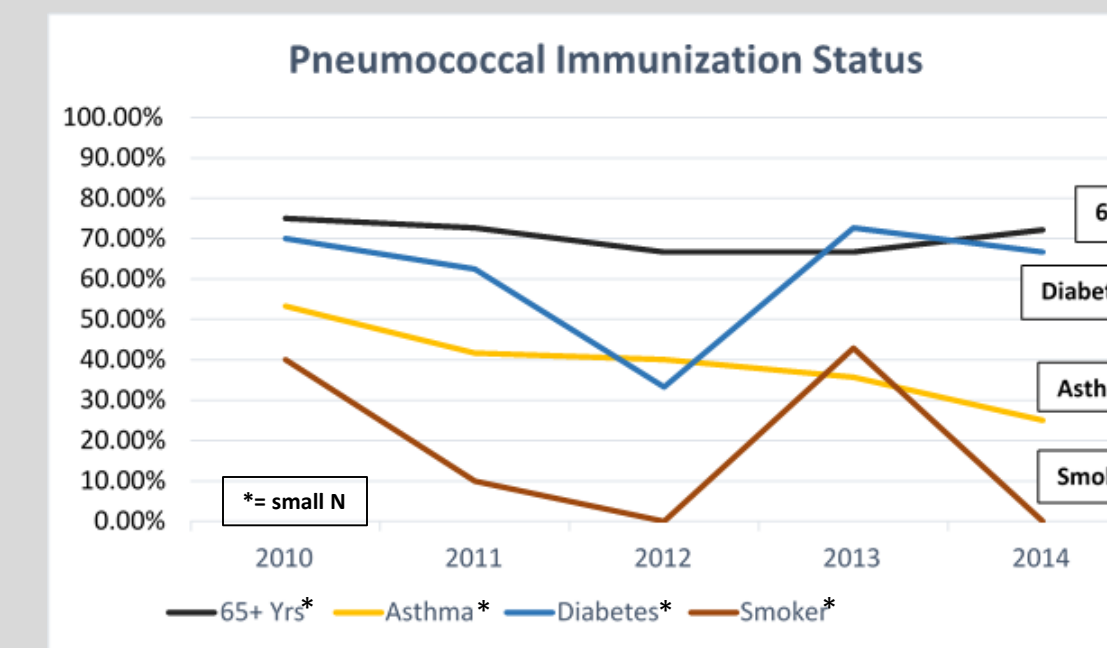
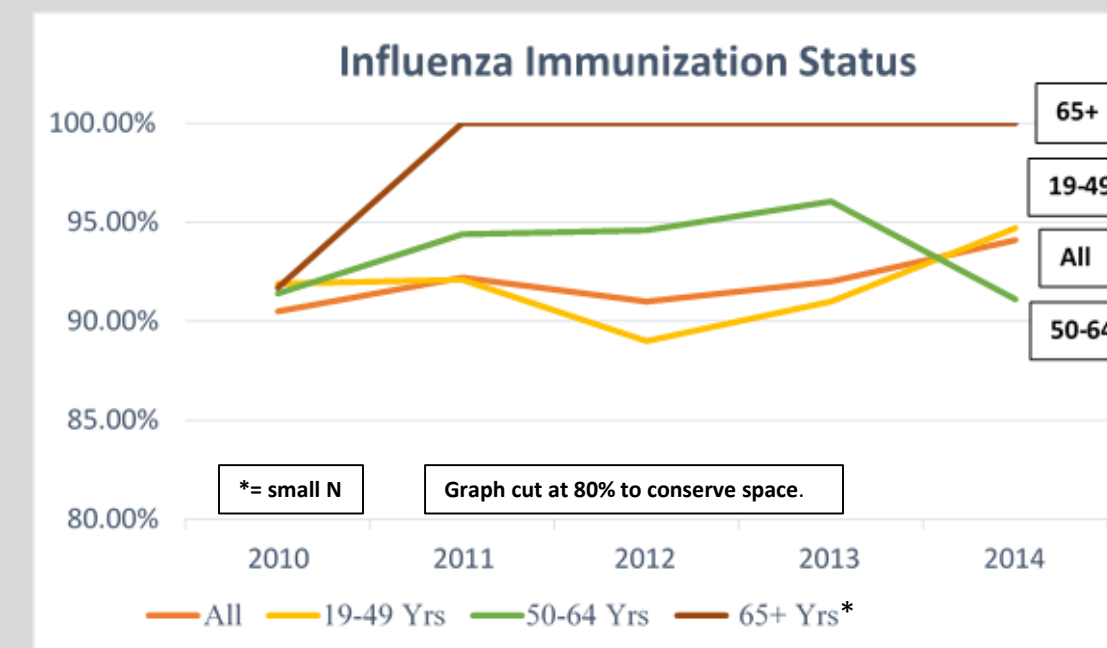
Demographics*

	IMM NE 2010	IMM NE 2011	IMM NE 2012	IMM NE 2013	IMM NE 2014
Registrants	233	268	209	228	268
Responses	201 (86%)	218 (81%)	145 (69%)	187 (82%)	222 (83%)
19-27 yrs	< 10%	< 10%	< 10%	< 10%	< 10%
27-49 yrs	90 (45%)	92 (42%)	67 (46%)	84 (45%)	106 (48%)
50-59 yrs	63 (31%)	61 (28%)	41 (28%)	55 (29%)	57 (26%)
60-64 yrs	< 10%	28 (13%)	16 (11%)	21 (11%)	22 (10%)
≥ 65 yrs	< 10%	< 10%	< 10%	< 10%	< 10%
Asthma	< 10%	< 10%	< 10%	< 10%	< 10%
Diabetes	< 10%	< 10%	< 10%	< 10%	< 10%
Smoker	< 10%	< 10%	< 10%	< 10%	< 10%

* Counts < 10% of total responses are not specified, to protect respondent privacy.

See Handout for Survey Sample

Results



General

- Small numbers of respondents aged < 27 and ≥ 65 years of age must be considered in assessing strength and reliability of findings for these groups.
- Small numbers with high risk conditions (asthma/diabetes/smokers) must be considered in assessing strength & reliability of findings for these groups.
- While representing small numbers, all respondents ≥ 65 years consistently reported receiving the influenza vaccine from 2011 through 2014.
- Reported immunization rates increased/remained stable for those 50-64 years of age from 2010 – 2013, but dipped for the 2013-2014 influenza season.
- Those 19-49 years of age had a reduced immunization rate reported in 2012, with rates trending up again in 2013 and 2014.

Pneumococcal

- Pneumococcal vaccination rates were sub-optimal for all high risk groups. Small risk group numbers limit the reliability of this data.

Immunization Status (left)

- Reported MMR and Hepatitis B immunization rates were consistently high, well above 90%.
- There was a steady increase in reported Tdap immunization rates, increasing to near 90% over the course of the 5 years.
- Meningococcal immunization rates reported were highly erratic over the 5 year period. Small age group numbers limit the reliability of this data.

Immunization Status (right)

- Varicella vaccination rates dipped in 2013 & 2014 for those < 27 years old. Some reported having had disease; immune titer status was not obtained.
- Reported HPV immunization rates increased substantially from 2011 – 2014 for females < 27 years old. Small numbers limit the reliability of this data.
- Reported Shingles (HZ) immunization rates increased from 2011 – 2014 for those ≥ 60 years old, but remain sub-optimal.
- Reported Hepatitis A immunization rates have remained below 45% throughout the 5 year reporting period.

Discussion

- Overall, reported influenza immunization rates were high (near 90% or above) for all age groups. The recent 50-64 yr old rate dip should be monitored for recurrence.
- Even though risk group numbers were low, results over the 5 year period suggest a need for VP education on pneumococcal vaccination guidelines. Evolving guidelines are a further indication for increased education on these critical vaccines.
- VPs report high rates of compliance with use of MMR and Hepatitis B vaccines.
- Reported VP compliance with Tdap vaccine guidelines has risen rapidly to near 90%, but continued education on and promotion of this vaccine is indicated, given the current risk of exposure to pertussis and transmission by HCWs.
- Reported meningococcal vaccine compliance rates are unreliable, with few < 27 yr old VPs surveyed. However, it is important that providers be familiar with these guidelines to educate young adults and teens in the general population.
- HPV immunization rates reported by young female VPs were low initially, but increased substantially over the past 5 years. Note: Both female/male group sizes in the indicated age range were very small, and report was on ≥ 1 dose. Educating VPs on evolving HPV immunization guidelines is critical to improve VP and general population rates.
- Adherence to Shingles (HZ) vaccine guidelines where indicated for surveyed VPs was less than optimal. Education on benefits and first dollar coverage of this vaccine, even before Medicare age, seems to be in order for our HCWs, for their protection and to assure appropriate education of the general population.
- Likewise, young HCWs are encouraged to assure their personal immunity against varicella virus, for personal protection and because many providers are women of child-bearing age, with substantial exposure to susceptible population groups.
- HCWs often travel for pleasure or service, and should assure personal protection against Hepatitis A; many VPs appear to be susceptible to this Vaccine Preventable Disease.

Study Limitations

- The potential for recall bias and non response bias, as well as small numbers in various subgroups surveyed should be considered when interpreting these findings.

Implications

Even though vaccine providers are typically well versed and passionate advocates for the benefits of immunizations, there appears to be certain areas where providers may not completely follow through on their own immunization recommendations.

Areas for improved guideline adherence include pneumococcal, meningococcal, HPV, shingles (HZ), varicella and Hepatitis A immunizations. Guideline evolution may also account for some sub-optimal rates, and further identifies the need for regular continuing education for all vaccine providers.