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Barriers to Complete Adult Vaccinations in Vermont

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Introduction/Background

- Child immunization is nearly universally accepted as an effective preventative measure against infectious diseases,[1] yet adult immunization rates continue to lag behind recommended levels.[2]
- Epidemiological trends suggest a correlation between vaccine administration and decreased rates of significant morbidity and mortality, hospitalization and emergency department visits, work absenteeism, and illness associated expenses.[3]
- As of 2010, Vermont is failing to meet its adult immunization goals by 13-43%.[4]
- This study aims to understand and identify specific barriers to adult immunization in Vermont.

Methods

- The survey group was health care practitioners involved in adult vaccination, so a public database of licensed physicians from the Vermont Department of Health (VDH) website[5] was compared against email addresses provided by the VDH of family medicine and internal medicine doctors (qualifying physicians) with Vermont mailing addresses.
- Five hundred and seventy-two emails were sent to qualifying physicians with a web-link to the survey with a follow-up email reminder one week later.
- The survey consisted of 26 questions developed from the awareness-to-adherence model,[6] and included questions about physician demographics, behaviors regarding recommendations to patients, sources of information, barriers to adult immunization, and opinions about possible interventions to improve adult vaccination rates.

References

1. Omer, S.B., et al., *Vaccine refusal, mandatory immunization, and the risks of vaccine-preventable diseases.* N EnglJ Med, 2009. 360(19): p. 1981-8.
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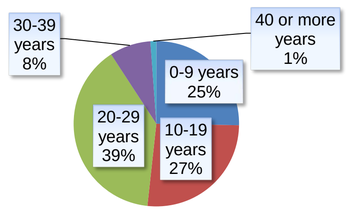
3. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices [ACIP]. MMWR 2003;52[No. RR-8]:1--34
4. *Vermont Immunization Program Goal Tracker.* October 2011, Vermont Department of Health. http://healthvermont.gov/research/chronic/documents/goal_tracker_immunization.pdf. Accessed November 16, 2011.
5. http://healthvermont.gov/hc/med_board/docfinder.aspx
6. Pathman, D. E., et al., "The Awareness-to-Adherence Model of the Steps to Clinical Guideline Compliance: The Case of Pediatric Vaccine Recommendations." *Medical Care*, Vol. 34, No. 9 (Sep., 1996), pp. 873-889

Results

- A total of 88 people responded to the survey, giving us a response of 15.4%.
- Forty-four (50%) identified their specialty as internal medicine, 36 (40.9%) as family medicine, and one (1.1%) as pediatrics. An additional 7 (8.3%) identified other specialties.

Total Years in Practice



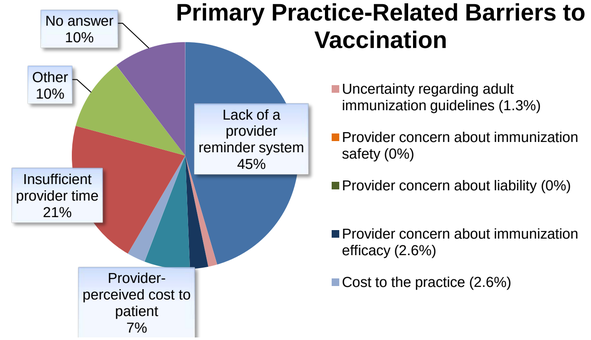
Provider Recommendations

TDaP Vaccination Population	
Adolescents and adults aged 11 to 64 years	83.00%
Adults aged 65 and older	50.00%
Patients whose last dose of TDaP was at least two years ago	10.20%
Patients at risk for tetanus due to injury	50.00%
Health care workers	47.70%
Other	12.50%

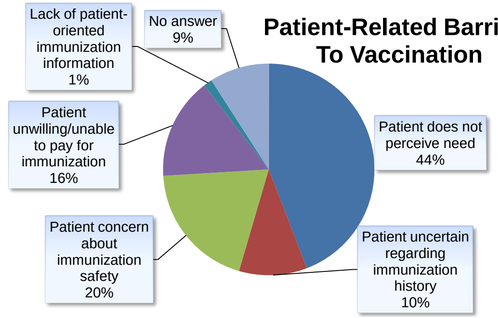
Zoster Vaccination Population	
Adults aged 50 years and older	17.10%
Adults aged 60 years and older	62.50%
Other	17.10%

PPSV23 (Pneumococcus) Vaccination Population	
Adults aged 19 years and older with chronic medical conditions	84.10%
Adults aged 19 years and older with a history of smoking	22.70%
Adults aged 19 years and older with a history of chronic alcoholism	36.40%
Adults aged 65 years and older	78.40%
Other	4.60%

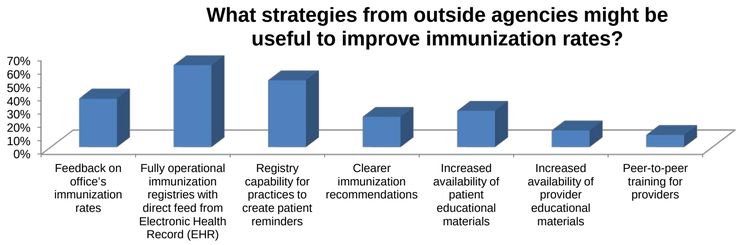
Primary Practice-Related Barriers to Vaccination



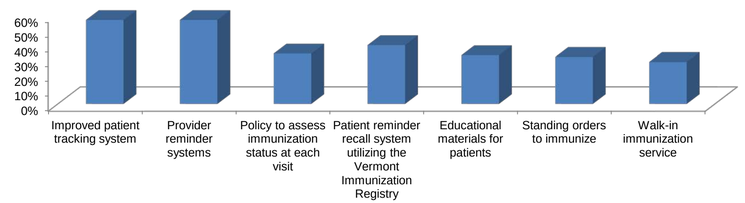
Patient-Related Barriers To Vaccination



What strategies from outside agencies might be useful to improve immunization rates?



What strategies within your practice might improve immunization rates?



Limitations

- This was an email survey, so the calculated response rate was likely lower than the actual response rate because nearly 100 emails were returned.
- The databases used did not distinguish between physicians currently in practice or those retired.
- Most responders indicated that they preferred electronic methods of communications and reminders to remain up to date on vaccinations, an inherent bias due to the method of correspondence.

Discussion

- Most respondents are familiar with and agree with CDC guidelines for adult vaccinations. There were no significant differences in physician behaviors regarding recommendations based on specialty, as family medicine and internal medicine physicians had similar responses.
- The majority of respondents reported adhering to CDC recommendations. A notable exception was in recommending the TDaP immunization to health care workers (47.7%). Considering the actual TDaP Vermont vaccination rates for health care workers as of 2009 are low,[3] lack of physician recommendations may be contributing to lower than desired vaccination rates for this population.
- With regards to practice-oriented barriers, those surveyed noted a lack of a reminder system. The increased utilization of electronic medical records (EMR) may provide a vehicle for a reminder system, as well as incorporating a state immunization registry.
- The primary patient-related barrier was lack of patient-perceived need, which indicates that efforts towards education regarding benefits of vaccination might be fruitful in increasing vaccination rates.
- There appears to be no problem with access to information regarding vaccination guidelines, and rather, specific barriers seem to play significant roles in impeding complete adult immunization.

Future Directions

- Improved use of the electronic medical record should help with reminders, so this is likely not an area that requires much in the way of future studies.
- Also significant is the lack of patient-perceived need, which necessitates the need for more education about vaccines. Future studies should address the patient population directly to assess reasons for not receiving vaccinations.