Now is the Time to Immunize Adults:
Results of an IDSA Survey of Members’ Immunization Practices

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In 2002 the first adult immunization schedule was published by the Centers for Diseases Control and Prevention (CDC). Additional vaccines and new formulations have been recommended since then. Despite these recommendations, immunization rates among adults have remained low, raising questions about why a nation that achieves such high rates of childhood immunization cannot do better where adults are concerned.

Influenza is a case in point. While we can only speculate on the final impact of novel H1N1, we know the annual effects of seasonal influenza: An estimated 36,000 deaths and 226,000 hospitalizations are directly attributable to it each year. Have these statistics been stated so frequently that we have become desensitized to them? Almost 83 percent of the US population was recommended to receive seasonal influenza vaccine last season, yet coverage was (and is) unacceptably low. During the 2008-2009 influenza season, less than 70 percent of the elderly population was vaccinated and only 32 percent of adults age 18-49 with conditions that put them at high risk of complications from influenza were immunized.

Could that same desensitization apply to other routinely recommended immunizations? Diseases such as tetanus and diphtheria have decreased by more than 99 percent since preventive vaccines were first introduced. Perhaps there are now too few cases of these diseases to raise public concern and motivate adults to be immunized. But how does one explain the low uptake of vaccines such as pneumococcal polysaccharide (PPV 23) and the newer vaccines and vaccine formulations such as herpes zoster vaccine, human papillomavirus vaccine (HPV) and diphtheria tetanus with acellular pertussis (Tdap)?

The Infectious Diseases Society of America (IDSA) has a solid track record of supporting immunization for all age groups, including adults. In June 2007, IDSA published principles to strengthen adult and adolescent immunization coverage in the United States. These included:

- increasing demand by improving public and provider awareness,
- improving the system to deliver vaccines to both adults and adolescents,
- promoting immunization as a measure of health care quality,
- assessing and improving vaccine delivery and safety monitoring,
- providing adequate funding for continued research related to adult and adolescent vaccine preventable diseases and vaccines.

In May 2008, IDSA endorsed a bill that would establish a federal program to provide routinely recommended vaccines for uninsured adults. The program would be modeled on the very successful Vaccines for Children Program that has helped the US eliminate racial disparities and achieve one of the highest immunization rates in children.
In November 2008, IDSA and the American College of Physicians (ACP) issued a joint statement recommending that both primary and subspecialty physicians become more active with adult immunizations. The statement, which was endorsed by 17 other medical societies, including many internal medicine subspecialties, urged physicians to either provide all needed immunizations or to refer the patient to someone who would.

As a follow up to the IDSA/ACP initiative, IDSA decided to conduct a survey to determine the current adult immunization practices of IDSA membership. In January 2009, IDSA’s Immunization Work Group (IWG) sent a survey to all members who indicated they had a clinical practice. Respondents whose practice was limited to children were excluded. The survey focused on the following issues: Immunization of staff in the member’s primary practice setting, outpatient and inpatient consultation practices, the respondent’s current adult immunization practices, and finally their opinions regarding immunizations. Demographic information obtained included gender, years since completion of fellowship training, and predominant practice location. The survey was sent to 5,607 members and 568 responded; a response rate comparable to most IDSA surveys. Thirty-eight respondents were excluded because they did not have a clinical practice. Some questions had multiple responses. In a few instances the respondent failed to answer the question.

The majority (57%) of respondents indicated their primary practice site was the inpatient setting. Almost all (97%) reported immunizations were offered to staff with direct patient care (Figures 1 and 2).

![Figure 1: Principal Practice Location](attachment:image.png)
Ninety-six percent reported receiving influenza vaccine for the 2008-2009 season. Individual outpatient practice patterns are illustrated in Figures 3 and 4. It was encouraging that almost 47 percent of respondents always or almost always obtained an immunization history with their consultations or routine care visits. Eighty-five percent indicated the immunization history was obtained directly by the physician. One-third of respondents provided the missing immunizations. Only a small minority failed to update immunizations (11%).
There was a difference noted in response to vaccine administration when the patient had HIV/AIDS (Figure 5 and 6).
Almost one-third of respondents reported administering at their practice sites all vaccines recommended by the Advisory Committee on Immunization Practices (ACIP). Influenza and pneumococcal polysaccharide vaccines were most frequently administered. To the surprise of the IWG, 33 percent and 25 percent reported administration of zoster and HPV respectively (Figure 7).
We attempted to identify incentives to increase and/or to initiate vaccine delivery. Financial related issues were highly ranked. However, easier access to patient’s immunization records was also an incentive (Figure 8).

Respondents were also asked questions about their practices during inpatient consultations (Figures 9 and 10).
We wanted to determine if the respondents’ personal opinions differed from their actual practice patterns since the latter may be driven by protocols or published guidelines (Figure 11). Almost 66 percent of respondents agreed or strongly agreed it was the responsibility of an ID physician to review the immunization status during an initial outpatient consultation and refer back to primary care providers when appropriate. Additionally, almost 50 percent of respondents felt it was the responsibility of the ID physician to administer needed immunizations. If an HIV/AIDS patient was being evaluated, almost 88 percent of physicians surveyed agreed or strongly agreed that it was their responsibility to provide immunizations. Finally, almost 64 percent of respondents felt that ID physicians should administer all immunizations recommended for adults by the ACIP. Fifty-eight percent of respondents had a similar sense of responsibility when evaluating inpatients; however, only 33 percent agreed or strongly agreed it was their responsibility to administer the missing vaccines.
Associations with years of post fellowship and immunization practices were reviewed. Respondents were grouped by five year intervals until greater than 25 years post completion of fellowship. Overall, 83 percent of physicians obtained an immunization history. Those who completed fellowship training 16-20 years ago obtained immunization histories more frequently in the outpatient setting (94%). The groups less likely to review the immunization history were 1-5, 6-10 and 25+ years post completion of fellowship (78%, 79% and 76%, p<0.5). The two groups that immunized most often were those who had completed training 21-25 and greater than 25 years ago (93% and 80% p = .005). Those least likely to offer influenza and Pneumovax completed training 1-5 and 6-10 years ago (72% and 67%, p=0.03). Zoster vaccine was administered by 33 percent of respondents and like Pneumovax was least likely to be offered by respondents who had completed their training within the last 1-5 and 6-10 years (29% and 21%). It was offered most frequently by those >25 years post training (51%) p= .001).

The effect of practice location and immunization practice was reviewed. Five groups were identified based on their primary practice locations: hospital inpatient, hospital outpatient, multispecialty clinics (MSC), private practice, and other. Other included a variety of settings such as the Department of Corrections and HMOs. The immunization history was always or almost always obtained by physicians practicing in multispecialty clinics (65%) and in private practice (55%). MSC-based respondents offered all ACIP-recommended vaccines more often than any other group.

Finally we reviewed obstacles to immunizing by practice site (Table 1). It was no surprise that issues related to reimbursement for vaccine costs (75%) and administration (68%) were the major obstacles for physicians in private practice compared to other practice settings.

<table>
<thead>
<tr>
<th>Practice Site</th>
<th>Vaccine Costs</th>
<th>Administration Costs</th>
<th>Return Privileges for expired and unused vaccine</th>
<th>Increased Patient Demand</th>
<th>Access to Immunization Records</th>
<th>Decreased Financial Risk</th>
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</thead>
<tbody>
<tr>
<td>Hospital Inpatient</td>
<td>52%</td>
<td>47%</td>
<td>31%</td>
<td>28%</td>
<td>49%</td>
<td>21%</td>
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<tr>
<td>Hospital Outpatient</td>
<td>42%</td>
<td>39%</td>
<td>21%</td>
<td>29%</td>
<td>46%</td>
<td>14%</td>
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</tr>
<tr>
<td>MSC</td>
<td>35%</td>
<td>27%</td>
<td>12%</td>
<td>31%</td>
<td>43%</td>
<td>12%</td>
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<td>Private</td>
<td>75%</td>
<td>68%</td>
<td>63%</td>
<td>33%</td>
<td>45%</td>
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<td>Other</td>
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<td>44%</td>
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</table>

| P <0.05            | P <0.05       | P <0.05 | NS   | NS   | P <0.01 |

In summary, IDSA continues to assume a leadership role in supporting adult immunizations. IDSA encourages all members to actively participate in this endeavor. The emergence of H1N1 in 2009 demonstrates the need to have an extensive, comprehensive pool of practitioners available and ready to immunize the US population. This survey shows that many of our colleagues are actively participating in the adult immunization process. Although the response rate was small, the survey results are still encouraging. Slightly over two-thirds of responding members were at least obtaining the immunization history and one-third administering deficient vaccines. While influenza vaccine was most frequently offered, all ACIP-recommended vaccines were being administered by one-third of respondents. More importantly, almost two-thirds of
respondents felt ID physicians should administer all ACIP-recommended vaccines. There was also a strong sense of responsibility that ID physicians should immunize patients.

Two concerns are noted. First, those closest to completion of fellowship were least likely to be immunizing, something that should be addressed by both internal medicine and infectious disease training program directors. Second, although there is willingness by our membership to immunize, financial obstacles and programmatic issues such as access to the immunization record may prove to be major obstacles not only for infectious disease physicians but all subspecialists to overcome. These issues must be addressed by public health policy makers as we reform the health care system in the United States.

References

1 Centers for Disease Control and Prevention. Recommended adult immunization schedule—United States, 2009. MMWR 2008; 57(53)

2 Influenza Vaccination Coverage Among Children and Adults --- United States, 2008--09 Influenza Season. MMWR 2009; 58(39);1091-1095 (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5839a1.htm)

