Organizational Culture Influences Health Care Workers’ Influenza Immunization Behavior

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Background and Objectives: Low rates of influenza immunization among health care workers (HCWs) pose a potential health risk to patients in primary care practices. Despite previous educational efforts and programs to reduce financial barriers, HCW influenza immunization rates remain low. Variation in practice-level organizational culture may affect immunization rates. To explore this relationship, we examined organizational cultures and HCWs’ influenza immunization behaviors in three family medicine practices. Methods: We used a multi-method comparative case study. A field researcher used participant observation, in-depth interviews, and key informant interviews to collect data in each practice in November-December 2003. A diverse team used grounded theory to analyze text data. Results: Organizational culture varied among practices and differing HCW immunization rates were observed. The most structured and business-like practice achieved immunization of all HCWs, while the other two practices exhibited greater variation in HCW immunization rates. Physicians in the practices characterized as chaotic/disorganized or divided were immunized at higher rates than other members of the practices. Conclusions: In these practices, organizational culture was associated with varying rates of influenza immunization for HCWs, especially among nonphysicians. Addressing elements of organizational culture such as beliefs regarding influenza immunization and office policies may facilitate the immunization of all staff members.

The persistently low influenza immunization rates among health care workers (HCWs) present a significant public health risk. In 2006, only 42% of HCWs received influenza immunization, putting primary care practices, patients, other HCWs, and the general public at increased risk of influenza.1

HCWs have regular contact with vulnerable patients and can be a vector through which influenza spreads. Specifically, research has documented the transmission of influenza from HCWs to patients, from patients to HCWs, and between HCWs in a variety of settings.2-7 In addition, HCWs, particularly those working in primary health care settings, have been found to be at higher risk for influenza than the general population.8

Influenza spread from HCWs to patients in long-term care institutions has been found to result in increased morbidity and mortality among patients.9,10 Family medicine practices provide care for patients with chronic illnesses and compromised immune systems, and primary care HCWs influenza immunization is an important public health objective.6,11,12 Moreover, influenza-related absenteeism leads to increased employment costs for overtime pay for those not infected and potentially burdens already financially strained primary care practices.8

Despite interventions designed to educate HCWs about the safety and efficacy of influenza immunization and to provide easier access to immunization, immunization rates remain low.13-15 A review of 32 influenza immunization programs across the United States, Canada, and Europe reports uptake rates among HCWs ranging from 2.1%–82%, with the majority of immunization campaigns achieving < 50% immunization rates.16 This relatively low rate of HCW influenza immunization despite intervention programs suggests that new approaches are needed.
Previous attempts at overcoming barriers to HCW immunization has focused primarily upon addressing knowledge gaps and negative perceptions regarding influenza immunization, as well as the lack of easy access to vaccination.\textsuperscript{16-18} This study’s purpose was to examine how practice-level variation in organizational culture affects HCW immunization behaviors. We focused on the underlying expectations of how the practice functions—assumptions embedded in practice policies toward influenza immunization, shared definitions of the meaning of influenza immunization, and how these aspects of organizational culture support or inhibit HCW’s influenza immunization. We identified practice-specific barriers, challenges, and opportunities related to influenza immunizations among health care workers. We report on our investigation of the relationship between these aspects of organizational culture and HCW’s influenza immunization behaviors in three primary care practices.

**Methods**

This study was sponsored by and developed in partnership with the Centers for Disease Control and Prevention and approved by the UMDNJ-Robert Wood Johnson Medical School Institutional Review Board.

**Definitions**

For purposes of this study, we defined organizational culture as “the taken-for-granted values, underlying assumptions, expectations, collective memories, and definitions” of a specific practice.\textsuperscript{19} We defined HCWs as physicians, nonphysician clinicians, clinical support staff, and other office personnel.

**Evaluating Organizational Structure**

To evaluate organizational culture, we used the previously developed Multi-method Assessment Process (MAP), which includes template-guided participant observation of a practice environment, as well as in-depth and key informant interviewing. We adapted MAP to focus on adult influenza immunization-related health care delivery activities, clinical information flow, decision making, office culture, office routines, and practitioners, staff, patient, and community interactions.\textsuperscript{20}

We selected two practices serving minority communities; one urban non-Hispanic African American community, one urban Hispanic community, and a third practice serving a suburban non-Hispanic white community (Table 1). HCWs in the participating practices had a diversity of racial and ethnic backgrounds. The selected practices participated voluntarily and received no financial or other incentive for participation.

One investigator spent 2 weeks in each of three primary care practices during the height of influenza immunization season in November-December 2003, collecting field notes and conducting interviews. This investigator observed staff and patient interactions, conducted semi-structured in-depth interviews with each practice’s lead physician, office manager, and head nurse or medical assistant and conducted unstructured key informant interviews with other health care workers including physicians, nurses, laboratory technicians, and staff members including receptionists, referral specialists, and billing staff.\textsuperscript{21} Interviews were recorded for later transcription.

In-depth interview questions were open ended and prompts followed from the responses of the subjects.

<table>
<thead>
<tr>
<th>Practice</th>
<th>Staffing</th>
<th>Setting</th>
<th>Race/Ethnicity*</th>
<th>Patients**</th>
<th>Clinicians</th>
<th>Staff</th>
</tr>
</thead>
</table>
| 1        | 8 clinicians  
4 medical assistants  
1 office manager  
2 support staff | Urban | Hispanic | 15% | 1 | 2 |
|          |          |         | White | 18% | 2 | 1 |
|          |          |         | African American | 80% | 4 | 4 |
|          |          |         | Other | 2% | 1 | 0 |
| 2        | 4 clinicians  
1 nurse  
1 office manager  
4 support staff | Suburban | Hispanic | 7% | 0 | 0 |
|          |          |         | White | 80% | 3 | 4 |
|          |          |         | African American | 5% | 0 | 1 |
|          |          |         | Other | 15% | 1 | 1 |
| 3        | 3 clinicians  
2 nurses  
2 medical assistants  
1 office manager  
1 practice administrator  
4 support staff  
1 laboratory technician | Urban | Hispanic | 78% | 0 | 6 |
|          |          |         | White | 82% | 3 | 5 |
|          |          |         | African American | 17% | 0 | 0 |
|          |          |         | Other | 1% | 0 | 0 |

* Hispanic patients could be of any race.

** Patient demographics were estimated by practice managers. Clinician and staff race/ethnicity was self-reported.
The main questions were derived from the literature on complexity science and primary care practice organization and focused on typical work routines, staff duties, communication processes within the practice, recent changes in the practice, challenges currently facing the organization, influenza work processes, attitudes toward influenza immunization, and relationships among practice members (Table 2).20,22

The lead physician and office manager in each of the three practices were interviewed in-depth along with the business managers in practices 1 and 3. In addition, 24 informal key informant interviews were conducted with other practice staff members (seven in practice 1, seven in practice 2, and 10 in practice 3).21 All interviews were conducted at the respective practices, rather than at the investigator's office.

All members of each practice were asked if they had ever received an influenza immunization, whether or not they had received one in the current year, and if so, where they received it. Since no practice members refused to give this information, a 100% response rate was achieved.

**Data Analysis and Coding**

Field notes and transcripts of recorded interviews were imported into ATLAS.ti for coding and analysis using a grounded theory approach, which allows categories, concepts, properties, and their interrelationships to emerge throughout an iterative coding and analysis process.23,24 Four members of the research team created an initial "open" coding scheme by identifying, labeling, and defining categories before coding was initiated, then coded a subset of the field notes as a group.25 A fifth member (the individual who conducted the interviews) then coded all remaining data, expanding and refining the initial coding list. The other four members of the research team subsequently coded a subset of field notes with the revised code list to verify coding by the fifth member (the interviewer), and all disagreements regarding the application of the coding scheme were resolved by consensus. Members of the coding team included a primary care physician, a sociologist, a social worker, a nurse researcher, and a health services researcher.

Data were coded for examples of HCWs' access to, attitudes toward, and knowledge of influenza immunization as well as perceptions of their own influenza-related health risk. We also coded instances describing office staff influenza immunization policies and general practice characteristics. Relationships between categories then were investigated to gain greater insight into how organizational culture might influence HCWs' attitudes toward influenza immunization.

**Results**

Organizational culture varied among practices and these differences were associated with varying HCW immunization rates (Table 3).

**Practice 1: Chaotic and Disorganized**

Practice 1’s organizational culture appeared chaotic and disorganized. All but one physician in the practice reported getting an influenza immunization. The lead physician in this practice assumed that the value placed by clinicians on immunization was shared across all members of the practice staff. The senior clinician

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<th>Table 2</th>
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<td><strong>Interview Questions</strong></td>
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<tr>
<td>1. What is it like to work in this practice?</td>
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<tr>
<td>2. What is a good day/bad day in this practice?</td>
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<tr>
<td>3. Tell me about a recent significant change in this practice.</td>
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<td>4. How are changes communicated to practice members?</td>
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<td>5. What are the biggest challenges facing this practice?</td>
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<td>6. What is the practice approach to influenza immunization?</td>
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<td>7. What are the biggest challenges faced by the practice with regard to influenza immunization?</td>
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<td>8. What systems do you have in place for administering and recording influenza immunization? Do you have standing orders for this immunization?</td>
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<td>9. What are your thoughts about influenza immunization? Is influenza immunization a practice priority? Who do you think should get the vaccine?</td>
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<tr>
<td>10. How do staff feelings and attitudes about influenza affect patient immunization?</td>
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<td>11. What sorts of patient resistance to immunization do you encounter? How do you respond?</td>
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Questions 1–10 were used with all interviewees.

Question 11 was used with any interviewee who had direct patient contact in the clinical encounter.
reported that “I think the staff does a pretty good job (with influenza immunization). Like if an elderly patient comes in October, while they are assessing the patient, ‘Miss Smith, why are you here today?’ ‘I am here to follow my diabetes.’ And the medical assistant will say, ‘Would you like to get a flu shot?’ And sometimes that is negotiated before I even walk into the room.”

Despite the physician’s understanding, however, the four medical assistants held beliefs that influenza immunization was possibly harmful and certainly unnecessary. As the medical assistant who self-identified as the “head nurse” in the practice put it, “I just don’t get the flu shot. I don’t like medicine. If it’s not broke, don’t fix it. The flu vaccine, chemicals in my body, I don’t want… I can’t promote it… I don’t say ‘you should get the flu vaccine.’”

The chaotic and disorganized structure of this practice appeared to prevent effective communication to address these differences in attitudes and values relating to influenza immunization. Another clinician recognized that the disorganization of the office prevented a positive “flu shot culture” from taking hold. “We have started to talk about standing orders, but we haven’t talked about flu shots.” The physician reported that in her previous practice, “Nurses led the way in promoting influenza vaccines free of charge for the community. As she says, “It became an office cultural thing.” The practice lack of shared values around immunization and the failure to develop a consistent flu shot culture meant that clinical support staff attitudes were never challenged or addressed in any systematic way. No clinical support staff members were immunized against influenza in this practice.

**Practice 2: Structured and Businesslike**

The leadership in Practice 2 valued efficiency, productivity, and clear adherence to office policies and procedures. The lead clinician “has a plan … set ideas… [and] demands perfection” according to one office staff member. Another support staff says, “Here it’s ‘Go by the rules; no exceptions to the rules.’” Thus influenza immunization was presented to HCWs as a routine part of working in the office. The office manager used her authority to champion influenza immunization for office staff, explaining that “We give flu shots to everybody. We never have to say it’s mandatory; we just give it.” As a staff member put it, “The primary reason [for getting immunized] was [the office manager].” Another staff member says, “She tells you ‘You’re getting a flu shot,’ and you’re like ‘Yeah, I guess.’” In this context, support staff consistently expressed attitudes valuing influenza immunization, and all reported getting immunized every year. Staff members reported that, over time, they had learned the importance of influenza immunization through their personal experience and reported belief in its efficacy. When asked if she would have been immunized without office encouragement, a front office worker said, “The first year, probably not. I wasn’t aware of how good it was… I get a flu shot every year. Anything that can prevent us from getting the flu is good, especially because they give it here for free. It’s my third time getting the flu shot. I never got it before I started here.” The office manager’s use of authority to informally mandate influenza immunization led at least some members of the staff to reevaluate their own attitudes and beliefs.

Office polices also promoted influenza immunization by providing free immunization to office staff in the workplace. Practice 2 staff members thus could quickly and easily obtain influenza immunization in the office.

**Practice 3: Divided Organizational Culture**

A division between the clinical staff and front office staff characterized Practice 3’s organizational culture. Clinicians and clinical support staff share the practice value of providing care to an underserved and needy population. As a senior administrator put it, “Our mission (states that) we are trying to treat the poor
and vulnerable, the ones who usually fall through the cracks.”

By contrast, front desk staff members feel that they are not valued members of the service team. Office policies on influenza immunization tacitly recognize the divided nature of the practice. Office policy provided free immunization on site to staff members working directly in patient care but not to the other staff members. Thus, all the clinicians and nurses reported receiving influenza immunization, with the head nurse reporting that “I get one every year” and that it is very important, “especially if you’re working with health services.” In contrast, other clinical support staff and front office workers did not get immunized. When asked why, a front desk staff member reported that she “never got one, never even thought about it [since] I would have to pay $10 here to get it … [even though] they advised me to get it.” Another front desk staff member said, “Because we have insurance, they [the practice leaders] want us to go to our own doctors. I’ve been here 7 years; it’s always been the same.” When the checkout clerk asserted that “We should get it [influenza immunization] here,” another front desk staff member replied, “No honey, not us, we’re peons.”

This approach undermined full achievement of HCW vaccination placing the organization potentially at risk. In this practice, all of the clinicians but none of the administrative support staff members were immunized.

Discussion

Previous research on organizational culture in primary care settings has found that culture is associated with effective teamwork and patient care quality. We have extended this research by focusing on the ways in which aspects of organization culture interact to shape HCWs’ own influenza immunization attitudes and behaviors and how these vary across practice settings.

Informal or formal office policies demanding immunization and operating within an effective hierarchy can lead staff members to reevaluate their beliefs about influenza immunization in light of their own experience. Targeting immunization to only some members of the staff may encourage the development of a divided organizational culture potentially interfering with the development of an effective health care team and negatively affecting preventive care delivery. Absent effective supervision of clinical support staff or trained nursing staff, clear communication from clinicians regarding immunization for HCWs is needed to ensure that these workers are immunized. In settings with poor communication patterns or chaotic organizational practices, beliefs antithetical to immunization are likely to remain unchallenged barriers to immunization for HCWs and potentially for patients.

Our findings are limited, however, by our small sample size and in that we did not seek to recruit a representative sample of primary care practices. Thus, there may be other features of organizational cultures affecting HCW immunization that were not explored here. The potential effects of HCW immunization beliefs and behaviors on patient care were also outside of the scope of this study. Nonetheless, the issues that we have identified in these practices are likely to be typical of those faced by other primary care practices, and addressing these issues is likely to be important in ensuring effective immunization of HCWs in similar settings.

Conclusions

The interrelationship between staff beliefs and practice policies constituting the organizational culture of a particular primary care practice may be an important determinant of HCW immunization behaviors in these practices. A better understanding of the ways that practice culture supports or inhibits influenza immunization among health care workers is crucial for developing effective strategies to increase HCWs’ influenza immunization rates.

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