

## Research Briefs

# Visitor screening and staff sick leave policies in US hospitals

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Patients are at risk of hospital-acquired respiratory viral infections (HARVIs) spread from ill healthcare workers (HCWs) and visitors.<sup>1,2</sup> We assessed hospital staff sick leave policies and visitor restriction policies. A Society of Healthcare Epidemiology of America Research Network (SRN) survey revealed variability in screening of visitors for symptoms suggestive of respiratory viral infection and staff sick leave policies. Many hospitals had no policy restricting direct patient care for sick visitors or hospital staff.

## Methods

A survey was sent to US SHEA Research Network (SRN) members between October 11 and November 11, 2017. The Rhode Island Hospital Institutional Review Board granted our survey exempt status.

## Results

Of 99 SRN members, 52 completed the survey (response rate, 53%). The highest percentage of respondents was in the Northeast region (33%), and most worked in academic medical centers (56%) or hospitals affiliated with an academic institution (15%). Pediatric hospitals were the primary affiliation of 21 (40%) survey respondents, including stand-alone children's hospitals and children's hospitals within hospitals.

Seven respondents (13%) noted that their hospitals do not have a visitor restriction policy (Table 1). Of the 45 respondents in hospitals with a visitor restriction policy, 30 (67%) were hospital-wide and not limited to specific units. When visitor restriction policies were localized, they were most commonly in the neonatal ICU (12 of 15 localized policies), newborn nursery (8 of 15), pediatric ICU (7 of 15), and adult hematology/oncology units (7 of 15). Of the 45 hospitals with visitor restriction policies, 40 (89%) assessed visitor signs and symptoms, 26 (58%) assessed visitor age, and 1 (2%) assessed influenza vaccine status. In addition to these factors, 31 hospitals with visitor restriction policies (69%) indicated that their policies were put in place seasonally.

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A total of 33 respondents (63%) noted that they had a staff restriction policy in their hospital system based on the presence of respiratory viral symptoms. Among them, 30 reported hospital-wide policies extending beyond ICUs and locations in the hospital caring for immunocompromised patients. In addition, 26 respondents (50%) noted that their hospital has no requirement for hospital staff with respiratory viral symptoms to be evaluated by employee and occupational health (EOH). If EOH evaluated staff members with respiratory viral symptoms and symptomatology was confirmed, 37 of 40 (93%) of those hospitals restricted direct patient care. Of these 37 hospitals, 23 (62%) required fever in addition to upper respiratory tract infection symptoms before direct patient care was restricted. Of 33 respondents whose hospitals have a policy restricting direct patient care with respiratory viral symptoms, 7 (21%) noted that there was no on-call system to provide shift coverage for such healthcare personnel.

Although the Northeast, Midwest, South, and West regions had similar rates of staff restriction policies for respiratory viral symptoms (65%, 60%, 67% and 63%, respectively), the requirements for staff with respiratory viral symptoms to be evaluated by EOH were highest and lowest in the Northeast region (71%) and the West region (13%), respectively. Also, 20% and 58% of respondents in the Midwest and South regions required evaluation by EOH for respiratory viral symptoms, respectively. The West region had the lowest number of respondents reporting an on-call system to provide coverage when healthcare personnel are ill (25%); the South, Northeast and Midwest regions had rates of 58%, 47% and 47%, respectively. In the South and West regions, all respondents reported the presence of a visitor restriction policy, compared to 80% and 76% in the Midwest and Northeast regions, respectively.

## Discussion

Hospital-acquired respiratory viral infections are a source of patient morbidity and mortality and universal implementation of visitor screening and HCW sick leave policies are important in reducing transmission of these infections in the hospital. Nevertheless, our survey results show that many US hospitals have not implemented visitor restriction or staff sick leave policies. Implementation of a universal policy restricting ill HCWs from direct patient care may be challenging to hospitals, especially when extra personnel or financial resources are limited. In these situations, policies may have to be tailored to individual patient care units or services, taking into account their unique

**Table 1.** Visitor Restriction and Staff Sick Leave Policies

Responses	No. (%)
<b>Does the Hospital Have a Visitor Restriction Policy? (N = 52)</b>	
Yes, hospital-wide	30 (58)
Yes, localized <sup>a</sup>	15 (29)
Adult intensive care unit	4
Hematology/oncology units	7
General hospital units	2
Medical-surgical units	2
Neonatal intensive care unit	13
Newborn nursery	8
Pediatric intensive care unit	7
No	7 (13)
<b>What factors is the visitor restriction policy based upon? (N = 45)<sup>a</sup></b>	
Age of visitor	26 (58)
Influenza vaccine status of visitor	1 (2)
Season (eg, respiratory viral season)	31 (69)
Signs and symptoms of visitor	40 (89)
No restriction policy <sup>b</sup>	1 (2)
<b>Does your hospital have a policy requiring staff with respiratory viral infection symptoms to be evaluated by employee/occupational health? (N = 52)</b>	
Yes	23 (44)
No	26 (50)
I don't know	3 (6)
<b>What factors will restrict employees from direct patient contact after evaluation by employee/occupational health? (N = 40)<sup>a</sup></b>	
Symptoms (eg, rhinorrhea, sore throat, cough, fever)	37 (93)
Positive respiratory viral testing	19 (48)
Influenza vaccine status	3 (8)
Not specified in policy	1 (3)
<b>Are fever and respiratory symptoms required as conditions when limiting staff from direct patient contact? (N = 44)</b>	
Yes	23 (52)
No	15 (34)
I don't know	6 (14)
<b>Does the hospital have a staff restriction policy for respiratory viral symptoms? (N = 52)</b>	
Yes	33 (63)
Hospital-wide	30
Localized <sup>c</sup>	3
Cardiac intensive care unit	1
Bone marrow transplant unit	1

**Table 1.** (Continued)

Responses	No. (%)
Hematology/oncology unit	3
Neonatal intensive care unit	2
Pediatric intensive care unit	2
No	18 (35)
No response	1 (2)
<b>Does the hospital have an on-call system with shift coverage for sick healthcare personnel? (N = 52)</b>	
Yes <sup>a</sup>	24 (46)
Attending physicians <sup>d</sup>	7
House officers	14
Licensed independent practitioners (physician assistants and nurse practitioners)	6
Nursing	8
No	12 (23)
I don't know	16 (31)

<sup>a</sup>Responses could include >1 answer.

<sup>b</sup>Visitors are screened; sick visitors encouraged to postpone visit.

<sup>c</sup>Some hospitals had >1 localized unit with staff restriction policies for respiratory viral symptoms.

<sup>d</sup>Two institutions indicated that they have on-call policies for sick attending physicians that are contingent on the size of their division; smaller divisions do not have an on-call system with shift coverage.

environments and resources.<sup>3</sup> Recent studies suggest that the implementation of such policies, specifically visitor restriction policies, can reduce HARVIs.<sup>4</sup>

Hospitals should also provide an on-call system with shift coverage for ill HCWs, which should be known to all staff, and adherence should be encouraged by senior leadership. Unfortunately, as many as 23% of respondents reported not having an on-call system with shift coverage for ill HCWs and >30% reported that they did not know whether their institution had such an on-call system. Several survey respondents indicated that their policies are seasonally based, but in a previous study, we showed that HARVIs occurred year-round.<sup>5</sup> Hospitals should ensure that these policies are enforced beyond the respiratory viral season.

The implementation of visitor and sick leave policies within the hospital will require the acknowledgment by hospitals that HARVIs can negatively affect patients who are sick and recovering in the hospital.<sup>6</sup> Senior leadership and healthcare staff will have to support each other to ensure that these policies are adhered to, and they must provide effective ways to safeguard against these hospital-acquired infections in resource-limited settings. As with any culture shift, behavior change should begin early in the education of healthcare staff through reinforcement in the classroom and during rotations.<sup>7</sup>

Because the survey was distributed through the SRN, results may reflect sampling bias. Furthermore, our survey was not previously validated. Despite these limitations, we hope that our survey findings stimulate discussions regarding cultural changes to our healthcare system that prevent ill HCWs and visitors from having direct patient contact.

**Supplementary material.** To view supplementary material for this article, please visit <https://doi.org/10.1017/ice.2018.131>

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# Peripheral arterial catheter colonization in cardiac surgical patients

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Arterial catheters (ACs) are commonly inserted in critically ill patients for continuous blood pressure monitoring. They are most commonly inserted in the radial artery of the upper extremity and should not be confused with pulmonary artery catheters. Published studies have shown that the risk of bloodstream infections from infected ACs is similar to that from central venous catheters. The incidence density of AC-related bloodstream infections is 0.9–3.4 per 1,000 catheter days, which is 40%–90% of the incidence density of central venous catheter-related bloodstream infections.<sup>1–5</sup> In 2011, the CDC released updated infection prevention guidelines for intravascular catheters, recommending use of a cap, mask, sterile gloves, and a small sterile fenestrated drape for peripheral AC insertion.<sup>6</sup> However, there is significant practice variation regarding barrier precautions utilized for AC catheter insertion and low adherence to these guidelines.<sup>7</sup>

The primary aim of our proof-of-concept project was to determine the potential infectious risk of peripheral ACs inserted in the operating room or preoperative holding unit using less than maximal barrier precautions (ie, use of sterile gloves and a small drape rather than a large sheet drape that would keep ancillary instruments sterile when several inches away from the insertion

site). Our hypothesis was that we would find a relatively high incidence of AC catheter colonization. Because several studies have demonstrated that the risk of catheter colonization correlates with the risk of catheter-related bloodstream infection,<sup>8,9</sup> we used AC colonization as our outcome measure.

This project was carried out at Rhode Island Hospital, a tertiary-care teaching hospital licensed for 719 beds. Patients were included in the study if they were undergoing cardiothoracic surgery and were admitted to our 16-bed cardiothoracic surgery intensive-care unit (CTICU) directly from the operating room with their ACs in situ. In the operating room, the insertion site was prepped with alcoholic chlorhexidine (Chlora Prep TM; Becton Dickinson, Franklin Lakes, NJ), and ACs were preferentially placed in the radial artery of an upper extremity 0–5 cm proximal to the patient’s wrist by an anesthesiologist or nurse anesthetist using gloves, cap, mask, and a small sterile drape (46 by 66 cm). For patients in our cardiothoracic intensive care unit (CTICU) whose ACs were removed and who required insertion of a new AC, this procedure was carried out by physician’s assistants using an AC insertion kit which included a hat, mask, sterile gloves, gown, sterile drape (76 × 91 cm) with 7.6 cm fenestration, and alcoholic chlorhexidine (Chlora Prep TM; Becton Dickinson, Franklin Lakes, NJ). Such catheters were preferentially inserted in the radial artery. We included patients who had > 1 AC placed during their hospitalization.

We prospectively obtained AC tip cultures when ACs inserted in the operating room or the CTICU were removed from patients as determined by the CTICU staff. Arterial catheter tip cultures

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