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## Major article

## Preventing transmission of MRSA: A qualitative study of health care workers' attitudes and suggestions

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**Background:** Health care workers' (HCWs) perceptions and attitudes affect implementation of precautions to prevent transmission of drug-resistant pathogens such as methicillin-resistant *Staphylococcus aureus* (MRSA). Identification of challenges and barriers to recommended practices is a critical component of promoting a safe clinical environment of care.

**Methods:** Semistructured interviews addressed how MRSA affects HCWs, prevention of transmission, and challenges and barriers HCWs experience when entering a MRSA isolation room and performing appropriate hand hygiene.

**Results:** The purposive sample of 26 acute care HCWs (16 registered nurses; 1 physician; 6 allied health professionals; and 3 support staff) self-selected from 276 responding to a questionnaire on MRSA. Analysis identified 18 themes across seven categories. Most participants reported feeling responsible for preventing transmission, and having the knowledge and desire to do so. However, many also reported challenges to following consistent hand hygiene and use of contact precautions. Barriers included patient care demands, equipment and environmental issues such as availability of sinks, time pressures, the practices of other HCWs, and the need for additional signs indicating which patients require contact precautions.

**Conclusions:** The HCWs reported a need for improved clarity of isolation protocols throughout patients' hospital journey, additional rooms and staff for isolation patients, improved education and communication (including timely and appropriate signage), and an emphasis on involving all HCWs in reducing contamination.

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Recent qualitative studies in the United States provide insight into developing strategies to successfully implement practices that reduce health care–associated infections (HAIs) related to medical devices.<sup>1–3</sup> However, only limited qualitative research has evaluated health care worker (HCW) attitudes and reports of barriers to hand hygiene and contact precaution adherence in acute care. International studies, mostly from Europe, have suggested that most HCWs feel a strong responsibility to patients and a desire to prevent

infections.<sup>4–7</sup> They have also suggested that self-protection—not patient protection—is the primary cue to action for HCWs to implement hand hygiene and contact precautions.<sup>4–8</sup>

Across studies, HCWs consistently report that barriers to adherence include workloads and time pressures,<sup>4–7,9</sup> as well as insufficient access to appropriate facilities and protective equipment.<sup>4,10–12</sup> HCWs also report challenges in maintaining standards during emergent clinical situations, because taking time for contact precautions may compromise patient safety.<sup>4–6</sup> The present study builds on these previous qualitative studies by examining HCWs' attitudes about methicillin-resistant *Staphylococcus aureus* (MRSA), perceptions of challenges and barriers to MRSA prevention, and suggestions for preventing the transmission of MRSA in acute health care settings.

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## METHODS

### Participants

This qualitative study is 1 of 3 components of a comprehensive evaluation of MRSA prevention practices at an acute care hospital that includes quantitative, qualitative, and direct observation methods. The methods and results from the quantitative and direct observation studies are reported elsewhere.<sup>13</sup> A purposive sample of 26 HCWs engaged in direct patient care or with jobs requiring entry into patient care areas were recruited for interviews. Out of a total of 276 HCW survey participants, 42 volunteered to be interviewed for this study, and 26 completed the interview (24 females and 2 males). The participants represented a variety of health care fields (16 nurses, 1 physician, 6 allied health professionals, and 2 support staff), a wide age range (3 age 18-25 years, 6 age 26-35 years, 7 age 36-45 years, 4 age 46-55 years, and 6 age 56 years and older), and varying employment status (22 full-time, 2 part-time, and 2 as needed).

### Interview methods

Semistructured interviews approximately 30 minutes in length were completed in the hospital during September and October 2012. The following questions explored perceptions of MRSA and challenges in reducing transmission in acute health care settings:

1. How do you feel MRSA affects you as a HCW?
2. What are suggestions of ways to prevent transmission of MRSA?
3. How are you challenged in your work task when you have to enter an isolation room?
4. What are other barriers that prevent implementing isolation precautions or appropriate hand hygiene?

### Data analysis

Interviews were audio recorded and transcribed into 27 pages of verbatim responses by the lead author (D.J.S.). Comments were imported into Excel and sorted by theme. The lead author and 2 researchers (K.G.S. and M.C.D.) completed content analysis using a directed approach with an open and selective method of coding. Interviews were reviewed during transcription and categorization to identify multiple unique elements from each conversation, and comments were assigned to categories and themes.<sup>14</sup> The reviewers used an iterative process to refine categories and achieve consensus on response categorization and theme coding. An a priori framework focused on interview question objectives: perceptions or attitudes about MRSA prevention, challenges of adhering to contact precautions for patients in isolation, and hand hygiene barriers. The final categorization scheme also included time management, knowledge or education about MRSA, communication (including signage), and mechanisms of MRSA contamination (Table 1).

Within themes, keywords were identified and used as search terms for a line-by-line analysis of interview transcripts (Table 2).<sup>15</sup> The word processor "Find" function confirmed that all keywords were identified and coded. Assignment of an observation was not restricted to a single category; comments addressing multiple themes were coded for relevant categories.

## RESULTS

The final coding scheme consisted of 7 categories and 18 themes (Table 2). Figure 1 shows each core category and theme. Here,

emergent themes from each of the 7 main categories are presented in the words of the study participants.

### Perceptions and attitudes

Figure 1 lists the participants' positive and negative perceptions about MRSA and its impact on their lives. The HCW's responsibility for patient care was a common positive attitude that promoted MRSA prevention activities:

"First of all, I feel responsible for the person that I am dealing with. That's where it really impacts me. If I touch somebody and I haven't washed my hands properly, then I am going to be the carrier and trigger for that MRSA to go forward. And to think what happens to people! Especially, I work in joint replacement, and if they have some kind of joint infection, it's epic" (nurse).

"It requires that we be much more careful in our registrations. Because...we're responsible for alerting the clinical staff. So as part of our job, we have to always be aware of an alert [and] to pass the information on to the clinical staff" (support staff).

Negative prevention perceptions included concerns that personal protection may adversely affect patient care and inhibit healing derived from physical contact with a caregiver:

"I think that at some point when a health care professional knows that her patient is infectious, there is a barrier that happens. A barrier to touch, just to provide comfort or a healing touch or comfort touch...goes away when you have the barrier of the PPE [personal protective equipment] and just the idea that the patient is infectious then. You want to protect yourself and of course when you go home, you want to protect your family" (nurse).

"I feel like I don't make a connection and a contact [with] my patient that I normally would if somebody was not on isolation...the gloved hands versus the skin-to-skin contact of trying to make that connection with the patient" (nurse).

Some HCWs' negative attitudes to contact precautions adherence could have significant repercussions for patient safety:

"I think the biggest things are that people either think, 'Well I'm only doing this one little task; it doesn't matter,' or 'I'm just going to pop in the room, and I just need to get this one form signed—do I really need to put on and use all the isolation or all the preventive things I should?'" (support staff).

### Contact precautions

Among the comments related to work practices and challenges in work practice, 15 reflected adherence to recommended practices of gloving, gowning, and hand hygiene and 13 reflected nonadherence. Many participants expressed concern about nonadherence:

"My suggestion would be just better adherence to the system. Maybe a more strict, straightforward way of having people look at the signage and the carts and gowning up and gloves and everything. I don't feel like it is being adhered to as well" (allied health).

Adherence to contact precaution protocols raised concerns about patient safety when time is critical. Donning and doffing gowns and gloves is a challenge "when there's a safety issue and you can't just run right in," as reported by nurses concerned about patients at risk for falling and injuring themselves, among other possible threats to safety. Providing the same level of care to the patient on isolation challenges the HCW who knows that "it just

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