

Letters to the Editor

Apparent Transmission of Two Species of Gram-Negative Rods in Catheterized Residents on a 50-Bed Nursing Home Unit

To the Editor:

Infection control reporting in nursing homes usually lists clinical syndromes (eg, respiratory tract or urinary tract infection), room number, and date. Unfortunately, such listings do not provide much evidence of transmission unless they occur as part of an explosive outbreak. The various infection syndromes may be caused by different organisms and a common strain may produce more than one syndrome (eg, methicillin-resistant *Staphylococcus aureus* may cause pneumonia, wound infection, or urinary tract infection).¹

Infection control surveillance at the Wisconsin Veterans Home includes a review of a computerized database with bacterial isolates for each nursing unit stacked by species, looking for clustering of organisms (ie, identical species and antibiotic sensitivities) in space and time.² In December 2001, we noted that two chronically catheterized residents with acute urinary symptoms on the same 50-bed nursing unit shared two urinary organisms (*Klebsiella pneumoniae* and *Pseudomonas aeruginosa*) within 5 weeks of one another (November 8 and December 14, 2001). The isolates showed no unusual sensitivity patterns. Both individuals were totally dependent on staff for their activities of daily living. They did not socialize directly. Pulsed-field gel electrophoresis (PFGE) was subsequently performed and revealed indistinguishable PFGE patterns for the two species in the two residents. These PFGE results suggest the possibility of transmission. During the previous 6 months, eight additional PFGE analyses had been performed on eight other *P. aeruginosa* isolates at the home: seven were completely unrelated (ie, all varied by > seven bands) and one varied by three bands from the two reported. The third iso-

late had been collected on October 16, 2001, from the urine of an acutely symptomatic, catheterized individual who resided in a different building. We found no direct epidemiologic link between the two individuals with indistinguishable *Pseudomonas* isolates from the same floor and the third individual from a different building with an isolate that varied by only three bands. The three individuals could have shared inter-building caregivers. All three isolates were clustered in time (November 8 to December 14, 2001).

Similar to others, we have demonstrated clustering of gram-negative organisms in nursing homes using PFGE.^{3,4} The other studies included extensive longitudinal or cross-sectional sampling as part of research protocols. In our study, we detected a cluster of transmission by simply reviewing culture reports, identifying two chronically catheterized residents on the same nursing unit who shared two organisms, and further supported the transmission hypothesis with PFGE. The sharing of two organisms might strengthen the possibility. Such investigations are within the scope of many facilities and serve as a powerful personal reminder to staff that organisms may be transmitted in their facility and that lapses in technique have consequences. The Foley catheter should always be approached as a potential reservoir of resistant organisms. It is critical for staff who are caring for those with Foley catheters to maintain excellent hygiene practices as they go from resident to resident in the hope of slowing down the documented phenomenon of clustering and transmission of organisms in nursing home residents who are chronically catheterized.

REFERENCES

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Molecular Epidemiology of Methicillin-Resistant *Staphylococcus aureus* in a Veterans Administration Medical Center

To the Editor:

The work of Herwaldt et al. entitled "Molecular Epidemiology of Methicillin-Resistant *Staphylococcus aureus* in a Veterans Administration Medical Center"¹ prompted us to review our clinical experience with individuals who had pulsed-field gel electrophoresis (PFGE) typing of 2 isolates separated in time. Herwaldt et al. reported that of 10 patients who had 2 isolates more than 3 months apart (mean, 56 weeks), 5 patients had more than 1 strain. An isolate was considered to be different if the dice coefficient was less than 85%.¹

We previously reported a 6-year experience performing PFGE on 71 initial methicillin-resistant *S. aureus* (MRSA) isolates in a 721-bed nursing facility.² At this time, our data have extended to 8 years with 113 initial isolates. During the 8-year investigation, we encountered 8 residents with initial MRSA isolates who had been treated with antibiotics because of infection, or "decol-