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## Specialty, but Not Age, Is Related to Provider Hand Hygiene Compliance

*To the Editor*—Hand hygiene by healthcare providers is a leading measure to reduce hospital-acquired infections. According to World Health Organization guidelines, hygiene should be performed before and after patient contact, and after contact with inanimate surfaces and objects (including medical equipment) in the immediate vicinity of the patient.<sup>1</sup> Compliance with hand hygiene has been reported to be as low as 32% among physicians.<sup>1</sup> Barriers to compliance include environmental factors, educational gaps in infection control training, and behavioral factors.<sup>2</sup> Physician status, in contrast to nurse status, has been associated with lower hygiene rates.<sup>3</sup> Additionally, provider experience may be linked to a more casual attitude toward infection prevention precautions.<sup>4</sup>

Virginia Hospital Center (VHC) is a 334-bed teaching hospital in Arlington, Virginia, located in the Washington, D.C., metropolitan area. Hand hygiene rates have historically been ~50%–60% among providers, and they have increased since 2012 to 85% with stronger emphasis on hand hygiene. We investigated whether the age of the provider or the specialty of the provider is related to hand hygiene compliance.

Hand hygiene observations were performed by “secret shoppers” as outlined in the Joint Commission’s 2009 monograph regarding the measurement of hand hygiene adherence.<sup>5</sup> Providers were observed entering and exiting patient rooms and bays

and performing hand hygiene with either soap and water or alcohol-based hand sanitizer. Each time a provider crossed the threshold of a room and was observed interacting with the patient, an encounter was noted. If the door was closed or the observer’s view was similarly obstructed, the encounter was not recorded. Compliance was defined as the number of times hand hygiene was observed compared to the number of encounters recorded. Entering and exiting the room were considered separate encounters.

We reviewed hand hygiene observations from physicians or physician extenders at our hospital from January 2014 to December 2014. We compared compliance and noncompliance of those born prior to or after January 1, 1964, (ie, older or younger than 50 years old) and of those in a medical or surgical specialty. If a provider had more than 1 encounter, we counted only 1 encounter for compliance and noncompliance, respectively.

In total, 209 observations were made during this period, with a compliance rate of 54% overall (Table 1). Among the observations for those under age 50, 55% were compliant, but 53% of those over age 50 were compliant. The odds ratio for younger providers being compliant with hand hygiene was 1.07 (confidence interval [CI], 0.59–1.95). Among the observations for those in a medical specialty, 76% of providers were compliant, but only 38% of providers in a surgical specialty were compliant. The odds ratio for medical providers being compliant with hand hygiene was 5.13 (CI, 2.77–9.52).

Among younger physicians in our hospital, there is a notion that noncompliance with hand hygiene is a problem with older providers. Medical students and residents are actively taught about hand hygiene expectations, and its importance is emphasized on a monthly basis. Although compliance may wane with experience,<sup>6,7</sup> this preconception in our hospital is not supported by our data, and age was not related to compliance in this study. Notably, we selected age 50 as our cutoff because the Centers for Disease Control and Prevention published its first hand hygiene guidelines in 1985.<sup>8</sup> Those who are under age 50 would have likely started their medical education after this document was published.

Those in surgical specialties were less likely to be compliant with hand hygiene. Although not reported here, a number of our noncompliant observations occurred in

TABLE 1. Provider Hand Hygiene Compliance by Age and Specialty

	Total Observations	Age		Specialty	
		≤50 y	>50 y	Medical	Surgical
Compliant, No. (%)	112 (100)	34 (30)	78 (70)	64 (57)	48 (43)
Noncompliant, No. (%)	97 (100)	28 (29)	69 (71)	20 (21)	77 (79)
Odds ratio	...	1.07		5.13	
95% confidence interval	...	0.59 to 1.95		2.77 to 9.52	
Significance level	...	P = .81		P < .0001	

the post anesthesia care unit (PACU), which would show a selection bias because surgeons comprise the majority of providers in this unit. Other limitations include multiple observers, who may not have used standard methods despite education, and multiple hospital units, where access to hand hygiene stations may differ. Additionally, ~30% of our observations were excluded from this analysis because we did not have the date of birth or specialty of provider observed.

In conclusion, no statistically significant relationship between age and rates of hand hygiene compliance was identified in this study. However, we did find a significant difference in rates of hand hygiene compliance between medical and surgical subspecialties. Interventions can be focused on this specific population of providers.

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