professional organizations. Finally, having a department with an integrated team with diverse expertise can enhance professional satisfaction in a field often without many opportunities for traditional upward mobility or promotion opportunities. In addition, having a motivated workforce may reduce staff burnout, improve job satisfaction, and contribute to a positive workplace culture.

Additional programs might be evaluated as part of an integrated infection prevention department. First, development of a formal "infection prevention liaison" program may be considered. Such a program should include a member from each clinical (eg, medical intensive care unit) and nonclinical unit (eg, radiology) that meets at least once a month with key members of the infection prevention department and receives periodic infection prevention lectures and updates. Liaisons can serve as 2-way communicators (ie, updating their units with the latest infection prevention policies and providing feedback from individual units to infection prevention leadership). Second, infection prevention can be integrated with antimicrobial stewardship programs (CDC recommendations).[10] Antimicrobial stewardship plays a key role in *C. difficile* reduction and control of multidrug-resistant pathogens. For example, at the University of North Carolina Medical Center, the Director of Infection Prevention also serves as the Administrative Director of Antimicrobial Stewardship. In addition, members of the antimicrobial stewardship team play a key role in advising on issues relating to diagnostic stewardship (eg, appropriate collection of blood cultures and indications for urinalysis or urine culturing). Successful antimicrobial stewardship programs are also multidisciplinary in nature, so direct alignment with the infection prevention team can provide synergistic support and strategy.

In conclusion, we believe that an integrated infection prevention department should be considered as the paradigm of the future. Such a department will be better equipped to achieve zero HAIs as the ultimate goal and will be better prepared to respond to future pandemics.

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Differences in infection prevention and control training needs between healthcare workers: Results of a learning needs assessment focused on nursing assistants and dental professionals

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To the Editor—Despite profession-specific competencies[1] and evidence that infection prevention and control (IPC) training reduces infection risk,[2–5] most IPC training targets physicians and nurses, with relatively little material focused on other healthcare professionals (HCPs). In 2020, the Nebraska Infection Control Assessment and Promotion (ICAP) program collaborated with

the Nebraska Department of Health and Human Services (NE DHHS) through a grant from the Centers for Disease Control and Prevention (CDC) to deliver IPC training to frontline HCPs. Our program emphasized training for groups not frequently targeted by traditional IPC curricula. We performed a learning needs assessment to assist with curricula planning by asking participants what they perceived as barriers to IPC training, how and from whom they preferred to receive IPC training, and in which IPC topics they most perceived the need for additional training. Here, we report our findings among nursing assistants and dental professionals, 2 populations whose IPC training needs are relatively unstudied.

We distributed an online survey to Nebraska's frontline HCPs via local professional societies and ICAP e-mail listservs, ICAP webinars, ICAP social media platforms, and the NE DHHS weekly newsletter. The survey asked respondents to identify their professional role, preferred sources and formats of training, and perceived need for additional training across multiple IPC topics. Survey responses from nursing assistants and dental professionals were analyzed using descriptive statistics, and response ratios were compared using the χ^2 test.

In total, 177 nursing assistants and 59 dental professionals completed our survey; slightly less than half of each group (48% and 49%) reported practicing in a rural setting. The survey responses by nursing assistants and dental professionals are summarized in Table 1. We identified several important differences. First, although nursing assistants and dental professionals identified the same top 3 barriers to participating in IPC training, nursing assistants were more often concerned about cost and dental professionals were more often concerned about the time commitment. Second, although majorities in both groups preferred self-paced training, nursing assistants were far less interested in attending a traditional lecture format than were dental professionals. Third, although trust in all sources of IPC training was lower among nursing assistants versus dental professionals, this was particularly true for academic institutions and professional associations, whereas both groups had high confidence in the CDC. Finally, we noted greater interest in training on triage and screening among nursing assistants and greater interest in training on environmental cleaning among dental professionals. These data suggest that effective IPC training programs for frontline HCPs should be tailored to their individual audiences, both in format and content.

Based on these survey data, we suggest that IPC trainings for these audiences focus on digital modalities (eg, prerecorded online learning modules and short-format live webinar series) to mitigate the respondent's main highlighted barriers of cost, regional access to training, and busy schedules. We believe modular IPC curriculum, with material that can be presented in multiple modalities and rapidly adapted to meet specific audience needs, may be particularly effective. For example, a lecture on an IPC topic might be written with 20- and 60-minute variants that go into more or less detail and provide optional points to stop for question-and-answer sessions: These same materials could then be easily presented at both a 30-minute live "lunch and learn" webinar session for nursing assistants or delivered as an on-demand, prerecorded, 60-minute didactic lecture for dental professionals, meeting each group's unique preferences.

Our survey results suggest that IPC training that is vetted and approved by widely trusted authorities such as the CDC may get more audience buy-in versus programs produced solely by local institutions for some HCP groups. Our data also suggest that IPC training curricula should be optimized for different professionals. Dental professionals requested training in environmental cleaning, reflecting their work setting and instruments used, which differs from other HCPs. Nursing assistants most requested source control as a training topic, which reflects job duties that often include interacting with a large volume of patients in settings such as hospitals or long-term care facilities. Providing IPC curricula tailored to unique HCP roles is likely to improve both the perceived and actual value of training for those audiences.

Table 1. Responses to an IPC Learning Needs Assessment Survey

Survey Topic	Nursing Assistants, (n=177), No. (%)	Dental Professionals, (n=59), No. (%)	*P* Value
Perceived barriers to IPC training			
Technology: No access to computer system or internet	12 (6.8)	0 (0)	NS
Cost: Courses are too expensive, no reimbursement available	109 (61.6)	16 (27.1)	<.001
Need: Infection control training is not required for my position.	14 (7.9)	2 (3.4)	NS
Competing priorities/Time: I have other commitments that prevent me from attending infection control training.	81 (45.8)	42 (71.2)	<.001
Availability: Infection control courses are not offered in my area or courses not offered often.	55 (31.1)	24 (40.7)	NS
Other	21 (11.9)	5 (8.5)	NS
Learning modality preferences			
Self-paced learning	113 (63.8)	35 (59.3)	NS
Interactive discussion with an expert	87 (49.2)	30 (50.8)	NS
Interactive discussion with a group of peers	69 (39)	16 (27.1)	NS
Listening to a lecture	26 (14.7)	39 (66.1)	<.001
Trusted sources of IPC training			
Centers for Disease Control and Prevention	155 (87.6)	54 (91.5)	NS
Professional associations (eg, American Medical Association, American Hospital Association)	81 (45.8)	49 (83.1)	<.001
State or local health departments	104 (58.8)	37 (62.7)	NS
Academic institutions	51 (28.8)	43 (72.9)	<.001
Training topics requested			
Hand hygiene	9 (5.1)	7 (11.9)	NS
Personal protective equipment	32 (18.1)	15 (25.4)	NS
COVID-19	76 (42.9)	22 (37.3)	NS
Source control	82 (46.3)	23 (39)	NS
Triage and screening	104 (58.8)	20 (33.9)	<.001
Environmental cleaning	49 (27.7)	30 (50.8)	.001
Other	6 (3.4)	6 (10.2)	NS

Note. IPC, infection prevention and control; NS, not significant.

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Our survey provided novel insight into training modality preferences, topics of interest, and perceived barriers to training among 2 understudied professional groups in healthcare. Small sample size, a regional survey population, and unknown survey response rate are important limitations of our findings. These data can be utilized to design customized IPC training curricula that maximize engagement in specific fields. Further research may focus on correlating these survey results to the preferences of other HCPs, allowing for potential training overlap and cost reduction. Additional studies should also examine the effectiveness of customized training curricula with the use of before-and-after surveys on IPC competence.

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Coronavirus disease 2019 (COVID-19) hospitalization metrics that do not account for disease severity underestimate protection provided by severe acute respiratory coronavirus virus 2 (SARS-CoV-2) vaccination and boosting: A retrospective cohort study

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To the Editor—Vaccination with severe acute respiratory coronavirus virus 2 (SARS-CoV-2) reduces the risk of severe coronavirus disease 2019 (COVID-19), as has typically been assessed using the simple metric of hospitalization contemporaneous with a positive test for SARS-CoV-2. In Fillmore et al,[1] we demonstrated that simple hospitalization metrics overestimated the number of severe cases among vaccinated US veterans prior to widespread recommendations for additional vaccine doses.

On the basis of reports of waning immunity and partial cross protection against the SARS-CoV-2 delta and omicron variants, the Centers for Disease Control and Prevention (CDC) issued recommended additional doses of vaccine, initially for high-risk patients, in August 2021. The recommendation was subsequently expanded to include all adults in mid-November 2021.[2–4] CDC expands eligibility for COVID-19 booster shots to all adults.

Owing to the new variant and widespread availability of booster doses, we update our analysis to re-examine trends in COVID-19 severity among hospitalized patients, stratifying by vaccination status (ie, unvaccinated, vaccinated but not boosted, or boosted).

Methods

Methods have been previously described in detail.[1] All inpatient admissions to a Veterans' Affairs (VA) hospital between March 1, 2020, and February 15, 2022, with a laboratory-confirmed diagnosis of SARS-CoV-2 up to 14 days prior to or during the admission were included for visualization of trends. For the updated analysis focused on the impact of booster doses, the start time was chosen as the date at which 10 patients who had received booster vaccinations (referred to as "boosted" patients) had been hospitalized (September 26, 2021). During the period from September 26, 2021, to November 30, 2021, the SARS-CoV-2 δ (delta) variant was defined as the predominant strain, with a shift to SARS-CoV-2 (omicron) predominance December 1, 2021–February 15, 2022. Data were extracted

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