Infection control standards and credentialing

To the Editor:

Infection control professionals (ICPs) play an integral part of developing, implementing, and evaluating infection control programs. In Australia, there is no minimum or standardized education to practice as an ICP. The Australasian College of Infection Prevention and Control, the professional body for ICPs in Australasia, sought to address the issue by developing a credentialing process.[1-3] This decision was made in recognition that self-regulation is one of the hallmarks of professionalism.[4] The process of becoming credentialed as an ICP in Australia involves the submission of evidence against a range of criteria with a subsequent peer-review process.[5]

Despite the longstanding nature of the ICP credentialing process, only a small number of Australasian College of Infection Prevention and Control members are credentialed, a fact we have explored in recent publications.[6,7] As part of a larger research program, we undertook a cross-sectional study of lead ICPs in Australian hospital infection control units.[7] The study involved inviting hospital infection control units to participate in a confidential Web-based survey. Full details regarding the methods have been published in an earlier issue of this journal.[7] In brief, participants were asked demographic information about their hospital; current staffing level, grades, and contract hours; details about information technology systems used to support practice; and hours spent undertaking various infection control activities. Participants were also asked to provide details on specific infection control–related outputs and patient outcomes in the previous 12 months, including results from their most recent accreditation process.

Since publication, we have sought to explore the relationships between infection control units that were led by a credentialed ICP and results from an external infection prevention and control accreditation process. The purpose of this letter is to describe the relationship we identified between hospital accreditation outcomes and credentialing.

In Australia, hospitals are required to be assessed against infection prevention and control accreditation standards by external accreditation organizations.[8] There are predominantly 2 accreditation agencies in Australia, and each has different accreditation outcomes: passed and extensive achievement for one agency and achieved and met with merit for the other. To assess the relationship between credentialing and accreditation outcomes, we defined the accreditation outcome into dichotomous variables: passed (which included achieved) and met with merit (which included extensive achievement). These dichotomous variables were compared against whether the infection control unit was led by a credentialed ICP (yes or no) using Pearson χ^2 test.

Surveys from 49 individual infection control units were completed, accounting for 152 Australian hospitals. The mean number of ICPs in the Australian hospitals surveyed (49 infection control units covering 152 hospitals) was 0.66 per 100 overnight beds (95% confidence interval, 0.55-0.77), with units led by a credentialed ICP having 0.80 (95% confidence interval, 0.77-0.83) ICPs per 100 beds.[7] There was a significant association between infection control programs led by a credentialed and an accreditation outcome met with merit ($r = 0.38$, $P = .026$) (Table 1).

Table 1
Accreditation outcome

	Accreditation outcome		
Infection control unit	Pass	Met with merit	Total
Led by credentialed ICP			
No	19	4	23
Yes	5	6	11
Total	24	10	34

NOTE. Pass also includes the met category. Met with merit also includes the extensive achievement category.
ICP, infection control professional.

Met with merit means that measures are above the minimum requirements for accreditation and may result from the ability to take novel approaches to problems and issues caused by staffing and resource advantages. Although the results of this study suggest that credentialing was associated with a better accreditation outcome, it can only explain 14.4% of the variation. This study is the first to report on accreditation outcomes and a relationship with credentialing. The generalizability is hampered by the relatively small sample size. None the less, we believe our findings justify the need for further research in this area. It would be possible to explore existing, much larger accreditation outcome databases and link these to hospital and infection control unit characteristics.

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Reply to "Fluid dispersal from safety cannulas: An in vitro comparative test," written by Rosenthal and Hughes

To the Editor:

Rosenthal and Hughes based their study on mucocutaneous exposure coming from blood splashes while needle withdrawal is performed.[1] The study concludes that "when PIVC1 (Vasofix Safety 20G; B. Braun AG, Melsungen, Germany) is withdrawn at an angle there is potential for the device to generate blood splatter." Despite giving a main focus on mucocutaneous exposure, the study only concludes on PIVC1 splatters, but it does not provide any information on whether there is a real risk for bloodborne infections.

Moreover, I would like to comment on the study design. The Rosenthal study counts blood splatters even when the vein is not occluded, which is something that is not recommended by nursing societies. It also counts all blood splatters and not only the relevant amount of blood which is splattered into the mucocutaneous area or into the critical direction, which may lead to contamination.

Moreover, the Rosenthal study uses colored blood substitute solution instead of real blood, which does not represent reality because the viscosity of the aforementioned solution might be more liquid and may therefore lead to more splatters.

Even if it is recommended to remove the needle at a straight angle after tourniquet release, our team at Wuppertal University found that when the needle is removed with an offset, all peripheral catheters included in the study could splatter.

However, the critical volume of blood of splatter that could reach mucocutaneous membranes in the worst case was <1 nL. This amount of blood does not contain enough viral copies to contaminate any human with HIV or hepatitis C.

Finally, the study does not refer or include a reference to our respective study,[2] which analyses this same topic of blood exposure and risk of infection. The Rosenthal study leads to confusion and misunderstanding with no straight conclusion to the main question: can blood splatters from intravenous catheters contaminate humans with bloodborne infections?

References

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