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Ambiguity - One of Our Greatest Infection Risks

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Ambiguity, One of Our Greatest Infection Risks

In the past decade the length, number and type and of infection prevention directives have expanded on an unprecedented scale and at an ever-increasing pace. Contemporary clinicians and infection preventionists working in Australia can easily and readily access guidance generated from governments, non-regulatory agencies, academic educational institutions and from their respective professional associations. These guiding instruments are generally either broad, overarching documents deemed suitable for a variety of clinical settings or detailed and limited to procedures and practices specific to a clinical speciality. Typically governments legislate specific critical infection prevention measures. They achieve this primarily through legislative acts of parliament or indirectly through licencing conditions that apply to individual registered health professionals or to health care organisations. Compliance with legislative requirements is non-negotiable and as a consequence they are written succinctly with no room for misinterpretation. Individuals or healthcare organisations whose practice deviates from the legislative requirement can be held liable in the event of harm being caused due to their non-compliance with the legislative requirement.

In addition to relevant international, national and state legislation, specific infection prevention practices may also be enshrined in guidance document issued by non-regulatory agencies. A good example is the Australian Commission on Safety and Quality in Healthcare's Standard 3.¹ Standard 3's where requirements are embedded in the criteria used for mandatory accreditation assessment of public and private healthcare organisations. As well as the *National Safety and Quality Health Service (NSQHS) Standards*², the national government in partnership with the National Health and Medical Research Council provides general infection prevention information in the *Australian Guidelines for The Prevention and Control of Infection in Healthcare*.³

Despite these vast resources, most of which are compiled by small groups of experts before being subject to rounds of public comment and final editing, there are also several other widely used documents such as those from Standards Australia and various professional associations. These documents are promoted to their target audience/ membership as containing the essential elements of a best practice infection prevention model. Specific clinical resources such as those published by Hand Hygiene Australia, and the World Health Organization's Global Patient Safety Challenge are other examples of the various guides designed to improve and standardise clinical infection prevention practice. Whilst that goal is both audacious and commendable it is also proving to be unattainable and unsustainable. In the remainder of this article readers are asked to consider the extent to which ambiguity and contradiction in all of these guidance documents are contributing to the ongoing problem of ineffective healthcare associated infection prevention.

The negative impact of ambiguity in terms of translation of infection prevention research has been well described. Very recently Hebden and Murphy argue that "a systematic approach is needed to identify, prioritize, and remove barriers to evidence-based guidelines".⁴ Perhaps even more important is the need for a concerted effort among authors of guiding documents to approach the production of their guidance by:

- agreeing on and adopting standardised terminology, consistently and correctly interpreting the meaning and intent of the work of "senior" agencies especially those with statutory authority such as governments or their partners,
- including professional, technical writers and editors as members of their writing teams; and

- ensuring that their guiding documents are based on current research and open to timely adoption of new technologies and products where they show valid and reliable potential to reduce infection.

By doing so the chronic condition of greatly outdated guidelines can be overcome.

Two specific examples of ambiguity in and around contemporary infection prevention guidance relate to hand hygiene. The first is the widespread, inconsistent use of various hand hygiene related terminology across major documents or the inclusion of specific terminology in some and exclusion in others. Table 1 below compares the ways in which the terms “hand decontamination” and “alcohol based hand rub” are defined and used by Hand Hygiene Australia⁵ compared to the respective WHO⁶ and US Centers For Disease Control and Prevention Hand Hygiene Guidelines.⁷ Whilst the differences in these definitions are only subtle, they are nonetheless, inconsistent. As a result they are open to various interpretations and potentially cause confusion in the clinical setting.

	HHA 2013	WHO 2009	CDC GUIDELINES	JOINT COMMISSION 2009
Hand decontamination		Reducing or inhibiting the growth of microorganisms by the application of an antiseptic handrub or by performing an antiseptic handwash.	Refers to either antiseptic handwash or antiseptic hand rub.	Reduction or inhibition of the growth of microorganisms through the application of an antiseptic hand rub or through antiseptic hand washing.
Alcohol based hand rub	An alcohol-containing preparation designed for application to the hands in order to reduce the number of viable organisms with maximum efficacy and speed.	An alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth. Such preparations may contain one or more types of alcohol, other active	An alcohol-containing preparation designed for application to the hands for reducing the number of viable microorganisms on the hands. In the United States, such preparations usually contain 60%–95% ethanol or isopropanol.	An alcohol-containing preparation (liquid, rinse, gel, or foam) designed for application to the hands to reduce the growth of microorganisms. Such preparations may contain one or more types of alcohol with excipients, other active ingredients, and humectants.

		ingredients with excipients, and humectants.		
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Table 1: *Examples of inconsistent terminology relating to hand hygiene across major guidelines.*

As new technologies and products evolve standard and guideline writers may be in the unenviable position of not having sufficient high-quality, locally-generated, scientific evidence to support specific recommendations despite early indications from international settings where particular compositions, designs or formulations are showing great promise. Additionally, adopting new technologies or formulations may require clinicians to radically and completely change their work practices. A good example of this is the current move towards antiseptic surgical hand scrub in place of the traditional scrub solutions and techniques. In cases such as this guideline writers frequently include ambiguous and superfluous information in their documents perhaps indicating reticence, reluctance to dramatically change traditional, ingrained practices or to potentially allow a period of slow transition.

This is well illustrated in the newly released Australian College of Operating Room Nurses *Standards for Perioperative Nurses* Standard: Surgical Scrubbing, Gowning and Gloving where the information is at times ambiguous, confusing, contradictory, and even superfluous. Specifically the ambiguity is in relation to the references in Statements 4 & 5 to using Therapeutic Goods Administration approved product, following manufacturers' instructions and then in Statement 6 creating confusion by detailing the principles (and process) for surgical scrubbing when in fact the process requirements for various types of TGA-registered antiseptic surgical hand scrub solutions will likely differ according to composition, manufacturer registration tests and even solution dose delivery mechanisms.

Hand hygiene is not the only area of ambiguity in infection prevention. It should however be one of our least complex clinical interventions. The points raised in this column suggest otherwise. Most importantly they highlight the respective responsibilities of guidance writers to provide clear, unambiguous and defensible content easily understood and applied by clinicians at the bedside. Until that is achieved ambiguity remains one of the greatest threats to patient safety by retarding our efforts to prevent transmission.

1. Australian Commission on Safety and Quality in Health Care. Safety and Quality Improvement Guide Standard 3: Preventing and Controlling Healthcare Associated Infections (October 2012). Sydney: ACSQHC; 2012.
2. Australian Commission on Safety and Quality in Health Care (ACSQHC). National Safety and Quality Health Service Standards. Sydney: ACSQHC; 2011.
3. National Health and Medical Research Council. Australian Guidelines for The Prevention and Control of Infection in Healthcare. Canberra: Commonwealth of Australia; 2010.
4. Hebden JN, Murphy C. Minimizing ambiguity to promote the translation of evidence-based practice guidelines to reduce health care-associated infections. *Am J Infect Control* 2013;41:75-6.

5. Hand Hygiene Australia Manual: 5 Moments for Hand Hygiene. 2013. (Accessed 1st August, 2009, at www.hha.org.au.)
6. World Health Organization. WHO Guidelines on Hand Hygiene in Health Care. Geneva: World Health Organization; 2009.
7. Hand Hygiene in Healthcare Settings. 2011. (Accessed 27th January, 2014, at <http://www.cdc.gov/handhygiene/Resources.html#HCP>.)