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Life Long Learning: The Key To Sustained Infection Prevention Improvement

Professor Cathryn Murphy PhD

The past two decades have been characterised by an explosion of infection prevention knowledge. Catalysts for this explosion have included:

- increased government infection prevention agenda setting;
- national and global expansion of professional bodies dedicated solely to reducing infection;
- new infectious diseases like SARS;
- technological innovations spearheaded by device manufacturers;
- the addition of thousands of research studies to our evidence base;
- the emergence of microbiological challenges such as multiple resistant organisms;
- the formation of collegiate partnerships with peers pursuing similar patient safety improvement in alternate but related specialty areas; and
- the recruitment of new partners in prevention including the general public, patients and their families.

To deliver effective, efficient infection prevention services health service administrators, infection preventionists (IPs) and medical device industry sales teams are compelled to remain abreast of these developments. For IPs it requires a lifelong commitment to education so as to ensure that every infection prevention decision made in an organisation is based on the most current information.[1] For sales teams it requires ongoing clinical and product-specific education and annual recertification against company-specific competencies.

In addition to maintaining their own knowledge the IP and sales staff must also train and educate others. In this educator role it is equally important for the IP and sales staff to be well aware of contemporary issues and to understand the scientific basis behind practice recommendations. The IP must also be proficient in delivering education so as to ensure the evidence is translated into practice at the bedside.[2] Sales staff are responsible for ensuring smooth introduction and safe use of their company's product.

As a consequence of the infection prevention knowledge explosion and new mechanisms for rapid, widespread dissemination of information today's IP faces an unprecedented dilemma in having to determine where are the best sources of infection prevention education, which provide the most credible unbiased information, how information can be made available to the multiple audiences serviced by the IP and in what format it will make the most impact?[3, 4] This article addresses these questions hopefully demonstrating to every IP, hospital administrator and medical device manufacturer their important and unique lifelong role as consumers, contributors and distributors of infection prevention education. Where possible we cite and critique examples from a range of educational opportunities that we have either found useful in our learning or which we are or have been involved in developing and delivering.

Where are the best sources of infection prevention education?

There are many easily accessible, high quality infection prevention educational resources available at either no or low cost to Australian IPs and clinicians. Some of the more popular include the

[Australian Commission on Safety and Quality in Healthcare's \(ACSQHC\) online education modules](#) which were released as an adjunct to the 2010 National Infection Control Guidelines.[5] These modules are comprehensive and reflect current practice and settings. Until recently they could be accessed free of charge however their use is now limited to existing subscribers only.

Other high quality government sponsored training and education material can be found at the US [Centers For Disease Control and Prevention \(CDC\) healthcare associated infections website](#). Australian-based IPs accessing CDC materials should remain aware that all CDC materials are designed primarily for North American based clinicians. Due to minor variation in local law, regulation, work practices and technology some specific international recommendations may not apply directly to Australian practice. Like the ACSQHC's educational materials, all CDC's materials are based on published scientific evidence. This rigour assures scientific validity of the educational materials however the lag time between the adoption of new technologies and published studies about their efficacy often means they do not feature in government sponsored educational materials.

This void is often filled by device manufacturers providing industry-sponsored educational opportunities and resources. To date the most common form of these have been once-off workshops or sponsored sessions where experts and key opinion leaders (KOLs) share their perspectives. In addition these experts may also be involved in developing sponsored training materials which medical industry subsequently provide to their customers as a value added service or product. More recently the most innovative medical device manufacturers have consolidated their offerings through the generous provision of online materials, web-based seminars or through comprehensive education and training programmes. These programmes are diverse in content and in specific target audiences which enables widespread clinical reach beyond just IPs. One example is [3M's Learning Connection](#) which provides a one-stop educational portal that supports users of 3M Healthcare's product in a range of settings.

In a bold move 3M Australia is currently sponsoring development of a consensus lead package of solutions to address Hand Hygiene fatigue. A series of Master Classes form the overarching curriculum which has been agreed upon by a small group of volunteer KOLs willing to critique and pilot test content prior to the scheduled launch in early-to-mid 2014. The format of this project is unprecedented in the Australian infection prevention community and it already shows great promise as a valuable educational offering.

Professional associations are well recognised for the educational opportunities they provide to members through annual conferences and periodic workshops.[6] The Australian College of Infection Prevention and Control is in the early stages of expanding [its educational offerings](#) and determining the best method of delivering these.

There are now also several independent Australian infection prevention consultants who provide infection control education on a fee-for-service basis. These services are most sought by administrators in the non-acute and/or private health care settings who frequently do not have the services of full-time employees designated to the role of IP. The ACSQHC's new national Safety and Quality Standards[7] compel these organisations to provide infection prevention education to staff and to consumers so engaging an external consultancy is often cost and time effective. [Infection Control Plus](#), [Bug Control](#) and [Hands-On Infection](#) are examples of small independent businesses that have provided high quality education and resources for more than ten years.

Which sources provide the most credible unbiased information?

Each of the resources described above are valuable. Their content, delivery mode and distribution are diverse depending on their sponsor. Government initiated resources are developed within relatively large budgets, over extended periods and after extensive scrutiny which they are almost entirely evidence based. Their credibility is limited only by the speed with which they become outdated and their exclusion of new technologies or interventions which often show improved outcomes but may not yet be included in peer-reviewed literature.

Anecdotally we suspect that compared to government issued materials, clinicians are less willing to adopt non-government educational resources and that this reluctance is due to a misperception that non-government materials may be unbalanced. Ironically we also note that the same experts who voluntarily contribute to or provide feedback on government resources are often authors or developers of commercial or third-party educational resources. As a safeguard we encourage users to always review materials for author affiliations and disclosures. The inclusion of peer-reviewed references to support claims is also a good indicator of high quality, well-rounded educational material.

How can information be made available to multiple audiences and what format makes the most impact?

The examples cited above demonstrate that online and web-based materials are the most common format. We suspect that face-to-face learning will still be valuable for highly complex, technical teaching and for large gatherings such as scientific meetings where networking compliments learning. Use of web-based programs and applications such as SKYPE, VYBER, GOOGLE Hangouts and others now enable virtual 1:1, face-to-face contact between students and educators.[8] They enable infection prevention education and mentoring to be delivered seamlessly across the world. VIMEO, You-Tube, Pinterest, FaceBook and Word Press also facilitate widespread and rapid distribution of infection prevention information and misinformation. The extent to which education delivered through these media improves clinical practice, patient safety or healthcare worker compliance is untested.

We do not know which, if any, education provided by a specific group or in a particular format leads to fewer infections.[9] We do know however that ongoing infection prevention education is important and we encourage all Australian IPs, administrators, sales teams and clinicians to ensure that their individual knowledge base remains credible and robust.[4] We encourage them to become voracious consumers of education which is scientifically-based, developed by credible experts and embraces innovation in practice and technology. This is the key to sustainable professional infection prevention development and improved patient safety.

3M Learning Connection

<http://3m.webcentral.com.au/www/page.cfm?pageID=12>

Australian Commission on Safety and Quality Infection Prevention and Control Online Modules

<http://www.safetyandquality.gov.au/our-work/healthcare-associated-infection/building-clinician-capacity/infection-prevention-and-control-online-modules/>

Bug Control

www.bugcontrolcom.au

Centers For Disease Control and Prevention (CDC) healthcare associated infections website

<http://www.cdc.gov/hai/index.html>

Handsoninfection

www.handsoninfection.com.au

Infection Control Plus

www.infectioncontrolplus.com.au

The Australian College of Infection Prevention and Control

<http://www.acipc.org.au/education>

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