



Debates in Infection Prevention

Subspecialisation within infection prevention and control: the argument against

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Infection prevention and control of healthcare settings is increasingly complex, therefore IPC practitioners should routinely sub-specialise to develop expertise in smaller topic areas (for example, water safety, ventilation, surveillance, decontamination): the argument against.

Infection prevention and control (IPC) practitioners come from many backgrounds, nursing and scientific as well as medical. The practice of infection control is best suited to a team approach reflecting the various professions, clinical, domestic, engineering and planning staff with which the team needs to work to deliver the best results for the patient. The level of infection control staffing usually requires team members to be flexible and fulfil multiple roles. Subspecialisation requires the number of team members to be sufficient to cover absence of the subspecialists for training or providing services to neighbouring hospitals. In addition, the infrastructure needed to support additional training and quality assurance or certification must be in place.

Infection control training depends on the background of the practitioner and the country of training. A survey for the Association for Professionals in Infection Control and Epidemiology in USA demonstrated the value of certification in Infection Control as means of demonstrating proficiency to prospective employers and this was reflected in performance

of those with certification in, for example, MRSA control [1]. Across Europe there are a wide variety of professions involved in infection control and antimicrobial stewardship. However, infection prevention was a recognised specialty in only 18% of countries and a subspecialty in 13%. Nurses can attain an infection prevention qualification in only 68% of countries [2]. IPC activities were a mandatory part of training for clinical microbiologists, infectious diseases and infection prevention control staff in 16/36 (44%), 16/37 (43%) and 13/15 (87%) countries, respectively. Considerable work was needed to increase the understanding of even the core IPC competencies.

In UK, doctors have depended both on apprenticeship and competencies achieved in the infection control part of the curriculum during specialist registrar training. Formal qualifications in Infection Control are unusual. Directors of Infection Prevention and Control in UK were intended to be senior management figures to raise the profile of the work within the organisation, and not necessarily have any microbiology or infection training. However, Infection Control Nurse training is well developed and leads to formal qualifications. Qualified nurses first gain clinical experience as a foundation before entering the speciality as a junior IPCN. In recent years the role has also been extended to include allied health professionals given the diversity and scope of the field. Professional development in IPC has traditionally been divided into two essential components; skills and knowledge [3,4]. Several competency models have been used to develop advanced practice education programs in IPC, these include The European Centre for Disease Prevention and Control (ECDC) 2013, Association for Professionals in Infection Control and Epidemiology (APIC) 2019, World Health Organisation (WHO) 2020 and Infection Prevention Society (IPS) 2020 [5–8]. These outline defined IPC skills that can be measured over a period of three to five years with the aim of turning practitioners from novice to expert. Alongside these work-based competencies the expectation would be to increase knowledge by completing an MSc in IPC before being deemed a subject matter expert (SME) as a senior IPC practitioner such as a Nurse Consultant or IPC team Lead.

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Historically infection prevention and control (IPC) has not been valued as a speciality due to the perception that it is 'everybody's business' and therefore everybody is an expert and has often been underfunded [9]. The pandemic has highlighted the importance of investing in the speciality and has not only highlighted the significance of outbreak management, but also the experience, awareness, and systems perspective to understand how changes in the environment could potentially impact patient safety. Factors such as ventilation, water safety, patient equipment and building design are intertwined skill sets that are required to ensure maximum patient and staff safety.

The key factor for effective IPC is to ensure there are appropriately trained specialists from a range of professional backgrounds. IPC practitioners are critically important leaders and deemed SMEs with unique skills in many areas which provide the ability to see the big picture; to narrow this scope by having subspecialties may hamper this ability. The IPC role is continually evolving as the world of IPC is becoming more challenging. IPC practitioners are facing many threats which include globalisation, antimicrobial resistance, and increasingly, performance targets. To meet these demands IPC need broad specialised training to be able to cope with these pressures.

For doctors, usually microbiologists, fulfilling formal and informal infection control roles, achieving separate infection control qualifications has not been a common feature in those applying for posts. Some have spent out of program time in registrar training, but few manage formal qualifications once they have reached consultant status. Recently in UK, specialist trainees have followed a combined microbiology and infectious diseases curriculum designed to ensure a high level of clinical experience but with less focus on laboratory techniques. However, covering a very wide curriculum in a relatively brief training period has truncated the time devoted to infection control [10]. The opportunities for apprentice type of training are now limited and this has coincided with a peak in demand for infection control specialists. Hence, the argument for subspecialists to be trained and accredited, presumably after achieving consultant posts, has been more difficult to sustain. Microbiology specialist registrar training has not encouraged formal subspecialty certification before completion of training as the emphasis is on delivering trainees to the consultant grade, unless pursuing a research qualification such as PhD. Job opportunities arise for those with general infection control capabilities rather than subspecialists as most employers do not have resources for a large team of subspecialists.

Whatever the professional background of the infection control practitioner, much of the knowledge needed in routine practice is gained whilst observing colleagues or being mentored. Whilst there are excellent specific training courses, for example, in engineering aspects of infection control, many of the issues that arise are site specific and solutions depend on local knowledge and the expertise available from other professionals locally or from centralised sources, such as Public Health England. Team working is critical; especially in gaining trust of the clinical, domestic, administration and estates staff. In addition to multidisciplinary meetings, practitioners use professional chatrooms, electronic information sources, professional societies and government agencies. Even if a post completion of training subspecialty certification could be more widely implemented, the number of suitable applicants and resources available would limit numbers to a few per region. The local knowledge of these individuals would be limited and

travelling away from work would be necessary. Opportunities to participate in planning a new hospital, for example, come once in a professional lifetime but are likely to involve many members of the infection control team [11]. One infection control doctor would be unable to attend all the relevant planning meetings, although potentially could provide a senior mentor with appropriate experience. Hence, flexibility is needed within the team. Good communication and team working are essential. The failure to achieve a consensus view in a team or document the reason for a decision has resulted in some well publicised problems [12].

Basic principles of infection control practice can be applied across a variety of specialised areas and be supplemented by peer advice and electronic resources. When the question is in a very limited area, for example, a particular room decontamination device or a part of hospital plumbing system then the practitioner will need to make decisions based on general principles, published evidence (if any), advice from hospital engineers and in the final resort, a national specialist. Trying to train hospital doctors, scientists or nurses to provide a network of regional advice for a wide variety of problems would be time consuming and wasteful of resources.

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