

A Roadmap to Infection Prevention & Control (IPC) and Hospital Epidemiology

Education for Infectious Diseases (ID) Fellows



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Purpose

- The Accreditation Council for Graduate Medical Education (ACGME) ID milestones include medical knowledge elements related to IPC and hospital epidemiology.
- Currently the ID fellowship at the University of Colorado has only limited lectures related to these topics.
- We describe a framework for stepwise development of a curriculum to provide fellows with the knowledge and skills needed to practice IPC and healthcare epidemiology.

Program Objectives

- The initial aim is creation of a month-long rotation in the first year that will teach fellows foundational knowledge of the principles of IPC and hospital epidemiology.
- Fellows will perform training activities to develop skills related to the core functions of IPC (Figure 1).
- We plan to publish on the impact of the first-year rotation. Results will also be used to support the development of each subsequent stage of training - the second year IPC Track (IPCT) and ultimately an advanced third year fellowship.

Training Activities

- The Society for Healthcare Epidemiology of America Primer on Healthcare Epidemiology, Infection Control and Antimicrobial Stewardship and National Health Safety Network modules for healthcare associated infections (HAIs)
- Lectures on transmission-based precautions, hand hygiene, surveillance, HAI prevention, occupational health, epidemiology, outbreak investigations, and emerging infections; complete a visual case series related to common IPC concerns
- Review of state and local health department reporting requirements
- Participate in:
 - Central line-associated bloodstream infections committees
 - Catheter-associated urinary tract infections committees
 - *C. difficile* committees
 - Surgical site infection committees
 - Inter-rater reliability meetings for surveillance adjudication
 - On-call activities related to isolation questions and exposures
 - Unit rounds and tracers
 - The investigation of an epidemiologically significant pathogen
 - A quality improvement project (optional)
- Lead a journal club on an infection prevention topic

Future Aims

- Following successful implementation of a first-year fellowship rotation, the intent is to develop a second year IPCT to build on the knowledge and experiences from the first year.
 - Further training on environmental cleaning, disinfection, sterilization, construction, and emergency preparedness.
 - Participate in education of first-year fellows and other healthcare workers, review HAIs for actionable trends, lead an outbreak investigation and conduct a research project.
- Aspirational goals for the program include developing an advanced fellowship for third year fellows during which they will lead a large-scale, innovative, quality improvement initiative and be prepared for leadership roles in IPC.

Surveillance for HAIs & epidemiologically significant organisms

Identify & investigate clusters or outbreaks of infection

Analyze procedure & device-associated infections

Create evidence-based interventions to prevent HAIs

Evaluate methods & technologies to reduce transmission of pathogens

Create & maintain appropriate IPC policies

Contribute to educational programs regarding IPC for healthcare workers

Provide consultation for patients & employees with communicable diseases

Advise leadership on issues related to infection risks & regulatory requirements

Participate in programs & initiatives for quality improvement & infection reduction

Partner with safety programs related to IPC (e.g. sterilization, construction, AST)

Assessment Methods

- Knowledge gained during the first-year rotation will be measured with assessments of knowledge beginning and end of rotation
- Soliciting feedback regarding future content from past graduates.
- Performance on the relevant sections of the fellowship in-training examination after the implementation of this program.
- Tracking IPC related publications by fellows who have participated in the program.
- Tracking graduates of the program who obtain IPC positions.

Next Steps

- Design of this curriculum has been met with challenges including competing needs and priorities of stakeholders, change in fellowship leaders, the response to several emerging infections, and increasing clinical demands of the division.
- Implementation of the first-year rotation is planned for the incoming fellowship class.

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Figure 1: Core Functions of IPC