

The Changing Landscape of Primary Care: Infection Prevention and Control Implications

The vast majority of health care is delivered in primary care settings yet, until recently, most of the attention regarding patient safety and quality outcomes has focused on acute, inpatient care.^{1,2} However, several factors -- the growth of an aging population, increase in number of individuals with chronic health conditions, and millions of previously uninsured adults gaining health insurance under the Patient Protection and Affordable Care Act -- shift the focus of health care from an acute-care hospital-based model to a preventive care model focused on population health.^{2,3}

As a result, there has been substantial growth in the volume, complexity, and acuity of patients receiving services in primary care, compelling regulatory and accrediting organizations to take notice of patient safety risks in settings where primary care is delivered, namely: private practices, hospital outpatient departments, community health centers, and integrated care systems.²⁻⁴ Primary care is considered the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health needs, developing a sustained partnership with patients, and practicing within the context of family and community.⁵

All healthcare settings, regardless of the level of care provided, must make infection prevention and control a priority.^{2,6} However, compared to inpatient acute care settings, primary care settings have traditionally lacked infrastructure and resources to support infection control and surveillance activities.^{2,6} While data describing risks for healthcare-associated infections (HAIs) are lacking for most primary care settings, numerous

outbreak reports have described transmission of bacteria (e.g., invasive *Staphylococcus aureus*) and viruses (e.g., hepatitis C, hepatitis B, parainfluenza virus).⁷⁻¹¹ In many instances, outbreaks were associated with inadequate or inappropriate infection control procedures (e.g., unsafe injection practices). To date, there are no accurate estimates for the frequency of these problems, since disease transmission in outpatient health care settings is neither systematically monitored nor likely to be routinely detected by existing surveillance systems.^{2,12}

For these reasons, regulators and accreditors have increased scrutiny on infection prevention and control policies and practices in outpatient settings, including primary care. For example, primary care settings that are licensed under a hospital's Centers for Medicare and Medicaid (CMS) Certification Number are subject to Joint Commission regulations and inspections.¹³ Additionally, the Accreditation Association for Ambulatory Health Care (AAAHC), a voluntary accreditor of entities such as health care networks, workplace clinics, and urgent care centers, now requires facilities to have a written infection prevention and control program based on a formal, documented IPC (infection prevention and control) risk assessment.¹⁴

Infection Prevention and Control Risk Assessment

Risk assessment is one of the cornerstones of IPC. Facility IPC risk assessments are conducted to: 1) provide a basis for infection surveillance, prevention and control activities; 2) identify at-risk populations/procedures at a facility; 3) assist in focusing surveillance

efforts toward targeted goals; and 4) aid in meeting regulatory and other requirements.¹⁵ Identified risks can be prioritized using criteria such as likelihood of occurrence or severity of impact. Facility risk will vary based on services provided and characteristics and behaviors of its population served.

The risk assessment should be conducted using a standardized tool by the institutional infection prevention program in collaboration with facility staff. The schedule of review is determined after the initial assessment, but needs to be at least annually.

Recognizing the potential infection threats to patients in outpatient care facilities, the Centers for Disease Control and Prevention (CDC) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) issued the *Guide to Infection Prevention in Outpatient Settings: Minimum Expectations for Safe Care* in 2011. Updated in 2016,¹⁶ the document highlights existing CDC and HICPAC recommendations and provides basic infection prevention recommendations for outpatient (primary care) settings; reaffirms *Standard Precautions* as the foundation for preventing transmission of infectious agents during patient care in all healthcare settings and provides links to full guidelines and source documents. The guidance includes a companion checklist intended to assist in the risk assessment of infection control programs and practices. The checklist is used to ensure that the facility has appropriate infection prevention policies, procedures and supplies in place to allow healthcare personnel to provide safe care. It can also be used to systematically assess personnel adherence to correct infection prevention practices. Assessment

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of adherence requires direct observation of health care providers during performance of their duties. The checklist includes the basic tenets of infection prevention and control including: general infection prevention education and training, occupational health, surveillance and disease reporting, hand hygiene, personal protective equipment, injection safety, respiratory hygiene/cough etiquette, environmental cleaning, reprocessing of reusable medical devices, sterilization of reusable instruments and devices, and high-level disinfection of reusable instruments and devices.¹⁶

Based on the CDC checklist, we developed and launched a survey of the Delaware Valley/Philadelphia chapter of the Association for Professionals in Infection Control and Epidemiology (APIC) to describe the implementation of infection prevention, control and surveillance policies in primary care.¹⁷ Of the 109 responding infection

preventionists (50% response rate), half worked in acute care settings and none were specifically employed in a primary care facility. Although half of hospital IPC departments were involved in providing services to primary care settings, resources in terms of time and staffing were limited. The majority (62%) of respondents who had primary care responsibilities reported spending 5% or less of their time on IPC activities in this setting. The top infection control issue identified was inappropriate sterilization and disinfection of medical equipment.

The basic elements of an IPC program are designed to prevent the spread of infection in healthcare settings. When these elements are present and practiced consistently, the risk of infection among patients and healthcare personnel is reduced. Our study identified important challenges in carrying out IPC activities in primary care including lack of staffing resources. According to IPC manager,

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