Optimal Use of Informational Technology

Samm Anderegg and Shelly Spiro

INTRODUCTION

In 2004, President Bush signed an Executive Order that created the Office of the National Coordinator for Health Information Technology (ONC) within the Department of Health and Human Services. The charge for this office was for the development and nationwide implementation of an interoperable health information technology (HIT) infrastructure to improve the quality and efficiency of healthcare.[1] Although this event occurred well over a decade ago, this goal is yet to be realized. Since the passage of the Health Information Technology for Economic and Clinical Health Act in 2009, however, there has been an upsurge in the use of HIT within healthcare practices.[2] Within 6 years of the act becoming law, the number of physician offices using an electronic medical record (EMR) doubled with 86.9% reporting EMR use in 2015.[3] The passage of the 21st Century Cures Act in 2016 continued to promote HIT, including addressing HIT issues such as provider burden, interoperability, information blocking, and privacy and security.[4] Using

the power of technology to collect, document, and exchange clinical information globally is essential for all healthcare providers, and for organizations to optimally manage the health of their patient populations. In today's environment, HIT is an indispensable component of healthcare team functioning in providing optimal patient care and ensuring financial sustainability of services.

Chapter Objectives

- Describe why standardization of healthcare processes and documentation are necessary for interoperability of patient data.
- Define the standard coding systems, value sets, and standard electronic structured documents and how they impact pharmacist patient care and workflow.
- List three technological advances that may impact ambulatory pharmacist practice and the patient care pharmacists provide.

Interacting with HIT is likely a crucial daily component of your ambulatory care practice. The value and quality of your patient care work depends on your ability to access and utilize patient information from electronic sources to provide your services, document and communicate your work, and measure your impact on patient's outcomes. Therefore, the information technology (IT) you use requires a high level of "usability," meaning when you interact with your electronic system(s) in providing patient care, you do so efficiently, effectively, and safely.[5] Building an optimal workflow in your practice that effectively uses your electronic system(s) will require communication between you, the end user, and the various IT personnel from your organization or your software vendor. To ensure those conversations are productive and bi-directional, it is important for the ambulatory pharmacist to understand how health IT systems are structured, the language used in HIT, current HIT challenges, and the evolving future developments designed to improve HIT systems. This knowledge will guide you in building optimal standardized workflow in your practice that enables you to best utilize HIT now and in the future.

BACKGROUND

The term *health information technology* (HIT) represents the hardware, software, and systems that you use to input, transmit, manage, and analyze healthcare information about patients. The goals of HIT, yet to be fully realized, include the following[6]:

- Improve healthcare delivery efficiencies through delivery of necessary known patient information exactly when needed to support clinical decision-making
- Collect data in real time to improve quality and measure patient outcomes
- Assess and improve accountability
- Augment efforts to reduce healthcare costs

Simply put, to realize these goals HIT must exchange information between systems. For this to occur, machines through their software and computer language need to "talk" to each other. This can only be accomplished by setting standards within technology frameworks and using language and coding that reliably pulls the necessary patient data you require from existing electronic storage tables within and outside your organization, and present that data on your software interface. The information pulled may come from your organization's EMR, external EMRs, a host of applications used by providers or patients, or payers' billing data. The desired electronic exchange would function universally, spanning across states and around the world.

Setting standards for interoperability of HIT is not new and was understood early on as health systems began to utilize IT. In 1987 Health Level Seven International (HL7) was established as a not-for-profit, standards organization whose role is to develop a comprehensive electronic framework to support the management, delivery, and evaluation of health services from the exchange, integration, sharing, and retrieval of electronic health information.[7] HL7's electronic framework and standards define how information is packaged and electronically communicated from one entity to another,