

Chapter 11

Regional and Community Health Information Exchange in the United States

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ABSTRACT

A fundamental premise of continuity in patient care and safety suggests timely sharing of health information among different providers at the point of care and after the visit. In most healthcare systems, this is achieved through exchange of written medical information, phone calls and conversations. In an ideal world, this exchange of health information between disparate providers, healthcare systems, laboratories, pharmacies and payers would be achieved electronically and seamlessly. The potential benefits of electronic health exchange are improved patient care, increased efficiency of the healthcare system and decreased costs. The reality is that health information is electronically exchanged only to a limited extent within local communities and regions, much less nationally and internationally. One main challenge has been the inability of health information exchange organizations to develop a solid business case. Other challenges have been socio-political in that data ownership and stewardship have not been clearly resolved. Technological improvements over the past 20 years have provided significant advances towards safe and secure information exchange. This chapter provides a general overview of community health information exchange in the United States of America, its history and details of challenges faced by stakeholders. The lessons learned from successes and failures, research and knowledge

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gaps and future prospects are also discussed. Current and future technologies to facilitate and invigorate health information exchange are highlighted. Two examples of successful regional health information exchanges in the US states of Utah and Indiana are highlighted.

"Things do not happen. Things are made to happen."

—John F. Kennedy

INTRODUCTION

Imagine a situation where a patient is sitting in a medical office for a visit. The doctor arrives, greets the patient, logs in to the electronic medical record and accesses the patient's medical chart on a computer in the room. After verifying the full name and date of birth with the patient, the doctor proceeds to a screen that provides a historical view of the patient's medical visits. "I see that you live in the neighboring town, and you have been seen by a medical group there for the past 5 years. I also see that you have transferred your care to my practice today, and your doctors have provided a summary of your condition for me to review. You have a history of high blood pressure, diabetes and high cholesterol. Looks like you have had laboratory testing performed in the past 3 months and all your numbers look great! Your recent chest x-ray and echocardiogram show no abnormalities. You are on several medications for your medical conditions and have been regular in picking up and refilling your medications. I also note that you experienced chest pain while visiting your daughter in another state last year and, fortunately, the hospital admission and testing there revealed no damage to your heart. According to your personal health record that you maintain and have given me access to, you have been feeling well and are quite active. Your local public health department identifies you as an early recipient of the new H1N1 swine flu

vaccine. Let's pick up from here. Please tell me how you are feeling today..."

This elaborate introduction signals the start of an excellent medical visit that is both satisfying and time well spent for the patient as well as the doctor. If you look carefully at this visit, the patient's medical history, detailed medical records, laboratory testing, diagnostic imaging and pharmacy records from several different unaffiliated providers and healthcare systems were available to the doctor instantaneously at the point of care. This held true whether the prior visit was in the neighboring town or another state. The new doctor would not need to repeat any of the testing recently performed nor would he/she have to "reinvent the wheel" in caring for this patient. The personal health record was a bonus feature that provided information on current and ongoing health issues as reported by the patient. The result is increased patient satisfaction, preserved patient safety, improved efficiency of the healthcare system and overall decreased expenditures.

All of this was made possible by an efficient and seamless exchange of electronic health information between providers, most likely linked by a master patient index and a record locator service. The exchange was facilitated by cooperative agreements between healthcare systems and providers and the use of robust health information technology (HIT). These represent the quintessential "meaningful use" and "meaningful users" concepts that have been proposed by the US federal government to encourage the adoption of HIT across the highly fragmented health care system in the US to improve quality of care using health information exchange (HIE). Does such an ideal health information exchange exist anywhere in the United States? In a few settings and to a

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