

## Chapter XII

# A Comparison of How Canada, England, and Denmark are Managing their Electronic Health Record Journeys

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### **ABSTRACT**

*Healthcare is one of the world's most information-intensive industries. Every day, volumes of data are produced which, properly used, can improve clinical practice and outcomes, guide planning and resource allocation, and enhance accountability. Electronic health information is fundamental to better healthcare. There will be no significant increase in healthcare quality and efficiency without high quality, user-friendly health information compiled and delivered electronically. The growing use of information and communication technology (ICT) in the healthcare sector has introduced numerous opportunities and benefits to patients, providers and governments alike. Patients are being provided with tools to help them manage and monitor their healthcare, providers are able to seamlessly access up-to-date patient information, and governments are showing transparency to the public by reporting health data and information on their websites. There is mounting evidence that national, regional, and organizational e-health strategies are being developed and implemented worldwide. This chapter provides an overview of three different national e-health strategies, and identifies the lessons learned from the e-health strategies of Canada, England and Denmark.*

## INTRODUCTION

Due to the ever increasing pressures and demands for healthcare services and the strain those services put on the economy, many nations have realized that they must develop a more sustainable, efficient and effective healthcare system. In doing this, there has been much investment in ICT. Information systems play a significant role in helping improve health outcomes and decision-making at the point of care, and the benefits don't stop there. There are a number of global themes that emerge regarding the use of health information systems (Figure 1). These themes include establishing electronic health records, developing clinical decision support tools and introducing Telehealth services to those in remote and rural areas often with a high incidence of chronic disease. Orchestrating the change from the paper-based world, to one with seamless and fluid information systems requires a great amount of coordination, time and funding and most importantly a comprehensive strategy.

The impact of the electronic health record (EHR) on patient care can be quite substantial (Infoway, 2006). Some of the potential benefits include:

- Improved communication between providers, and between providers and patients. In many countries, the flow of information has grown exponentially.
- In a number of countries, the implementation of the EHR among various professions has created momentum for working in teams. The EHR has been a catalyst for accelerating this key element of healthcare innovation widely supported at the policy level throughout the world.
- Patient empowerment. In Denmark, people have access to their EHR. They can review information such as laboratory results and prescriptions to improve self-care—particularly important for chronic disease manage-

ment. They can see which providers have viewed their records, which allows them to monitor privacy.

- Improved adherence to preventive measures. The literature suggests that electronically generated reminders for screening and follow-up increases adherence by 10% to 15%.
- Improved delivery of recommended care for various conditions. The Vanguard group, in Boston, delivered recommended care about 60% of the time in a baseline study. It improved to over 90% by combining team-based practice with the EHR.
- Nation-wide implementation of the EHR in the USA, including e-prescribing with decision support tools built in, could reduce adverse drug events by two million annually, preventing 190,000 hospitalizations.
- According to the literature, introducing the EHR into the ICU reduces ICU mortality by 46% to 68%; complications by 44% to 50%; and overall hospital mortality by 30% to 33%.
- The use of e-prescribing in Denmark has reduced the medication problem rate from 33% to 14%, and laboratory systems have reduced tube labeling errors from 18% to 2%.
- A major touted benefit of the EHR is chronic disease management (CDM). Some believe the benefits have already been demonstrated and there is consensus that the EHR is a necessary, but perhaps not sufficient, tool to improve CDM.

## CANADA'S JOURNEY

Canada has an e-health strategy that is committed to accelerating the implementation of electronic health information systems in Canada. Canada Health Infoway Inc., an independent, not-for-profit organization, created in 2000, is governed

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