



University  
of Victoria

Graduate Studies

Notice of the Final Oral Examination  
for the Degree of Master of Science

of

**VICTORIA PEQUEGNAT**

BHSc (University of Ontario Institute of Technology, 2014)

**“An analysis of health information technology-related adverse events:  
Technology-induced errors and vendor reported solutions”**

School of Health Information Science

Thursday, August 1, 2019

1:00 P.M.

Human and Social Development Building  
Room A202

Supervisory Committee:

Dr. Elizabeth Borycki, School of Health Information Science, University of Victoria (Supervisor)  
Dr. Andre Kushniruk, School of Health Information Science, UVic (Member)

External Examiner:

Dr. Michael Prince, Faculty of Human and Social Development, UVic

Chair of Oral Examination:

Dr. Francis Choy, Department of Biology, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies

## **Abstract**

Health information technology has been widely accepted as having the potential to decrease the prevalence of adverse events and improve workflows and communication between healthcare workers. However, the emergence of health technologies has introduced a new type of medical error. Technology-induced errors are a type of medical error that can result from the use of health information technology in all stages of the health information systems life cycle. The purpose of this study is to identify what types of technology-induced errors are present in the key health information technology vendors in the United States, determine if there are any similarities and differences in technology-induced errors present among the key health information technology vendors in the United States, and determine what methods are utilized, if any, by the key vendors of health information technologies to address and/or resolve reported technology-induced errors. This study found that the most commonly reported technology-induced errors are those related to unexpected system behaviours, either through their direct use or through the communication between systems. It was also found that there is a large difference in the number of adverse events being reported by the key health information technology vendors. Just three vendors represent 85% of the adverse events included in this study. Finally, this study found that there are vendors who are posting responses to reported technology-induced errors and these vendors are most commonly following up with software updates and notifications of safety incidents. This study highlights the importance of analyzing adverse event reports in order to understand the types of technology-induced errors that are present in health information technology.