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

of

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BA (University of Calgary, 2004)

“GIS Usability and Decision Support for Rural Health Policy”

School of Health Information Science

Thursday, April 14, 2016
10:00AM
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, Department of Political Science, UVic

Chair of Oral Examination:
Dr. Douglas Magnusson, School of Child and Youth Care, UVic

Dr. David Capson, Dean, Faculty of Graduate Studies
Abstract

With the rising cost of health care, the debate about where each dollar is spent is putting increasing pressure on decision makers. Consequently, one of the biggest challenges of providing health care to rural populations, specifically, is determining which communities should receive funding to address access to services. Defining rurality in the context of health care is a challenge that governments and health care providers have struggled with for years. Each stakeholder in Canada’s health care system has developed different criteria for defining rurality to inform policy. Currently there is a gap in academic research exploring the benefits of applying Geographic Information Systems (GIS) in rural health care policy and program decision support. GIS can provide insight into rural health care accessibility by modeling and measuring the way patients seek medical treatment. This thesis seeks to explore usability mapping issues and identify how policy makers perceive rurality when presented with information displayed on a map.

Usability in this study influenced the perceived usefulness of the mapping tool. Overall study participants felt that mapping tools should be used as a form of decision support in rural health policy issues. Mapping was seen as tool to obtain quicker consensus among decision makers, to provide more context to rural issues in the study scenario, and used as a platform which could potentially assist in the identification of new criteria used to define rural health policy. In terms of usability, system usability design principles play a key role in the success and adoption of mapping tools among rural health policy makers. The study found that Google Earth’s software design violated Nielsen’s usability design principles in the following categories: Help and Documentation, User Control and Freedom, and Navigation. Despite these usability issues, participants found the mapping tool to have three main advantages over the paper-based decision support, the tool allowed them to: 1) gain a more complete picture of the surrounding communities; 2) understand the proximity of health services; and 3) gain greater awareness of the geography of the area.