Impact of Virtual Health Technologies on the Profession of Nursing

Background:
Telemedicine – the use of technologies to provide clinical services over distance – offers new ways for clinicians to deliver care to their patients. A shortage of primary care providers, combined with an aging population and millions of newly insured Americans under the Affordable Care Act, provides ample opportunity for telemedicine to flourish. For patients, telemedicine can ease the burdens of high costs of care, limited healthcare access, and difficulties patients endure with scheduling or commuting to medical appointments. Thus, telemedicine has the intended benefit to deliver care to more individuals, especially those who are currently underserved (Bashur et al., 2015). While the use of telemedicine is expected to rise and policies are changing to accommodate the news ways in which patients and providers can connect in virtual settings, many skeptics are unsure whether the potential of telemedicine will be realized in US healthcare (Dorsey & Topol, 2016). Due numerous accounts of failed or difficult implementation efforts with other healthcare technologies (Heeks, 2006); there are concerns about overinvesting in novel technologies that may indeed be effective tools, but have been implemented without considering clinicians’ perspectives and work practices. Namely, given the shortage of primary care physicians, they do not have the capacity to increase their workload (Bashur et al., 2015, Christensen et al., 2000). Thus, being able to better utilize technology with the support of other clinicians, such as nurses, has the potential to address growing healthcare demands.

Telemedicine presents challenges to the organization of clinical work in three important ways. First, telemedicine changes the traditional sites of care, which have typically been in hospitals or outpatient clinics. For example, telemedicine enables patients to meet with a clinician via video conferencing or automatically send information from health monitoring devices. Second, by including new sites and patients in clinical tasks, telemedicine also requires adjustments to workflow coordination. In this way, telemedicine redistributes tasks and responsibilities as clinicians interact with the technology in their work. Third, by delegating the part of clinical tasks to telemedicine technologies, expertise is reallocated among physicians and other clinicians, such as nurse practitioners. Such changes in expertise have the potential to change the current occupational identities of nurses and expand their clinical role.

Project goals:
This study proposes a mixed method study including survey, observations and in-depth interviews in collaboration with the Chelsea Senior Center (Chelsea, MI). This aims of this project are focused on the following: (1) understand how healthcare technology such as telemedicine can support or hinder nurses’ clinical work in primary care; (2) derive policy recommendations and technology guidelines that inform how to best implement telemedicine programs; (3) understand how an increased focus on technology skills may influence entry into the nursing profession (e.g., training, education requirements) as well as nurses’ experiences once they are employed in the profession (e.g., burnout); (4) understand whether telemedicine may influence the value and demand of nurses as the technology has the potential for expanding their clinical role.
**Student Role:**
A student’s contributions to this project will make it possible to understand feasibility of implementing telemedicine programs when leveraging other clinical roles beyond just physicians. The student should have had at least one quantitative (or be familiar with regression testing) and qualitative methods class. Students with a background or interest in healthcare organizations are encouraged to apply. Specifically, a student will:

- Conduct a brief literature review of telemedicine research and applications of telemedicine programs
- Learn how to develop good research questions by brainstorming questions to ask of the data based on the data and literature review
- Strengthen data analysis skills by analyzing qualitative data using NVivo software and survey data from nursing professionals.

**Mentorship Role:**
I will meet with the student weekly for individual meetings and group meetings as part of a larger team with Dr. Robin Brewer. These meetings will cover both academic and professional skills needed to be a successful researcher. I will work closely with the student to not only address the research goals, but give them the intellectual freedom to ask their own questions of the data. I will give the student constructive feedback on each phase of the research.

**References**


