

## **Creating a National Telehealth Nursing Research Agenda**

An Invitational Conference funded by  
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October 9-11, 2005  
Mount Aloysius College  
Cresson, PA

**Project Co-Sponsors:**

**The University of Texas Medical Branch - Electronic Health Network**

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**The University of Texas Medical Branch - Hospitals & Clinics Nursing Department**

**Polycom, Inc.**



**N T A I**

**NURSING TELEHEALTH  
APPLICATIONS INITIATIVE**



TOGETHER, GREAT THINGS HAPPEN.

## **BACKGROUND**

### **Conference Development**

The idea for the invitational conference, *Creating a National Telehealth Nursing Agenda*, emerged from the observations of nurse leaders at the University of Texas Medical Branch (UTMB) Telehealth Center. They noted that current telehealth nursing activities tend to be focused around a specific service or technology medium with little or no interface among foci, which limits the impact of outcome evaluation and research efforts. Telehealth has tremendous potential as a tool for improving access to health care, particularly in rural populations and care of the elderly and chronically ill. Nurses play a vital role in delivery of clinical services in telehealth. Despite the efforts of the Nursing Special Interest Group of the American Telemedicine Association and The American Nurses Association, there has not yet been a concerted effort to create a common framework for defining or evaluating telehealth nursing as a practice arena.

The University of Texas Medical Branch (UTMB) Telehealth Center (now the Electronic Health Network) proposed an invitational conference to develop a consensus among key stakeholders that represents a research agenda for telehealth nursing. This purpose of this agenda is to define the research questions to be addressed and the evidence base needed to integrate telehealth nursing further into the mainstream of healthcare delivery.

The conference was held on October 9, 10 and 11, 2005 at Mount Aloysius College in Cresson, Pennsylvania. A conference planning committee (consisting of key experts in telehealth nursing, nursing and health policy, nursing classification systems, and evidence-based practice) guided the development and implementation of the conference. An internationally recognized expert in mediation and consensus work facilitated the conference, which consisted of short papers on key issues and a consensus process, from which the Telehealth nursing research agenda was developed. Conference co-sponsors included Mount Aloysius College, Division of Nursing in Cresson, PA; UTMB Hospitals and Clinics Nursing Department; and Polycom Worldwide, a leader in provision of voice, video, data, and web collaboration technology for telehealth. Conference proceedings will be disseminated through a number of websites: UTMB Electronic Health Network, the American Telemedicine Association, American Nurses Association, and International Council of Nurses.

### **Identification of the Need**

In recent decades, the United States has been unable to fully achieve its healthcare goals or adequately address the issues of healthcare access, quality, and cost for all citizens. The U.S. now spends more than 14% of its gross domestic product on health care, or more than one trillion dollars per year—a greater percentage than any other nation. (Bean JR, 2005; Chernew ME, 2005) Despite this enormous fiscal investment, access to high quality health services is denied many Americans. Increasing numbers of low-income and minority individuals, estimated now at more than 42 million, are without health insurance. (Cohen JJ, 2003) With the changing demographic composition of the United States, due in part to an increasingly aging population of “baby boomers” and a growing proportion of minorities, this situation is only expected to worsen. Strategies to improve access and reduce expenditures while providing quality care are urgently needed.

Telehealth has shown potential as a tool for improving access to health care while maintaining or reducing costs (Dimmick SL, et al., 2003). Despite these successes and the fact that some telehealth-related technology has been in place since the 1950s, the market has remained relatively small realizing only a fraction of the potential for this technology (US Department of Commerce, 2004). For the most part, telehealth remains a type of technical subspecialty that has not yet been accepted within the mainstream of healthcare delivery.

One of the major goals of *Healthy People 2010*, to improve access to comprehensive, high quality healthcare services, identifies a number of structural barriers to care that lead to disparities in access. These include a lack of access to health facilities and health professionals because of geographic barriers. (US Department of Health and Human Services, 2000) Telehealth can help address this problem by bringing care to underserved communities and individuals. (Bratton RL, 2000; Ricci M, 2003) These key policy documents indicate that telehealth nursing can play a more important role in fulfilling the strategic direction for health care.

The UTMB Electronic Health Network has the vision, expertise, and clinical experience to pursue the creation of a national research agenda for telehealth nursing successfully. The institution has been a leader in telehealth since 1994 and is nationally and internationally recognized as such. Since that time, medical specialists, nurse practitioners, and ancillary services have conducted more than 256,000 patient visits using videoconferencing. The program currently averages almost 5,000 visits per month. EHN's extensive experience in telehealth has led to the recognition of the vital importance of strategic thinking at a national level regarding the future direction of telehealth nursing. This agenda must be pursued aggressively to achieve telehealth nursing's full potential as an innovative tool for improving healthcare access, quality, and cost.

## EXECUTIVE SUMMARY OF CONFERENCE PROCEEDINGS

Summary prepared by Phyllis Beck Kritek, Facilitator

Advocates and users of emergent telehealth, both practitioners and recipients of care, have experientially demonstrated the potential of this healthcare modality, while the exponential explosion of creative technology further unveils its as yet unrealized possibilities. Nurses have become active advocates and participants in this emerging future, creating the specialty of telehealth nursing.

Pressing unmet healthcare challenges, the traditions and values of nurses, and the need for systematic study of this practice have made the delineation of clear telehealth nursing research priorities a compelling goal. To that end, a group of engaged stakeholders convened to generate a beginning articulation of these priorities. The intent of this group was to create an initial statement of priorities that would further dialog among all stakeholders and support focused research initiatives.

The group convened October 9-11, 2005 in Cresson, PA hosted by Mount Aloysius College. Dr. Janet Grady, chairperson of the Division of Nursing at Mount Aloysius and Dr. Poldi Tschirch, then Director of Distance Education at the University of Texas Medical Branch (UTMB) Telehealth Center in Galveston provided leadership. A grant awarded to Dr. Tschirch by the Agency for Health Research and Quality (AHRQ R13-HS0115961-01) supplied partial funding for the conference. Additional sponsors included Mt. Aloysius College, Nursing Service and the Electronic Health Network at UTMB, and Polycorn.

The conference leaders organized a process that first explored germane topics through the presentation of papers by experts. Using these papers as catalysts, participants then collectively responded to a set of questions by means of brainstorming followed by weighted voting. Brainstorming questions (eight) emerged from the stated goals of the gathering, and outcomes were a set of priorities (identified by weighted voting) viewed by the group as the most compelling answers to the questions. The overriding goal of the group was the identification of priority research initiatives for telehealth nursing. While several were identified as important, the overriding key recommendation was as follows: **Increase studies with clearly identified populations, standard outcomes, and standard methodologies that support the cost effectiveness of telehealth.**

The initial stimulus paper was presented by Dr. Loretta Schlacta-Fairchild who discussed the clinical standards and competencies in telehealth nursing. The initial question asked participants: *What are the specific phenomena of concern that telehealth nursing practice seeks to address? What are the nursing diagnoses, problem statements, presenting complaints, and patient needs that the telehealth nurse addresses?* Priority responses focused on chronic care issues: the need for patients to manage their own diseases and demonstrate skill and knowledge about their symptoms, the importance of coordination of care, and the impact of co-morbidities. Creating therapeutic presence, screening for disease prevention, and the importance of timeliness of care were also identified as important responses to this question.

Dr. Meridean Maas provided participants with a tour through the terrain of nursing classification systems and their implications for telehealth nursing. Her presentation created context for responses to the second question: *What specific interventions do nurses in telehealth practice provide in response to stated needs; are some interventions unique to this practice?* The predominant group response to this question emphasized symptom management, though participants also identified several additional important interventions. These included responding to critical data; conducting “modified” clinical assessments; matching technology to clinical needs, desired outcomes, and the patient’s ability; virtual presence; monitoring and trending (tracking) the patient’s health status; family involvement in care; and the coordination of multidisciplinary care. While the primary focus on symptom management had centrality for participants, it is noteworthy that the added emphases point to emergent interventions and those unique to telehealth nursing.

Evidence-based practice was elucidated by a presentation by Dr. Marita Titler that set the stage for the group to respond to the next three questions. These questions asked participants: *Among the interventions that nurses employ in telehealth practice, which show the highest potential for demonstrating the clinical efficacy of this practice model? Which show the highest potential for demonstrating cost effectiveness? Which show the highest potential for creating evidence-based future practice directives?*

Question three focused on clinical efficacy of the nurse’s practice model. Participants posited that clinical efficacy was most evidenced through chronic disease management, patient empowerment, and teaching self-management using technology. A second level of importance included the efficacy of telepresence, increased access for persons seeking services, attention to changes in the patient’s health status, and the ability of the nurse to export expertise regardless of geography.

The fourth question centered on cost effectiveness. Participants indicated that the cost effectiveness of telehealth practice was most readily demonstrated with interventions that focused on enhanced self-care management, early detection of health deterioration, and symptom management. As in prior questions, a second level of responses tended to emphasize the future more, by accentuating the potential demonstration of cost effectiveness in the management of chronic disease, the value of nursing, and the utilization of standards.

Question five focused on evidence-based practice directives. In response, participants identified several areas of development where telehealth nursing practice has a high potential for creating such directives. The group indicated that the creation of standardized care delivery studies and a different view of patient-centered care were unique factors in telehealth nursing. They also identified the need to employ and understand the similarities and differences in contexts, which alter processes and outcomes of telehealth delivery. They placed substantive emphasis on the uniqueness of telehealth nursing practice, noting how telehealth nursing changes nursing administration, alters patients' access to care, and breaks down barriers that prevent desired outcomes.

Dr. Carol Bickford and Ms. Kristen Hellquist presented the final papers on policy issues. Question six therefore asked participants: *Among the interventions and clinical outcomes specific to telehealth nursing practice, which, if studied, have the greatest potential for shaping future health policy initiatives?* This question elicited a high consensus response from the group, with primacy given to creating partnerships among key stakeholders to achieve desired policy outcomes. The group also supported innovation with new pedagogies for emerging generations and the exploration of professional practice roles in telehealth. Several other ideas garnered enough group interest to be noteworthy. These include determining best practices, building an on-going revolution, identifying ways to use technology proactively, patient empowerment, the shifting of the balance of power from providers to consumers, and the break down of parochialism among healthcare professionals to enable inter-professional service and practice.

Question seven moved from policy initiatives to the actual strategies needed to achieve the primary aim of the conference, the identification of research priorities in telehealth nursing: *What strategies are the most promising in creating a program of research in telehealth nursing that would provide nurses with evidence-based practice opportunities?* The group consensus supported increasing studies to support the cost effectiveness of telehealth with clearly identified populations, standard outcomes, and standard methodologies. They recommended educating and lobbying groups with research funds, such as National Institute for Nursing Research (NINR), Robert Wood Johnson Foundation (RWJ), and the American Association of Retired Persons (AARP). The group also supported working to get telehealth nursing leaders appointed to the national advisory councils of selected federal funding agencies such as NINR. Further strategies emphasized the need to test nursing interventions across levels of technology and the formation of partnerships between nurse research methods experts and those in telehealth who manage the data.

The final brainstorming question explored by the group essentially served as the culmination point: *Among all the priorities generated at this conference, which are the most urgent in guiding stakeholders in planning future research initiatives?* The top priority of the group, garnering significantly more votes than other topics, was an increase in studies with clearly identified populations, standard outcomes, and standard methodologies to support the cost effectiveness of telehealth.

A second level of priorities with several key items was also identified. Participants recommended the creation of programs of levels of research development, i.e., moving from descriptive to designs that are more experimental. They affirmed the need for a common definition of telehealth with a blueprint for development and an identified end point for goal achievement. Partnering with educational institutions doing basic nursing education to build optimal conditions for telehealth research and practice interests was identified as a useful strategy, as was integrating telehealth agendas into existing priority research agendas, both nationally and internationally. Participants recommended defining key stakeholders in telehealth nursing and creating partnerships among those stakeholders, along with increasing visibility by publicizing outside the telehealth world. Looking to the future, participants gave priority to the standardization and regulation of telehealth based on best practices to ensure consistency, and envisioned an international state-of-the-science conference on telehealth sponsored by one or more key national and international agencies or organizations such as the NINR, International Council of Nurses (ICN), National Institutes of Health (NIH), or AHRQ.

Finally, participants provided individual recommendations or reported individual concerns in writing to augment conference outcomes.

## BRAINSTORMING QUESTIONS AND PRIORITIES

**Focus Question 1: What are the specific phenomena of concern that telehealth nursing practice seeks to address? What are the nursing diagnoses, problem statements, presenting complaints and patient needs that the nurse in telehealth addresses?**

**Priorities:**

- Patient need to manage own chronic disease
- Coordination of care
- Multiple co-morbidities
- Patient knowledge and skill re how to manage symptoms

**Focus Question 2: What specific interventions do nurses in telehealth practice provide in response to stated needs? Are there interventions that are unique to Telehealth nursing practice?**

**Priorities:**

- Symptom management

**Focus Question 3: Among the interventions that nurses employ in telehealth practice, which show the highest potential for demonstrating the clinical efficacy of this practice model?**

**Priorities:**

- Chronic disease management
- Patient empowerment
- Teaching self management using technology

**Focus Question 4: Among the interventions that nurses employ in telehealth practice, which show the highest potential for demonstrating cost effectiveness?**

**Priorities:**

- Enhanced self care management
- Early detection of health deterioration
- Symptom management

**Focus Question 5: Among the interventions that nurses employ in telehealth practice, which show the highest potential for creating evidence-based future practice directives?**

**Priorities:**

- Create standardized care delivery studies to determine outcomes
- Having a different view of patient-centered care in telehealth –because patient accesses care/initiates etc.
- Employ/understand similarities and differences in contexts which alter processes and outcomes in which telehealth is delivered
- Changing to a different kind of nursing administrative practice based on telehealth
- How telehealth alters how patients access care
- Demonstrate how telehealth breaks down barriers that deter desired outcomes

**Focus Questions 6: Among the interventions and clinical outcomes specific to telehealth nursing practice, which, if studied, have the greatest potential for shaping future health policy initiatives?**

**Priorities:**

- Create partnerships among key stakeholder to achieve desired policy outcomes

**Focus Question 7: What strategies are the most promising in creating a program of research in telehealth nursing that would provide nurses with evidence-based practice opportunities?**

**Priorities:**

- Increase studies to support cost effectiveness of telehealth with clearly identified populations, standard outcomes, standard methodologies
- Educate and lobby those with funds (NINR, RWJ, AARP)

- Work to get telehealth nursing leaders appointed to advisory committees/boards of federal funding agencies (NINR, etc)

**Focus Question 8: Among all the priorities generated at this conference, which are the most urgent in guiding stakeholders in planning future research initiatives?**

**Priorities:**

- Increase studies to support cost effectiveness of telehealth with clearly identified populations, standards outcomes, standard methodologies

## CONCLUSIONS

By an overwhelming margin, the conference participants felt that the pursuit of studies with clearly identified populations, standard outcomes, and standard methodologies to support the cost effectiveness of telehealth should be the highest priority for the field of telenursing. They also assessed the potential fit between existing nursing classification systems and the nursing interventions and outcomes appropriate to telehealth nursing and generated research priorities for the further development of telehealth nursing. These research priorities should focus on evidence-based practice approaches and public policy implications. These conclusions represent the beginnings of a strategy for furthering the development of a telehealth nursing research agenda.

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