

Human Factors in Home Health Care

Principal Investigator:	O’Connell, Mary Ellen, M.M.H.S.
Organization:	National Research Council
Contract Number:	AHR7128
Project Period:	September 2009 – October 2011
AHRQ Funding Amount:	\$750,000

Summary: The National Research Council Committee on Human-Systems Integration has formed the Committee on the Role of Human Factors in Home Health Care, a multidisciplinary consensus panel of experts. This panel was brought together to examine a range of behavioral and human-factors issues and challenges that have arisen due to the increasing migration of medical devices, technologies, and care practices from formal health care facilities into private homes. Although relatively little has been established empirically about these challenges, it is recognized that homes are not designed for the delivery of health care, that considerable variation exists as to what constitutes a ‘home,’ and that patients and their caregivers—whether professional or lay providers—are at risk for harm when administering care in a safe and reliable manner outside formal care facilities.

This project helped gain a better understanding of:

- The human-factors challenges that take into account the relevant sensory, behavioral, and cognitive capabilities of patients and caregivers.
- The nature of the care processes, procedures, and therapies occurring in the home.
- The steady migration and use of medical equipment and technologies to the home environment.
- How the design of the physical home environment can facilitate or impede the delivery of care.
- The impact of social and community environments on healthy lifestyles.

The Committee sought to determine how current and emerging human-factors knowledge and methods, as well as future research, could improve the safety, effectiveness, cost-effectiveness, and other aspects of the quality of health care in the home. The papers and resultant workshop summary, [Human Factors in Home Health Care: Workshop Summary](#), informed the committee’s deliberations for its final report, [Health Care Comes Home: The Human Factors](#).

Project Objectives:

- Produce a consensus report identifying and discussing major human-factor issues in home health care. **(Achieved)**
- Produce a brief companion designer’s guide for home-based consumer health IT. **(Achieved)**

2011 Activities: The focus of activity was on finalizing the consensus report and designer’s guide, and coordinating dissemination activities with the Agency for Healthcare Research and Quality. Due to unexpected transitions in project leadership in 2010, the project was slightly delayed and therefore the contract was extended beyond the original end date of October 2010. The project was completed in October 2011.

Impact and Findings: Improvements to health care in the home hold the promise of providing healthy living, comfort, and effective treatment to care recipients and to contribute to a growing and vital part of health

care delivery in the United States. The final report documents the current state of health care in the home and identifies existing problems and opportunities for the improvement of care by applying human factors knowledge and methods. The report includes discussion of several themes and issues that influence the effective delivery of health care in the home. These topics include the diversity of populations receiving and providing health care in the home; unmet needs to match medical device technology with the capabilities and limitations in the home environment; necessary training, support, and appropriate documentation for those using home health care equipment and technology; and the need to improve coordination and communication among those involved in health care in the home.

To address each issue, the research team developed a number of recommendations within four areas in which human factors can help improve various aspects of health care in the home, including: 1) health care technologies, including medical devices; 2) caregivers in the home, including formal and informal caregivers and those who self-administer care; 3) residential environments for health care; and 4) the design of equipment and information technology or provision of services to those in need.

Target Population: General

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to support patient-centered care, the coordination of care across transitions, and the electronic exchange of health information to improve quality of care.

Business Goal: Synthesis and Dissemination
