

NAME **Holly B. Jimison, PhD, FACMI**

DATE **October 2021**

I. PRESENT POSITION AND ADDRESS

Position:

**Director of the Consortium on Technology for Proactive Care
Professor of Practice**

Department/Division:

**Khoury College of Computer Sciences
Bouve College of Health Sciences**

Professional Address:

**Northeastern University
360 Huntington Ave, 910-177
Boston, MA 02115**

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h.jimison@neu.edu

Work Phone:

617-373-2381

II. EDUCATION

BS Mathematics, University of Illinois, 1973

PhD Medical Information Sciences, Stanford University, 1990

III. PROFESSIONAL EXPERIENCE

**2013 – present Professor & Director, Consortium on Technology for Proactive Care
Northeastern University, College of Computer & Information Science; Bouve College of
Health Sciences**

- Developing an infrastructure and framework for accelerating research in home monitoring and health interventions for aging and rehabilitation
- Scalable technology-based behavioral health interventions for older adults
- Discovery of clinically relevant behavioral markers derived from home monitoring

2021 – present Visiting Professor

University of California at Davis

- Strategic planning and grant writing for their Healthy Aging in a Digital World Initiative
- Mentoring for the Betty Irene Moore Fellowship for Nurse Leaders and Innovators

2015 – 2019 Visiting Professor, Health Innovation

Halmstad University, Halmstad, Sweden

- Strategic planning and grant writing for their Health Innovation Initiative
- Advising on research for the School of Nursing and the School of Information Technology
- Collaborative research across universities

2012 – 2017 Finland Distinguished Professor, Biomedical Sciences & Engineering

Tampere University of Technology, Tampere, Finland

- Research on behavioral informatics
- Teaching and advising students in the Personal Health Informatics PhD Program
- Collaborative research across universities

2012-2013 Technology Advisor & Health Scientist for NIH’s Office of Behavioral & Social Science Research

- Interagency work on Big Data Initiative for Monitoring Health Behaviors in the Home and Environment; Shared Decision Making; Integrating Health Behavior Data into EHRs (meaningful use recommendations to ONC); White House Initiative on Games for Impact

Department of Medical Informatics & Clinical Epidemiology, Oregon Health & Science University:

2005-2013	Associate Professor, Medical Informatics & Clinical Epidemiology	OHSU
2004-2013	Joint appointment in Biomedical Engineering Department	OHSU
2003-2005	Assistant Professor, Medical Informatics & Clinical Epidemiology	OHSU
2002-2003	Adjunct Assistant Professor, Medical Informatics & Clin Epi	OHSU
1999-2002	Clinical Assistant Professor, Medical Informatics & Clin Epi	OHSU

- Research on technology for successful aging, health coaching platforms for scalable remote care; Multimedia Tools for Informed Consent (NIMH / Circumplex Co.); Internet-Based Tools to Enhance Use of Online Health Resources (NCI / Evalumetrix); Intelligent Systems for the Early Detection of Dementia (Intel and NIA); Computer Games for Cognitive Monitoring (NIST); Cognitive Health Coaching (Intel/ Alzheimer’s Association / NIA); Evidence Report on Use of Health Information Technology (AHRQ); Integrated Communication and Inference Systems for Continuous Coordinated Care of Older Adults in the Home (NSF)
- Teaching: Ethical, Legal and Social Issues of Medical Informatics; Consumer Health Informatics; Human Computer Interaction; Modules in Disease Management, Utility Assessment
- Directed the PhD Program in Medical Informatics

Department of Public Health & Preventive Medicine:

1999-2002	Clinical Assistant Professor, Public Health & Preventive Medicine	OHSU
1997-1999	Unpaid Leave to Work in Industry, retained appointment to continue grants	
1992-1997	Assistant Professor Public Health & Preventive Medicine	OHSU
	Director, Informed Patient Decisions Group, Medical Informatics	OHSU

- Directed a research group of faculty and students with working on the use of computers to empower patients to be more active participants in their health care.
- PI on several research grants from NIH, RWJF and industry (multimedia tools for informed consent, Medicaid health plan choice for low-income consumers, technology for coordinated long-term care, research on patients' use of the Internet for accessing health information).
- Advised students, residents, and post-docs in Medical Informatics and in Public Health.
- Taught courses in Introduction to Medical Informatics, Medical Decision Making, Computer Applications in Biostatistics; Facilitator for Principles of Clinical Medicine in the Medical School Curriculum.
- Assisted in teaching Continuing Medical Education for physicians, Principles of Clinical Medicine for medical students, Residency Training for the Portland VA
- Performed technology assessments for the State of Oregon

2001-2003 Kaiser Center for Health Research Medical Informatics Investigator

- Research on web-based interventions for health management of chronic conditions (grants on Web-based systems for weight loss, smoking cessation, heart failure management)
- Technology for successful aging projects (pilot grants from Intel)
- Patient / clinician communication effects of computers in the exam room (grant from Garfield foundation)
- Evaluation of patient/physician communication, physician information needs, point-of-care medicine (grant from the Care Management Institute)

1999-2001 WebMD Research Scientist

- Developed strategies for disease management and home health communications services
- Defined product capabilities and designed the architecture and algorithms for implementing the Ornish Heart Disease Reversal Program on the Web.
- Worked with researchers at UCSF and UCSD on a tailored Web-based smoking cessation program that addressed depression as part of the intervention.
- Worked on a strategy plan for incorporating personalization into WebMD products.
- Carried out a needs assessment and developed a product strategy for handheld computers in medicine.

5/1998 – 6/1999 Consulting

- Greenstone Medical
 - Project management for consulting services to monitor investments in an Electronic Medical Record start-up company.
 - Bayesian analysis of large pharmaceutical and health plan data sets to predict health outcomes and to anticipate disease management interventions.

- On site instruction on Bayesian network modeling and Medical Decision Making.
- Due diligence evaluation of medical start-up companies
- Stanford grant on Breast Cancer Prevention in Minority Populations
- Advisor to UCSF Medical Informatics students on consumer health projects, co-taught class on consumer health informatics for 2 years (Appointed Clinical Assistant Professor of Community Health Systems)
- Total Corporate Wellness – developed a web tool to teach employees how to find health information on the Internet.
- AT&T Labs – Developed project specifications for patient–clinic communications, phone medication reminders, and calendar/messaging integration.

5/1997 - 5/1998

Caresoft, Inc.

Director, Clinical Systems Design

- Needs assessment and usability testing of web and phone prototypes for patient / clinician communication.
- Developed both short-term and long-term product plans based on the evaluation of existing disease management products.
- Short-term redesign of Web and Phone Interface to disease management software for case managers and patients in the home (congestive heart failure and diabetes applications).
- Created design specifications for the educational component of the Department of Defense’s Mobile Breast Care Center (van with digital mammography and follow-up ultrasound, remote analysis).

1986-1990

Stanford University

- Academic Program Coordinator (1990-1991)
Revised the curriculum and requirements for the Master’s Program in Health Services Research.
Advised students in Health Services Research.
Lectured in classes for the Department of Health Services Research.
- Research Associate (1990-1991) (Funded by Carnegie Mellon University)
Post-doctoral position to study methods of providing computer-generated explanation of decision models. Developed algorithm for creating hierarchical preference models.
- Visiting Associate Professor (1990)
Instructor for course on Public Decision-Making Regarding Human Health.
Co-instructor for seminar on Probabilistic Search
- Lecturer for General Internal Medicine’s Faculty Training Program (1986-1991)
Gave lectures on Utility Theory in Clinical Practice, Ethics in Medical Decision Making, and Understanding Risk.
- Head Teaching Assistant / Lecturer for the Human Biology Program (1989)
Coordinated course on Public Decision Making Regarding Human Health. Gave lectures on quantitative decision making, taught supplemental sections, supervised group projects.
- Teaching Assistant / Lecturer for Medical Information Sciences (1986-1987)
Served as TA for Computer Applications in Medicine and Computer-Assisted Medical Decision Making.
Gave lectures on math modeling and utility theory.

1973-1986 Hewlett-Packard Laboratories

Research Engineer

Served as a research engineer on the following projects:

- Designed clinical algorithms (trend detection for alarms, etc.) for intelligent ICU monitoring
- Developed ECG pattern recognition algorithms
- Algorithms, clinical trials, FDA approval for a computer-controlled adaptive ventilator
- Ultrasound tissue characterization algorithms and animal trials
- Cutaneous and airway capnometry algorithms and clinical trials
- Optical pH probe algorithms and clinical trials

IV. PROFESSIONAL ORGANIZATIONS

- Fellow of the American College of Medical Informatics, previous member of the Executive Board
- American Medical Informatics Association
- American Association for Artificial Intelligence
- American Public Health Association
- ACM Special Interest Group on Computer-Human Interaction
- Health Information Management Systems Society
- IEEE Engineering in Medicine and Biology
- Society for Medical Decision Making

IV. SCHOLARSHIP

Technology for successful aging

Computational models of cognition based on behavioral monitoring

Consumer health informatics

Home monitoring & disease management technologies

Medical decision making

Ethical issues in medical informatics

V. SERVICE

- Associate Editor, Engineering in Medicine & Biology Conference, 2018-present
- Executive Board for the American College of Medical Informatics, 2016-2021
- NIH Special Emphasis Review Panel ZRG1 RPHB-Z (10):Small Business: Disease Prevention and Management, Risk Reduction and Health Behavior Change, 2019-present
- NSF Faculty Early Career Development Grant Review Panel, 2020-present
- Program Chair, Fourth ASE International Conference on Big Data, Harvard University, 2014
- Technology Advisor to NIH's Office of Behavioral & Social Science Research (2011-2013)
- Executive Committee for Oregon Center for Aging & Technology
- NSF Review Panel Member for the Smart Health & Wellbeing Program
- Member of the Scientific Program for the American Medical Informatics Association
- President of the Oregon Chapter of the Health Information Management Systems Society (2000-2002).
- Member of the Science Panel on Evaluation of Interactive Technologies for Consumer Health

Information (Sponsored by the Office for Disease Prevention and Health Promotion)

- Technology Assessments for the Oregon Health Plan
- Member of the Oregon Consortium on Consumer Health
- Book Review Editor for the Medical Decision Making Journal (Editorial Board) 1995-1998.
- Program Chair for Society of Medical Decision Making national conference in 1999.
- Member of the Department of Defense's Review Panel for their Breast Cancer Research Program
- Technology member of the National Institute for Mental Health's SBIR Review Panel

VI. TEACHING EXPERIENCE

- Personal Health Technologies
- Introduction to Health Data Analytics
- Research Methods
- Ethics and Legal Issues in Biomedical Informatics
- Consumer Health Informatics
- Statistical Inference, Pattern Classification
- Medical Decision Making
- Computer Applications in Biostatistics
- Medical Informatics
- Patient Education
- Telemedicine, Home Health, Disease Management
- Utility Assessment and Models
- User Interface Design for Medical Applications
- Bayesian Network Models

Thesis Advisor and Postgraduate – Scholar Sponsor:

- PhD Program Director for the OHSU Medical Informatics Training Program (14 PhD students)
 - Primary advisor for 3 PhD student: Steven Williamson, Adam Wright, James McKanna
 - Primary advisor for 20 Masters students: Chia Hua Yu, Andi Lushaj, Anthony Grecco, Masoud Faraji, Krystal Lloyd, Daren Nicholson, MD, MBI, Vishnu Mohan, MD, MBI, Michael Shapiro MS, Michelle Lee, MS, Aseem Kumar, MD, MS, Jennifer Abrahamson, Julian Lipscombe, Amy Norcom, Maki Karakida, Yves Vimegnon
 - Advising committee for 4 PhD students: Ravi Teja Bhupatiraju, Daniel Austin, Stuart Hagler
 - Advising committee for 16 Masters students: Rose Campbell, MS, Sid Mitra, MS, Tina Purnat, MS, Richard Dykstra, MD, MS, Mario Maneese, MS, Hollis Wright, MS, Amy Norcom, Christian Olsen, Poonam Sharma, Denise Dinulescu, MD, Robert Aarstad, MD, Ali Al Sanousi, MD, Maryan Zirkle, Michael Berman, Thomas Carr
- PhD Program Director for the Northeastern Personal Health Informatics Training Program 2017-2019
 - Primary advisor for Xuan Li, Brandon Ransom (PhD candidates)
 - Committee member for 5 PhD candidates Maciej Kos, Sophie Wang, Oliver Wilde-Smith, Dan David, Navid Akbar
 - Primary advisor for Health Informatics MS students Aditi Agashe, Calvin Goetz, Sumana Gopinath
- Postdoc advisor for Iman Khaghani Far

- Outside advisor / committee member for PhD students from Tampere University, Finland
 - Julia Pietela, Anita Honka, Jose Maria Perez Macias, Maisa Neimela, Pekka Ala-Siuru
- Outside advisor / committee member for PhD student Maria Luiza Recena Menezes from Halmstad University, Sweden
- Outside advisor / committee member for Marcela Moreira, PhD student from Recife University, Brazil

Patents

Medical Ventilator Device Parametrically Controlled for Patients
Frederick Stawitcke, William Mordan, Holly B. Jimison, May 15, 1984
U.S. Patent Number 4448192.

Grants and Contracts:

Federal

“Massachusetts AI and Technology Center for Connected Care in Aging and Alzheimer's Disease”. National Institute on Aging, September 2021 – August 2026. Choudry/Ganesan (PI). Jimison PI of Stakeholder Core. \$251,177 (subcontract)

This is a large center grant to facilitate research to improve successful aging in place and the care of patients with Alzheimer’s Disease using state-of-the-art technology and computational modeling approaches. The new Center will support pilot projects from new investigators with funding, mentoring, and access to shared resources. The goal will be to develop new innovative approaches to care for the aging that are scalable, cost-effective and contribute to improved quality of life for the elderly and their caregivers.

“Autonomous Navigating Telepresence Robot for Alleviating Loneliness and Engaging Nursing Home Residents with and without Dementia”. April 2021 – March 2022, Malinsky (PI) Jimison (PI Subcontract) \$498,509

This is an SBIR grant with the goal of reducing loneliness of residents in nursing homes. The research is focused on new methods for using autonomously navigating robots to move to residents’ rooms according to a calendar with appointments to connect family members via video with the ability to engage in personalized activities through the Vigorous Mind system.

“SCH:INT: Self-powered Smart Ring for Always-On Health Interventions”. National Science Foundation. September 2020-October 2022. Jimison (PI) \$299,537.

The goal of this project is to develop dynamic power-saving algorithms to support a novel always-on smart ring for health monitoring and just-in-time feedback. To explore the complexities of power-saving algorithms we will use stress monitoring and intervention as a test case. This application requires the assessment of a user’s stress in real time from sensors providing information on heart rate, heart rate variability and electrodermal activity. Accelerometry data is then necessary to distinguish emotional from physical stress. Our algorithms must optimize the sampling, filtering, classification and summarization of the sensor data, as well as when to transfer summary data to a cell phone for dynamic feedback and encouragement. These approaches will be critical to health behavior change interventions by alleviating the need for recharging a monitoring device.

“Integrated Web-Based Customer Engagement, Physical Exercise, and Coaching Platform for Older Adults.” National Institute on Aging. September 2017 – June 2018. Jimison (PI Northeastern Subcontract) \$218,333.

The goal of this SBIR grant with Vigorous Minds is to develop and test a Web-based physical exercise intervention to be integrated with an existing tool for engaging seniors in computer-based health interventions to promote socialization, improve cognition, and reduce loneliness.

“LiveWell RERC - The RERC for Community Living, Health and Function.” National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). September 2015 – September 2020. Frank DeRuyter (PI Duke), Holly Jimison (PI Northeastern subcontract \$799,200; \$4,624,467 total)

This Rehabilitation Engineering Research Center grant (RERC), in partnership with Duke University and the Shepherd Center, aims to improve Information and Communication Technologies (ICT) for patients with Traumatic Brain Injury (TBI).

“Northeastern Center for Technology Supporting Self Management in Older Adults.” NIH’s National Institute of Nursing Research. September 2014 – September 2019. Terry Fulmer, PI; Holly Jimison Co-PI at 22.5% FTE. \$2,082,800.

The goal of this Center is to facilitate research on self management in older adults for nurse scientists by making technology infrastructure support and research training available at all stages of research.

“Evaluation of the Community Empowerment through Technological Innovations Initiative”. Aetna Foundation. May 2014- September 2016. Andrea Parker PI, Holly Jimison Co-I.

The goal of this grant is to review evidence for mobile health technology interventions with minority communities and to evaluate new projects in this area that are funded by the Aetna Foundation. We are also convening and hosting a Commission on Community Empowerment through Technological Innovations.

“Development of a Platform for Remote Monitoring of Chronic Wounds”. Tier 1 Northeastern University Grant. September 2015-September 2016. Edward Goluch PI, Holly Jimison Co-I. The goal of this grant is to develop a system for monitoring wounds for infection in a home environment. The approach uses an *Acinetobacter* Capture Assay integrated with electrochemical sensors in a bandaid-like device with wireless communications to signal the development of a bacterial infection in real time.

“Remote Health Coaching Technology to Address Depression Risk Factors in Older Adult Populations with Health Disparities.” NIH’s National Institute on Aging. September 2014 – September 2015. Holly Jimison PI on Roybal Grant Pilot. \$10,676.

The goal of this grant is to explore low-income minority patient population attitudes on technology for remote interventions including interactive exercise with the use of the Kinect

camera, stress monitoring, breathing exercises, and mood management interventions.

“Integrated Communication and Inference Systems for Continuous Coordinated Care of Older Adults in the Home.” National Science Foundation. October 2011 – October 2015. Holly Jimison, Principal Investigator at 35% FTE. \$1,249,956.

The goal of this project is to investigate the relationship between cognition and physical movement in the context of encouraging physical exercise through remote health coaching. Models of health behavior change based on behavioral observations from sensors in the home will be used to dynamically estimate individual states and tailor interactions to improve health outcomes.

“Cognitive Interventions Delivered to Elders in the Home via Coaching Technology.” National Institute on Aging. October 2009 – October 2011. Holly Jimison, Principal Investigator at 30% FTE. \$945,482.

The goal of this project is to develop coaching technology and protocols that would provide a platform for the optimal testing of the comparative effectiveness of interventions for older adults in a home environment with a focus on cognitive health.

“Assessing Cognitive Function from Interactive Agent Behavior.” NSF. April 2009 – January 2011. Holly Jimison Co-PI at 11.5% FTE. \$450,000.

The goal of this project is to develop a noninvasive early indicator of cognitive decline. We will use multimodal data analysis techniques to develop optimal metrics of cognitive performance using information from multichannel EEG data in conjunction with computer monitoring data from adaptive computer games.

“Cognitive Health Coaching for Elders in a Home Environment.” Alzheimer’s Association, November 2008 – November 2011. Holly Jimison Principal Investigator at 20% FTE. \$185,841. The purpose of this project is to develop and evaluate a novel and scalable method for delivering tailored cognitive health interventions to elders in their home environment.

“Barriers & Drivers of Health Information Technology for the Elderly, Chronically Ill and Underserved.” AHRQ EPC Task Order. Holly Jimison, Principal Investigator at 27%, \$299,411. The goal of this task order is to perform a systematic review of the literature and evidence for the use of health IT.

“Technology for Early Detection and Intervention of Cognitive Decline.” National Institute on Standards and Technology. November 2004 – September 2007. Holly Jimison, Principal Investigator. 40% FTE, \$1,447,300. This is a grant to the Spry Learning Company and OHSU to develop technology to continuously monitor and detect cognitive changes in elders by unobtrusively integrating cognitively challenging computer games into their daily lives. If successful, these games will have the additional benefit of providing a mechanism for cognitive intervention, improving cognitive function and reducing the risk of dementia and Alzheimer’s disease.

“Oregon Center for Aging, Technology, Education and Community Health.” Roybal Center Grant. National Institute on Aging. October 2004 – September 2009. Jeffrey Kaye, Principal Investigator. \$1,750,000. Holly Jimison, Principal Investigator on a 1 year pilot grant on “Monitoring Computer Interactions to Detect Early Cognitive Impairment.” 20%FTE, \$50,000. This pilot project will investigate algorithms for inferring a user’s cognitive performance using monitoring data from computer games and psychomotor measurements associated with keyboard entry and mouse movement. The inferences will then be used to classify significant performance changes, and additionally, to adapt computer interfaces with tailored hints and assistance when needed.

“Internet-Based Tools to Enhance the Use of Online Health Resources.” National Cancer Institute. February 2004 – February 2005. Holly Jimison, Principal Investigator on Subcontract through Evalumetrix. \$83,612. The purpose of this SBIR, Phase 2 project with Evalumetrix is to improve the ability of people to access and evaluate individually relevant health information on the Internet and to help clinicians provide more effective patient education. We are developing and evaluating a health search engine that enables consumers to personalize their health information search according to individual needs and preferences.

“Interactive Multimedia Informed Consent (iMIC).” October 2001 – September 2004. National Institute on Mental Health, subcontract through the Circumplex Company. Holly Jimison, Principal Investigator on Subcontract. 9%FTE, Phases 1,2: \$100,000. Project evaluation focus groups, user acceptability studies of the iMIC library of consent documents, and consent document informatics designed to facilitate IRB review and provide standardized reports for ongoing IRB oversight of the effectiveness of the approved consent document.

“Weight Loss Maintenance.” NHLBI. October 2002 – September 2003. H. Jimison, Co-Investigator, .30 FTE. Developing an interactive Web-based tool to help patients maintain weight loss. The Maintenance Web Site will provide patients with tailored feedback and advice on weight management. The system will be supplemented with an interactive voice response phone system to facilitate system use. The system will include general resources, social support, and monitoring functions. We plan to use frequent tailored messages to reinforce and motivate patients in their weight loss efforts.

“Multimedia Tool for Enhancing the Informed Consent Process.” National Library of Medicine and National Institute of Mental Health (538606). November 1996 - August 1997. H. Jimison, Principal Investigator. 50% FTE. \$148,000. Authored proposal, managed team, ran focus groups and interviews, participated in prototype design, published papers and presented work.

“Medicaid / Medicare Consumers Values, Preferences and Report Card Model. Phase I” Agency for Health Care Policy and Research (5388456) September 1993 - August 1994. H. Jimison Principal Investigator. 50% FTE. \$145,000. Authored proposal, managed team, ran focus groups, participated in prototype design, wrote summary report, published papers and presented work.

“Medicaid / Medicare Consumers Values, Preferences and Report Card Model. Phase II” Agency for Health Care Policy and Research (5388456) October 1995 - August 1996. H. Jimison Principal Investigator. 50% FTE. \$94,372. Authored proposal for larger \$700,000 grant (\$94,372 went to OHSU), participated in design of choice plan kiosk, performed evaluation, wrote summary report.

“Models of an Advanced Information and Communications System for Regional Health and Environmental Research.” Department of Energy (9499021). September 1994 - September 1996. L. Hallick, Principal Investigator, H. Jimison, Project Director. 30% FTE. \$233,105. Managed OHSU faculty, researchers, and students in project to research web communications for patient care in the home. Coordinated efforts with Oregon Graduate Institute.

“Oregon Consumer Scorecard Project.” Agency for Health Care Policy and Research. January 1995 - July 1996. M. Greenlick, Principal Investigator, P.Hanes, Co-Principal Investigator. H. Jimison, Researcher 20% FTE. Design of Sample Scorecard Information, Focus Groups with Oregon Health Plan members, summary report, published chapter in book on the Oregon Consumer Scorecard Experience.

State and Local

“Novel Computer-Based Techniques for the Assessment of ADHD,” Philanthropic Funding. February 2005- January 2006. Holly. Jimison Co-Investigator at 15% FTE. \$125,335.

The aim of this project is to develop laboratory and Web-based versions of a CBA system, based on advanced computer technologies, for accurate, and time- and cost-efficient assessment of a range of core ADHD functions and functions whose assessment is needed for differential diagnosis, assessment of comorbid conditions, and subtyping.

“Heart Function Characterization through Application of Adaptive Signal Processing and Machine Learning to Acoustic and Electrocardiogram Signals.” Internal funding through the OHSU/OGI School of Engineering. Eric Wan, Principal Investigator; Holly Jimison, Greg Larson, Denis Ergodomus, Alex Nelson Co-Investigators. \$100,000. The goal of this project is to apply adaptive signal processing and machine learning techniques to the problem of heart function characterization using combined acoustic and ECG signals.

“Healthwise Communities Project Evaluation, Phase 3.” Robert Wood Johnson Foundation. February 1996 - April 1999. M. Greenlick, Principal Investigator, H. Jimison, J. Hibbard, Co-Principal Investigators. 20% FTE, \$899,825. Responsible for the process monitoring component of the project and assisting on the utilization and survey data analysis. Writing of summary reports and publications.

“Map-Based Access to Health Plan Information.” Oregon Graduate Institute. November 1995 - August 1997. H. Jimison, Principal Investigator. 5% FTE. \$10,000. Authored proposal, created prototype, worked on integration with Oregon Graduate Institute system.

Other Support

“Evaluation of the Community Empowerment through Technological Innovations Initiative.” Aetna Foundation. May 2014 – May 2015. Holly Jimison Co-Investigator at 10% FTE. \$85,000.

The goal of this project is to conduct and meta analysis of previous work in mobile health applications and to evaluate the progress of the Aetna Foundation's funded grants in this area.

“Cognitive Health Coaching for Elders in a Home Environment.” Alzheimer's Association. November 2008 – November 2011. Holly Jimison Principal Investigator at 20%. \$189,842. The purpose of this project is to develop and evaluate a novel and scalable method for delivering tailored cognitive health interventions to elders in their home environment. Interventions include cognitive exercise, physical exercise, sleep management and socialization.

“Automated Coaching.” Intel Corporation. January 2006 – January 2010. Holly Jimison, Principal Investigator at 15% FTE. \$300,000. The goal of this project is to develop and evaluate an in-home health coaching system to deliver tailored advice and feedback on an elder's cognitive health activities.

“Medication Management.” Intel Corporation. January 2006 – January 2010. Holly Jimison, Co-PI at 15% FTE. \$300,000..

The goal of this project is to develop algorithms for intelligent medication reminding of older adults in the home based on a decision theoretic model that incorporates inferred activity context and location using data from motion sensors, patient preferences, and estimates of drug importance.

“Intelligent Technology for the Early Detection of Dementia. Phase 3” Intel Corporation. October 2002 – September 2005. H. Jimison, Co- Investigator at 17%FTE, \$100,000 Phase 1; \$100,000 Phase 2; \$100,000 Phase 3. The purpose of this grant is to investigate technological solutions to early detection and characterization of cognitive impairment and dementia in elderly adults. Ultimate goals include the prevention of adverse events and the development of assistive cognitive devices.

“Tailored Interactive Video Exercise and Cognitive Rehabilitation.” Alzheimer's Association. November 2005 – November 2008. Holly Jimison Co-PI at 20% FTE, \$200,000. This is a study to develop and test methods of providing tailored automated exercise programs for elders with varying degrees of dementia. We will use image recognition techniques and interactive video to create real-time tailored content at the appropriate level of difficulty for frail elders.

“HealthMedia Evaluation.” Care Management Institute. June 2001 – December 2003. H. Jimison Inter-Regional Principal Investigator. 20%FTE. \$45,000. The primary objective of this study is to assess the benefit of using on-line tailored behavioral materials, *i.e.* *BALANCE* (Treatment group), on weight loss rates as reported by the subject at 3,6, 12 and possibly 18 months post enrollment, compared to subjects using on-line presentation of untailored, behavior support materials (Control group).

“Home Monitoring for Heart Failure Management.” Care Management Institute. May 2001 – December 2003. H. Jimison, Principal Investigator. 25% FTE, \$45,000. This study explored the effects of home

monitoring devices in the homes of patients with heart failure on patients and care manager outcomes.

“Internet-Enabled Assistive Technologies: The CareWheels Project.” Intel. September 2002 – August 2003. H. Jimison Principal Investigator on Subcontract. 10% FTE, \$35,000. The goal for this in-home participatory design research is to integrate users with special needs into the Assistive Technology design process to co-develop technologies that foster home health care.

“Exam Room Computing.” Garfield Foundation. May 2001 – January 2003. H. Jimison, Principal Investigator. 40%FTE, \$201,000. The aim of this proposal is to conduct research on the effect of computers in the medical exam room on patient-clinician communication. Specifically, we propose to conduct a longitudinal, qualitative study on the impact of computers in the medical exam room on the types, duration, and quality of communication between patients and their primary care clinicians in the outpatient office setting of an integrated managed care organization.

“Healthwise Communities Project Evaluation.” Robert Wood Johnson Foundation. August 1995 - April 1996. M. Greenlick, Principal Investigator, H. Jimison, J. Hibbard, Co-Principal Investigators. H. Jimison 30% FTE. \$169,655. Evaluation of a community-based intervention of a self-care manual to every home in the Boise, ID area and computer access to health information. Assisted in study design, focus groups, needs assessment, data collection and analysis.

“Healthwise Communities Project Evaluation, Phase 3.” Robert Wood Johnson Foundation. May 1997 - March 1999. M. Greenlick, Principal Investigator, H. Jimison, J. Hibbard, Co-Principal Investigators. H. Jimison 30%FTE. \$119,314. Responsible for the process monitoring component of the project and assisting on the utilization and survey data analysis. Writing of summary reports and publications.

“Evaluation: CareOregon Project.” Robert Wood Johnson Foundation. August 1996 - July 1997. M. Greenlick, Principal Investigator. H. Jimison, Co-PI, 10% FTE, \$49,684. Participated in survey design and analysis.

Publications/Creative Work:

Peer-reviewed

Jimison HB, Shapiro M, Pavel M. Adaptive Health Coaching Technology for Tailored Interventions. *International Journal of Environmental Research and Public Health*. 2021; 18(5):2761. <https://doi.org/10.3390/ijerph18052761>

Taha Khan, Lina E. Lundgren, David G. Anderson, Irena Nowak, Mark Dougherty, Antanas Verikas, Misha Pavel, Holly Jimison, Slawomir Nowaczyk, Vered Aharonson. Assessing Parkinson's disease severity using speech analysis in non-native speakers, *Computer Speech & Language*, Volume 61, 2020.

Honka AM, Helander E, Pavel M, Jimison H, Mustonen P, Korhonen I, Ermes M. Exploring Associations Between the Self-Reported Values, Well-Being, and Health Behaviors of Finnish Citizens: Cross-Sectional Analysis of More Than 100,000 Web-Survey Responses. *JMIR Ment Health* 2019;6(4):e12170

Kos M, Gordon C, Li X, Khaghani-Far I, Pavel M, Jimison H. How to Validate Heart Rate Monitoring Wearables for just-in-Time Adaptive Health Intervention? Development of Comparison Testing Guidelines. Proceedings of the American Medical Informatics Association Conference, November 2019.

Khan T, Lundgren L, Anderson D, Nowak I, Dougherty M, Verikas A, Pavel M, Jimison H, Nowaczyk S, Aharonson V. Assessing Parkinson's disease severity using speech analysis in non-native speakers. *Computer Speech & Language*, Elsevier Publications. November 2019.

Williams H, Leung L, Gordon C, Tunik E, Pavel M, Yarossi M, Jimison H. "A huge, life-changing thing:" A Qualitative Survey of the Priorities and Goals of Young Stroke Survivors. *Archives of Physical Medicine and Rehabilitation* 100 (7), e5-e6, 2019.

Khaghani-Far I, X Li, Kos M, Gordon C, Williams H, Pavel M, Jimison H. NUCoach: A Customizable Coaching Platform for Designing Rehabilitation Mobile Apps, *Archives of Physical Medicine and Rehabilitation* 100 (7), 2019.

Y Zhang, S DiBartolomeo, F Sheng, H Jimison, C Dunne. Evaluating Alignment Approaches in Superimposed Time-Series and Temporal Event-Sequence Visualizations. *IEEE VIS Conference Proceedings*. (2019)

E Stowell, MC Lyson, H Saksono, RC Wurth, HB Jimison, M Pavel, & AG Parker, (2018, April). Designing and Evaluating mHealth Interventions for Vulnerable Populations: A Systematic Review. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (p. 15). ACM.

MLR Menezes, A Pinheiro Sant'Anna, M Pavel, HB Jimison, & F Alonso-Fernandez. (2018). Affective Ambient Intelligence: from Domotics to Ambient Intelligence. In *Artificial Intelligence International Conference, A2IC 2018, November 21-23, 2018, Barcelona, Spain* (pp. 25-25).

RT Seel, HB Jimison, M Pavel, Decision Support and Behavioral Informatics to Improve Safety and Independent Living Following TBI, *Innovations in Brain Injury Research*, 4 (1) 18-22. (2017)

J Pietilä, S Mehrang, J Tolonen, E Helander, HB Jimison, M Pavel, & I Korhonen (2017). Evaluation of the accuracy and reliability for photoplethysmography based heart rate and beat-to-beat detection during daily activities. In *EMBECE & NBC 2017* (pp. 145-148). Springer, Singapore.

HB Jimison and M Pavel, Real-Time Measures of Context to Improve Fall-Detection Models. Proceedings of the 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, FL, August 2016.

EB Hekler, S Michie, M Pavel, DE Rivera, LM Collins, HB Jimison, Advancing models and theories for digital behavior change interventions, *American Journal of Preventive Medicine* 51 (5) 825-832. (2016)

X Li, N Jolani, TT Dao, HB Jimison, Serenity: A low-cost and patient-guided mobile virtual reality intervention for cancer coping, *Proceedings of the 2016 IEEE International Conference on Health Informatics*, 504-510. (2016)

M Pavel, HB Jimison, B Spring, Behavioral Informatics: Dynamical Models for Measuring and Assessing Behaviors for Precision Interventions. *Proceedings of the 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Orlando, FL, August 2016.

F Ofli, G Kurillo, Š Obdržálek, R Bajcsy, HB Jimison, M Pavel, Design and evaluation of an interactive exercise coaching system for older adults: Lessons learned. *IEEE Journal of Biomedical and Health Informatics*. 20 (1), 201-212. (2016)

M Pavel, HB Jimison, I Korhonen, CM Gordon, N Saranummi, Behavioral Informatics and Computational Modeling in Support of Proactive Health Management and Care, *IEEE Transactions on Biomedical Engineering*. 62 (12), p. 2763-2775. (2015)

E Helander, M Pavel, H Jimison, I Korhonen, Time-series modeling of long-term weight self-monitoring data. *Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Milan, Italy, August 2015.

HB Jimison, S Hagler, G Kurillo, R Bajcsy, M Pavel, Remote health coaching for interactive exercise with older adults in a home environment. *Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Milan, Italy, August 2015.

A Ledesma, H Nieminen, P Valve, M Ermes, H Jimison, M Pavel, The shape of health: A comparison of five alternative ways of visualizing personal health and wellbeing. *Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Milan, Italy, August 2015.

J Pietila, E Helander, T Myllymaki, I Korhonen, H Jimison, M Pavel, Exploratory analysis of associations between individual lifestyles and heart rate variability-based recovery during sleep. *Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Milan, Italy, August 2015.

G Kurillo, F Ofli, J Marcoe, P Gorman, H Jimison, M Pavel, R Bajcsy. Multi-disciplinary design and in-home evaluation of kinect-based exercise coaching system for elderly. *Human Aspects of IT for the Aged Population. Design for Everyday Life*, 101-113 (2015).

TW Bickmore, M Goodwin, HB Jimison, M Pavel, S Zhou, Z Zhang. Training Researchers in

Behavioral Technology and Personal Health Informatics. *Annals of Behavioral Medicine* 49, S52-S52 (2015).

D Austin, J McNames, K Klein, H Jimison, M Pavel, A Statistical Characterization of the Finger Tapping Test: Modeling, Estimation, and Applications. *Biomedical and Health Informatics, IEEE Journal of* 19 (2), 501-507 (2015).

Ofli F, Kurillo G, Obdrzalek S, Bajcsy R, Jimison H, Pavel M, Design and Evaluation of an Interactive Exercise Coaching System for Older Adults: Lessons Learned, *Journal of Biomedical and Health Informatics*, January 2015.

Austin, D., McNames, J., Klein, K., Jimison, H., & Pavel, M. (2015). A statistical characterization of the finger tapping test: modeling, estimation, and applications. *IEEE journal of biomedical and health informatics*, 19(2), 501-507.

Hagler S, Jimison HB, Pavel M. Assessing executive function using a computer game: computational modeling of cognitive processes. *IEEE J Biomed Health Inform.* 2014 Jul;18(4):1442-52.

Skubic M, Jimison HB, Keller J, Popescu M, Rantz M, Kaye J, Pavel M. A framework for harmonizing sensor data to support embedded health assessment. 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Aug. 2014, pp.1747-1751.

Hagler S, Jimison HB, Bajcsy R, Pavel M. Quantification of human movement for assessment in automated exercise coaching. *Conf Proc IEEE Eng Med Biol Soc.* 2014 Aug 2014.

Jimison HB. Dynamic user models for tailoring health behavior interventions. *IEEE-EMBS International Conference on Biomedical and Health Informatics.* 2014. pp. 817-820.

Kaye J, Mattek N, Dodge HH, Campbell I, Hayes T, Austin D, Hatt W, Wild K, Jimison H, Pavel M. Unobtrusive measurement of daily computer use to detect mild cognitive impairment. *Alzheimers Dement.* 2014; 10(1): 10-7.

Jimison HB, Klein KA, Marcoe JL, A socialization intervention in remote health coaching for older adults in the home. *Proc IEEE Eng Med Biol Soc.* 2013;2013:7025-8.

Rivera DE, Jimison HB, Systems modeling of behavior change: two illustrations from optimized interventions for improved health outcomes. *IEEE Pulse* 2013 Nov; 4(6):41-7.

Pavel M, Wactlar HD, Jimison HB, Hayes T, Barkis W, Skapik J, Kaye J, Barkis W, The Role of Technology and Engineering Models in Transforming Healthcare, *IEEE Rev Biomed Eng*, 2013;

6:156-77.

Š. Obdržálek, G. Kurillo, F. Ofli, R. Bajcsy, E. Seto, H. Jimison, M. Pavel, Accuracy and Robustness of Kinect Pose Estimation in the Context of Coaching of Elderly Population, EMBC, 34th International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, California, August 2012.

Austin D, Feuerstein J, Jimison H, Pavel M, State-Space Model for Finger Tapping with Applications to Cognitive Inference, Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, San Diego, CA, August 2012.

Hagler S, Jimison H, Pavel M, Unobtrusive in-home assessment by means of everyday computer mouse usage. Conf Proc IEEE Eng Med Biol Soc. 2011;2011:3816-9.

Kaye JA, Maxwell SA, Mattek N, Hayes TL, Dodge H, Pavel M, Jimison H, Wild K, Boise L, and Zitzelberger T, Intelligent Systems for Assessing Aging Changes: Home-Based, Unobtrusive and Continuous Assessment of Aging. *Journal of Gerontology: Psychological Sciences*. 2011; 66B(suppl 1): i180-i190.

Austin D, Jimison H, Hayes TL, Mattek N, Kaye J. Measuring motor speed through typing: a surrogate for the finger tapping test. Behavior Research Methods. 2011; Online First(15 April 2011).

Sharma PS, Eden KB, Guise JM, Jimison HB, Dolan JG, Subjective Risk vs. Objective Risk Can Lead to Different Post-Cesarean Birth Decisions Based on Multiattribute Modeling. J Clin Epidemiol, 2011 Jan; 64(1):67-78.

Jimison HB and Pavel M, A Utility and Context Based Framework for Addressing the Machine Learning Challenges of Detecting Rare but Important Clinical Events, *Advances in Neural Information Processing Systems 23* edited by J. Lafferty and C. K. I. Williams and J. Shawe-Taylor and R.S. Zemel and A. Culotta (2010).

Jimison HB, McKanna J, Ambert K, Hagler S, Hatt WJ, Pavel M, Models of Cognitive Performance Based on Home Monitoring Data, IEEE Engineering in Medicine and Biology Conference. Buenos Aires, Argentina. September 2010.

Pavel M, Jimison H, Hayes T, Larimer N, Hagler S, Vimegon Y, Leen T, Ozertem U, Optimizing Medication Reminders Using a Decision-Theoretic Framework. In: Medinfo 2010: Proceedings of the 15th World Congress on Health (Medical) Informatics.

Austin D, Leen T, Hayes TL, Kaye JA, Jimison H, Pavel M. Model-Based Inference of Cognitive Processes from Unobtrusive Gait Velocity Measurements. Proceedings of the 32th Annual

International Conference of the IEEE Engineering in Medicine and Biology Society; Buenos Aires, Argentina. September, 2010.

Jimison HB, Pavel M, Hatt WJ, Chan M, Larimer N, Yu CH. Delivering a multi-facted cognitive health intervention to the home. *Gerontechnology* 9:2, 2010.

Yu CH, Chan M, Hatt WJ, Jimison HB. Usability testing applied to a health coaching interface for older adults. *Gerontechnology* 9:2, 2010.

Kaye JA, Maxwell SA, Mattek N, Hayes T, Dodge H, Pavel M, Jimison H, Wild K, Boise L, Zitzelberger T, Intelligent Systems for Assessing Aging Changes: Home-Based, Unobtrusive and Continuous Assessment of Aging, *Journal of Gerontology; Series B*. 2010.

Britto MT, Jimison HB, Munafò JK, Wissman J, Rogers ML, Hersh W. Usability Testing finds Problems for Novice Users of Pediatric Portals. *Journal of the American Medical Informatics Association*, 16(5); 660. 2009.

Hatt WJ, VanBaak EA, Jimison HB, Hagler S, Hayes TL, Pavel M, Kaye, J. The Exploration & Forensic Analysis of Computer Usage Data in the Elderly. *IEEE Engineering in Medicine and Biology Conference*. Minneapolis MN. September 2009.

McKanna J, Jimison HB, Pavel M. Divided Attention in Computer Game Play: Analysis Utilizing Unobtrusive Health Monitoring. *IEEE Engineering in Medicine and Biology Conference*. Minneapolis, MN. September 2009.

Jimison, HB and Pavel, M. Integrating Computer-Based Health Coaching into Elder Home Care. In: *Technology and Aging: Selected papers from the 2007 International Conference on Technology and Aging (FICCDAT)*. 2008.

Weinshall D, Hermansky H, Zweig A, Luo J, Jimison H, Ohl F, and Pavel M. Beyond Novelty Detection: Incongruent Events, when General and Specific Classifiers Disagree. *Advances in Neural Information Processing Systems (NIPS)*, Vancouver, Dec 2008.

Kaye J, Hayes T, Zitzelberger T, Yeagers J, Pavel M, Jimison H, Larimer N, Payne-Murphy J, Earl E, Wild K, Boise L, Williams D, Lundell J, Dishman E. Deploying wide-scale in-home assessment technology. In: *Technology and Aging: Selected papers from the 2007 International Conference on Technology and Aging (FICCDAT)*. 2008.

Jimison HB, Pavel M, Le T. Home-Based Cognitive Monitoring Using Embedded Measures of Verbal Fluency in a Computer Word Game. *IEEE Engineering in Medicine and Biology Conference*. Vancouver BC. September 2008.

Perkins J, Pavel M, Jimison HB, Scott S. Gesture Recognition for Interactive Exercise Programs. IEEE Engineering in Medicine and Biology Conference. Vancouver BC. September 2008.

Jimison HB, Pavel M, Bissell P, McKanna J. A Framework for Cognitive Monitoring Using Computer Game Interactions. In: Medinfo 2007: Proceedings of the 12th World Congress on Health (Medical) Informatics; Building Sustainable Health Systems; Kuhn KA, Warren JR, Leong TY (Eds). Amsterdam: IOS Press, 2007.

Jimison HB, Pavel M, Larimer N, Mullen P. A General Architecture for Computer Based Health Coaching. Proceedings of the International Conference on Technology & Aging, Toronto, 2007.

Jimison HB and Pavel M. A Scaleable Approach to Cognitive Health Coaching. White Paper published in the Proceedings of the Workshop on Intelligent Systems for Assisted Cognition. Rochester, NY, October 2007.

Jimison, HB, Pavel, M, Wild, K, Bissel, P, McKanna, J, Blaker, D, and Williams, D. A Neural Informatics Approach to Cognitive Assessment and Monitoring. Proceedings of the IEEE Conference on Neural Engineering, Kona, HI, 2007.

Mahoney D, Purtilo R, Webbe F, Alwan M, Bharucha A, Adlam T, Jimison H, Turner B, Becker S. In-home monitoring of persons with dementia: Ethical guidelines for technology research and development. *Alzheimer's and Dementia*, 3(3) 2007 pp. 217-226.

Pavel M, Hayes TL, Tsay A, Erdogmus W, Paul AS, Larimer N, Jimison H, Nutt J. Continuous Assessment of Gait Velocity in Parkinson's Disease from Unobtrusive Measurements. In: 3rd International IEEE EMBS Conference on Neural Engineering. 2007.

Jimison, H, Pavel, M, Wild, K, Williams, D, McKanna, J, and Bissel, P. Embedded Assessment of Cognitive Performance with Elders' Use of Computer Games in a Residential Environment. Proceedings of the Workshop on The Cognitive Science of Games and Gaming, Vancouver, BC, Canada, 2006.

Pavel M, Hayes TL, Adami A, Jimison H, Kaye J, Unobtrusive Assessment of Mobility, *Conf Proc IEE Eng Med Bio Soc*. 2006: 1:6277-80.

Jimison, HB, Pavel, M. Embedded Assessment Algorithms for Home-Based Cognitive Computer Games Exercises for Elders. Proceedings of the IEEE Engineering in Medicine & Biology Conference, New York, NY, September 2006.

Pavel, M., Adami, A., Morris, M., Lundell, J., Hayes, T. L., Jimison, H., & Kaye, J. A. Mobility Assessment Using Event-Related Responses. Proceedings of the IEEE Transdisciplinary Conference on Distributed Diagnosis and Healthcare, Washington, D.C., USA. April, 2006.

Jimison, H., Jessey, N., McKanna, J., Zitzelberger, T., Kaye, J., Monitoring Computer Interactions to Detect Early Cognitive Impairment in Elders, Proceedings of the IEEE Transdisciplinary Conference on Distributed Diagnosis and Home Healthcare. Washington DC, 2006.

Jimison, H., Pavel, M., McKanna, J., Unobtrusive Computer Monitoring of Sensory-Motor Function, Proceedings of the IEEE Engineering in Medicine and Biology Conference, Shanghai, China, September, 2005.

Hsu, J., Huang, J., Fung, V., Robertson, N., Jimison, H. and Frankel, R., Health Information Technology and Physician-Patient Interactions: Impact of Computers on Communication During Outpatient Primary Care Visits, *Journal of the American Medical Informatics Association*, 2005;12(4):474-480.

Frankel, R., Altschuler, A., George, S., Kinsman, J., Jimison, H., Robertson, N. and Hsu, J., Exam-Room Computers and Clinician-Patient Communication: An Example of Digital Amplification, *Journal of General Internal Medicine*, Aug; 20(8):677-82.

Jimison, H.B., Pavel, M., McKanna, J., Pavel, J. Unobtrusive Monitoring of Computer Interactions to Detect Cognitive Status in Elders, *IEEE Transactions on Information Technology in Biomedicine*, Vol. 8, No. 3, September 2004, pp. 248-252.

Jimison, HB, Pavel, M, McKanna, J, Pavel, J. Home Monitoring of Computer Interactions for the Early Detection of Dementia. Proceedings of the IEEE Engineering in Medicine and Biology Conference, San Francisco, CA, September, 2004.

Wagner, T.H., Jimison, H. Computerized Health Information and the Demand for Medical Care. *Value in Health* 6(1) 2003, pp. 29-39.

Jimison, HB; Pavel, M; Pavel, J. Adaptive Interfaces for Home Health. Proceedings of the 5th International Conference on Ubiquitous Computing. Seattle, Washington. October 2003.

Pavel, M, Hayes, TL, Jimison, HB, Schallau, PK, Adami, AM, Kaye, J, Pavel, J. Unobtrusive Monitoring and Assessment of Cognitive Abilities. Proceedings of the 5th International Conference on Ubiquitous Computing. Seattle, Washington. October 2003.

Jimison, HB, Pavel, M. Monitoring of Body Weight for Heart Failure Patients: Variability of Weight and Self- Reporting. Proceedings of the 25th Annual IEEE Conference on Engineering in Medicine and Biology, Cancun, Mexico, September, 2003.

Jimison, H.B., Goodman, C. A., Pavel, M., Participatory Design for Home Care Technology. Proceedings of the Second Joint Engineering in Medicine and Biology Conference, October 2002, Houston, TX, pp 1873-1875.

Hibbard, J.H., Greenlick, M.R., Jimison, H.B., Capizzi, J, Kunkel, L., The Impact of a Community-Wide Self-Care Information Project on Self-Care and Medical Care Utilization, *Evaluation & the Health Professions*, Vol. 24, No. 4, December 2001, pp. 404-423.

Churchill, B.E., Lyman, J.A., Jimison H.B., Mailhot, M.F., Quick. E.A., Simpson, D.A., Current Usage Patterns and Attitudes Toward Handheld Computers in Clinical Care. Abstract in Converging Information Technology and Health Care. Proceedings of the 2000 AMIA Annual Symposium, Overhage, J.M. ed. November 2000.

Jimison, H.B., Adler, L.J., Coye, M.J., Mulley, A.G., and Eng, T.R. Health Care Providers and Purchasers and Evaluation of Interactive Health Communication Applications. *American Journal of Preventive Medicine*. Vol.16 No.1:16-22; January 1999.

Eng, T.R., Gustafson, D., Henderson, J., Jimison, H.B, and Patrick, K., Introduction to the Evaluation of Interactive Health Communication Applications, *American Journal of Preventive Medicine*. Vol.16 No.1:16-22; January 1999.

Hibbard, J.H., Greenlick, M.R., Jimison, H.B., Kunkel, L, and Tusler, M. Prevalence and Predictors of the Use of Self-Care Resources, *Evaluation and the Health Professions*. 22 (1): 107-122. Sage Publications, 1999.

Jimison, H.B. and Sher, P.P. Advances in Health Information Technology for Patients, *Journal of AHIMA*, Vol. 69, No.8. September 1998.

Jimison, H.B., Sher P.P., and LeVernois, Y.M. The Use of Multimedia in the Informed Consent Process, *Journal of the American Medical Informatics Association*, Vol 5, Number 2, Jossey-Bass Publishers, San Francisco, 1998.

Jimison, H.B., Sher P.P., and LeVernois, Y.M. Multimedia Tools for Informed Consent, *Proceedings of the International Nursing Informatics Conference*, Stockholm, Sweden, September, 1997.

Gabello W.J., Deye, D.L., Kahn G., Jimison H.B., Renner J.H., and Wenner A.R., How Computers Enrich Patient Education. *Patient Care*, Vol 31, No 3, Feb 1997, pp. 88-113.

Harris, D., Hanes, P., Jimison, H., Jones, D., Bryan Wilson, J., Greenlick, M. Physician and Plan Effects on Satisfaction of Medicaid Managed Care Patients With Their Health Care and Providers. *Journal of Ambulatory Care Management*, January 1997, vol 20, No 1, p. 46-64.

Jimison H.B. and Sher P.P, Consumer Health Informatics: Health Information Technology for Consumers, *Journal of the American Society for Information Science*, Vol 46, No 10, 1995, p.783-790.

Jimison, H.B., Chaffee, A., and Lansky, D. Empowering the Patient: Tailored Health Information for Decision Making, in the *Proceedings of the Symposium on Computer Applications in Medical Care*, 1993.

Jimison, H. B., & Pavel, M. A Computer Aid For Enhanced Risk Communication. *Medical Decision Making*, 13(4), p. 389. 1993.

Jimison, H.B., Fagan, L.M., Shachter, R.D., and Shortliffe, E.H.: Patient-Specific Explanation in Models of Chronic Disease. *Artificial Intelligence in Medicine*, Volume 4, Number 3, June 1992, p. 191-205.

Jimison, H.B.: A Representation of Uncertainty to Aid Insight into Decision Models. *Proceedings of the Fourth Workshop on Uncertainty in Artificial Intelligence*, 1988.

Pavel, M., Jimison, H.B., and Moore, R.T., Constraints on Generalization by Adaptive Networks, *Neural Networks*, Volume 1, Supplement 1, 1988.

Jimison, H.B.: A Representation for Gaining Insight into Clinical Decision Models. *Twelfth Annual Symposium on Computer Applications in Medical Care*, 1988.

Jimison, H.B.: A Representation of Uncertainty to Aid Insight into Decision Models. *Proceedings of the Fourth Workshop on Uncertainty in Artificial Intelligence*, 1988.

Forbes, A.D. and Jimison, H.B.: A QRS Detection Algorithm. *Journal of Clinical Monitoring*, Volume 3, Number 1, January 1987.

Heckerman, D. and Jimison, H.: A Perspective on Confidence and Its Use in Focusing Attention During Knowledge Acquisition. *Proceedings of the Third Workshop on Uncertainty in Artificial Intelligence*, 1987.

Jimison, H.B.: Computer Applications of Bayesian Statistics in Medicine, *Computer Science and Statistics: Proceedings of the 18th Symposium on the Interface*, American Statistical Association, Washington D.C., 1986.

Forbes, A.D., Helfenbein, E.D., Heumann, J.M., Jimison, H.B., Lindauer, J.M., Platt, J.S.: Ambulatory Arrhythmia Analysis: A Dual-Channel, Bayesian Approach, *Computers in Cardiology*, 1985.

Eletr, S., Jimison, H., Ream, A.K., Dolan, W.M., Rosenthal, M.H.: Cutaneous Monitoring of Systemic PCO₂ on Patients in the Respiratory Intensive Care Unit Being Weaned from the Ventilator, *Acta Anaesth. Scand.*, Suppl. 68, 1978.

Non-peer-reviewed

Jimison H, Gorman P, Woods S, Nygren P, Walker M, Norris S, Hersh W. Barriers and Drivers of Health Information Technology Use for the Elderly, Chronically Ill, and Underserved. Evidence Report/Technology Assessment No. 175 (Prepared by the Oregon Evidence-based Practice Center under Contract No. 290-02-0024). AHRQ Publication No. 09-E004. Rockville, MD: Agency for Healthcare Research and Quality. November 2008.

Sittig DF, Hazlehurst BL, Palen T, Hsu J, Jimison H, Hornbrook MC. A clinical information system research landscape. *The Permanente Journal*, Spring 2002; 6(2):62-68.

Sittig DF, Hazlehurst BL, Palen T, Hsu J, Jimison H, Hornbrook MC. A clinical information system research agenda for Kaiser Permanente, Part 2. *The Permanente Journal* Summer 2002; 6(3):41-44.

Jimison, H.B. The Rise of Consumerism in Health Care, *ADVANCE for Health Information Professionals*, August 1998.

Jimison, H.B. and Sher, P.P., Consumer Health Informatics: A Roadmap for Physicians. *Medical Practice Management*, Nov-Dec 1996, p. 135-141.

Hanes, P., Greenlick, M., Goldberg, B., Jimison, H., Harris, D., Phillips, D. (1995). Information Review and Synthesis: Consumer Preferences for Comparative Health Plan Information. Oregon Consumer Scorecard Project, Oregon Health Policy Institute, Portland, OR.

Jimison, H.B.: A Representation for Gaining Insight into Clinical Decision Models. Stanford University Technical Report No. STAN-CS-90-1320, June 1990.

Books

Lewis, D., Eysenbach, G., Kukafka, R., Jimison, H., Consumer Health Informatics, Springer, NY, 2005.

Science Panel on Interactive Communication and Health. *Wired for Health and Well-Being: the Emergence of Interactive Health Communication*. Eng, T.R. and Gustafson, D.H. et al. eds. Washington, DC: US Department of Health and Human Services, US Government Printing Office, April 1999.

Kieschnick T., Adler L.J., Jimison H.B. 1996 Health Informatics Directory. Baltimore, MD:

Williams & Wilkins, 1995.

Chapters

Cronin RM, Jimison HB, Johnson KB, Personal Health Informatics, Chapter 11 in *Biomedical Informatics: Computer Applications in Health Care and Biomedicine*, Fifth Edition, Ed., Shortliffe EH, Cimino JJ, Chiang MF. In press.

Pavel M, Jimison HB, Hagler S, McKanna J, Using Behavior Measurement to Estimate Cognitive Function Based on Computational Models, Chapter in *Cognitive Informatics in Health and Medicine*, V Patel et al eds. (2017).

Jimison HB and Gordon CM. Decision Support for Patients, Chapter in *Clinical Decision Support Systems: Theory and Practice*, ed. Berner ES. Springer International Publications (2016).

Jimison HB, Pavel M, Parker A, Mainello K. The Role of Human Computer Interaction in Consumer Health Applications: Current State, Challenges and the Future. Chapter 12 in *Cognitive Informatics for Biomedicine: Human Computer Interaction in Healthcare*, eds. Patel VL, Kannampallil TB, Kaufman D. Springer International Publications (2015).

Johnson K and Jimison H, Mandl KD. Consumer Informatics and Personal Health Records, Chapter 17 in *Biomedical Informatics: Computer Applications in Health Care and Biomedicine*, ed. Shortliffe EH and Cimino JJ, Springer Science & Business, LLC (2014).

Pavel M, Jimison H, Hayes TL, Kaye J. Technology in Support of Successful Aging. *The Bridge*, 39(1), pp. 5-12. (2009).

Pavel M, Jimison H, Hayes T, Kaye J, Dishman E, Wild K, and Williams D, Continuous, Unobtrusive Monitoring for the Assessment of Cognitive Function, *Handbook of Cognitive Aging: Interdisciplinary Perspectives*, eds. Hofer, S and Alwin, D., Sage Publications, Inc., Thousand Oaks, CA, (2008).

Jimison, HB and Pavel, M. Integrating Computer-Based Health Coaching into Elder Home Care, *Technology and Aging*, eds. Mihailidis, A., Boger, J., Kautz, H., and Normie, L., IOS Press, Amsterdam, The Netherlands, 2008.

Pavel M, Jimison H, Hayes T, Kaye J, Dishman E, Wild K, and Williams D, Continuous, Unobtrusive Monitoring for the Assessment of Cognitive Function, *Handbook of Cognitive Aging: Interdisciplinary Perspectives*, eds. Hofer, S and Alwin, D., Sage Publications, Inc., Thousand Oaks, CA, 2008.

Jimison, HB and Pavel, M. Integrating Computer-Based Health Coaching into Elder Home Care, *Technology and Aging*, eds. Mihailidis, A., Boger, J., Kautz, H., and Normie, L., IOS Press,

Amsterdam, The Netherlands, 2008.

Pavel M, Jimison H, Hayes T, Kaye J, Dishman E, Wild K, and Williams D, Continuous, Unobtrusive Monitoring for the Assessment of Cognitive Function, Handbook of Cognitive Aging: Interdisciplinary Perspectives, eds. Hofer, S and Alwin, D., Sage Publications, Inc., Thousand Oaks, CA, 2008.

Jimison, HB. Ethical Issues in Consumer Health Informatics, Consumer Health Informatics, eds. Lewis, D., Eysenbach, G., Kukafka, R., Jimison, H., Springer, NY, 2005.

Jimison, H.B. and Kirby, J. Internet-Based Disease Management for Home Care and Self-Testing. In Principles and Practice of Point-of-Care Testing. Kost, G.E. ed., Philadelphia: Lippincott-Williams & Wilkins. 2002.

Jimison, H.B. and Sher P.P. Presenting Clinical and Consumer Data to Patients. In Decision Making in Health Care: Theory, Psychology, and Applications. Chapman, G.B. and Sonnenberg, F.A. eds. New York: Cambridge University Press. 2000.

Hanes, P.P. and Jimison, H.B., Consumer Preferences: Issues of Perception and Measurement. In Grading Health Care: The Science and Art of Developing Consumer Scorecards. Hanes, P.P. and Greenlick, M.R. eds., 1998.

Jimison, H.B. and Sher P.P., Computer-Based Diagnostic and Decision Support Tools for Patients. Computer-Based Diagnostic Systems. Berner, E., ed., R.G. Landes Co., Georgetown, TX. 1997.

Jimison, H.B., Patient-Specific Interfaces to Health and Decision-Making Information. Health Promotion and Interactive Technology: Theoretical Applications and Future Directions. Street, R., Gold, M., and Manning, T. eds. 1997.

Jimison, H.B.: Generating Explanations of Decision Models Based on an Augmented Representation of Uncertainty. Uncertainty in Artificial Intelligence 4, R. D. Shachter, L.N. Kanal, T.S. Levitt, and J.F. Lemmer (eds.), Elsevier Science Publishers B. V. (North Holland), Amsterdam, 1990, p. 351-365.

Heckerman, D. and Jimison, H.: A Bayesian Perspective on Confidence. Uncertainty in Artificial Intelligence 3, L.N. Kanal, T.S. Levitt, and J.F. Lemmer (editors), Elsevier Science Publishers B.V. (North-Holland), 1989.