CURRICULUM VITAE
Christopher G. Chute, M.D., Dr.P.H.

Personal Information:

Born July 8, 1955, Hartford, CT; U.S. Citizen
Married, two children

1.   PRESENT ACADEMIC RANK AND POSITION:

Bloomberg Distinguished Professor of Health Informatics, Johns Hopkins University, Baltimore, MD.
Professor of Medicine, School of Medicine, Johns Hopkins University, Baltimore, MD.
Professor Health Policy & Management, Bloomberg School Public Health, Johns Hopkins University, Baltimore, MD.
Professor of Health Informatics, School of Nursing, Johns Hopkins University, Baltimore, MD.
Chief Research Information Officer, Johns Hopkins University Health System, Baltimore, MD.

2.   EDUCATION:

Brown University, Providence, RI, A.B., English. (1973-77)
Brown University, Providence, RI, M.D., Medicine. (1978-82)
Harvard University, Boston, MA, M.P.H., Public Health. (1979-82)
Dartmouth College, Hitchcock Medical Center, Hanover, NH, Internal Medicine Residency. (1982-85)
Harvard University, Boston, MA, DrPH, Epidemiology/Biostatistics. (1985-90)

3.   BOARD CERTIFICATIONS:

Diplomate, National Board of Medical Examiners. (1983)
Diplomate, American Board of Internal Medicine. (1985); Maintenance of Certification: Active
Diplomate, American Board of Preventive Medicine, Clinical Informatics Specialty (2014); Maintenance of Certification: Active

4.   MEDICAL LICENSURE:

Vermont	1984	#7148	Expired.
New Hampshire	1984	#6984	Expired.
Massachusetts	1986	#56348	Expired.
Minnesota	1988	#31977	Active.

5.   HONORS AND AWARDS:

National Health Service, Scholarship Award. (1978-82)
CIBA Award for Outstanding Community Service, Brown University Program in Medicine. (1980)
Arnold Fellowship for Research Travel Abroad, Brown University. (1980)
Charles H. Smith Fellowship, Harvard University. (1981)
Sigma Xi, Scientific Research Society Member, Brown University. (1982)
President, Dartmouth-Hitchcock Medical Center House Staff Association. (1983-85)
National Research Service Award, National Cancer Institute. (1985-88)
Fellow, American College of Epidemiology. (1987)
Fellow, American College of Physicians. (1988)
Received Citation for Excellence in lectures and group discussion, Mayo Medical School. (1992)
Best Theoretical Paper, 17th Annual Symposium on Computer Applications in Medical Care [single co-author]. (1993)
Best Theoretical Paper, 18th Annual Symposium on Computer Applications in Medical Care [single co-author]. (1994)
Fellow, American College of Medical Informatics. (1995)
Homer Warner Award (American Medical Informatics Association Annual Fall Symposium) for Most Outstanding Contribution [senior co-author]. (1998)

President's Award, American Medical Informatics Association. (2002)
"Highly Cited Author," Essential Science Indicators. (2002)
IBM Faculty Award. (2005)
The 50 Best Mayo Clinic doctors. Ever.   MedCity News/MinnPost (2011).
Distinguished Paper Award, Medinfo, Copenhagen, Denmark [senior author] (2013)
Outstanding Paper Award, AMIA Joint Summits on Translational Science [senior author] (2014)
Commissioner's Distinguished Service Award, Minnesota Department of Health (2014)
Bloomberg Distinguished Professor, Johns Hopkins University (2015)
President-elect/President/Past President, American College of Medical Informatics (2015-20)
Fellow, Health Level 7—HL7 (2017)
Inaugural Fellow, International Academy of Health Sciences Informatics (2017)
Inaugural Fellow, American Medical Informatics Association (2018)

6. COMMUNITY

Project Head Start; Providence, RI. (1972-73)
Member, Narragansett Rowing Club; Providence, RI (single scull). (1974-82)
Medical student volunteer, Rhode Island Community Services. (1978-82)
Member, Dartmouth College Rowing Club, Hanover, NH. (1982-85)
Member, Rochester Rowing Club, Rochester, MN. (1989-2014)
Board Member, Rochester Rowing Club of Minnesota. (1990-2004)
Treasurer, Rochester Rowing Club of Minnesota. (1998-2004)

7. POSITIONS:

Director, Computer Consulting, Undergraduate Consulting Program, Brown University, Providence, RI. (1975-77)
Programmer-Analyst, Division of Laboratories, Rhode Island Department of Health, Providence, RI. (1975-81)
Teaching Assistant, Computer Calculus, Brown University, Providence, RI. (1976-77)
High School Teacher, Rongai Secondary School, Rongai, Kenya, East Africa. (1977-78)
Teaching Assistant, Medical Physiology, Brown University, Providence, RI. (1978-80)
Physician (part time), Dartmouth College, Student Health Services, Hanover, NH. (1983-85)
Clinical Instructor, Dartmouth College, School of Medicine, Department of Medicine, Hanover, NH. (1985-87)
Physician (part time), Matthew Thornton Health Plan, Nashua, NH. (1985-88)
Emergency Room Physician (part time), Elliot Hospital, Nashua, NH. (1985-88)
Project Director, Health Professionals' Follow-up Study, Harvard School of Public Health, Boston, MA. (1985-88)
Adjunct Assistant Professor of Health Sciences, Boston University, Sargent College, Nutrition Division, Boston, MA. (1986-87)
Assistant Professor of Epidemiology, College of Medicine, Mayo Clinic, Rochester, MN. (1988-93)
Senior Associate Consultant, Sections of Clinical Epidemiology and Medical Information Resources, Department of Health Sciences Research, Mayo Clinic, Rochester, MN. (1988-91)
Director, Mayo Clinic Cancer Registry, Rochester, MN. (1988-2001)
Career Scientist, Biomedical Informatics, Mayo Clinic, Rochester, MN. (1988-2014)
Chair, Division of Biomedical Informatics, Department of Health Sciences Research, Mayo Clinic, Rochester, MN. (1989-2008)
Consultant, Department of Health Sciences Research, Mayo Clinic, Rochester, MN. (1991-2014)
Associate Member, Graduate Program in Health Informatics, University of Minnesota, Minneapolis, MN. (1991-2004)
Associate Professor of Epidemiology, College of Medicine, Mayo Clinic, Rochester, MN. (1993-2014)
Professor of Medical Informatics, College of Medicine, Mayo Clinic, Rochester, MN. (1998-2014)
Senior Member, Health Informatics Graduate Faculty, University of Minnesota, Minneapolis, MN. (2005-09)
Adjunct Professor of Biomedical Informatics, Arizona State University, Phoenix, AZ. (2006-2014)

Section Head, Clinical Informatics, Division of Biomedical Statistics and Informatics, Department of Health Sciences Research, Mayo Clinic. Rochester, MN (2008-14)

Associate Director, Clinical and Translational Science, Institute for Health Informatics, University of Minnesota, Minneapolis, MN. (2009-10)

Adjunct Professor of Health Informatics, University of Minnesota, Minneapolis, MN. (2009-2015)

Fellow, Institute of Health Informatics, University of Minnesota, Minneapolis, MN. (2009-2015)

Professor Emeritus, Biomedical Informatics, College of Medicine, Mayo Clinic, Rochester, MN. (2014-)

Bloomberg Distinguished Professor of Health Informatics, Johns Hopkins University, Baltimore, MD. (2015-present)

Professor of Medicine, Division of General Internal Medicine, School of Medicine, Johns Hopkins University, Baltimore, MD. (2015-present)

Professor Health Policy & Management, Bloomberg School Public Health, Johns Hopkins University, Baltimore, MD. (2015-present)

Professor of Health Informatics, School of Nursing, Johns Hopkins University, Baltimore, MD. (2015-present)

Chief Research Information Officer, Johns Hopkins Medicine, Baltimore, MD. (2015-present)

Deputy Director, Institute for Clinical and Translational Research, Johns Hopkins (2015-present)

8.   PROFESSIONAL MEMBERSHIPS AND SOCIETIES:

Member, Society for Epidemiologic Research. (1985-92)
Member, American College of Physicians. (1985-2014)
Fellow, American College of Epidemiology. (1987)
Fellow, American College of Physicians. (1988)
Member, Association for Computing Machinery. (1988-95)
Member, Association of Computational Linguistics. (1989-95)
Member, American Medical Informatics Association. (1989-present)
Fellow, American College of Medical Informatics. (1995)
Member, Health Level 7—HL7 (2001-present)
Fellow, International Academy of Health Sciences Informatics (2017)
Fellow, Health Level 7—HL7 (2017)

9.   EDUCATIONAL ACTIVITIES:

TEACHING

Instructor, Department of Medicine, Dartmouth College, Hanover, NH. (1985)

Teaching Assistant, Epidemiology, Harvard School of Public Health, Boston, MA. (1985-88)

Course Director, Nutritional Epidemiology, Sargent School of Health Sciences, Boston University, Boston, MA. (1987-88)

A review of smoking and stroke. A Department of Health Sciences Research special seminar. (May 24, 1988)

Registration and Admissions Working Group Plans. Biostatistics Seminar Group. (Aug 3, 1988)

Clinical Epidemiology, third year medical student course, Mayo Medical School. (1989-92)

Integrating patient medical registries. Mayo Clinic Information Services Group. (Jan 13, 1989)

The New Mayo Clinic Cancer Registry. Presentation to Surgical Society. Scottsdale, AZ. (Jan 17, 1989)

The New Mayo Clinic Cancer Registry. Presentation to Surgical Society. Rochester, MN. (Feb 6, 1989)

The New Mayo Clinic Cancer Registry. Presentation to Surgical Society. Jacksonville, FL. (Feb 15, 1989)

Automated correspondence facilities at Mayo Clinic—Research. Mayo Clinic SAS Users' Group. (Feb 21, 1989)

Medical Informatics in the Department of Health Sciences Research. Department of Medicine Retreat. Owatonna, MN. (Jan 26, 1990)

The National Library of Medicine's Meta-1: The first Metathesaurus of Biomedicine. Medical Informatics Lecture Series, University of Minnesota. Minneapolis, MN. (Feb 1, 1990)

Clinical concept representative. Executive Program for Managed Care at the University of Missouri. [Invited]. Kansas City, MO. (Feb 18, 1991)

Clinical classification of epidemiologic studies. Nurse Abstractor Seminar Series, Mayo Clinic. (Sept 26, 1991)

Clinical data representation: From classification to concepts. Medical Informatics Lecture Series, University of MN. (Nov 13, 1991)

Mayo Graduate School: (HSR8542) Clinical concepts: The theory of classification for medical research, quality assurance, and administrative process. (1992)

Use of semantic structure in the UMLS to index medical diagnoses. Medical Informatics Lecture Series, University of Minnesota. Minneapolis, MN. (Jan 30, 1992)

Canon: Preliminary standard/concept representation. Health Informatics Series Seminar, University of Minnesota. Minneapolis, MN. (April 29, 1992)

Computer support for the Rochester Epidemiology Project. Nurse Abstractor seminar. (Aug 19, 1992)

The information-intensive nature of late 20th century health care. Health Informatics Seminar Series, University of Minnesota. Minneapolis, MN. (Jan 3, 1994)

Mayo EMR vocabulary. Presented to Mayo's EMR Vocabulary Committee. (Jan 17, 1995)

Rochester Epidemiology Project and the Bennett Confidentiality Bill. Clinical Epidemiology Lecture Series, University of Minnesota. Minneapolis, MN. (Jan 25, 1995)

Rochester Epidemiology Project and the Bennett Confidentiality Bill. Clinical Epidemiology Seminar Series, University

Laboratory classification: Ions to information. Management and Information Course to Residents, University of Minnesota. Minneapolis, MN. (Sept 25, 1996)

Medical informatics: Opportunities and opportunity costs. Information Intensive and Competitive Business Workshop of the MCCITC, Mayo Clinic. (Jan 6, 1997)

Computer-based Patient Record Institute (CPRI) Issues. Presented to the Foundation Information Technology Committee, Mayo Clinic. (Sept 22, 1997)

Automating the clinical practice. Course lecture. Mayo Clinic Jacksonville Conference. Ponte Vedra Beach, FL. (Jan 30, 1999)

Challenges of Automation: A Future Vision. Course lecture. Mayo Clinic Jacksonville Conference. Ponte Vedra Beach, FL. (Jan 30, 1999)

Health Enterprise Terminology: History, Present Purpose, Status, and Future. FIIPC, Mayo Clinic. Jacksonville, FL. (March 2000)

Electronic Medical Records. EMR Conference. Mayo Clinic. Jacksonville, FL. (Oct 21, 2000)

The Automated Medical Practice: Implementation Experience and a Vision of the Future. EMR Conference. Mayo Clinic. Jacksonville, FL. (Oct 21, 2000)

The Mayo electronic environment: theory to practice. Lecture to visiting Danish Health Council. Mayo Clinic. Rochester, MN. (Jan 17, 2002)

The Once and Future Medical Index: Clinical Notes indexing. Seminar. Department of Health Sciences Research, Mayo Clinic. Rochester, MN. (Jan 28, 2002)

Research Roadmaps, IT Infrastructure, and Biomedical Informatics: NIH's CTSA as a Unifying Paradigm. Biomedical Informatics Grand Rounds, Mayo Clinic College of Medicine, Rochester, MN. (Jan 13, 2006)

Mayo Graduate School: (HSR5670) Biomedical Informatics, Rochester, MN. (2006)

Components for Enterprise Vocabulary Management, Mayo Symposium on Terminology Methods, Rochester, MN. (July 29, 2007)

Health Informatics in Practice and Research: State of the Art after One Century, Plummer Centennial Symposium, Mayo Clinic, Rochester, MN. (Oct 18, 2007)

Health Care and the role of Comparable and Consistent Data, HSR Senior Faculty Forum, Rochester, MN. (Aug 5, 2008)

The ICDs: The US Migration to ICD10CM and the Distributed Development of ICD11, HSR Grand Rounds, Rochester, MN. (Oct 6, 2008)

A Brief Overview of Standards Relevant to Mayo Clinic, Mayo Data Governance Seminar, Rochester, MN. (Jan 30, 2009)

Meaningful Use and Clinical Content: HHS Health Information Technology Standards. Department of Health Sciences Research Grand Rounds, Rochester, MN. (Feb 15, 2010)

Research in the Information Age, Mayo Clinic Young Investigator Research Symposium, Rochester, MN (Mar 29, 2010)

Strategic Health IT Advanced Research Projects (SHARP) and Beacon Communities for HIT standards and interoperable data exchange, Health Sciences Research Grand Rounds, Rochester, MN. (June 14, 2010)

SHARP: Secondary Use Project 1: Data Normalization, First National SHARP Meeting, Rochester, MN. (June 21, 2010)

Beacon and the REP, part I. REP Scientific Team Meeting. Mayo Clinic. Rochester, MN. (Oct 4, 2010)

Beacon and the REP, part II. REP Scientific Team Meeting. Mayo Clinic. Rochester, MN. (Nov 18, 2010)

Clinical Data Normalization, Re-use, and Population-based Deployment: The Beacon and SHARP Programs. RESS Division Meeting. Mayo Clinic. Rochester, MN. (Feb 14, 2011)

Lecturer, Clinical Translational Science, CTSC 5960 (2012)

Lecturer, Clinical Translational Science, CTSC 5960 (2013)

Lecturer, Clinical Translational Science, CTSC 5960 (2014)

Standardization and Normalization of Big Data, BD2K Big Data Coursework for Computational Medicine, Rochester, MN (July 13-18, 2015)

Data Governance Policy, Introduction to Biomedical and Public Health Informatics, ME 600.903 (15 Oct 2015)

Electronic Health Records and the Learning Health System. Bloomberg School of Public Health, Population Health Informatics (Online course) (2015).

Comparability and Consistency of Clinical Data: The ICD11 initiative. T32 Training Program in Cardiovascular Health, Johns Hopkins, Baltimore, MD. (27 Sep 2016)

Phenotyping Standards including ICD11. Informatics Live Talk (webcast), Johns Hopkins Health Informatics. (28 Sep 2016)

Informatics Considerations for the Johns Hopkins Clinical Research Network, Baltimore (12 Jan 2017)

Data Big and Small: Healthcare Information Discovery, JHU Computer Science Seminar (18 Apr 2017)

The Promise and Taming of Big Data: Potential Contributions of ICD11, ICTR Data Managers, Baltimore, (23 May 2017)

CRISP Update on Health Information Exchange in Maryland and the Region: Data Access for Research. CHSOR/CPHIT Seminar, Bloomberg School of Public Health, Baltimore (26 Sep 2017)

Challenges in Health Care Data Management, CS 601.295(E): Developing Health It Applications, Johns Hopkins University (1 May 2018)

EXTRAMURAL ACTIVITIES

Program Committee, American Medical Informatics Association (AMIA) Annual Symposium. (1991)

Program Committee, American Medical Informatics Association (AMIA) Annual Symposium. (1995-97)

Program Chair, International Medical Informatics Association (IMIA) Working Group 6 on Health Concept Representation. Ponte Verde, FL. (Jan 18-23, 1997)

Program Chair, Computer-based Patient Record Institute – Healthcare Open Systems and Trials (CPRI-HOST) National Conference on Terminology for Clinical Patient Description. Arlington, VA. (Nov 12-14, 1997)

Informatics. University of Minnesota Fellows Conference, Mayo Clinic, Rochester, MN. (Jan 23, 1998)

A National Framework for Common Clinical Terminologies: The ANSI/HISB and CPRI Joint Proposal. Health Informatics Seminar Series, University of Minnesota. Minneapolis, MN. (Apr 3, 1997)

Clinical lexicon: Issues of common data representation. C-CPR Executive Committee, (VA) Education Day. Washington, DC. (June 5, 1998)

Program Chair, CPRI-HOST Joint Conference on Lexical Solutions, for the Government Computer-based patient Record (GCPR). Arlington, VA. (Aug 3-4, 1998)

Program Chair, American Medical Informatics Association (AMIA) Annual Symposium, Orlando FL. (Nov 7-11, 1998)

Program Chair, National Conference on Terminology, Part II. Computer-based Patient Record Institute – Health Care Open Systems and Trials (CPRI-HOST) Conference. Establishing the Consensus: Lessons from Experience. Tysons Corner, VA. (Apr 27-29, 1999)

Program Chair, Terminology Representation. International Medical Informatics Association (IMIA) Working Group 6 Triennial Conference. Phoenix, AZ. (Dec 16-19, 1999)

Terminology services as software components: An architecture and preliminary efforts. Informatics Lecture. University of Minnesota. Minneapolis, MN. (May 4, 2000)

HL7 Vocabulary Tutorial. Minneapolis, MN. (May 9, 2001)

Charting the future of public health informatics (with W.A. Yasnoff, J.R. Scherrer, and D. Pitter). AMIA Panel. (Sept 3, 2001)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). Salt Lake City, UT. (Oct 1, 2001)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). Baltimore, MD. (Oct 1, 2002)

Steering Committee and Program Committee, National Science Foundation (NSF) and Association of American Medical Colleges (AAMC), Information Technology Enabling Clinical Research. Leesburg, VA. (Oct 30-31, 2002)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). San Antonio, TX. (Jan 14, 2003)

Visiting Faculty, CDC Public Health Informatics Fellowship. Atlanta, GA. (Mar 28, 2003)

Oversight committee, 5th Annual Protégé User's Group. Manchester, UK. (July7-9, 2003)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). San Diego, CA. (Jan 20, 2004)

HL7 and vocabulary, Tutorial. HIMSS. Orlando, FL. (Feb 25, 2004)

Oversight committee, 6th Annual Protégé User's Group. Natcher Conference Center, NIH. Bethesda, MD. (July 7-9, 2004)

Facilitator, Prevention and Public Health Working Group. Medinfo 2004. San Francisco, CA. (Sept 9, 2004)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). Atlanta, GA. (Sept 28, 2004)

EHR data standards. An invited, full-day seminar at the Centers for Medicare and Medicaid Services (CMS). Baltimore, MD. (Oct 25, 2004)

Program Committee, American Medical Informatics Association (AMIA) Annual Symposium. (2005)

Introductory vocabulary. Tutorial. Health Level 7 (HL7). Orlando, FL. (Jan 25, 2005)

Chair Program Committee, Biomedical Ontologies, IMIA WG6. Rome, Italy. (Apr 29-May2, 2005)

Program Committee, American Medical Informatics Association Annual Symposium. (2005)

Introductory and advanced vocabulary. Tutorials. Health Level 7 (HL7) Educational Summit. Denver, CO. (May 25, 2005)

Practical use of Multiple Ontologies in Biomedical Science, Mayo Graduate School, HSR5670, Medical Informatics for Clinical Researchers, Rochester, MN. (May 30, 2005)

Oversight committee, 7th Annual Protégé User's Group. Madrid, Spain. (July 18-22, 2005)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). San Diego, CA. (Sept 13, 2005)

Introductory and Advanced Vocabulary. Tutorials. Health Level 7 (HL7) Educational Summit. Boston, MA. (Nov 9, 2005)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). Scottsdale, AZ. (Jan 10, 2006)

Introductory and Advanced Vocabulary. Tutorials. Health Level 7 (HL7) Educational Summit. Chicago, IL. (Mar 7, 2006)

Introductory Vocabulary. Tutorial. Health Level 7 (HL7). San Antonio, TX. (May 10, 2006)

Introductory and Advanced Vocabulary. Tutorials. Health Level 7 (HL7) Educational Summit. Seattle, WA. (Nov 8, 2006)

Program Committee, American Medical Informatics Association (AMIA) Annual Symposium. (2007-09)

Member, Mayo, IBM, University of MN Planning Committee for joint Biomedical Informatics education. (2007)

Chair, Program Committee, CTSA Symposium for Clinical-Data Interoperability Standards, Rochester, MN. (2007)

Chair, Program Committee, Plummer Centennial Symposium, Mayo Clinic, Rochester, MN. (2007)

Standards in Biomedical Informatics, Arizona State University BMI 591/501. (Oct 10, 2007)

Standards in Biomedical Informatics, Arizona State University BMI 501. (Oct 8, 2008)

Program Committee: Am. Medical Informatics Association (AMIA) Clinical Research Informatics Summit (2010)

Clinical Classifications and Biomedical Ontologies & the HIT Standards of Meaningful Use, Mayo Clinic, CTSC 5960 Medical Informatics. (May 19, 2011)

Standards in Biomedical Informatics, Arizona State University BMI 501. (Sept 8, 2011)

Healthcare Informatics Track Chair, IEEE Conference on Healthcare Informatics, Imaging, and Systems Biology, UCSD, La Jolla, CA September 27-28, 2012.

Informatics Standards, NLM Georgia Biomedical Informatics Course, Young Harris, GA (Sep 27-Oct 3, 2015)

Informatics Standards, NLM Georgia Biomedical Informatics Course, Young Harris, GA (April 7, 2016)

Big Data Coursework for Computational Medicine: Standardization and Normalization of Big Data. NIH/BD2K Symposium, New York, NY. (10 July 2016)

Informatics Standards, NLM Georgia Biomedical Informatics Course, Young Harris, GA (16 Sep, 2016)

Semantic Standards. NLM Georgia Biomedical Informatics Course, Young Harris, GA (04 April 2017)

Some Observations on the International Classification of Diseases. Data Standards Curriculum, Vanderbilt University, Webcast, (7 Jul 2017)

Big Data Coursework for Computational Medicine: Standardization and Normalization of Big Data. NIH/BD2K Symposium, New York, NY. (10 July 2017)

MENTORSHIP

Research Fellow, Yiming Yang, Ph.D., in the Section of Medical Information Resources. (1990-94) **(**1991 worked under NLM Training Grant, T32-LM07041).

Research Fellow, Dermot Dunne, M.D., in the Section of Medical Information Resources. (1998-99) 1999 worked under the joint University of Minnesota / Mayo Clinic NLM Training Grant Program

Research Fellow, Marcelline Harris, Ph.D., in the section of Medical Information Resources. (1998-01) 1999-2000 worked under the joint University of Minnesota / Mayo Clinic NLM Training Grant Program

Research Fellow, Alexander Ruggieri, M.D., in the section of Medical Information Resources. (1998-01) 1999-2000 worked under the joint University of Minnesota / Mayo Clinic NLM Training Grant Program

Internal Medicine Research Fellow, Augustine Lee, MD, in the section of Medical Information Resources (from the Jacksonville Clinic for a one month rotation). (1999)

Internal Medicine Research Fellow, Furman McDonald, MD, in the section of Medical Information Resources (from the Jacksonville Clinic for a one month rotation). (1999)

Internal Medicine Research Fellow, Larry McKnight, MD, in the section of Medical Information Resources (from the Jacksonville Clinic for a one month rotation). (1999)

Student, Ulrike Hecht, a German student studying informatics in the U.S., in the section of Medical Information Resources (March to September). (2001)

Student, Ulrike Hecht, a German student studying informatics in the U.S., in the section of Medical Information Resources (September to March). (2002)

Research Fellow, Raguhram Reddy, MD., through the joint University of Minnesota/Mayo Clinic NLM Training Grant Program. (2002)

Research Fellow, Serguei V. Pakhomov, Ph.D., through the joint University of Minnesota/Mayo Clinic NLM Training Grant Program. (2003-05)

Doctoral Student, University of Minnesota; Hyeoneui Kim. (2004-05)

Research Fellow, Mayo Clinic; Guergana Savova, PhD. (2006)

Doctoral student, University of Minnesota; Victoria Wangia. (2006-07)

Doctoral student, Mayo Clinic; Morgan Brown, MD. (2006-09)

Research Fellow, Mayo Clinic; Jyotishman Pathak, PhD. (2006-10)

Research Fellow, Mayo Clinic; Cui Tao, PhD. (2006-12)

Research Fellow, Mayo Clinic; Guoqian Jiang, MD. (2006-12)

Master's student, Mayo Clinic; Serguei Pakhomov PhD. (2007)

Master's student, Mayo Clinic; Adam Jacob, MD. (2007-10)

Master's student, Mayo Clinic; Vitaly Herasevich, MD, PhD. (2008-10)

Doctoral student, University of Minnesota; Weiqi Wei, Ph.D. (2008 - 11)

Doctoral student, University of Minnesota; Piper Svensson-Ranallo. (2010-12)

Doctoral student, Lehigh University; Dezhao Song (2011-13)

Master's student, University of Minnesota; Deepak Sharma (2013-14)

Doctoral Student, Johns Hopkins University, Tashrik Ahmed [Chair, Oral Exam] (2015)

Doctoral Student, Johns Hopkins University, Bowen Li, (committee 2016-)
Master's Student, Johns Hopkins University, Tanner Zhang (2017-)

10. **INSTITUTIONAL/DEPARTMENTAL ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS, AND OTHER ACTIVITIES:**

JOHNS HOPKINS INTERNAL
Health IT Executive Committee (2015-)
Data Trust Council (2015-)
Data Trust Research Sub-council, Data Trust Council (2015-)
Clinical Systems Advisory Council (2015-)
Institute for Clinical and Translational Research Leadership Council (2015-)
Deputy Director, Institute for Clinical and Translational Research (2015-)
Precision Medicine Steering Committee (2016-)
Precision Medicine Core Development Leadership Team (2016-)
Co-Chair, Research Data Sub-Council, Johns Hopkins Data Trust, Baltimore, MD (2017-)

MAYO CLINIC INTERNAL
Computer Prioritization Committee, Department of Medicine. (1988-89)
Information Architecture Subcommittee. (1989)
Transplant Systems Registry Planning Group. (1989)
Episode of Care Committee. (1989)
Registration/Admissions Working Group. (1988-90)
Indexing System Task Force. (1989-90)
Coordinating Committee. (1990-91)
Research Committee, Department of Health Sciences Research. (1989-93)
Chair, Clinical Information Architecture Working Group. (1990-93)
EMR Planning Task Force, Information Systems Management Committee. (1992-93)
Outcomes Assessment Work Group. (1992-93)
Health Services Evaluation Subcommittee, Clinical Practice Committee. (1992-93)
Medical Informatics Committee. (1989-96)
Chair, Research/Education Application Prioritization Subcommittee. (1993-96)
Technical Advisory Subcommittee, Electronic Medical Record Committee. (1993-96)
Chair, Research Computing Facility Task Force. (1993-96)
Mayo Library Advisory Committee. (1994-14)
Chair, Funding Database Task Force, Research Committee. (1994-96)
Vice Chair, Mayo Cancer Committee. (1988-97)
IBM/Mayo Technical Alliance Direction Committee. (1992-97)
Post-Implementation Review Subcommittee, Information Systems Management Committee. (1995-97)
Chair, Electronic Medical Record (EMR) Vocabulary Task Force. (1996-97)
Research Resource Facilities Subcommittee. (1993-98)
Research Committee. (1994-98)
Chair, Tissue Research Committee Task Force. (1997-98)
Mayo Rochester Human Materials Task Force. (1997-98)
Chair, Mayo Web Page Electronic Task Force, Research Committee. (1997-98)
Chair, Health Sciences Research Computer Policy Committee. (1989-99)
Foundation Internet Policy Subcommittee. (1998-00)
Director, Mayo Clinic Cancer Registry. (1988-01)
Tumor Registry Oversight Committee. (2000-03)
Individual Business Technology Workgroup. (2000-03)
Patient Clinical Problem List Project Team. (2001-03)
Coordinating Committee. (2001-03)
Information Management Technology Committee. (2001-03)
IT Strategic Planning Steering Committee. (2001-03)
Mayo/IBM Phase 1 & 2 Planning Group. (2002-03)

Genetic Epidemiology Risk Assessment Group. (2002-03)
Chair, Mayo Healthcare Information Policy Advisory Subcommittee (HIPAS) of the Mayo Foundation Information Technology Committee. (1997-04)
Biomedical Informatics Oversight Committee. (2003-04)
Director, Mayo/IBM Text Analysis Research Group. (2003-05)
Biostatistics Chair Search Committee. (2003-05)
Research Committee, Department of Health Sciences Research. (2001-06)
Director, Cancer Informatics (Mayo Foundation). (2003-06)
Vice Chair, Mayo-IBM Project Operations Committee. (2004-06)
Chair, Biomedical Informatics Faculty Search Committees (3). (2004-06)
Steering Committee for the Program on Aging. (2004-06)
Genomics and Proteomics Oversight Committee. (2004-07)
Genomics Policy Coordinating Committee. (2004-07)
Comprehensive Cancer Center, Executive Committee. (2005-07)
Comprehensive Cancer Center, Board of Scientific Advisors. (2005-07)
Executive Committee, Department of Health Sciences Research. (1989-08)
Enterprise Data Trust Steering Committee. (2007-10)
Mayo Clinic Information Technology Committee (Enterprise). (2007-11)
Task Force on Bioinformatics/Genomics/Proteomics. (2005)
Foundation Biomedical Informatics IT Infrastructure Subcommittee. (2005)
Mayo-IBM Project Oversight Committee. (2004-11)
Director, Mayo CTSA Biomedical Informatics Core. (2006-)
Chair, Health Sciences Research, Data Policy Committee. (2007-12)
Vice Chair, Data Governance Committee (Enterprise). (2007-13)
Chair, Cancer Center IT Oversight Committee. (2007- 11)
Enterprise Information Management Oversight Committee. (2010-11)
Vice Chair, Research Management System Subcommittee (2010-12)
Office of Information and Knowledge Management (2012-2014)
Office of Research Information Services (2013-2014)
Technology Strategy and Architecture Task Force (2013-2014)
CTSA-Clinical and Translational Research Executive Committee (2013-2014)
Chair, Data Governance Committee (Enterprise) (2014)
Medical Director, Health Information Exchange and Data Management (2014)

EXTERNAL
Computer Advisory Committee, Brown University. (1974-77)
Computers in Health Planning, Rhode Island Department of Health. (1979)
Advisory Committee for University Planning, Brown University. (1979-81)
Medical Library Committee, Dana Library, Dartmouth Medical School. (1983-85)
Medical Library Committee, Countway Library, Harvard Medical School. (1985-88)
Working Group 6, International Medical Informatics Association Committee on Codes and Classifications, aka Medical Concept Representation. (1988-2007)
Research Liaison, Academic Medical Center Consortium, Rochester, NY. (1991-95)
Program Committee, Symposium on Computer Applications in Medical Care, aka American Medical Informatics Association Annual Symposium. (1994-98)
Chair, Working Group 6 on Medical Concept Representation, International Medical Informatics Association. (1994-2007)
Public Policy Committee, American Medical Informatics Association Informatics (AMIA). (1995-2009)
Minnesota Cancer Council Subcommittee for Cancer Control Plan, Minnesota Department of Health, Minneapolis, MN. (1996-97)
National Cancer Institute Long-Range Strategic Planning Group on Cancer. (1996-2001)
Program Chair, Medical Concept Representation. International Medical Informatics Association Working Group 6 Triennial Conference. Jacksonville, FL. (1997)
Program Chair, CPRI National Summit on Clinical Terminology. (1997)
Program Chair, American Medical Informatics Association Annual Symposium. (1998)

Member, American Medical Informatics Association International Affairs Committee. (1998-2010)
Long Range Planning Information Policy Task Force, National Cancer Institute. (1998-00)
Vice Convener, WG3, Health Concept Representation, ISO TC 215 on Health Informatics. (1998-00)
Board of Directors, American Medical Informatics Association. (1998-02)
Program Chair, National Conference on Terminology, Pt. II. Computer-based Patient Record Institute. Washington, DC. (1999)
Program Chair, Medical Concept Representation and Natural Language Processing. International Medical Informatics Association Working Group 6 Triennial Conference. Phoenix, AZ. (1999)
IOM Clinical Research Roundtable: The role of clinical information systems in clinical research (2000)
Protégé Project (NIH/NLM P41 LM007885) Scientific Oversight Board. (2003-07)
Member, NCI caBIG (Bioinformatics Grid) Strategic Planning Work Group. (2006-07)
Arizona State University Biomedical Informatics Department Advisory Board. (2006-07)
Program Committee, American Medical Informatics Association Annual Symposium. (2007)
Planning Committee, Opportunities for Coordination and Clarity to Advance the National Health Information Agenda, IOM (2007)
NCRR Strategic Advisory Committee. (2007)
NHGRI Strategic Advisory Committee. (2007)
Program Committee, American Medical Informatics Association Annual Symposium. (2008)
Chair, American Medical Informatics Association Bylaws Committee. (2002-09)
Program Committee, American Medical Informatics Association Annual Symposium. (2009)
caBIG Clinical Trials Management Systems Advisory Board. (2007- 11)
Chair, International Classification of Disease Revision Steering Group (ICD11), World Health Organization (2007-)
University of Pittsburgh, Department of Biomedical Informatics, External Advisory Board. (2007-15)
University of Alabama, Center for Clinical & Translational Science Advisory Committee. (2009-14)
Dartmouth Cancer Center, External Advisory Board. (2009-11)
Dartmouth College, CTSA Advisory Committee. (2010-11)
Program Committee, American Medical Informatics Association Clinical Research Informatics Summit. (2010)
IOM Workshops (3): Electronic Infrastructure for the Learning Health System workshops (2010)
Advisory Council to the NIH Director (ACD): Data and Informatics Working Group (DIWG). (2012)
Member, American Medical Informatics Association International Affairs Committee. (2012-15)
Track Chair, Healthcare Informatics, IEEE Conference on Healthcare Informatics, Imaging, and Systems Biology (2012)
Organizing Committee, Computing and Healthcare: New Opportunities and Directions; NSF and NIH joint summit (2012)
PCORI National Workshop to Advance Use of Electronic Data Methods in Patient-Centered Outcomes Research (2012)
Toolkit Development Advisory Group, Gates Foundation, Seattle, WA (2012)
NIH Workshop on Enabling Research Use of Clinical Data: Big Data to Knowledge (2013)
Planning Committee, Phase 1 National Clinical Research Network Awardees Workshop, Institute of Medicine (IOM), PCORI. (2013)
NHGRI eMERGE (electronic medical records and genomics) Future Directions workshop (2014)
AMIA Policy Invitational Steering Committee (2014)
IGNITE (Implementing GeNomics In pracTicE) External Scientific Panel, NIH (2014-)
Tufts University, CTSA Advisory Committee (2015-)
University of Texas, Southwestern, CTSA Advisory Committee (2015-)
Co-Chair, NIH Workshop on Community-Based Data and Metadata Standards Development (2015)
Advisor, NHGRI Genomic Medicine VIII, Bethesda, MD (2015)
AMIA Public Policy Committee (2015-)
Chair, Research Subcommittee, Chesapeake Regional Information System for our Patients (CRISP) [MD HIE] (2016-)
AMIA Board of Directors, ex officio as ACMI President (2017-18)
Co-Chair, CTSA informatics Domain Task Force (iDTF) (2018-)

EXTERNAL – STUDY SECTIONS AND COUNCILS

NLM IAIMS Informatics Site Visit – City of Hope Cancer Center, Duarte, CA. (1997)
NIH/CSR Biocomputing and Health Informatics Special Study Section (SSS-9). (1998)
Peer Review Committee, Minnesota Cancer Surveillance System, MN Dept of Health. (1989-00)
NCI, Innovative Technologies for the Molecular Analysis on Cancer, Ad-hoc. (1999-00)
NLM IAIMS Informatics Site Visit – UMDNJ, Newark, NJ. (2000)
NIH/NLM Informatics Study Section (BLRC). (1998-02)
Chair, NIH/NLM National Research Services Awards Review Committee. (1999-02)
NCI Cancer Center Support Grant Site Visit Team (Seattle). (2002)
NCI Cancer Center Support Grant parent study section (DC) – ad hoc. (2002)
NIH Roadmap, Reengineering the Clinical Research Enterprise. (2004)
UK Medical Research Council Panel on e-Science Initiative – ad hoc. (2004)
NIH Biomedical Computing and Health Informatics; Special Emphasis Panel. (2005)
CDC Public Health Informatics Research; Special Emphasis Panel. (2005)
NIH/NCRR Shared Instrumentation – Computer; Review Panel ZRG1 SBIB-H(30). (2005)
Irish Health Research Board – ad hoc. (2005)
NIH/CSR Biomedical Computing and Health Informatics Review Panel (BCHI). (2005-09)
Chair, NLM Special Emphasis Panel, Biomedical Informatics ZLM1 ZH-S M3. (2006)
Chair, NIH/CSR Biomedical Computing and Health Informatics Review Panel (BCHI). (2006-09)
Chair, NIH/CSR ZRG1 BCHI-C Special Emphasis Panels. (2007-08)
Natural Sciences and Engineering Research Council, Canada, Site Visit (Montreal). (2008)
NIH/CSR Infectious Diseases, Reproductive Health, Asthma and Pulmonary Conditions. (2008-09)
NIH Challenge Grant (RC1) Special Emphasis Panel ZRG1 PSE-C (58). (2009)
NIH Challenge Grant (RC1) Special Emphasis Panel ZRG1 PSE-J (58). (2009)
Chair, NIH DABP Research Infrastructure Grand Opportunity GO (RC2) Special Emphasis Panel, ZRG1
    HDM-E 99 R. (2009)
Chair, NIH Grand Opportunity GO (RC2) Special Emphasis Panel ZRG1 BCMB-S (98) R. (2009)
College of Scientific Review, National Institutes of Health. (2010-12)
Review, Technical Assistance for PSO Operations and Common Formats, AHRQ 10-10010. (2010)
University-Based HIT Training Grants, Office of the National Coordinator, FOA 12172009 508. (2010)
Chair, Cardiovascular Research Grid Special Emphasis Panel, ZHL1 CSR-Y. (2010)
Chair, Informatics-driven observational databases for comparative effectiveness research, Program
    Project, NIBIB. (2011)
NIH-HMO Collaboratory Coordinating Center (U54), ZAT1 DB (31). (2011)
NIH-VMD Vaccines against Microbial Diseases. (2011-12)
Deutsche Forschungsgemeinschaft, Special project review group. (2012)
United Kingdom Medical Research Council - Reviewer. (2012)
NIH New Methods for Understanding the Functional Role of Human DNA Sequence Variants in
    Complex Phenotypes ZGM1 GDB-7. (2012)
Canada Excellence Research Chair Selection Review (2012)
NIH NHGRI Genomic Medicine Pilot Demonstration Projects ZHG1 HGR-M (J4) (2012)
Co-Chair, NIH NIAID Sensors and Mobile Devices for Health Monitoring ZCA1 SRLB-B (C1) S (2013)
Chair, National Library of Medicine Special Emphasis Panel, ZLM1 ZH-C (01) (2013)
Chair, National Library of Medicine Special Emphasis Panel, ZLM1 ZH-C (02) (2013)
NIH/CSR Perturbation-Induced Data and Signature Generation Centers (U54), ZRG1 CB-D (50) R
    (2014)
Wellcome Trust, UK. Bioresource and Population Phenotyping (2014)
Chair, Healthcare Delivery and Methodologies, ZRG1 HDM-S (02) (2014)
Chair, National Library of Medicine Special Emphasis Panel, ZRG1 HDM-S (02) M (2014)
Science Foundation Ireland (SFI) – Reviewer (2014)
United Kingdom Medical Research Council (MRC) - Reviewer. (2014)
Chair, National Library of Medicine Special Emphasis Panel, ZLM1 ZH-C (01) 1 (2015)
NHGRI Site Visit, IGNITE Coordinating Center (2015)
NIH Director's Early Independence Awards ZRG1 RPHB-W (53) R (2015)

Center for Scientific Review Advisory Council, Bioengineering Scientific Review Group Evaluation (2015)
Wellcome Trust, UK. Bioresource and Population Phenotyping (2015)
Chair, National Library of Medicine Special Emphasis Panel, ZLM1 SRC (99) (2015)
The Netherlands Organisation for Health Research and Development (ZonMw) (2015)
Pediatric Research using Integrated Sensor Monitoring Systems (PRISMS): Informatics Platform Technologies for Asthma (U54) ZRG1 HDM-Z (52) R (2015)
Chair, National Library of Medicine Special Emphasis Panel, ZLM1 ZH-C (01) (2015)
NIH/CSR Peer Review Quality Control Experiment (2016)
NIH OD, Transformative Research Award Review, ZRG1 BCMB-A (50) R (2016)
NIH OD, Transformative Research Award Review, ZRG1 BCMB-A (51) R (2017)
Wellcome Trust, UK. Technology Development Grant Program, (2017)
NIH/CSR Biomedical Library and Informatics Review Committee (2017)
Swiss National Science Foundation, Early Careers Support Program (2017)
NIH/CSR NIH Director's New Innovator Award, 2018/05 ZRG1 MOSS-R (70) R (2018)
NIH Center for Information Technology Intramural Research Program Site Review (2018)
German Federal Ministry for Education and Research (BMBF), Translational consortia for rare disease research. (2018)

EXTERNAL – EDITORIAL BOARDS
Mayo Clinic Proceedings. (1991-94)
Clinical Information Management. (1996-99)
Journal of Biomedical Informatics. (2001-15)
Applied Ontology. (2004-10)
Journal of the American Medical Informatics Association (JAMIA). (2005-)
Applied Informatics. (2007-13)
AMIA – The Standards Standard. (2009-13)
Associate Editor, JAMIA, Special edition on Health Information Technology Standards (2015)

EXTERNAL – HEALTH INFORMATION STANDARDS ORGANIZATIONS
Coalition to Form the Computer-Based Patient Record Institute, Washington, DC. (1991-92)
Voting Member, Health Information Systems Planning Panel, American National Standards Institute, New York, NY. (1991-95)
Co-Chair, Codes and Vocabulary Working Group, Computer-Based Patient Record Institute. (1993-97)
Chair, ASTM Standards Committee E31.01 on Healthcare Terminology. (1996-97)
ASTM E31 Executive Committee. (1996-97)
Founding Member, Institute for Clinical Systems Integration, Minneapolis, MN. (1992-98)
ISO Liaison Committee, American National Standards Institute, Health Information Systems Planning Panel. (1995-98)
Co-Chair, Major Codes Working Group, Computer-Based Patient Record Institute. (1995-99)
Chair, ISO Member Bodies Planning Task Force on Clinical Terminologies. (1997-98)
Chair, Ad Hoc Council of Experts, Government Computer-based Patient Record, Departments of Defense, Veterans Administration, and Human and Human Services. (1998)
Board of Directors, Computer-based Patient Record Institute. (1997-99)
Coding Futures Task Force, American Health Information Management Association. (1998-99)
Executive Committee of the Board of Directors, Computer-based Patient Record Institute. (1998-99)
U.S. Delegate, International Standards Organization (ISO), TC215 on Health Care Informatics. (1998-present)
Vice Chair, ANSI Health Informatics Standards Board. (2000-01)
HHS NHII Summit, Standards and Vocabulary Planning Committee. (2003)
HHS NHII Summit, Vocabulary rapporteur. (2004)
Program Chair, Joint HL7 and SNOMED meeting: The Boundary between Vocabulary and Information Models, NASA Vocabulary Summit, Houston, TX. (2004)
Voting Member, American National Standards Institute, Healthcare Informatics Standards Board. (1995-2005)

Vice Chair, ANSI Health Informatics Standards Board. (2004-05)
Summit Moderator, Global Health Information Technology Standards Summit (ISO), Hamamatsu, Japan. (2005)
Program and Steering Committees, North American Coordination Center, WHO Conference on the ICF, Rochester, MN. (2005)
Chair-Elect, US Delegation to ISO Informatics Technical Committee (TC215). (2004-06)
Chair, WHO Task Force to Establish a Network of Terminology Centers of Excellence. (2006)
Summit Moderator, Global Health Information Technology Standards Summit (ISO), Geneva, Switzerland. (2006)
Convener, WG3, Health Concept Representation aka Semantic Content, ISO TC 215 on Health Informatics. (2000-07)
Co-Chair, HL7 Vocabulary Committee. (2001-07)
Board of Directors, ANSI Health Information Technology Standards Panel. (2005-07)
Chair, CTSA Data Standards Working Group. (2006-07)
BRIDG (Biomedical Research Integrated Domain Group) Advisory Board, Consolidated Clinical Research Data Model across HL7/CDISC/NCI/FDA. (2006-07)
Summit Moderator, Global Health Information Technology Standards Summit (ISO), Montreal, Canada. (2007)
Steering Committee, HL7-NLM Joint Vocabulary and EHR Project. (2004-08)
Member, International Clinical Trials Registry Platform, Scientific Advisory Group, WHO, Geneva, Switzerland. (2006-08)
Chair, US Delegation to ISO Technical Committee (TC215) on Health Informatics. (2007-09)
Member, HHS/AHIC Subcommittee for Clinical Research Standards. (2008-09)
Voting Member, HHS Sponsored ANSI Health Information Technology Standards Panel (HITSP). (2005-10)
Board of Directors, Health Information Technology Standards Panel (2005-2007)
Board of Directors, Clinical Data Interchange Consortium (CDISC). (2007-10)
Chair, BRIDG Board of Directors (Biomedical Research Integrated Domain Group) Consolidated Clinical Research Data Model across HL7/CDISC/NCI/FDA. (2007-10)
Chair, WHO ICD-11 (International Classification of Disease) Revision Steering Committee. (2007-16)
Health Information Technology Standards Committee, US Health and Human Services. (2009-2013)
Chair, ISO Technical Committee (TC215) on Health Informatics. (2010-2015)
HL7 Advisory Council. (2010-14)
CIMI, Clinical Information Model Initiative. (2011-)
Office of the National Coordinator (ONC), Extramural Standards Advisory Group (2011-14)
National Quality Forum, Value Set Harmonization Committee (2015-6)
Co-chair, Transitional Vocabulary Task Force, HIT Standards Committee, ONC (2015-16)
Co-chair, Medical Scientific Advisory Committee, ICD-11, World Health Organization. (2016-

11. **PRESENTATIONS AT NATIONAL MEETINGS:**

Clinical Profiles. NCATS Translator Symposium, Portland OR (18 Sept 2018)
Harmonization of data syntax and semantics for large-scale translational research: Why worry about clinical data comparability and consistency, and how to fix it. NHGRI Genomic Medicine XI: Implementation. La Jolla, CA (6 Sept 2018) https://www.genome.gov/multimedia/slides/gm11/18-nhgri_genmed_x1_la_jolla_6sep2018.pdf
Driving Informatics Success with CD2H, CTSA iDTF National Meeting, San Francisco, CA (16 Mar 2018)
Integration of Knowledge and Data from Science to Clinical Practice, Advancing Research in the Digital Age, Johns Hopkins University, Baltimore, MD (27 Feb 2018)
Crossing the Chasm of Semantic Despair: Integrating Knowledge and Data from Science and Clinical Practice. Clinical Research Forum – IT Roundtable, Washington, DC (2 Nov 2017) [Keynote]
Data Big and Small: Healthcare Information Discovery. JHU Informatics Grand Rounds, Baltimore, MD, (6 Oct 2017)
Data Big and Small: Healthcare Information Discovery. Clinical Informatics Grand Rounds, Mayo Clinic, Rochester, MN (11 Sep 2017)

TransMed consortium in Translator: Translator and Fanconi Anemia. BioMed 21: A Human Pathways Approach to Disease Research, Bethesda, MD (27 Jun 2017)

TransMed: A pilot effort to translate basic science to clinical practice. Johns Hopkins Division of Health Sciences Informatics Grand Rounds, Baltimore, MD (17 Feb 2017)

Phenotyping Standards: including ICD11. Veterans Affairs (VA) Phenotyping Workshop, Washington, DC (13 Sep 2016)

TransMed: A translational data integration machine for biomedical discovery. NIH/NCATS, Bethesda, MD. (30 June 2016)

Data Standards, Governance and Curation: Building Blocks for Healthcare Analytics. American College of Healthcare Trustees, Philadelphia, PA (11 Jun 2016)

From the London Bills of Mortality to ICD11. American College of Healthcare Trustees, Philadelphia, PA (11 Jun 2016) [Keynote]

Clinical Data Representation and the ICD11 Initiative. Johns Hopkins Division of Health Sciences Informatics Grand Rounds, Baltimore, MD (30 Oct 2015)

Clinical Data as a First-Rank Resource. Johns Hopkins General Internal Medicine Grand Rounds, Baltimore, MD (14 Sep 2015)

Clinical Data as a First-Rank Resource. Johns Hopkins Pathology Grand Rounds, Baltimore, MD (9 Oct 2015).

Big Data Meets Healthcare: The case for comparability and consistency. Penn State Symposium on Precision Medicine. State Collage, PA (12 Jun 2015). [Keynote]

Clinical Data as a First-Rank Resource: Strategic considerations from an informatics perspective. Johns Hopkins Medicine inHealth Special Lecture, Baltimore, MD (20 Mar 2015).

The Unbounded Potential of Population Health as the Foundation for Healthcare Transformation: What we need to do to make this happen? Minnesota Health Services Research Conference, St. Paul, MN (3 Mar 2015). [Keynote]

Community-driven Processes: Clinical Sciences, Data Standards. BD2k NIH Data Standards Workshop, Bethesda, MD (25 Feb 2015)

The Role of Informatics: Scope, Strategy, and Tactics. University of MN, Minneapolis, MN. (16 July 2014)

Some Observations on the ICD. eMERGE Steering Committee, Seattle, WA. (23 June 2014)

The Advent of Big Science for Biology and Medicine. Mayo Research Fellows' Symposium, Rochester MN. (14 May 2014)

Pharmacogenomics Ontology Network Resource: PHONT. PGRN Steering Committee, Orlando, FL. (3 April 2014)

Big Data meets Healthcare: The case for comparability and consistency. CTSA Grand Rounds, Mayo Clinic, Rochester, MN. (28 Feb 2014) http://medprofvideos.mayoclinic.org/videos/grand-rounds-big-data-meets-health-care-the-case-for-comparability-and-consistency

Big Data meets Healthcare: The case for comparability and consistency. Seminars on Computational Health, Johns Hopkins Institutions, Baltimore, MD. (27 Feb 2014) http://webcast.jhu.edu/Mediasite/Play/0fd833143fcc4bd5954bcab801bba6da1d

EMR and Clinical Phenotyping: Challenges and New Opportunities. NHGRI Symposium: Future Directions for the eMERGE Network, Bethesda, MD (22 January 2014)

Informatics as a Catalyst for the Evolution of Biology and Medicine. CTSA Symposium, Albert Einstein College of Medicine. NY, NY (9 November 2013). https://www.youtube.com/watch?v=TzCDAwjQ8VU

Big Data meets Healthcare: The case for comparability and consistency. Lehigh University, Bethlehem, PA (22 Nov 2013).

NLP and Clinical Data Elements. Cancer Informatics for Cancer Centers, Napa, CA. (22 Nov 2013)

Strategic Investments Towards Interoperability, Redwood MedNet Keynote, Santa Rosa, CA (25 July 2013) https://www.youtube.com/watch?v=5uQy7iDSFtw

Big Data Meets Healthcare: The case for comparability and consistency. UCSD Informatics Grand Rounds, San Diego, CA (31 May 2013)

Strategies for the ICD-10 Transition with Comments on Meaningful Use, iHT2 Conference, San Francisco, CA. (26 Mar 2013)

Evolution of Clinical Decision Support: Providing Better Care with Business Intelligence at the Point of Care, iHT2 Conference, San Francisco, CA. (26 Mar 2013)

From Practice-based Evidence to Evidence-based Practice, Exploiting Big Data Semantics for Translational Medicine, Indiana University, Bloomington, IN. (25 Mar 2013)

BioPortal and CTS2, NCBO Annual Meeting, Stanford University, Palo Alto, CA (14 Mar 2013)

Informatics as a Catalyst for the Evolution of Biology and Medicine, Grand Round, UC Davis, Sacramento, CA. (11 Mar 2013)

Mayo Genomic Medicine Pilot Project, eMERGE Steering Committee Meeting, Bethesda, MD (25 Feb 2013)

From Practice-Based Evidence to Evidence-Based Practice, MITRE Health Advisory Committee, Falls Church, VA (21 Feb 2013)

Secondary Use of EMR Data: View from SHARPn. AMIA Health Policy Forum, Washington DC. (12 Dec 2012)

Informatics as a Catalyst for the Evolution of Biology and Medicine, Grand Rounds, Cincinnati Children's, Cincinnati, OH. (30 Nov 2012)

Common Terminology Services 2 (CTS2) and the Meaningful Use Value Sets, US HHS Health Information Technology Standards Committee, Washington, DC. (8 Nov 2012)

Pharmacogenomics Ontology Network Resource, Pharmacogenomics Research Network Annual Meeting, Seattle, WA (24 Oct 2012)

Southeast Minnesota Beacon Community: Harnessing Health IT from a Community Perspective, Rochester Epidemiology Project Symposium, Rochester, MN (16 Aug 2012)

Secondary Use of EMR Data and Comparative Effectiveness Research, CTSA Informatics Key Function Committee, [Invited] National Webcast (2 Aug 2012)

Classification and Retrieval of Complex Information in Portfolio Analyses, NIH Portfolio Analyses Summit, [Invited], Bethesda, MD (23 July 2012)

CTS2 and BioPortal, National Center for Biomedical Ontology Symposium, Palo Alto, CA (July 11, 2012)

Clinical Data Repository as a Community Data Repository: SE MN Beacon, MN eHealth Summit, Minneapolis (15 June 2012)

Southeast Minnesota Beacon Community: Harnessing Health IT From a Community Perspective, MN eHealth Summit, [Keynote] Minneapolis (14 June 2012)

Public Health and Secondary Data Use, MN eHealth Summit, Minneapolis (14 June 2012)

Secondary Use of EHR Data (SHARPn), SHARPn Annual Symposium, Rochester, MN (11 June 2012)

Southeast Minnesota Beacon Community, HIMSS Virtual Conference, National Webcast, (6 June 2012)

Fundamental Basis for Data Standards: Towards a National Cancer Informatics Program, NCI Directors Symposium, Bethesda (31 May 2012)

Transitioning to ICD10CM, Council of Medical Specialty Societies, [Invited] Chicago (11 May 2012)

Data Governance and Normalization within the Mayo Clinic Enterprise. CTSA Ontology Workshop [Invited] Baltimore, MD (25 Apr 2012)

CTSA Biomedical Informatics, Mayo Clinic CTSA External Advisory Board, Rochester, MN (16 Apr 2012)

Pharmacogenomics Ontology (PHONT) Network Resource, PGRN Webinar, (6 Apr 2012)

Biology, Medicine, and Big Science: The role of standards in practice and research. Institute for health Informatics, University of MN [Invited] Minneapolis, MN (5 Apr 2012)

Comparable and Consistent Data from Heterogeneous Systems. Health IT Summit Conference iHT² [Invited] San Francisco, CA (27 Mar 2012)

Health Information Technology and the Transformation of Clinical Medicine. Association of Chiropractic Colleges Annual Summit,[Invited], Las Vegas, NV (17 Mar 2012)

Biology, Medicine, and Big Science: The role of standards in practice and research. University of Wisconsin. [Invited]. Milwaukee, WI. (Dec 19, 2011)

Secondary Data Use: Normalization, NLP, and High Throughput Phenotyping. Nemours Biomedical Research Grand Rounds. [Invited]. Wilmington, DE. (Nov 21, 2011)

PGRN Ontology Resource (PHONT), PGRN/PPII External Scientific Advisory Board and Public Forum, Rochester, MN. (Sept 22, 2011)

Clinical Terminologies, Meaningful Use, and Biomedical Informatics Innovation. ASU Biomedical Informatics Colloquia. [Invited]. Scottsdale, AZ. (Sept 8, 2011)

Strategic Health IT Advanced Research Projects Area 4: Secondary Use of EHR Data (SHARPn), Regenstrief Institute Forum, Indianapolis, IN. (Sept 6, 2011)

Informatics Working Group Summary, NHGRI eMERGE Consortia, Bethesda, MD (July 25, 2011)

HIT Standards "Summer Camp" Surveillance Implementation Guide Power Team, Health Information Technology Standards Committee, Washington, DC. (July 20, 2011)

Strategic Health IT Advanced Research Projects Area 4: Secondary Use of EHR Data (SHARPn), ONC Annual SHARP Investigators Forum, Washington, DC. (July 11, 2011)

Clinical Terminologies and Interoperability, IOM Occupational Information and EHRs. NAS/IOM. [Invited]. Washington, DC. (June 2, 2011)

Strategic Health IT Advanced Research Projects (SHARP): Secondary Data Use, iDASH Workshop: Ecosystem for Clinical NLP, San Diego Supercomputer Center, San Diego, CA. (May 2, 2011)

EMR and Genomics at Mayo Clinic from Discovery to Practice. NHGRI Genomics and health information technology systems: Exploring the issues. [Invited]. Rockville, MD. (Apr 27, 2011)

Mayo Clinic eMERGE Phase 1 Activities, NHGRI eMERGE Consortia, Bethesda, MD. (Apr 25, 2011)

Strategic Health IT Advanced Research Projects (SHARP): Secondary Data Use. NHGRI eMERGE Consortia, Bethesda, MD. (Apr 23, 2011)

Strategic Health IT Advanced Research Projects (SHARP): Secondary Data Use and Comments on Mayo Preservation, NIH/NLM-NIST: Long-term Preservation of EMR. [Invited]. Bethesda, MD. (Apr 6, 2011)

SHARP Project on Secondary Use of EHR Data. EHR Workshop. Bethesda, MD. (Apr 5, 2011)

Southeastern MN Beacon: ONC Site Visit and Public Forum, Rochester, MN. (Mar 20, 2011)

ICD-11 and the Next Generation of Clinical Classification. National Academy of Sciences Framework for Developing a New Taxonomy of Disease. [Invited]. Washington, DC. (Mar 1, 2011)

The Horizon for Interoperability: Academic (and standards) Perspective. IOM Roundtable on Translating Genomic-Based Research. [Invited]. Irvine, CA. (Feb 22, 2011)

Innovative Uses of Electronic Health Data: Driving Value out of the EHR, HIMSS Invited Plenary. [Invited]. Orlando, FL. (Feb 21, 2011)

ICD-11 and the Next Generation of Clinical Classification, Disease Ontology Workshop, Baltimore, MD. (Feb 9, 2011)

Technology and Knowledge Generation: IOM Electronic Infrastructure for the Learning Health System, Washington, DC. (Oct 5, 2010)

The Road to Continuous Improvement in Health and Health Care: Clinical Research Perspective, Perspective Keynote, Institute of Medicine Workshop on Infrastructure for the Learning Healthcare System. [Invited]. Washington, DC. (July 27, 2010)

A National Perspective: Healthcare in the Technology Age, Keynote Address, Primary Care Network. [Invited]. Austin, TX. (July 23, 2010)

The Southeastern MN Beacon, National Beacon Conference, Seattle, WA. (July 13, 2010)

PGRN Ontology Network Resource, NIGMS Pharmacogenomics Research Network Retreat, Chicago, IL. (July 12, 2010)

Strategic Health IT Advanced Research Projects (SHARP) and Beacon Communities for HIT standards and interoperable data exchange, MN eHealth Summit, Minneapolis, MN (June 17, 2010)

Building Capacity in Your Community: Lessons from Beacon Applications, MN eHealth Summit, Minneapolis, MN. (June 17, 2010)

Health Information Technology Data Standards: Context for Translational Research, CTSA Regional Informatics Forum, Madison, WI (June 10, 2010)

Meaningful Use and Clinical Content: HHS Health Information Technology Standards. NHGRI eMERGE Scientific Steering Committee, Bethesda, MD. (Apr 13, 2010)

Some Observations on ICD, Intermountain Health Care Strategy Meeting, Salt Lake City, UT (Apr 6, 2010)

Standardization, Normalization, and Aggregation: On the boundaries among clinical practice, biomedical research, and public health. Centers for Disease Control, Atlanta, GA (Mar 25, 2010)

Meaningful Use and Meaningful Standards: Policy Issues and Influence Research Informatics, Clinical Research Informatics. [Invited]. San Francisco, CA. (Mar 13, 2010)

EHR Quality and Modes of Use, American College of Medical Informatics. [Invited]. Tucson, AZ. (Feb 20, 2010)

Standards and EHRs at the Interface between Practice and Research, Keynote Address, CDISC Annual Meeting. [Invited]. Baltimore, MD. (Nov 11, 2009)
Electronic Health Records at the Interface between Practice and Research, Glaxo Smith Klein Research Grand Rounds. [Invited]. Upper Merion, PA. (Sept 11, 2009)
Current Issues Around the Adoption of Standards for Clinical Research. Glaxo Smith Klein Research Panel, Upper Merion, PA. (Sept 11, 2009)
eMERGE Progress, eMERGE Network External Advisory Committee, Seattle WA. (Aug 3, 2009)
Minnesota e-Health Summit, Successful Utilization of EHR and the ARRA Stimulus, Brooklyn Park, MN. (June 25, 2009)
Codification of Standardized Phenotype Definitions and Relationships (Ontologies). PGRN Network Resource Scientific Advisory Board, Rochester, MN. (Apr 17, 2009)
Mayo Clinic EMR Phenotypes and Community Engaged Genomic Associations, IT Roundtable, Washington, DC. (Apr 15, 2009)
Terminology Infrastructure for NCBO LexGrid and LexBIG, NCBO Scientific Advisory Board, Palo Alto, CA. (Mar 25, 2009)
Mayo eMERGE Lessons Learned, eMERGE Network Steering Committee, Bethesda, MD. (Feb 5, 2009)
Informatics for Personalized Medicine: Mining the Electronic Medical Record. Individualized Medicine: Biomarkers of Cardiovascular Risk, Scottsdale, AZ. (Jan 17, 2009)
NCBO Futures, NCBO Annual Meeting, Palo Alto, CA. (Dec 16, 2008)
The ICDs: The US Migration to ICD10CM and the Distributed Development of ICD11, Biomedical Informatics Symposium, Arizona State University. [Invited]. Phoenix, AZ. (Oct 9, 2008)
Mayo Phenotype Refinement, NHGRI Investigators Meeting, Chicago, IL. (June 26, 2008)
LexGrid, Intermountain Healthcare Strategic Planning Meeting, Salt Lake City, UT. (June 19, 2008)
Standardizing Vocabularies and Creating the Governance Structures to Manage and Maintain Them. Scottsdale Institute Forum, national webcast. (June 17, 2008)
Health Informatics Standards and the Emerging Big Science Paradigm, Grand Rounds, University of California – Davis. [Invited]. Sacramento, CA. (May 21, 2008)
Interoperability and Clinical Data, NIH Roadmap Forum, NCRR, Bethesda, MD. (May 8, 2008)
Biomedical Informatics Cores among CTSAs, AAMC Group on Information Research Spring Meeting, San Francisco, CA. (May 3, 2008)
Ontologic Issues in the ICD 11 Revision. NCBO National Forum (Webcast). (Apr 29, 2008)
ICD 11 Issues for Coders, RHIT National Meeting, Rochester, MN. (Apr 24, 2008)
US Issues Associated with ICD Revisions, ONC, CDC, and NLM Special Forum, Bethesda MD. (Mar 6, 2008)
Mayo Clinic EMR Phenotypes, NHGRI U01 Investigators Forum, Bethesda, MD. (Feb 25, 2008)
ICD 10/11 Update, National Committee for Vital and Health Statistics. [Invited]. Washington, DC. (Feb 21, 2008)
Mayo's Clinical Research Legacy and Transition to "Big Science", Inaugural Biomedical Informatics Grand Rounds, Marshfield Clinic. [Invited]. Marshfield, WI. (Jan 10, 2008)
Comments on Building on Data in dbGaP Data Standards and Standard Data, NHGRI Frontiers in Population Genomics Research, Rockville, MD. (Dec 18, 2007)
EMR Phenotypes and Community Engaged Genomic Associations, NHGRI U01 Investigators Forum, Bethesda, MD. (Nov 16, 2007)
CDISC Introduction Standards for Research Interoperability, CDISC National Webcast. (Oct 12, 2007)
The Evolution and Relevance of Health Data Standards, Arizona State University, Biomedical Informatics Grand Rounds. [Invited]. Phoenix, AZ. (Oct 10, 2007)
Biomedical Informatics CTSA Core Workflow, CTSA Summit for Standards Interoperability, Rochester, MN. (Sept 28, 2007)
Standards for Translational Research Interoperability, CTSA Summit for Standards Interoperability, Rochester, MN. (Sept 28, 2007)
Mayo's Enterprise Vocabulary Trajectory and Roles in NIH, HL7, and HITSP Vocabulary Strategies, Cerner Terminology Summit, Kansas City, MO. (Sept 20, 2007)
Standards Adoption Coordination Critical, Opportunities for Coordination and Clarity to Advance the National Health Information Agenda; IOM, Washington, DC. (Sept 16, 2007)

Common Terminology Services 2, TATRC DOD Health Affairs Planning Symposium, Fort Detrick, MD. (Sept 5, 2007)

Health Terminology Management A National Agenda, TATRC DOD Health Affairs Planning Symposium, Fort Detrick, MD. (Sept 5, 2007)

Terminology Services Infrastructure, HL7 Board Retreat, San Francisco, CA. (Aug 2, 2007)

From Genotype to Phenotype: The LexGrid Project and Ontology Infrastructure at Mayo Clinic (with notes on ICD-11 development), Minnesota AHIMA Annual Meeting, Rochester, MN. (July 24, 2007)

From Genotype to Phenotype: The LexGrid Project and Ontology Infrastructure at Mayo Clinic, Lilly Invitational Speaker, Lilly Corporate Headquarters, Indianapolis, IN. (July 20, 2007)

Community Collaboration in Ontology Development, NHLBI Community Forum on Data Standards and Terminology HLB-STAT!, Bethesda, MD. (May 30, 2007)

From Genotype to Phenotype: Research Foci in Biomedical Informatics, CHOP Symposium, Rochester, MN. (Mar 20, 2007)

Surveillance from Clinical Data: Tradition, Standards, Text, FDA Sentinel Network Public Meeting. [Invited]. Washington, DC. (Mar 7, 2007)

Clinical and Research Data: Inference at the Boundary, ACMI Plenary, ACMI Retreat. [Invited]. Miami Beach, FL. (Jan 20, 2007)

Multidisciplinary Science, Data Integration, and Large-scale Inferencing: The Role of Informatics Standards, NCRR Advisory Council. [Invited]. Bethesda, MD. (Jan 18, 2007)

The LexGrid Project for DOD Health Affairs, TATRC Web Seminar. [Invited]. Fort Detrick, MD. (Dec 15, 2006)

The LexGrid Project. Ontology Webcast Forum. [Invited]. San Jose, CA. (Dec 14, 2006)

From Genotype to Phenotype: Crossing the Semantic Chasm of Despair, IBM Individualized Medicine Workshop, Watson Labs. [Invited]. White Plains, NY. (Dec 11, 2006)

Mayo CTSA Biomedical Informatics, CTSA Biomedical Informatics Steering Committee, NCRR, Bethesda, MD. (Dec 7, 2006)

Large Scale Model Harmonization, caBIG Strategic Meeting, Duke University, Durham, NC. (Nov 20, 2006)

Disease Ontology Context, NCBO Disease Ontology Workshop, Johns Hopkins University, Baltimore, MD. (Nov 17, 2006)

HL7 Futures: RIM in the Context of US and International Standards, American Medical Informatics Association Debate Panel on the Future of HL7, American Medical Informatics Association 2006 Symposium, Washington, DC. (Nov 14, 2006)

Data aggregation across an academic medical center: The role of semantic harmonization, NSF-AHRQ Workshop on Data Integration. [Invited]. Philadelphia, PA. (Oct 26, 2006)

Research Information Integration Across a Large Academic Medical Center, MD Anderson Cancer Center. [Invited]. Houston, TX. (Oct 2, 2006)

Terminology Services Integration with Clinical Systems, GE Health Systems, Barrington, IL. (May 31, 2006)

Clinical Research and the NHIN: Present Practice and Limitations. NIH/AHRQ Symposium on Clinical Research Data and the NHIN (Nationwide Health Information Network). [Invited]. Washington, DC. (May 9, 2006)

Informatics Overview, Mitre – NIH Site Visits, Rochester, MN. (May 2, 2006)

Harmonization of Semantics in International Standards. ISO/HIMSS Symposium on International Standards. [Invited]. San Diego, CA. (Feb 11, 2006)

Ontologies in Translational Biomedical Research. Biomedical Informatics Symposium at Arizona State University. [Invited]. Phoenix, AZ. (Jan 19, 2006)

Reference Ontologies in Biomedicine. Ontology Webcast Forum. [Invited]. San Jose, CA. (Nov 3, 2005)

An Informatics Vision for CDC: Challenges and Solutions to Building the Systems and Research Base for Public Health Informatics. CDC CIO Directors Meeting. [Invited]. Atlanta, GA. (Aug 3, 2005)

Welcome and Vocabulary Overview, Hosting NCI/caBIG, Vocabulary and Common Data Element Workspace, Rochester, MN. (June 16, 2005)

Introductory and advanced vocabulary. Tutorials. Health Level 7 Educational Summit. [Invited]. Denver, CO. (May 25, 2005)

HISB role in the ONCHIT request for information. ANSI Health Informatics Standards Board. Agency for Healthcare Research and Quality Headquarters. Rockville, MD. (Nov 18, 2004)

EHR data standards. Centers for Medicare and Medicaid Services. [Invited]. Baltimore, MD. (Oct 26, 2004)

Healthcare standards and the EHR. CDC Immunization Registries Conference. Centers for Disease Control. [Invited]. Atlanta, GA. (Oct 20, 2004)

Vocabularies and common data elements in the workplace. APIII. Pittsburgh, PA. (Oct 6, 2004)

The boundary between vocabulary and information models. NASA Vocabulary Summit. [Invited]. Houston, TX. (Aug 1, 2004)

International status of nursing terminologies. Terminology Summit, Vanderbilt University. [Invited]. Nashville, TN. (July 17, 2004)

Digital Biology and Bioinformatics in Genomic Medicine, Society of Neurological Surgeons. [Invited]. New Orleans, LA. (May 24, 2004)

Digital biology and medicine: From genome to disease. IBM Analysts Meeting. [Invited]. Palisades, NY. (Apr 29, 2004)

Technical Expert Panel meeting on the use of electronic health information systems and electronic health records in post-acute and long-term care setting. HHS. [Invited]. Washington, DC. (Apr 14, 2004)

HIPAA data standards and health information: The good, the bad, and the ugly. ENAR Summit. [Invited]. Pittsburgh, PA. (Mar 27, 2004)

Ontologies and phenotype: Semantics and organization of concepts. NIH/NIGMS Pharmacogenomics Research Network Steering Committee. [Invited]. Los Angeles, CA. (Mar 8, 2004)

HL7 and vocabulary. Healthcare Information and Management Systems Society. [Invited]. Orlando, FL. (Feb 25, 2004)

HL7 and LexGrid vocabulary models. NIH/NCI Cancer Bioinformatics Grid. Washington, DC. (Feb 19, 2004)

Cancer vocabulary issues. CDC Summit on Cancer Surveillance and Information. Phoenix, AZ. (Jan 29, 2004)

Reporter, Vocabulary Group. National Health Information Infrastructure Summit, Washington, DC. (June 30, 2003)

Terminology and vocabulary standards. Designing for Quality eHealth Workshop. National Institute of Standards and Technology. [Invited]. Gaithersburg, MD. (June 24, 2003)

Presentation. eHI Terminology Summit. [Invited]. Washington, DC. (Apr 4, 2003)

Terminology and standards: The "I" in NHII. CDC Informatics Fellows. [Invited]. Atlanta, GA. (Mar 28, 2003)

Healthcare IT standards: What are they? Why do I care?" Preconference Workshop. Healthcare Information and Management Systems Society Conference and Exhibition. [Invited]. San Diego, CA. (Feb 9, 2003)

Presentation. Open Forum on Medadata Registries. Santa Fe, NM (Jan 21-23, 2003)

Coding and classification in healthcare: Meta-models, metadata, major muddle. Open Forum on Medadata Registries. [Invited]. Santa Fe, NM. (Jan 21, 2003)

Clinical data standards and their implications for cancer information. National Cancer Institute. Cancer Informatics Seminar. [Invited]. Bethesda, MD. (Dec 4, 2002)

The horizontal and vertical nature of patient phenotype retrieval: New directions for clinical text processing. American Medical Informatics Association 2002 Symposium. San Antonio, TX. (Nov 12, 2002)

Plenary speaker. Association of American Medical Colleges. [Invited]. Leesburg, VA. (Oct 30, 2002)

An overview of medical vocabulary. Opening testimony. Subcommittee on Standards and Security, National Committee on Vital and Health Statistics. [Invited]. Washington, DC. (Aug 28, 2002)

Presentation. Connecting for Health Data Standards. [Invited]. Leesburg, VA. (July 30, 2002)

Desirable skills, attributes and knowledge: Whither informatics and wisdom. MLA Informationist Conference. National Library of Medicine. [Invited]. Bethesda, MD. (Apr 4, 2002)

The US Health Information Knowledgebase: USHIK. Keynote speech. 3rd Annual Public Health Data Standards Consortium. [Invited]. Washington, DC. (Mar 21, 2002)

The US Health Information Knowledgebase: USHIK. Web-Enabled Government Conference. [Invited].
    Washington, DC. (Mar 6, 2002)
History of standards development and utilization in epidemiology. Informatics Lecture Series,
    University of Minnesota. Minneapolis, MN. (Jan 30, 2002)
Introduction to lexicons and controlled vocabularies. Radiologic Society of North America. [Invited].
    Chicago, IL. (Nov 29, 2001)
History of standards development and utilization in epidemiology. Keynote address. Advancing
    Pathology Informatics, Imaging and the Internet. [Invited]. Pittsburgh, PA. (Oct 6, 2001)
Comparable and consistent data: Outpatient, acute, and post-acute settings. DHHS/OS/ASPE Summit.
    Humphrey Building. [Invited]. Washington, DC. (Sept 11, 2001)
Comparable and consistent content and context: Terminology and information models. Testimony.
    National Committee on Vital and Health Statistics. [Invited]. Washington, DC. (Aug 20, 2001)
Terminology models: Working, abstract, clinical, and whimsical. Nursing Terminology Summit
    Conference. [Invited]. Nashville, TN. (July 8, 2001)
Clinical data and emergent clinical standards. Drug Information Association Symposium. [Invited].
    Washington, DC. (May 23, 2001)
Public health informatics: Standards and vocabulary. Plenary address. AMIA – CDC Joint Conference
    on Public Health Informatics. [Invited].   Atlanta, GA. (May 16, 2001)
The relevance of HL7 standards. National Cancer Institute Seminar. [Invited]. Rockville, MD. (May 7,
    2001)
Terminology for EMRs: A clinical, research, and education perspective. IDX Terminology Forum.
    Seattle, WA. (Mar 6, 2001)
The spectrum of metadata among US health standards developers. American National Standards
    Institute Health Informatics Standards Board. Washington, DC. (Mar 5, 2001)
Patient records and privacy. Pfizer-sponsored Privacy Panel. [Invited]. Phoenix, AZ. (Feb 22, 2001)
Clinical data standards and their implications for cancer information. National Cancer Institute.
    [Invited]. Bethesda, MD. (Feb 7, 2001)
The role of clinical information systems in clinical research. Institute of Medicine's Clinical Research
    Roundtable. [Invited]. Washington, DC. (Dec 12, 2000)
Standardizing information flow in clinical trial protocols. NCI Panel. American Medical Informatics
    Association Annual Symposium. Los Angeles, CA. (Nov 8, 2000)
The automated medical practice: Implementation experience and a vision of the future. Presentation
    at the Mayo Clinic Jacksonville EMR Conference. [Invited]. Amelia Island, FL. (Oct 21, 2000)
Health terminology services. Windows on HealthCare 2000. Las Vegas, NV. (Oct 4, 2000)
Tools for Success in the Future: What Every Coder Should Know Today About the Systems of
    tomorrow. AHIMA SCC Annual Meeting. [Invited]. Chicago, IL. (Sept 24, 2000)
Bumps on the Road to Success. NACB Symposium. [Invited]. Philadelphia, PA. (Sept 16, 2000)
Clinical Concepts for Clinical Research: Terminology, Models and Information. NIH Clinical Center
    Education. [Invited]. Bethesda, MD. (Aug 16, 2000)
Progress of ISO Proposal for Development of a Reference Terminology Model for Nursing. Nursing
    Terminology Summit Conference. [Invited]. Nashville, TN. (June 9, 2000)
Trends in medical terminology. Tutorial, Medical Terminologies Track. Towards an Electronic Patient
    Record Conference (TEPR 2000). San Francisco, CA. (May 9, 2000)
Medical Concept Representation: History, Present Purpose, Status and Future. SurroMed. [Invited].
    Palo Alto, CA. (Apr 7, 2000)
Public Health, Clinical Data, and Common Cause: Information Standards as Mediating Foci. Keynote
    address. National Electronic Disease Surveillance Systems Stakeholders Meeting. CDC. [Invited].
    Atlanta, GA. (Mar 30, 2000)
Health enterprise terminology: History, present purpose, status, and future. Foundation Information
    Infrastructure Policy Committee. Jacksonville, FL. (Mar 14, 2000)
Outcomes Assessment and Electronic Medical Records: Past, Present, and Future. Anesthesia
    Conference. [Invited]. Orlando, FL. (Feb 19, 2000)
Terminology Services as Software Components: Why, How, and Whither. American College of Medical
    Informatics retreat. [Invited]. Marco Island, FL. (Feb 5, 2000)

On data about data: A brief history of health terminology. ISO/IEC Metadata Conference. Santa Fe, NM. (Jan 17, 2000)

Integrating the Healthcare Enterprise 1999 Symposium. Chicago, IL. (Dec 3, 1999)

IMIA Board of Directors. Washington, DC. (Nov 11, 1999)

Cancer registries and terminology: Comparable clinical sources. Meeting the Challenges of Comprehensive Cancer Control Conference. CDC. [Invited]. Atlanta, GA. (Sept 9, 1999)

Paving the road to the computer-based patient record. National Conference on Vital and Health Statistics. Washington DC. (Aug 4, 1999)

Nursing informatics, nursing classification, and quality nursing care. Keynote speech. Institute for Nursing Informatics and Classification Conference. [Invited]. Iowa City, IA. (June 15, 1999)

An overview of CPRI terminology activities and recent NCVHS testimony. CPRI meeting on the Internet and Healthcare: The Future of E-Health. [Invited]. Washington, DC. (June 7, 1999)

Medical concept representation. Tutorial. Toward an Electronic Patient Record Conference (TEPR '99). Orlando, FL. (May 2, 1999)

Computer-based Patient Record Institute. National Conference on Terminology, Part II. [Invited]. Washington, DC. (Apr 27-29, 1999)

Testimony. National Committee on Vital and Health Statistics. [Invited]. Washington DC. (Mar 17-18, 1999)

Controlled Vocabulary: An Essential Prerequisite to System Integration in Public Health. Health Information and Surveillance Systems Board Standards Committee of the CDC. [Invited]. Atlanta, GA. (Mar 1, 1999)

Enterprise terminology requirements: The problem list as an entry point. Healthcare Information and Management Systems Society. Atlanta, GA. (Feb 21, 1999)

Rochester Epidemiology Project. Affymetrix. San Jose, CA. (Feb 11, 1999)

Challenges of Automation: A Future Vision. Plenary. Mayo Clinic Jacksonville Conference. [Invited]. Ponte Vedra Beach, FL. (Jan 30, 1999)

Opening Plenary Address, American Medical Informatics Association Annual Symposium. [Invited]. Orlando, FL. (Nov 8, 1998)

Medical Concept Representation and Natural Language Processing. Tutorial. American Medical Informatics Association Annual Symposium. [Invited]. Orlando, FL. (Nov 8, 1998)

Standardization concepts. Joint Conference on Lexicon Solutions co-hosted by the Computer-based Patient Record Institute and Health Level 7. Alexandria, VA. (Aug 3, 1998)

Unique Patient Identifiers for Healthcare. National Committee on Vital and Health Statistics. [Invited]. Chicago, IL. (July 20, 1998)

Invited Testimony on CPRI Vocabulary Issues. National Committee on Vital and Health Statistics. [Invited]. Washington, DC. (June 16, 1998)

Clinical Lexicon: Issues of Common Data Representation. Veterans Administration Education Day. [Invited]. Alexandria, VA. (June 5, 1998)

Clinical Information as a Primary Information Source. IEEE In Medicine and Biology Society Special Topic Conference on Information Technology Applications In Biomedicine (ITAB '98). [Invited]. Washington, DC. (May 16, 1998)

Natural language representation. Tutorial. Towards an Electronic Patient Record Conference (TEPR '98). San Antonio, TX. (May 10, 1998)

Vocabulary Special Interest Group presentation. Health Level 7. Baltimore, MD. (Apr 29, 1998)

Terminology discussion leader. Health Care Finance Administration. Washington, DC. (Apr 22, 1998)

A clinically derived terminology: Qualification to reduction. Fall Conference of the American Medical Informatics Association. Nashville, TN. (Oct 27, 1997)

Medical concept representation. Tutorial. Fall Conference of the American Medical Informatics Association. Nashville, TN. (Oct 25, 1997)

CPR Overview and Working Toward a Common Clinical Terminology. Minnesota EDI/EC Healthcare Users Group. [Invited]. Minneapolis, MN. (Sept 19, 1997)

Discussion leader. NIH-HSLM Collaboration Workshop. Boston, MA. (Aug 1, 1997)

Medical Concept Representation. Tutorial. Medical Librarian's Association Annual Meeting. [Invited]. Seattle, WA. (May 24, 1997)

New developments in medical concept representation. Tutorial. Towards an Electronic Patient Record Conference (TEPR '97). Nashville, TN. (May 1, 1997)

Information representation. Towards an Electronic Patient Record Conference (TEPR '97). Nashville, TN. (Apr 30, 1997)

Developers Workshop. Towards an Electronic Patient Record Conference (TEPR '97). Nashville, TN. (Apr 28, 1997)

Framework for Clinical Terminology Development: CPRI ANSI/HISB Joint Working Group. AMA/CPT/CPRI Conference on Coding Classifications. Washington, DC. (Apr 7, 1997)

Medical Record Versus Patient Record—Meeting the Research Agenda. Midwest Nursing Research Society Conference. [Invited]. Minneapolis, MN. (Apr 5, 1997)

Conceptual Framework for Coding and Classification. National Committee on Vital and Health Statistics (NCVHS). [Invited]. Washington, DC. (Mar 14, 1997)

Codes and structures. Computer-based Patient Record Institute. San Diego, CA. (Feb 20, 1997)

Developing a clinical vocabulary to support the computerized patient record. American Health Information Management Association. Orlando, FL. (Oct 8, 1996)

Clinical Terminology: Words for 1000 Pictures. Annual Meeting of the American College of Radiology. [Invited]. San Antonio, TX. (Sept 28, 1996)

Advances in Convergent Medical Terminology. National Library of Medicine's Electronic Medical Record Workshop. [Invited]. St. Louis, MO. (Sept 18, 1996)

CPRs to Improve the Efficiency and Quality of Patient Care: The Mayo Clinic Strategy. Conference address. Robert Woods Johnson Conference. [Invited]. Arlington, VA. (July 29, 1996)

Concepts and Codes Through Time. National Library of Medicine's Informatics Conference. [Invited]. Washington, DC. (July 8, 1996)

The History and New Charter of the NCVHS. National Center for Vital and Health Statistics Conference on ICD-9-CM. [Invited]. Bethesda, MD. (June 5, 1996)

Medical information retrieval and World Wide Web browsing at the Mayo Foundation. Towards an Electronic Patient Record Conference (TEPR '96). San Diego, CA. (May 15, 1996)

Mayo Cancer Center Informatics Issues. National Cancer Institute Cancer Coding Workshop. [Invited]. Bethesda, MD. (May 14, 1996)

Electronic Medical Record Cooperative Agreement Update. National Library of Medicine's HSLM Directors Meeting. [Invited]. Bethesda, MD. (Apr 9, 1996)

Convergent Medical Terminologies. National Library of Medicine Conference on Electronic Medical Record Collaboration. [Invited]. St. Louis, MO. (Mar 11, 1996)

Issues in clinical data management and healthcare terminologies. Codes and Structures Update, Computer-based Patient Record Institute. Atlanta, GA. (Mar 2, 1996)

Concepts and relationships of coding systems and knowledge representation. Fall Developer's Workshop of the Medical Records Institute. [Invited]. Boston, MA. (Dec 8, 1995)

Richer coding: The prerequisite to practice guidelines. Keynote. North American Primary Care Research Group. [Invited]. Houston, TX. (Nov 10, 1995)

Moving toward international standards in primary care informatics: Clinical vocabulary. Keynote address. AMIA Family Practice/Primary Care Working Group Conference. [Invited]. New Orleans, LA. (Nov 1, 1995)

CPRI Phase II: An evaluation of comprehensive coding systems for CPR implementation. Symposium for Computer Applications in Medical Care. New Orleans, LA. (Oct 31, 1995)

Medical concept representation: From classification to understanding. Tutorial. Symposium for Computer Applications in Medical Care. [Invited]. New Orleans, LA. (Oct 29, 1995)

Codes and structures update. Computer-based Patient Record Institute Summit Conference. Chicago, IL. (Oct 27, 1995)

The content coverage of clinical classifications. Society for Epidemiologic Research. Snowbird, UT. (June 24, 1995)

ANSI Healthcare Informatics Standards Planning Panel and the CPRI Codes and Vocabulary Position. National Center for Vital and Health Statistics. [Invited]. Washington, DC. (June 15, 1995)

Clinical concepts and the NHII. NIH Conference on Medical Informatics and Information Architecture. [Invited]. Washington, DC. (Apr 19, 1995)

Codes and structures. National Library of Medicine (NLM) Meeting for HSLM Grant Investigators. Washington, DC. (Apr 11, 1995)

Concepts and relationships of coding systems and knowledge representation. Towards an Electronic Patient Record (TEPR '95). Orlando, FL. (Mar 14, 1995)

Patient records in vocabulary development. Office of Science and Data Development. [Invited]. Washington, DC. (Dec 8, 1994)

Medical concept representation. Tutorial. Symposium on Computer Applications in Medical Care. [Invited]. Washington, DC. (Nov 8, 1994)

The CPRI codes and vocabulary. Clinic Club's Seminar, Geisinger Clinic. [Invited].   Danville, PA. (Sept 29, 1994)

The Computer-based Patient Record Institute Major Codes Study. American Medical Informatics Association Spring Conference. Washington, DC. (May 5, 1994)

Maintaining clinical vocabularies. American Medical Informatics Association (AMIA) Spring Conference. Washington, DC. (May 4, 1994)

Lessons from the history of medical classifications: The changing nature of the application. Keynote address. MetaHealth Working Conference. [Invited]. San Diego, CA. (Apr 11, 1994)

Concepts and relationships of coding systems and knowledge representation. Towards an Electronic Patient Record Conference (TEPR '94). [Invited]. Washington, DC. (Mar 23, 1994)

Medical concept representation. Plenary Keynote. ASGE Conference. [Invited]. Washington, DC. (Mar 11, 1994)

From classification to concepts: Medical record representation and indexing. Healthcare Information and Management Systems Society. Phoenix, AZ. (Feb 15, 1994)

Terminology relevance. AHCPR Terminology Conference. [Invited]. Washington, DC. (Dec 10, 1993)

An evaluation of clinical concepts. Panel. Symposium on Computer Applications in Medical Care. Washington DC. (Nov 3, 1993)

Medical concept representation: From classification to understanding. American Society for Information Science. [Invited].   Columbus, OH. (Oct 25, 1993)

Medical concept representation: From classification to understanding. Tutorial. Symposium on Computer Applications in Medical Care. [Invited]. Washington DC. (Oct 31, 1993)

Coding classifications. Department of Defense Meeting on Infrastructure Coding. [Invited]. Washington, DC. (Sept 13, 1993)

Medical concept representation. Department of Defense Conference Workshop on Sensing Biomedical Data. [Invited].   LaJolla, CA. (Jul 7, 1993)

Classification schemes in information retrieval. Association for Computing Machinery. Pittsburgh, PA. (June 27, 1993)

The non-relationship of urinary symptoms. American Gerontologic Society. San Antonio, TX. (May 18, 1993)

Evaluation of clinical classifications. American Medical Informatics Association Spring Conference. St. Louis, MO. (May 10, 1993)

Nomenclature/disease classification schema. Annual Meeting of the American Association of Dental Schools and Pathology. [Invited]. Chicago, IL. (Mar 7, 1993)

Medical vocabulary principles, CANON. IBM/Harriman Meeting. Arden Hills, NY. (Jan 15, 1993)

An evaluation of concept-based latent semantic indexing for clinical information retrieval. Symposium on Computer Applications in Medical Care. Baltimore, MD. (Nov 11, 1992)

Clinical data representation: From classification to concepts. Tutorial. 16th Annual Symposium on Computer Applications in Medical Care. [Invited]. Baltimore, MD. (Nov 7, 1992)

Natural history of benign prostatic hyperplasia: Prostatic symptom prevalence in a non-referred population. Society for Epidemiologic Research. Minneapolis, MN. (June 11, 1992)

A numerical mapping method for patient record classification. American Medical Informatics Association Spring Conference. Portland, OR. (May 8, 1992)

Clinical data retrieval and analysis: I've seen a case like that before. New York Academy of Sciences. New York, NY. (Mar 23, 1992)

Latent semantic indexing of medical diagnoses using UMLS Semantic Structures. 15th Annual Symposium on Computer Applications in Medical Care. Washington, DC. (Nov 19, 1991)

Clinical data representation: From classification to concepts. Tutorial. 15th Annual Symposium on Computer Applications in Medical Care. [Invited]. Washington, DC. (Nov 17, 1991)

Medical event representation. AMIA-WG6 Conference on Knowledge Acquisition and Knowledge Representation in Medicine. Washington, DC. (Nov 16, 1991)

The classification of medical events using Latent Semantic Analysis. American Society for Information Science, Special Interest Group on Classification Research Workshop on Language and Information Processing. Washington, DC. (Oct 27, 1991)

The Mayo Data Architecture Project. Thomas Jefferson Health Policy Institute [Invited]. Charlottesville, VA. (Oct 18, 1991)

Hierarchical distribution analysis for computer-assisted classification of patient records. American Medical Informatics Association Spring Meeting. San Francisco, CA. (June 6, 1991)

A preliminary evaluation of the UMLS Metathesaurus for Patient Record Classification. Symposium on Computer Applications in Medical Care. Washington, DC. (Nov 4, 1990)

The epidemiology of surgically treated benign prostatic hyperplasia. American Gerontologic Society. Atlanta, GA. (May 18, 1990)

The epidemiology of surgically-operated benign prostatic hypertrophy among residents of Rochester, Minnesota—1980-87: A population-based study. American Gerontologic Society. Minneapolis, MN. (Nov 18, 1989)

Estimating the effect of formaldehyde exposure on lung cancer and non-malignant respiratory disease mortality using a new method to control for the health worker survivor effect. American Public Health Association. Boston, MA. (Nov 14, 1988)

Medical informatics at Mayo Clinic. Health Informatics Seminar. University of Minnesota. Minneapolis, MN. (Oct 10, 1988)

A prospective study of parity, cholecystectomy, and exogenous estrogens and the risk of colon cancer in women. Society for Epidemiologic Research. Vancouver, BC. (June, 15, 1988)

12. **PRESENTATIONS AT INTERNATIONAL MEETINGS:**

ICD11 in the Age of Digital Health, ICD11 Release Event, World Health Organization, Geneva, CH (15 Jun 2018)

The Meaning of Biomedical Meanings: Confessions of an English major who cared deeply about data interoperability for biomedical discovery and translational research. NIH Clinical Center Grand Rounds, Bethesda, MD (2 May 2018) [Great Teachers series] https://videocast.nih.gov/Summary.asp?File=23858&bhcp=1

The MSAC Review of Descriptions, WHO ICD Joint Task Force, World Health Organization, Geneva, CH (18 Apr 2018)

Building a Translational Bridge, The CTSA Program Center for Data to Health, AMIA 2018 Informatics Summit, San Francisco, CA (13 Mar 2018)

Medical Scientific Advisory Committee: Overview. WHO-FIC Annual Meeting, Mexico City (19 Oct 2017)

The Pluripotent Rendering of Clinical Data for Precision Medicine. Medinfo, Hangzhou, China (24 Aug 2017)

Health Technology Assessment: Desiderata for data big and small. HTAi Annual Meeting, Rome (20 Jun 2017) [Keynote]

The Promise and Taming of Big Data: Potential Contributions of ICD11. Association for Molecular Pathology (AMP), Charlotte, NC. (10 Nov 2016) [Keynote]

ICD-11 and Cancer Registration. International Agency for Cancer Registration, Marrakech. (20 Oct 2016) [Keynote]

Overview and ICD-11 Foundation Component. WHO ICD-11 Revision Conference, Tokyo. (14 Oct 2016)

ICD-11 Future Governance: The Medical Scientific Advisory Committee. WHO ICD-11 Revision Conference, Tokyo. (13 Oct 2016)

ICD-11: Challenges, Innovations, Opportunities. WHO ICD-11 Revision Conference, Tokyo. (11 Oct 2016)

Comparability and Consistency of Clinical Data: The ICD11 initiative. International Society For Pharmacoeconomics and Outcomes Research, Singapore. (5 Sep 2016) [Keynote]

Update on ICD-11 and SNOMED CT harmonization: The use of classification for clinical data capture. Assess CT—EU-US Workshop, Amsterdam (3 May 2016)

Precision Medicine: Knowledge Network for Biomedical Research and a New Taxonomy of Disease. Precision Medicine Intensive Special Presentation. American College of Cardiology, Chicago, IL. (4 April 2016)

Comparability and Consistency of Clinical Data: The ICD11 initiative. BD2K Standards Webinar. (25 February 2016). [Inaugural Webinar] https://www.youtube.com/watch?v=DmguuCFgW-Y

Innovations in Standards & Standards Development: Advances in Standards Methodologies & Implementation Vocabularies and Classifications (ICD11), AMIA Annual Symposium, San Francisco, CA (16 Nov 2015).

The Informatics Architecture of ICD11, Experience in Harmonization of ICD-11 and SNOMED CT (Panel), AMIA Annual Symposium, San Francisco, CA (14 Nov 2015).

Health Information as Big Data: the promises and requirements for health transformation. HIMAA and NCCH National Conference, Sydney, Australia (27 Oct 2015). [Keynote]

Interoperability and Classification: Health Data in the 21st Century. WHO-FIC (Family of International Classifications), Manchester, UK. (21 Oct 2015)

ICD11: Structure and Foundation—the Common Ontology. WHO ICD-11 Internal Medicine Topic Advisory Group Meeting, Tokyo, Japan (16 Dec 2014).

Leveraging Genomic Data for Advancing Research. IOM: Genomics-Enabled Learning Health Care Systems, Washington, DC (8 Dec 2014).

ICD11: Structure and Foundation & Comments on ISO TC215 Transformation. AMIA Annual Symposium, Washington, DC (18 Nov 2014).

The Semantic Anchoring of Clinical NLP. AMIA Annual Symposium, Washington, DC (15 Nov 2014).

Southeast Minnesota Beacon Community: Three Year+ Journey. AMIA Annual Symposium, Washington, DC (15 Nov 2014).

Strategic Investments Towards Interoperability. AstraZeneca Research Forum Webinar, (21 Oct 2014).

Building ICD-11 Terminology Services Using the Common Terminology Services 2 (CTS2) Standard. WHO Family of International Classifications Annual Meeting, Barcelona, Spain (8 Oct 2014).

Big Data Meets Healthcare: The case for comparability and consistency. German National Informatics Society, Göttingen, Germany (8 Sep 2014). [Keynote]

The International Classification of Disease Revision – ICD11: Structure and Foundation, Medical Informatics Europe, Istanbul, Turkey (1 Sep 2014).

Southeast Minnesota Beacon Community: Three Year+ Journey. HIMSS Annual Meeting, Orlando, FL (25 Feb 2014).

Big Data meets Healthcare: The case for comparability and consistency. Thompson Reuters Webcast Symposium (24 Feb 2014)

Scope and Challenges of Secondary Use of Clinical Data. ACMI Annual Symposium, Scottsdale, AZ (15 Feb 2014).

Essentials of a good policy framework for adoption of standards for interoperability. WHO Joint Inter-Ministerial Policy Dialogue on Standardization, Geneva, Switzerland (11 Feb 2014).

Integrating Genomic Data into the EHR: The eMERGE Experience. AMIA Symposium. Washington, DC. (19 Nov 2013)

Innovations in Standards & Standards Development: Fun with ICD-11. AMIA Symposium. Washington, DC. (19 Nov 2013)

SHARPn: Secondary Data Use Normalization, NLP, Phenotyping. AMIA Symposium. Washington, DC. (18 Nov 2013)

Terminologies and Classifications: Types, History, and Tools. Tutorial, AMIA Symposium. [Invited]. Washington, DC. (16 Nov 2013)

The ICD Revision. WHO Family of International Classifications, Beijing, China. (18 Oct 2013)

Health Terminologies and Classifications Observation on SNOMED and ICD. James Read Memorial Lecture, SNOMED CT Implementation Showcase. [Keynote] Crystal City, VA (11 Oct 2013)

Developing Large-Scale Biomedical Ontologies: Implications for Translational Medicine. American Society of Nephrology Innovations in Translational Science, Atlanta. (5 Nov 2013)

Big Data Meets Healthcare: The case for comparability and consistency.   Scottish Health Informatics Program [Keynote] St. Andrews, Scotland (28 Aug 2013)

Do we need a Common Ontology between ICD 11 and SNOMED CT to ensure seamless re-use and semantic interoperability? MedInfo, Copenhagen, Denmark. (21 Aug 2013)

Big Data meets Healthcare: The case for comparability and consistency. Big Data 2013 Conference, Melbourne, Australia. (18 Apr 2013)

Southeastern MN Beacon Community, HIMSS Plenary, New Orleans, LA. (4 Mar 2013)

Comprehensive, Population-based, Peer-to-Peer Health Information Exchange and Clinical Data Repository Creation among Rural Practices and County Public Health Departments, AMIA Symposium. Chicago, IL. (6 Nov 2012)

Pan-Sharp: Medication Reconciliation Normalization for Secondary Use, AMIA Symposium. [Invited]. Chicago, IL. (4 Nov 2012)

Terminologies and Classifications: Types, History, and Tools. Tutorial, AMIA Symposium. [Invited]. Chicago, IL. (3 Nov 2012)

ISO and the International Community of Standards Development, Tutorial, AMIA Symposium. [Invited]. Chicago, IL. (3 Nov 2012)

ICD Revision: ICD-11 Information Notes, WHO Family of International Classifications Annual Meeting, Brasilia, Brazil (19 Oct 2012)

Obstacles and Options for Big-Data Applications in Biomedicine: The role of standards and normalizations, IEEE Bioinformatics and Biomedicine BIBM, [Keynote] Philadelphia, PA (6 Oct 2012)

Informatics as a Catalyst for the Evolution of Biology and Medicine, IEEE Conference on Healthcare Informatics, Imaging, and Systems Biology, [Keynote] San Diego, CA (28 Sep 2012)

State of Health Information Technology Standards, ISO TC 215 on Health Informatics Plenary, Vienna, Austria (21 Sep 2012)

Observations on ICD11 Evolution Emphasizing Multi-dimensional Coding In the Context of Traditional Medicine, WHO International Classification of Traditional Medicine, Hong Kong (2 May 2012)

ISO TC 215 Health informatics: Current focus, status and challenges: ISO TC215 and e-health standardization. Joint ITU-WHO Workshop on e-Health Standards and Interoperability [Invited] Geneva, CH (26 Apr 2012)

PHONT Project Update, Pharmacogenomics Research Network Annual Symposium, Philadelphia, PA (19 Apr 2012)

Data Harmonization: Challenge, Options, Strategy; Digital Data Priorities for Continuous Learning in Health and Heath care. IOM Workshop, [Invited] Washington, DC (23 Mar 2012)

NLP in Clinical and Translational Research: Data Standards and Harmonization, AMIA Clinical Research Informatics Summit, San Francisco, CA (21 Mar 2012)

Sharing Across Databanks for Discovery and Translation – the eMERGE Network electronic MEdical Records and Genomics. [Invited] ACMI Annual Symposium, Del Mar, CA (10 Feb 2012)

The Research Use of Electronic Health Records: Implications for and Status of Health Information Technology Standards. Keynote, OpenHealth – Spain.   [Invited]. Barcelona, Spain. (Nov 28, 2011)

ICD-11 Revision Steering Group. WHO-FIC Network Annual Meeting. [Invited]. Cape Town, South Africa. (Nov 4, 2011)

ISO TC215 on Health Informatics. International Standards for Biotechnology. [Invited]. Geneva, Switzerland (webcast). (Oct 25, 2011)

The SHARPn Project on Secondary Use of EMR Data: Progress, Plans & Possibilities, AMIA Annual Symposium. Washington, DC. (Oct 24, 2011)

Terminologies and Classifications: Types, History, and Tools. Tutorial, AMIA Symposium. [Invited]. Washington, DC. (Oct 22, 2011)

Some Observations on Clinical Data Representation in EHRs. International Conference on Biomedical Ontology. [Invited]. Buffalo, NY. (July 30, 2011)

Foundational Specifications for the Secondary Use of Clinical Data at an International Scale. International Biomedical Informatics Forum at Peking University. [Invited]. Beijing, China. (June 8, 2011)

SHARP Phenotyping and a Slide on ICD Beta Functions. WHO. [Invited]. Geneva, Switzerland. (Apr 12, 2011)

Relationships among Biomedical Ontologies and Classifications: The ICD11 Use-case, Ontology Summit 2011: panel session-9 "Grand Challenges", Webcast. (Mar 24, 2011)

SHARP: Vendor Engagement with Federal Health IT Research Efforts. HIMSS. Orlando, FL. (Feb 21, 2011)

Use of Electronic Medical Records for Genomic Research – Preliminary Results and Lessons from the eMERGE Network. AMIA 2010 Annual Symposium. Washington, DC. (Nov 16, 2010)

The ONC SHARP Program: Research and Development for the Future of Informatics and Meaningful Use. AMIA 2010 Annual Symposium. Washington, DC. (Nov 14, 2010)

Embracing Healthcare IT Standards in the World of Meaningful Use. (Tutorial). AMIA 2010 Annual Symposium. Washington, DC. (Nov 14, 2010)

Terminologies and Classifications: Types, History, and Tools, Tutorial, AMIA Symposium. [Invited]. Washington, DC. (Nov 13, 2010)

International Standards Coordination, ISO TC215 Plenary, Rotterdam, Netherlands. (Oct 12, 2010)

Health Informatics SDO Collaboration: The Evolving Role of TC 215, ISO TC 249 Inaugural Meeting on Traditional Chinese Medicine. [Invited]. Beijing, China. (June 7, 2010)

Health Informatics SDO Collaboration:The Evolving Role of TC 215, International HL7 Interoperability Conference. [Invited]. Rio de Janeiro, Brazil. (May 15, 2010)

Standards and EHRs at the Interface for Genomics and Translational Medicine, AMIA Translational Bioinformatics Summit. [Invited]. San Francisco, CA. (Mar 12, 2010)

eMERGE@Mayo: electronic MEdical Records and Genomics, AMIA Translational Bioinformatics Summit. San Francisco, CA. (Mar 10, 2010)

Vocabularies and Coherent Semantics: ICD11 and the External Reference Problem. AMIA 2009 Annual Symposium. San Francisco, CA. (Nov 17, 2009)

Medical Vocabularies, Knowledge Representation and the Semantic Web – Best of Breed or a Recipe for Failure? AMIA 2009 Annual Symposium. San Francisco, CA (Nov 17, 2009)

A Framework for Clinical Research: The BRIDG Project, AMIA 2009 Annual Symposium. San Francisco, CA (Nov 17, 2009)

Phenotyping Using the Electronic Medical Record – Experiences from the eMERGE Network. AMIA 2009 Annual Symposium. San Francisco, CA. (Nov 16, 2009)

Terminologies and Classifications: Types, History, and Tools, Tutorial, AMIA Symposium. [Invited]. San Francisco, CA. (Nov 15, 2009)

Enhancing an Informatics Career with Health Policy Contributions. AMIA 2009 Annual Symposium. San Francisco, CA. (Nov 15, 2009)

Comparing and Evaluating Terminology Services APIS: RxNav, UMLSKS, and LexBIG. AMIA 2009 Annual Symposium. San Francisco, CA. (Nov 15, 2009)

The Enterprise Data Trust at Mayo Clinic: A semantically integrated warehouse of biomedical data. AMIA 2009 Annual Symposium. San Francisco, CA (Nov 15, 2009)

Clinical Classifications and Biomedical Ontologies: Terminology Evolution, Principles, and Practicalities (Tutorial). AMIA 2009 Annual Symposium. San Francisco, CA. (Nov 15, 2009)

eMERGE Panel, AMIA 2009 Annual Symposium. San Francisco, CA (Nov 15, 2009)

ICD-11 Development Progress and Issues. WHO Family of International Classifications Annual Meeting. Seoul, Korea. (Oct 13, 2009)

Ontologies and Beyond: ICD11 and the External Reference Problem, International Conference on Biomedical Ontology. [Invited].   Buffalo, NY. (July 26, 2009)

Standards for interoperable EHR. NIDA Summit on Narrowing the Research-Practice Divide in Evidence-Based Medicine with the Adoption of EHRs, Bethesda, MD. (July 13, 2009)

Research Data Coordination at Mayo Clinic, AMIA Spring Congress. Orlando, FL. (May 28, 2009)

Terminologies and Classifications Health Data Interoperability and the ICD, 10th International HL7 Interoperability Conference. [Invited]. Kyoto, Japan. (May 7, 2009)

Clinical Trials: Standards and Interoperability, AMIA Annual Symposium. Washington, DC. (Nov 9, 2008)

Terminologies and Classifications: Types, History, and Tools, Tutorial, AMIA Symposium. [Invited]. Washington, DC. (Nov 8, 2008)

ICD Information Models, WHO-FIC Plenary. [Invited]. Delhi, India. (Oct 30, 2008)

ICD Terminology Linkages, WHO-FIC Terminology Reference Group. Delhi, India. (Oct 29, 2008)

Terminologies and Ontologies in Healthcare: a snapshot for the early 21st century, Congreso Regional de Informacin en Ciencias de la Salud. [Invited]. Rio de Janeiro, Brazil. (Sept 19, 2008)

Mayo, CTSA, and WHO Perspectives on Clinical Phenotype, NCBO Forum on the Ontology of Clinical Phenotypes. Dallas, TX. (Sept 3, 2008)

International Health Implications of the ICD 11 Revision, Rockefeller Foundation eHealth Summit. [Invited]. Bellagio, Italy. (Jul 15, 2008)

Towards a Semantic Interoperability Roadmap: Public Health and Secondary Uses, MIE Workshop. Goteborg, Sweden. (May 27, 2008)

ICD 11 Revision Update. WHO Revision Committee Forum. Geneva, Switzerland. (Apr 15, 2008)

ICD 11 Revision Update. IHTSDO Mapping Group. International Webcast. (Feb 20, 2008)

Terminologies and Classifications: The Boring Bit; CDISC Board of Directors. Research Triangle Park, NC. (Feb 19, 2008)

Challenges and Opportunities in Clinical Research Informatics, AMIA Annual Symposium. Washington, DC. (Nov 12, 2007)

Terminologies and Classifications: Types, History, and Tools, Tutorial, AMIA Symposium. [Invited]. Washington, DC. (Nov 10, 2007)

Sharing Information – unifying multiple fragments Translating Science to Practice Genotypes to Phenotypes, Round Table, WHO Family of International Classifications Annual Meeting. [Invited]. Trieste, Italy. (Nov 3, 2007)

Internet Platform for ICD Revision Distributed Development An electronic platform for ICD Ontology Engineering, Plenary Keynote, WHO Family of International Classifications Annual Meeting. [Invited]. Trieste, Italy. (Oct 30, 2007)

ICD-11 Development: Suggested Collaboration with the International Health Terminology, ISO TC215 Plenary (Collaborative Session). [Invited]. Brisbane, Australia. (Aug 23, 2007)

Clinical Decision Support: Today and Tomorrow The social transformation of biomedicine to big science, AMIA Spring Symposium. Orlando, FL. (May 24, 2007)

Biomedical Informatics within the Mayo Clinic CTSA, AMIA Spring Symposium. Orlando, FL. (May 22, 2007)

Inferencing Across Clinical and Genomic Data: Mining Madness, Statistical Folly, and the Joy of Systems Biology, Data Mining for Biomedical Informatics: 7th SIAM International Conference on Data Mining. Minneapolis, MN. (Apr 28, 2007)

Terminology Principles for Research Data Interoperability, CDISC Annual Meeting. [Invited]. Montreux, Switzerland. (Apr 24, 2007)

An experimental platform for ICD & ICF Ontology Engineering, WHO Family of International Classifications Council. [Invited]. Odawara, Japan. (Apr 20, 2007)

Internet Platform for ICD Revision Distributed Development Principles: Semantic Hi-Ki:

A Brief Introduction to Common issues around taxonomy, ontology and terminology, ICD-11 Revision Steering Committee. [Invited]. Tokyo, Japan. (Apr 17, 2007)

LexGrid as an Infrastructure for ICD-11 Development, WHO. [Invited]. Geneva, Switzerland. (Jan 11, 2007)

Notes and Images, Past and Present: On the Life of WW Mayo, Eccles City Celebration. [Invited]. Eccles, UK. (Dec 5, 2006).

The Application of Routinely Collected Bio-health Data for Discovery at Mayo Clinic, BioHealth Summit. [Invited]. Manchester, UK. (Dec 4, 2006)

Government Support of a Shared National Knowledge Resource for Clinical Decision Support, the ACMI Debate, AMIA Symposium. [Invited]. Washington, DC. (Nov 15, 2006)

Terminologies and Classifications: Types, History, and Tools, Tutorial, AMIA Symposium. [Invited]. Washington, DC. (Nov 11, 2006)

Summit Chair, Global Health Information Technology, ISO, Geneva, Switzerland. (Oct 8, 2006)

Harmonization of Semantics in Clinical Trials Data Registries. Advisory Board on Clinical Trials Registries Platform. WHO. [Invited]. Geneva, Switzerland. (Apr 27, 2006)

Semantics: Information and Content. International Symposium on Health Informatics Standards. [Invited]. Cheju Island, South Korea. (Apr 5, 2006)

Health Concept Representation. ISO TC215/WG3. Cheju Island, South Korea. (Apr 4, 2006)

Text or Codes: The Joy of Classification. WHO ICTRP Advisory Board. World Health Organization (WHO). [Invited]. Geneva, Switzerland. (Nov 17, 2005)

Terminologies and Classifications: Types, History, and Tools. Tutorial. AMIA 2005 Symposium. [Invited]. Washington, DC (Oct 22, 2005)

Reference Ontologies in Biomedicine. AMIA Annual Symposium Panel. Washington, DC. (Oct 26, 2005)

Comments and Summaries. Global Health Information Technology Standards Summit. [Invited]. Hamamatsu, Japan. (Sept 19, 2005)

Summit Chair, Global Health Information Technology, ISO, Hamamatsu, Japan (Sept 19, 2005)

The spectrum of clinical data representation: A context for the ICF. Keynote speaker. North American Coordination Center, WHO Conference on the ICF. [Invited]. Rochester, MN. (June 22, 2005)

Health Concept Representation. ISO TC215/WG3. Berlin, Germany. (May 9, 2005)

HL7-NLM joint project: UMLS Vocabulary Modeling of HL7 Content. Health Level 7 Membership Special Meeting. [Invited]. Noordwijkerhout, Netherlands. (May 5, 2005)

Practical use of Multiple Ontologies in Biomedical Science, International Medical Informatics Association. Triennial Conference. [Invited]. Rome, Italy. (Apr 30, 2005)

The clinical spectrum of vocabularies. Master class lecture. British Computer Society's HI conference. [Invited]. Harrogate, UK. (Mar 22, 2005)

HL7-NLM joint project: The vocabulary component. Health Level 7 Membership Special Meeting. [Invited]. Orlando, FL. (Jan 27, 2005)

Vocabulary and terminology I: An introduction to clinical terminology, history and overview. Tutorial. Health Level 7. [Invited]. Orlando, FL. (Jan 25, 2005)

ISO health vocabulary strategic plans. ISO TC215 Executive Meeting. Birmingham, UK. (Dec 14, 2004)

The spectrum and integration of biomedical ontologies. Keynote lecture. Japanese Association of Medical Informatics. [Invited]. Nagoya, Japan. (Nov 27, 2004)

Some observations and history on the UMLS and medical thesauri. University of Tokyo, Faculty of Medicine. [Invited]. Tokyo, Japan. (Nov 24, 2004)

Business plan for health classifications. World Health Organization. [Invited]. Geneva, Switzerland. (Nov 1, 2004)

Vocabulary terminology I: An introduction to clinical terminology, history and overview. Tutorial. Health Level 7. [Invited]. Atlanta, GA. (Sept 28, 2004)

Medical concept representation: From classification to understanding. Tutorial. Medinfo 2004. [Invited]. San Francisco, CA. (Sept 7, 2004)

Vocabulary models. Protégé Users Group. NIH, Bethesda, MD. (July 9, 2004)

Health concept representation. ISO TC215/WG3 Plenary. Washington, DC. (May 11, 2004)

Medical concept representation: From classification to understanding. Tutorial. AMIA 2003 Symposium. [Invited]. Washington, DC. (Nov 8, 2003)

Terminology services. Protégé Users Group. Manchester, UK. (July 8, 2003)

Health concept representation. ISO TC215/WG3 Plenary. Oslo, Norway. (May 19, 2003)

Vocabulary terminology I: An introduction to clinical terminology, history and overview: Tutorial. Health Level 7 (HL7). [Invited]. Atlanta, GA. (Apr 29, 2003)

Health concept representation. ISO TC215/WG3 Working Group Meeting, Los Angeles, CA. (Nov 12, 2002)

Medical concept representation: From classification to understanding. Tutorial. AMIA 2002 Symposium. [Invited]. San Antonio, TX. (Nov 10, 2002)

Health concept representation. ISO TC215/WG3 Plenary. Melbourne, Australia. (Aug 13, 2002)

A paradigm shift in cancer informatics. Plenary speech. Cancer Informatics: Essential Technologies and Methodologies for Registries. NAACCR 2002 Pre-Conference Workshop. [Invited]. Toronto. Ontario, Canada. (June 9, 2002)

Functional status, concepts, data capture and classification. NACC ICF Meeting. Toronto, Ontario, Canada. (June 4, 2002)

Tutorial. AMIA Spring Congress. [Invited]. Phoenix, AZ. (May 21, 2002)

Medical concept representation: From classification to understanding. Tutorial. HL7. [Invited]. Atlanta, GA. (Apr 30, 2002)

Medical concept representation. ISO TC215/WG3, Working Groups Meeting. Pretoria, South Africa. (Apr 15, 2002)

Medical concept representation. Tutorial. American Medical Informatics Association. [Invited]. Washington, DC. (Nov 3, 2001)

Nomenclatures, classifications and case-mix: From patient description to abstraction. Keynote address. European Federation of Medical Informatics. [Invited]. Bruges, Belgium. (Oct 11, 2001)

An introduction to medical terminology and concept representation. Tutorial. HL7. [Invited]. Salt Lake City, UT. (Oct 1, 2001)

Natural language processing, Medical terminologies and ontological issues for patient records and biomedical knowledge. Workshop lead. Medinfo. London, England. (Sept 4, 2001)

Standardization: Feedback on ISO. Panel. MedInfo. London, England. (Sept 3, 2001)

Charting the Future of Public Health Informatics. Panel. Medinfo. London, England. (Sept 3, 2001)

The patient record in cancer care. Workshop lead. Medinfo. London, England. (Sept 3, 2001)

IMIA Vocabulary Tutorial. Medinfo 2001. [Invited].   London, England. (Sept 2, 2001)

Health concept representation. ISO TC215/WG3 Plenary. London, England. (Aug 28, 2001)

Medical concept representation: Classification, retrieval, and knowledge. Keynote address. Seoul National University Hospital. [Invited]. Seoul, Korea. (May 28, 2001)

Keynote address. Australian Computer Society Terminology Conference. [Invited]. Brisbane, Australia. (Apr 6, 2001)

Keynote address. National Center for Classification in Health Conference. [Invited]. Sydney, Australia. (Apr 2, 2001)

Medical vocabulary strategies. Medinfo Scientific Program Committee. Venice, Italy. (Feb 11, 2001)

Classifications and terminologies in information systems yesterday and tomorrow. Keynote address. Swedish National Terminology Meeting. [Invited]. Stockholm, Sweden. (Nov 21, 2000)

Medical concept representation. Tutorial. AMIA Annual Symposium. [Invited]. Los Angeles, CA. (Nov 4, 2000)

Terminology servers: Enabling the health record enterprise. INFOcus 2000, Canadian Institute for Health Information. Vancouver, British Columbia, Canada. (June 25, 2000)

Health concept representation. ISO TC215/WG3 Plenary. Vancouver, Canada. (June 19, 2000)

Terminology representation. International Medical Informatics Association (IMIA) Working Group 6 Triennial Conference. [Invited]. Phoenix, AZ. (Dec 16-19, 1999)

Health concept representation. ISO TC215/WG3 Plenary. Tokyo, Japan. (Nov 15, 1999)

Medical concept representation. Tutorial. AMIA Fall Conference. [Invited]. Washington DC. (Nov 6-10, 1999)

Medical concept representation: From classification to understanding. Tutorial. Brazilian TEPR (Towards an Electronic Patient Record) Conference. Rio de Janeiro, Brazil. (May 27, 1999)

Health concept representation. ISO TC215/WG3 Plenary. Berlin, Germany. (Apr 12, 1999)

Vocabularies and Medical Concept Representation. Tutorial. Hospital das Clinicas, University of Sao Paulo. [Invited]. Sao Paulo, Brazil. (Oct 22, 1998)

Vocabularies and terminologies for healthcare. Tutorial. Hospital das Clinicas, University of Sao Paulo. Sao Paulo, Brazil. (Oct 22, 1998)

Vocabularies and Terminologies for Health Care. Plenary Address. Forum Nacional de Ciencia E Tecnologia em Saude. [Invited]. (Sponsored And Invited By The SBIS - Brazilian Health Informatics Association.) Curitiba, Brazil. (Oct 19, 1998)

Healthcare information healthcare quality. Plenary address. Forum Nacional de Ciencia e Tecnologia em Saude. (Sponsored and invited by the SBIS - Brazilian Health Informatics Association.) Curitiba, Brazil. (Oct 19, 1998)

Terminology and Clinical Concepts: The Bricks and Substance of an EPR. International Working Conference on Electronic Patient Records in Medical Practice. [Invited]. Rotterdam, The Netherlands. (Oct 8, 1998)

Standards issues. Chair, International Standards Organization (ISO) Meeting. Kyoto, Japan. (Dec 16, 1997)

Medical Concept Representation. Tutorial. AMIA Fall Meeting. [Invited]. Nashville, TN. (Oct 25, 1997)

A Framework for Interlocking Terminology Development in Healthcare: ANSI/HISB and CPRI Joint Working Group. International Medical Informatics Association Working Group 16 Conference. [Invited]. Bermuda. (Sept 12, 1997)

Clinical Concepts in the Electronic Health Record: From Chaos to Consistency. University of Singapore. [Invited]. Singapore. (Sept 3, 1997)

Medical concept representation: From classification to understanding. Towards an Electronic Health Record Asia '97. Singapore, Republic of Singapore. (Sept 1, 1997)

A framework for clinical vocabulary development. European TEPR (Towards an Electronic Patient Record) Conference. London, UK. (Nov 16, 1996)

Medical Concept Representation. Tutorial. American Medical Informatics Association Fall Meeting. [Invited]. Washington, DC. (Oct 26, 1996)

Concepts and Relationships of Coding Systems and Knowledge Representation. Keynote address. International Electronic Medical Record Conference. [Invited]. Brussels, Belgium. (Apr 13, 1996)

American National Standards: Clinical practice and public health. Keynote. Conference on Standards, University of Krakow. [Invited]. (Sponsored by the US Agency for International Development.) Krakow, Poland. (Sept 24, 1994)

IMIA WG6: Medical Concept Representation. MEDINFO '95. Vancouver, British Columbia, Canada. (July 23, 1995)

Mayo's Approach. International Medical Informatics Association; Working Group 6 Conference. Geneva, Switzerland. (June 2, 1994)

Latent semantic indexing of medical diagnoses. International Medical Informatics Association; Working Group 6 Conference. Geneva, Switzerland. (May 29, 1994)

Application and integration of medical classification systems in a hospital information system. European Workshop on Data Management in Cardiology. [Invited]. Berlin, Germany. (Mar 26, 1994)

Medical event representation. Paper and tutorial. Symposium on Computer Applications in Medical Care. Washington, DC. (Oct 31, 1993)

From classification to understanding. Tutorial. American Society for Information Science. Columbus, OH. (Oct 25, 1993)

Medical concept representation. International Medical Informatics Association (IMIA). Washington, DC. (June 14, 1993)

An empirical evaluation of concept capture by clinical classification. MEDINFO '92. Geneva, Switzerland. (Sept 9, 1992)

Medical concept representation—Encoding and application. Workshop. MEDINFO '92. Geneva, Switzerland. (Sept 8, 1992)

Classification and retrieval of patient records using natural language: An experimental application of Latent Semantic Analysis. Annual International Conference of the IEEE Engineering in Medicine and Biology Society's meeting entitled New Frontiers of Biomedical Engineering. Orlando, FL. (Nov 1, 1991)

Medical Informatics Workshop. Hospital Database Conference. Milan, Italy. (July 9, 1990)

The epidemiology of surgically treated benign prostatic hyperplasia. European Urology Symposium. Amsterdam, The Netherlands. (June 15, 1990)

Data linkage in the Rochester Epidemiology Program Project. Fifth International Conference on Pharmacoepidemiology. Minneapolis, MN. (Sept 6, 1989)

Autopsy contributions to population-based cancer epidemiology, and targeted intervention to improve ascertainment. International Symposium on the Role of Autopsy in Epidemiology, Medical Research, and Clinical Practice. Trieste, Italy. (Jun 2, 1989)

13. INVITED VISITING PROFESSORSHIPS:

School of Medicine, University of Barcelona, Barcelona Spain. Keynote Speaker, OpenHealth – Spain, Barcelona. (Nov 24-30, 2011)

British Computer Society, Master Class Lecturer, Harrogate, UK. (Mar 28, 2005)

Joint Conference on Medical Informatics, Japanese Association of Medical Informatics (JAMI), Distinguished Lecturer and Keynote Speaker, Nagoya, Japan. (Nov 25-27, 2004)

University of Tokyo, Faculty of Medicine. (Nov 24, 2004)

Australian Computer Society and the National Center for Classification in Health, Distinguished Lecturer, Sydney and Brisbane, Australia. (April 1-8, 2001)

14. **CLINICAL PRACTICE, INTERESTS, AND ACCOMPLISHMENTS:**

Dr. Chute is currently board certified in internal medicine, and was elected to fellowship in the American College of Physicians in 1988. He is actively licensed in Minnesota (#31977). He collaborated closely with the Mayo Clinic practice through Data Governance, the Office of Information and Knowledge Management, and the SE MN Beacon partnership, evaluating the integration of health information technology and standards into innovative clinical practice. At Johns Hopkins, he is involved with clinical operations through his role as Chief Health Information Research Officer.

15. **RESEARCH INTERESTS:**

Bioinformatics
Clinical Concept Representation
Clinical Epidemiology
Clinical Information Data Structure
Clinical Information Retrieval
Clinical Information Standards Development
Clinical Terminology Systems and Structures
Genome Wide Association and Next Gen Sequencing Associations
High Throughput Clinical Phenotyping
Human Navigation Tools for Clinical Terminologies
Information Models and Architectures
Outcomes Research
Pharmacogenomics
Public Health Informatics

16. **RESEARCH GRANTS AWARDED:**

ACTIVE GRANT RESEARCH
(K99 LM011575) A Framework to Enhance Decision Support by Invoking NLP: Methods and Applications
    Other Professional (Kavishwar Wagholikar) 0% $939,464   02/01/14 – 01/31/19
(UL1TR001079) Institute for Clinical and Translational Research – Johns Hopkins
    Co-I (Daniel Ford)   20% $10,632,544   05/01/15 – 04/30/18
(U41HG006627) OMIM: Online Mendelian Inheritance in Man
    Co-I (Ada Hamosh)   4% $9,230,933   07/01/17 – 06/30/22
(OT3TR002019) Biomedical Data Translator Technical Feasibility Assessment and Architecture
    PI (Chute)   25% $4,000,000   09/23/16 – 08/31/18
(U24 TR002306-01) A National Center for Digital Health Informatics Innovation (CD2H)
    Co-PI (Haendel)   25% $24,693,912   09/20/17-06/30/22
3UL1TR001857-02
    Site-PI (Reis)   2% $175,000   09/23/16 – 05/31/21
U24 OD023382 ECHODAC (Environmental Influences on Child Health Outcomes Data Analysis Center)
    Co-I (Jacobson/Parker)   3% $ 09/21/16 – 8/31/23
COMPLETED GRANT RESEARCH
(R25 EB20381) Big Data Coursework for Computational Medicine
    Co-PD/PI (Jyotishman Pathak)   10% $537,966   12/01/14 – 11/30/17
(U41HG006627) OMIM: Online Mendelian Inheritance in Man
    Co-I (Ada Hamosh)   4% $9,230,933   06/12/12 – 06/30/17
(U01 CA180940-1) caCDE-QA: A Quality Assurance Platform for Cancer Study Common Data Elements
    Co-I (Guoqian Jiang)   5%   01/01/15 – 07/31/17
(R01 LM 05416 -3) Semantic Structures for Patient Data Retrieval
    Principal Investigator (CG Chute)   20% $377,085   09/30/92 - 09/29/95
(R01 LM 05416 -1) Semantic Structures for Patient Data Retrieval: Supplement
    Principal Investigator (CG Chute)   8% $48,148   09/30/92 - 09/29/95
(R29 LM 05714 -1) LLSF Mapping for Indexing and Retrieval of Medline
    Co-Investigator (YANG,Y, PhD)   0% $238,078   04/01/95 - 03/20/96

(INDUS Merck BPH #5 -4) The Olmsted County Study Of Urinary Symptoms And Health Status Among Men
    Co-Investigator (LIEBER,M,M MD)   10% $2,427,718   11/01/92 - 12/31/96
(U01 LM 08751 -3) Multi-Institutional Testbed for Clinical Vocabulary
    Principal Investigator (CG Chute)   15% $665,841   09/30/94 - 09/29/97
(R01 -1) Clinical Problem List Toolkit and Navigator
    Principal Investigator (CG Chute)   0% $100,000   10/01/96 - 09/30/97
(INDUS Merck BPH #5 -7) Benign Prostatic Hypertrophy Natural History Study
    Co-Investigator (JACOBSEN,S,J MD, PhD)   10% $2,427,718   11/01/93 - 10/31/97
(FNDT -1) The PIER Project Collaboration - Phase I
    Co-Investigator (ELKIN,P,L MD)   0% $25,000   01/01/99 - 02/28/99
(INDUS Blue #1 -1) Prostate Cancer in Olmsted County, MN, 1983-92
    Co-Investigator (JACOBSEN,S,J MD, PhD)   0% $53,783   05/01/94 - 07/31/00
(R13 LM 06899 -1) IMIA WG6 Conference on Medical Concept Presentation
    Principal Investigator (CG Chute)   0% $66,850   02/01/00 - 01/31/01
(N01 HHS 100 00 0024 -1) Assessing the Utility of Clinical Reference Terminologies for Infectious Disease Surveillance Purposes
    Principal Investigator (CG Chute)   9.8% $41,856   10/01/00 - 02/28/01
(FED S1666T3482 -1) NCI Clinical Trials Vocabulary Solutions
    Principal Investigator (CG Chute)   10% $137,571   08/01/00 - 07/31/01
(FED -1) DHHS Program Support Center
    Principal Investigator (CG Chute)   100% $269,122   03/26/01 - 03/09/02
(R01 RR 18225 -1) Human Subject Research Enhancements Program
    Principal Investigator (CG Chute)   2% $250,000   09/01/02 - 08/31/03
(R01 LM 07685 -2) Development of a Functional Status Terminology
    Co-Investigator (RUGGIERI,A,P MD)   0% $216,750   09/30/02 - 09/29/04
(R01 LM 05416 -6) Semantic Structures for Patient Data Retrieval
    Principal Investigator (CG Chute)   20% $493,911   10/01/95 - 10/31/04
(R01 LM 05416 -6) Semantic Structures for Patient Data Retrieval - Semantic Structures for Pt Data Retrieval: Supplement 2
    Principal Investigator (CG Chute)   20% $166,368   10/01/95 - 10/31/04
(R01 LM 05416S1 -1) Semantic Structures for Patient Data Retrieval: Supplement
    Principal Investigator (CG Chute)   8% $48,148   10/01/00 - 10/31/04
(FNDT -3) Joint Venture Advanced Technology Program (ATP) with IDX Systems Corporation (NIST)
    Co-Investigator (SCHEITEL,S,M MD)   10% $665,461   01/01/02 - 12/31/04
(INDUS ABT#1, 1A4435 -1) State Nursing Home Quality Improvement Project
    Principal Investigator (CG Chute)   2% $45,000   07/01/02 - 06/30/05
(FEDCON1435-04-04CT-73980 -1) caBIG subcontract w/Booz Allen Hamilton - LexGrid Project
    Reviewer (CG Chute)   6% $387,898   02/25/05 - 02/24/06
(S10 RR 20868 -1) Intelligent Data Storage Resource
    Principal Investigator (CG Chute)   0% $112,753   04/20/05 - 04/19/06
(R01 LM 07453 -3) Terminological Systems for Representing Patient Status
    Co-Investigator (HARRIS,M,R PhD)   0% $718,165   05/15/02 - 05/31/06
(R01 LM 07319 -3) Development and Evaluation of Terminology Services
    Principal Investigator (CG Chute)   20% $835,499   09/30/02 - 09/30/06
(FEDCONSTRAT-17-01-17 -2) caBIG subcontract w/Booz Allen Hamilton - Strategic Planning Strategic Level Working Group Participant
    Principal Investigator (CG Chute)   3.5% $48,798   03/08/05 - 03/06/07
(FEDCONTBPT-17-01-18 -2) caBIG subcontract w/Booz Allen Hamilton - Tissue Banks and Pathology Tools Workspace Working Group
    Principal Investigator (CG Chute)   0% $61,124   03/08/05 - 03/06/07
(N01 -1) caBIG - Adverse Event Reporting System (caAERS)
    Principal Investigator (CG Chute)   0% $38,440   03/07/06 - 03/07/07
(FEDCONCTMS-17-01-19 -2) caBIG subcontract w/Booz Allen Hamilton - Clinical Trial Management Systems Working Group Participant

Principal Investigator (CG Chute)   0% $69,812   03/08/05 - 03/07/07
(N01 -1) caBIG - Vocabulary and Common Data Elements - Compatibility Review Software Adopter
Principal Investigator (CG Chute)   0% $56,252   11/15/06 - 08/31/07
(N01 -2) Cancer Clinical Central Participant Registry Project (C3PR)
Principal Investigator (CG Chute)   0% $48,613   11/01/06 - 11/15/07
(N01 -1) caAERS Adoption Construction and Transition Phase CTMS Workspace
Principal Investigator (CG Chute)   0% $187,223   03/07/07 - 03/06/08
(N01 -1) caBIG - CTMS Interoperability Task Force (SA) Project
Principal Investigator (CG Chute)   0% $19,249   08/01/07 - 03/06/08
(FEDCONVCDE-CRS2 -1) caBIG - VCDE Compatibility Review Software Version 2 Developer
Principal Investigator (CG Chute)   0% $70,000   08/01/07 - 03/06/08
(N02 -1) caBIG CTMS Interoperability Task Force
Principal Investigator (CG Chute)   0% $80,701   05/01/07 - 03/06/08
(N01 -1) caBIG CTMS Study Conduct Task Force (Heidi Nelson)
Principal Investigator (CG Chute)   0% $4,868   01/02/08 - 03/06/08
(FEDCONARCH-17-01-11 -3) caBIG subcontract w/Booz Allen Hamilton - Architecture Workspace
    Working Group Participation
Principal Investigator (CG Chute)   0% $190,784   03/08/05 - 03/06/08
(N01 -1) caBIG subcontract w/Booz Allen Hamilton - CTMS WS Developer – Tech. Participant BRIDG
    Support
Principal Investigator (CG Chute)   0% $66,704   11/01/07 - 03/06/08
(N01 TBPT-17-03-18 -2) caBIG subcontract w/Booz Allen Hamilton - Tissue Banks and Pathology Tools
    Inter-SPORE Prostate Biomarker Study (IPBS)
Principal Investigator (CG Chute)   0% $44,143   01/01/07 - 03/06/08
(N01 BAH TRNG-17-01-02 -4) caBIG subcontract w/Booz Allen Hamilton Task 1-TRAINING
Principal Investigator (CG Chute)   2% $129,210   08/01/04 - 03/06/08
(R01 CABIG-VCDE-17-01-03 -4) caBIG subcontract w/Booz Allen Hamilton Task 2-Vocabularies
Principal Investigator (CG Chute)   15% $510,157   08/01/04 - 03/06/08
(N01 -2) Vocabularies and Common Data Elements Workspace Developer (LexBIG Deployment to NCICB)
Principal Investigator (CG Chute)   0% $557,992   04/17/06 - 03/06/08
(T15 LM 07041 -23) Research Training In Medical Informatics
Principal Investigator (CG Chute)   0% $829,554   07/01/02 - 06/30/08
(T15 LM 07041 -23) Research Training In Medical Informatics - Research Training In Medical Informatics
Principal Investigator (CG Chute)   0% $67,083   07/01/02 - 06/30/08
(FED -1) caCORE/EVS and LexBIG Development (LexWIKI tool supplement)
Principal Investigator (CG Chute)   0% $75,494   03/26/08 - 09/25/08
(ICR WG BW-1) caBIG Integrative Cancer Research Workspace - Wilson
PD/PI (Christopher Chute)   0% $22,230   03/07/08 - 02/14/09
(CTMS WG SA-1) caBIG CTMS Workspace Interoperability Task Force - Steve Alberts
PD/PI (Christopher Chute)   0% $18,857   03/07/08 - 02/14/09
(28XS112-1) caCORE/EVS and LexBIG Development
Other Professional (Christopher Chute)   5% $458,193   03/26/08 - 03/25/09
(R21DE 18548-2) A Controlled Terminology for Diagnoses and Findings in General Dentistry
Co-Investigator (Christopher Chute)   5% $42,990   09/01/07 - 08/31/09
(CDISC-1) CSHARE - cDISC Shared Health And Clinical Research Electronic Library
PD/PI (Christopher Chute)   0% $50,000   07/13/09 - 09/12/09
(28XS112-4) caCORE/EVS and LexBIG Development
PD/PI (Christopher Chute)   0% $1,006,174   09/26/08 - 02/08/10
(NCI) caBIG Imaging Workspace Work Group - Task Order 9
PD/PI (Bradley Erickson)   0% $35,241   10/01/08 - 02/14/10
(RC1LM 10608-1) Multi-source clinical Question Answering system
Co-Investigator (Guergana Savova)   1% $125,723   09/30/09 - 03/26/10
(VCDE WG RF-2) caBIG Vocabularies & Common Data Elements Workspace
PD/PI (Christopher Chute)   0% $255,639   03/07/08 - 06/14/10
(CTMS WG SE-2) Interoperability Task Force & CTMS Interoperability SME

PD/PI (Christopher Chute)   0% $220,003   03/07/08 - 06/14/10
(RO1 BILP-1) Biomedical Informatics Leadership Program for UMN CTSA
PD/PI (Christopher Chute) 30% $117,198   06/15/09 – 06/14/10
(U01GM 61388-10) Pharmacogenetics of Phase II Drug Metabolizing Enzymes
PD/PI (Richard Weinshilboum)   3% $3,019,389   07/12/05 - 06/30/10
(R01CA 127979-3) The ODIE Toolkit Software for Information Extraction and Biomedical Ontology
    Development
PD/PI (Christopher Chute)   0% $256,360   09/27/07 - 07/31/10
(HL 101666-1) TBD - Chute Kaiser NIH Subcontract
PD/PI (Christopher Chute)   0% $22,046   07/01/10 - 12/31/10
(D&T WG RF-3) caBIG Documentation & Training (D&T) Workspace
Co-Investigator (Robert Freimuth)   0% $58,182   03/07/08 - 01/14/11
(S08-108-6) caAERS Adopters Task 5 of the Development and Deployment of Cancer Adverse Event
    Reporting System (caAERS) (NCI-CBIIT)
PD/PI (Christopher Chute)   0% $404,552   03/07/08 - 02/28/11
(28XS115-7) caBIG CTMS Workspace Developer-Adoptor, Patient Study Calendar (PSC) Module Phase III
PD/PI (Christopher Chute)   0% $300,490   04/01/08 - 02/28/11
(28XS103 (formerly S08-103)-7) caBIG C3PR Subcontract with Duke University
PD/PI (Christopher Chute)   0% $54,697   03/07/08 - 02/28/11
(ARCH WG JP (Yr 1) ARCH WG CC (Yr 2)-3) caBIG Architecture Workspace Participant
PD/PI (Christopher Chute)   0% $170,924   03/07/08 - 03/16/11
(DSIC WG BK (formerly DSIC WG SE)-3) caBIG Data Sharing & Intellectual Capital Workspace
PD/PI (Christopher Chute)   0% $36,001   03/07/08 - 04/14/11
(CTMS SE-1) caBIG® Clinical Trials Management Systems (CTMS) Workspace
PD/PI (Christopher Chute)   0% $77,001   06/15/10 - 04/14/11
(ICR WG RF-3) caBIG Integrative Cancer Research Workspace (Freimuth)
Co-PD/PI (Robert Freimuth)   0% $135,247   03/07/08 - 04/14/11
(28XS120-4) caBIG subcontract w/SAIC - CTMS WS Developer - Technical Participant BRIDG Support
PD/PI (Christopher Chute)   0% $469,247   04/01/08 - 06/30/11
(NCI) V2 Semantic Infrastructure
PD/PI (Christopher Chute)   0% $38,920   07/01/10 - 06/30/11
(U01HG 04599-4) EMR Phenotypes and Community Engaged Genomic Associations
PD/PI (Christopher Chute)   5% $215,830   09/27/07 - 07/31/11
(U01HG 04599-4) EMR Phenotypes and Community Engaged Genomic Associations
PD/PI (Christopher Chute)   20% $3,593,841   09/27/07 - 08/14/11
(VCDE WG CC-3) VCDE WG CC Task Order 14 Booz Allen Hamilton
PD/PI (Christopher Chute)   0% $445,460   02/15/09 - 09/16/11
(11-569-1) RECOVERY: Computational Thinking to Support Clinicians and Biomedical Scientists
PD/PI (Christopher Chute)   0% $27,438   12/01/10 - 09/26/11
(SPPDG-10-D-0043-1) Real-time Discovery of Clinical Relationships using a Novel Supercomputer
Co-Investigator (Erik Daniel)   6% $155,136   09/14/10 - 09/30/11
 (RC1LM 10608-2) Multi-source clinical Question Answering system
PD/PI (Christopher Chute)   0% $270,915   04/01/10 - 12/31/11
(Task Order No. 1/96954NBS23-2) LexEVS/CTS2 Technical Proposal resp. to SAIC RFP Solicitation
No. 10-ST1009
PD/PI (Christopher Chute)   5% $1,547,374   12/17/09 - 01/18/12
(RR 33183-1) University of MN Clinical Translational Science Institute
PD/PI (Christopher Chute)   30% $62,080   06/01/11 – 02/29/12
(CIF-A-315-2) Computing Innovation Fellow Award (CIFellow)
PD/PI (Christopher Chute)   0% $267,500   10/12/09 - 04/11/12
(200449014-1) SNOMED-CT – WHO Contract
PD/PI (Christopher Chute)   0% $29,000   03/15/12 – 04/15/12
(28XS192-5) caBIG Knowledge Centers Solicitation S07-103
PD/PI (Christopher Chute)   0% $2,974,512   05/12/08 - 05/11/12
(R01RR 26040-2) Ontology-Based Integration of Human Studies Data

PD/PI (Christopher Chute)   3% $92,769   09/09/09 - 05/31/12
(R01BILP-2) Biomedical Informatics Leadership Program for UMN CTSA
PD/PI (Christopher Chute)   10% $121,863   07/01/10 - 06/30/12
(11XS282-1) LexEVS Operations and Maintenance Contract
PD/PI (Christopher Chute)   0% $264,255   11/07/11 - 11/06/12
(K23 HL112855-1) Risk Prediction and Mechanistic Evaluation of Postoperative Acute Lung Injury
Consultant (Daryl Kor)   0% $425,828   07/01/12 - 06/30/13
(K99LM 11389-1) Improving the Efficiency and Efficacy in Authoring Essential Clinical FAQs
Other (Siddhartha Jonnalagadda)   0% $96,552   09/30/12 – 09/29/13
 (90BC000901-3) Southeastern Minnesota Community Healthcare Information Technology Collaboration
Co-PD/PI (Charles Harper)   15% $12,284,770   04/01/10 - 09/30/13
(12ST-1106-1) RFP ST12-1106 LexEVS Operations and Maintenance Proposal
PD/PI (Christopher Chute)   0% $763,046   10/15/12 – 09/30/13
(MAYO-DHHS-INTEROP-0159G-1) Chute - ONC Standards and Interoperability RFP
PD/PI (Christopher Chute)   4% $219,679   06/02/11 - 12/31/13
(90TR000201-4) SHARP Area 4: Secondary Use of EHR Data
PD/PI (Christopher Chute)   25% $15,000,000   04/01/10 - 03/31/14
(U19GM 61388-13) Pharmacogenetics of Phase II Drug Metabolizing Enzymes
Network Resource PI (Richard Weinshilboum)   15% $3,019,389   07/01/10 - 06/30/15
(R01AG 34676-47) Rochester Epidemiology Project
Co-Investigator (Walter Rocca)   5% $5,758,086   07/01/10 - 06/30/15
(HG 04028-8) National Center for Biomedical Ontology (caBIO with Stanford)
PD/PI (Christopher Chute)   10% $1,447,617   09/27/10 - 07/31/15
(UL1 TR000135) Mayo Clinic Center for Translational Science Activities
Informatics Core PI (Sundeep Khosla)   10% $56,120,337   07/01/11 - 06/30/16
(U01HG 06379-2) EMR Phenotype and Community Engaged Genomic Associations
PD/PI (Chute CG)   15% $2,855,452   08/15/11 - 07/31/15
(U01HG 06379-2 - SUP) EMR Phenotype and Community Engaged Genomic Associations
PD/PI (Chute CG)   5% $751,883   08/15/11 - 07/31/15
(K23 HL112855-2) Risk Prediction and Mechanistic Evaluation of Postoperative Acute Lung Injury
Consultant (Daryl Kor)   0% $393,096   07/16/12 - 06/30/15
(200449014-1) SNOMED-CT – WHO – Contract-Chute2
PD/PI (Christopher Chute)   0% $19,100   08/05/13 – 06/30/14
(13XS500-1) RFP S13-500 for LexEVS Project Support to the NCI-CBIIT
PD/PI (Christopher Chute)   8% $466,095   09/30/13 – 09/29/14
(Accenture) Standards and Interoperability (S&I) Framework Project
PD/PI (Christopher Chute)   0% $58,659   01/01/14 – 09/26/14
(R01 GM105688-1) National Infrastructure for Standardized and Portable EHR Phenotyping Algorithms
Co-I (Jyotishman Pathak)   5% $2,885,299   06/03/13 – 03/31/17

17. **BIBLIOGRAPHY:**

H-INDEX: 71 https://scholar.google.com/citations?hl=en&user=y7sYtpcAAAAJ

PEER-REVIEWED ARTICLES:
1. Chute, CG, ER Greenberg, J Baron, R Korson, J Baker, and J Yates, *Presenting conditions of 1539 population-based lung cancer patients by cell type and stage in New Hampshire and Vermont.* Cancer, 1985. 56(8): p. 2107-11. PubMed ID: 2992757.
2. Chute, CG, JA Baron, SR Plymate, DP Kiel, AT Pavia, EC Lozner, . . . GJ MacDonald, *Sex hormones and coronary artery disease.* Am J Med, 1987. 83(5): p. 853-9. PubMed ID: 3674092.
3. Chute, CG, RP Smith, and JA Baron, *Risk factors for endemic giardiasis.* Am J Public Health, 1987. 77(5): p. 585-7. PMCID: PMC1647034, PubMed ID: 3565652.
4. Frumkin, H and CG Chute, *The health effects of heptachlor.* Jama, 1987. 257(14): p. 1900-1. PubMed ID: 3820507.
5. Chute CG and Côté RA. *Computerized Natural Medical Language Processing for Knowledge Representation: Overview of IMIA Working Group Conference, Geneva.* in *Proceeding on the*

Sixth Conference on Medical Informatics (MEDINFO '89) Amsterdam. 1988, B. Barber, et al., Editors. North-Holland. 878-881.

6. Greenberg, ER, CG Chute, T Stukel, JA Baron, DH Freeman, J Yates, and R Korson, *Social and economic factors in the choice of lung cancer treatment. A population-based study in two rural states*. N Engl J Med, 1988. 318(10): p. 612-7. PubMed ID: 2830514.

7. Massell, BF, CG Chute, AM Walker, and GS Kurland, *Penicillin and the marked decrease in morbidity and mortality from rheumatic fever in the United States*. N Engl J Med, 1988. 318(5): p. 280-6. PubMed ID: 3336421.

8. Hankinson, SE, SJ London, CG Chute, RL Barbieri, L Jones, LA Kaplan, . . . MJ Stampfer, *Effect of transport conditions on the stability of biochemical markers in blood*. Clin Chem, 1989. 35(12): p. 2313-6. PubMed ID: 2591049.

9. Kiel, DP, JA Baron, SR Plymate, and CG Chute, *Sex hormones and lipoproteins in men*. Am J Med, 1989. 87(1): p. 35-9. PubMed ID: 2787120.

10. Talley, NJ, CG Chute, DE Larson, R Epstein, EG Lydick, and LJ Melton, 3rd, *Risk for colorectal adenocarcinoma in pernicious anemia. A population-based cohort study*. Ann Intern Med, 1989. 111(9): p. 738-42. PubMed ID: 2802432.

11. Chuang, TY, A Popescu, WP Su, and CG Chute, *Basal cell carcinoma. A population-based incidence study in Rochester, Minnesota*. J Am Acad Dermatol, 1990. 22(3): p. 413-7. PubMed ID: 2312827.

12. Chuang, TY, NA Popescu, WP Su, and CG Chute, *Squamous cell carcinoma. A population-based incidence study in Rochester, Minn*. Arch Dermatol, 1990. 126(2): p. 185-8. PubMed ID: 2301956.

13. Chute CG, Yang Y, Tuttle MS, Sherertz DD, Olson NE, and Erlbaum MS, *A Preliminary Evaluation of the UMLS Metathesaurus for Patient Record Classification*. Proceedings of the 14th Annual Symposium on Computer Applications in Medical Care (SCAMC) 1990: p. 161-165.

14. Hunter, DJ, JS Morris, CG Chute, E Kushner, GA Colditz, MJ Stampfer, . . . WC Willett, *Predictors of selenium concentration in human toenails*. Am J Epidemiol, 1990. 132(1): p. 114-22. PubMed ID: 2356804.

15. Rimm, EB, MJ Stampfer, GA Colditz, CG Chute, LB Litin, and WC Willett, *Validity of self-reported waist and hip circumferences in men and women*. Epidemiology, 1990. 1(6): p. 466-73. PubMed ID: 2090285.

16. Chute CG, *Classification and Retrieval of Patient Records Using Natural Language: An Experimental Application of Latent Semantic Analysis*. Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 1991. 13(3): p. 1162-1163.

17. Chute, CG, DJ Ballard, and PN Nemetz, *Contributions of autopsy to population-based cancer epidemiology: targetted intervention to improve ascertainment*. IARC Sci Publ, 1991(112): p. 207-16. PubMed ID: 1855938.

18. Chute, CG, TY Chuang, EJ Bergstralh, and WP Su, *The subsequent risk of internal cancer with Bowen's disease. A population-based study*. Jama, 1991. 266(6): p. 816-9. PubMed ID: 1865520.

19. Chute, CG, WP Stephenson, HA Guess, and M Lieber, *Benign prostatic hyperplasia: a population-based study*. Eur Urol, 1991. 20 Suppl 1: p. 11-7. PubMed ID: 1722154.

20. Chute, CG, WC Willett, GA Colditz, MJ Stampfer, JA Baron, B Rosner, and FE Speizer, *A prospective study of body mass, height, and smoking on the risk of colorectal cancer in women*. Cancer Causes Control, 1991. 2(2): p. 117-24. PubMed ID: 1873436.

21. Chute, CG, WC Willett, GA Colditz, MJ Stampfer, B Rosner, and FE Speizer, *A prospective study of reproductive history and exogenous estrogens on the risk of colorectal cancer in women*. Epidemiology, 1991. 2(3): p. 201-7. PubMed ID: 2054402.

22. Chute, CG, Y Yang, and DA Evans, *Latent Semantic Indexing of medical diagnoses using UMLS semantic structures*. Proc Annu Symp Comput Appl Med Care, 1991: p. 185-9. PMCID: PMC2247520, PubMed ID: 1807584.

23. Epstein, RS, PA Deverka, CG Chute, MM Lieber, JE Oesterling, L Panser, . . . D Patrick, *Urinary symptom and quality of life questions indicative of obstructive benign prostatic hyperplasia. Results of a pilot study*. Urology, 1991. 38(1 Suppl): p. 20-6. PubMed ID: 1714654.

24. Stephenson, WP, CG Chute, HA Guess, S Schwartz, and M Lieber, *Incidence and outcome of surgery for benign prostatic hyperplasia among residents of Rochester, Minnesota: 1980-87. A population-based study*. Urology, 1991. 38(1 Suppl): p. 32-42. PubMed ID: 1714656.

25. Tuttle, MS, DD Sherertz, MS Erlbaum, WD Sperzel, LF Fuller, NE Olson, . . . CG Chute, *Adding your terms and relationships to the UMLS Metathesaurus*. Proc Annu Symp Comput Appl Med Care, 1991: p. 219-23. PMCID: PMC2247527, PubMed ID: 1807591.

26. Van Grevenhof, P, CG Chute, and DJ Ballard, *A common and clonable environment to support research using patient data*. Proc Annu Symp Comput Appl Med Care, 1991: p. 358-62. PMCID: PMC2247554, PubMed ID: 1807622.

27. Yang, Y and CG Chute, *A schematic analysis of the Unified Medical Language System*. Proc Annu Symp Comput Appl Med Care, 1991: p. 204-8. PMCID: PMC2247524, PubMed ID: 1807588.

28. Yang, YM and CG Chute, *Hierarchical distribution analysis for computer-assisted classifications of patient records*. Med Decis Making, 1991. 11(4 Suppl): p. S94-8. PubMed ID: 1770856.

29. Beeler, GW, Jr., PS Gibbons, and CG Chute, *Development of a clinical data architecture*. Proc Annu Symp Comput Appl Med Care, 1992: p. 244-8. PMCID: PMC2248086, PubMed ID: 1482875.

30. Chute, CG, *Clinical data retrieval and analysis. I've seen a case like that before*. Ann N Y Acad Sci, 1992. 670: p. 133-40. PubMed ID: 1309082.

31. Chute CG, ed. *The Classification of Medical Events Using Latent Semantic Analysis*. Advances in Classification Research--Vol. II Proceedings of the 2nd ASIS SIG/CR Workshop on Classification Research, ed. B. Kwasnik and R. Fidel. Vol. II. 1992: Medford, NJ. 45-51.

32. Chute CG, Atkin GE, and Ihrke DM, *An Empirical Evaluation of Concept Capture by Clinical Classifications*. Proceedings of MEDINFO 92 1992. II: p. 1469-1474.

33. Chute, CG and Y Yang, *An evaluation of concept based latent semantic indexing for clinical information retrieval*. Proc Annu Symp Comput Appl Med Care, 1992: p. 639-43. PMCID: PMC2247988, PubMed ID: 1482949.

34. Epstein, RS, PA Deverka, CG Chute, L Panser, JE Oesterling, MM Lieber, . . . D Patrick, *Validation of a new quality of life questionnaire for benign prostatic hyperplasia*. J Clin Epidemiol, 1992. 45(12): p. 1431-45. PubMed ID: 1281223.

35. Evans DA, Chute CG, Handerson SK, Yang Y, Monarch IA, and Hersh WR, *"Latent Semantics" as a Basis for Managing Variation in Medical Terminologies*. Proceedings of MEDINFO 92, 1992. II: p. 1462-1468.

36. Yang Y and Chute CG, *A Linear Least Squares Fit Mapping Method for Information Retrieval From Natural Language texts*. Proceedings of the International Conference on Computational Linguistics (COLING 92) 1992. II: p. 447-453.

37. Yang, Y and CG Chute, *An application of least squares fit mapping to clinical classification*. Proc Annu Symp Comput Appl Med Care, 1992: p. 460-4. PMCID: PMC2248071, PubMed ID: 1482917.

38. Amadio PC, Bartleson JD, Carpenter PC, Chute CG, and Gibbons PS, *Redesigning Patient Care*. Journal of the Society for Health Systems, 1993. 4(2): p. 65-83.

39. Carpenter, PC and CG Chute, *The Universal Patient Identifier: a discussion and proposal*. Proc Annu Symp Comput Appl Med Care, 1993: p. 49-53. PMCID: PMC2248474, PubMed ID: 8130521.

40. Chute, CG, LA Panser, CJ Girman, JE Oesterling, HA Guess, SJ Jacobsen, and MM Lieber, *The prevalence of prostatism: a population-based survey of urinary symptoms*. J Urol, 1993. 150(1): p. 85-9. PubMed ID: 7685427.

41. Dennis, DT, RP Smith, JJ Welch, CG Chute, B Anderson, JL Herndon, and CF von Reyn, *Endemic giardiasis in New Hampshire: a case-control study of environmental risks*. J Infect Dis, 1993. 167(6): p. 1391-5. PubMed ID: 8501329.

42. Giovannucci, E, EB Rimm, GA Colditz, MJ Stampfer, A Ascherio, CG Chute, and WC Willett, *A prospective study of dietary fat and risk of prostate cancer*. J Natl Cancer Inst, 1993. 85(19): p. 1571-9. PubMed ID: 8105097.

43. Girman, CJ, LA Panser, CG Chute, JE Oesterling, DM Barrett, CC Chen, . . . MM Lieber, *Natural history of prostatism: urinary flow rates in a community-based study*. J Urol, 1993. 150(3): p. 887-92. PubMed ID: 7688433.

44. Guess, HA, CG Chute, WM Garraway, CJ Girman, LA Panser, RJ Lee, . . . MM Lieber, *Similar levels*

of urological symptoms have similar impact on Scottish and American men--although Scots report less symptoms. J Urol, 1993. 150(5 Pt 2): p. 1701-5. PubMed ID: 7692105.

45. Jacobsen, SJ, CJ Girman, HA Guess, LA Panser, CG Chute, JE Oesterling, and MM Lieber, *Natural history of prostatism: factors associated with discordance between frequency and bother of urinary symptoms.* Urology, 1993. 42(6): p. 663-71. PubMed ID: 7504848.

46. Jacobsen, SJ, HA Guess, L Panser, CJ Girman, CG Chute, JE Oesterling, and MM Lieber, *A population-based study of health care-seeking behavior for treatment of urinary symptoms. The Olmsted County Study of Urinary Symptoms and Health Status Among Men.* Arch Fam Med, 1993. 2(7): p. 729-35. PubMed ID: 8111497.

47. Oesterling, JE, SJ Jacobsen, CG Chute, HA Guess, CJ Girman, LA Panser, and MM Lieber, *Serum prostate-specific antigen in a community-based population of healthy men. Establishment of age-specific reference ranges.* Jama, 1993. 270(7): p. 860-4. PubMed ID: 7688054.

48. Warner, MA, SE Shields, and CG Chute, *Major morbidity and mortality within 1 month of ambulatory surgery and anesthesia.* Jama, 1993. 270(12): p. 1437-41. PubMed ID: 8371443.

49. Yang Y and Chute CG, *An Application of Least Squares Fit Mapping to Text Information Retrieval.* Proc 16th Ann Int ACM SIGIR Conference on Research and Development in Information Retrieval (Special Issue of SIGIR Forum), 1993: p. 281-290.

50. Yang, Y and CG Chute, *Words or concepts: the features of indexing units and their optimal use in information retrieval.* Proc Annu Symp Comput Appl Med Care, 1993: p. 685-9. PMCID: PMC2850662, PubMed ID: 8130562.

51. Chute, CG, B Cesnik, and JH van Bemmel, *Medical data and knowledge management by integrated medical workstations: summary and recommendations.* Int J Biomed Comput, 1994. 34(1-4): p. 175-83. PubMed ID: 8125630.

52. Chute, CG, Y Yang, and J Buntrock, *An evaluation of computer assisted clinical classification algorithms.* Proc Annu Symp Comput Appl Med Care, 1994: p. 162-6. PMCID: PMC2247905, PubMed ID: 7949912.

53. Corder, EH, CG Chute, HA Guess, CM Beard, WM O'Fallon, and MM Lieber, *Prostate cancer in Rochester, Minnesota (USA), from 1935 to 1989: increases in incidence related to more complete ascertainment.* Cancer Causes Control, 1994. 5(3): p. 207-14. PubMed ID: 7520287.

54. Evans, DA, JJ Cimino, WR Hersh, SM Huff, and DS Bell, *Toward a medical-concept representation language. The Canon Group.* J Am Med Inform Assoc, 1994. 1(3): p. 207-17. PMCID: 116200, PubMed ID: 7719804.

55. Giovannucci, E, EB Rimm, CG Chute, I Kawachi, GA Colditz, MJ Stampfer, and WC Willett, *Obesity and benign prostatic hyperplasia.* Am J Epidemiol, 1994. 140(11): p. 989-1002. PubMed ID: 7527182.

56. Oesterling, JE, CJ Girman, LA Panser, CG Chute, DM Barrett, HA Guess, and MM Lieber, *Correlation between urinary flow rate, voided volume, and patient age in a community-based population.* Prog Clin Biol Res, 1994. 386: p. 125-39. PubMed ID: 7528382.

57. Panser, LA, CG Chute, CJ Girman, HA Guess, JE Oesterling, MM Lieber, and SJ Jacobsen, *Effect of several recruitment strategies on response rates at baseline in a prospective cohort investigation. The Olmsted County Study of Urinary Symptoms and Health Status among Men.* Ann Epidemiol, 1994. 4(4): p. 321-6. PubMed ID: 7921322.

58. Panser, LA, CG Chute, HA Guess, JJ Larsonkeller, CJ Girman, JE Oesterling, . . . SJ Jacobsen, *The natural history of prostatism: the effects of non-response bias.* Int J Epidemiol, 1994. 23(6): p. 1198-205. PubMed ID: 7536718.

59. Roberts, RO, SJ Jacobsen, T Rhodes, HA Guess, CJ Girman, LA Panser, . . . MM Lieber, *Cigarette smoking and prostatism: a biphasic association?* Urology, 1994. 43(6): p. 797-801. PubMed ID: 7515203.

60. Roberts, RO, T Rhodes, LA Panser, CJ Girman, CG Chute, JE Oesterling, . . . SJ Jacobsen, *Natural history of prostatism: worry and embarrassment from urinary symptoms and health care-seeking behavior.* Urology, 1994. 43(5): p. 621-8. PubMed ID: 7513106.

61. Warner, MA, JT Martin, DR Schroeder, KP Offord, and CG Chute, *Lower-extremity motor neuropathy associated with surgery performed on patients in a lithotomy position.* Anesthesiology, 1994. 81(1): p. 6-12. PubMed ID: 8042811.

62. Yang Y and Chute CG, *An Example-based Mapping Method for Text Classification and Retrieval.*

ACM Transactions on Information Systems, 1994. 12(3): p. 252-277.

63. Yang, Y and CG Chute, *An application of Expert Network to clinical classification and MEDLINE indexing*. Proc Annu Symp Comput Appl Med Care, 1994: p. 157-61. PMCID: PMC2247915, PubMed ID: 7949911.

64. Chute CG, *Moving Toward International Standards in Primary Care Informatics. Conference Summary Report*, in *Moving Toward International Standards in Primary Care: Clinical Vocabulary* 1995, AHCPR Pub. No. 96-0069: Silver Springs. p. 9-12.

65. Chute, CG, DL Crowson, and JD Buntrock, *Medical information retrieval and WWW browsers at Mayo*. Proc Annu Symp Comput Appl Med Care, 1995: p. 903-7. PMCID: PMC2579224, PubMed ID: 8563423.

66. Chute, CG and Y Yang, *An overview of statistical methods for the classification and retrieval of patient events*. Methods Inf Med, 1995. 34(1-2): p. 104-10. PubMed ID: 9082119.

67. Friedman, C, SM Huff, WR Hersh, E Pattison-Gordon, and JJ Cimino, *The Canon Group's effort: working toward a merged model*. J Am Med Inform Assoc, 1995. 2(1): p. 4-18. PMCID: 116233, PubMed ID: 7895135.

68. Girman, CJ, SJ Jacobsen, HA Guess, JE Oesterling, CG Chute, LA Panser, and MM Lieber, *Natural history of prostatism: relationship among symptoms, prostate volume and peak urinary flow rate*. J Urol, 1995. 153(5): p. 1510-5. PubMed ID: 7536258.

69. Guess, HA, SJ Jacobsen, CJ Girman, JE Oesterling, CG Chute, LA Panser, and MM Lieber, *The role of community-based longitudinal studies in evaluating treatment effects. Example: benign prostatic hyperplasia*. Med Care, 1995. 33(4 Suppl): p. As26-35. PubMed ID: 7536867.

70. Jacobsen, SJ, CJ Girman, HA Guess, LA Panser, CG Chute, JE Oesterling, and MM Lieber, *Do prostate size and urinary flow rates predict health care-seeking behavior for urinary symptoms in men?* Urology, 1995. 45(1): p. 64-9. PubMed ID: 7529448.

71. Jacobsen, SJ, SK Katusic, EJ Bergstralh, JE Oesterling, D Ohrt, GG Klee, . . . MM Lieber, *Incidence of prostate cancer diagnosis in the eras before and after serum prostate-specific antigen testing*. Jama, 1995. 274(18): p. 1445-9. PubMed ID: 7474190.

72. McCray, AT, JR Scherrer, C Safran, and CG Chute, *Concepts, knowledge, and language in health-care information systems*. Methods Inf Med, 1995. 34(1-2): p. 1-4. PubMed ID: 9082118.

73. Panser, LA, T Rhodes, CJ Girman, HA Guess, CG Chute, JE Oesterling, . . . SJ Jacobsen, *Sexual function of men ages 40 to 79 years: the Olmsted County Study of Urinary Symptoms and Health Status Among Men*. J Am Geriatr Soc, 1995. 43(10): p. 1107-11. PubMed ID: 7560700.

74. Roberts, RO, T Rhodes, LA Panser, CJ Girman, CG Chute, HA Guess, . . . SJ Jacobsen, *Association between family history of benign prostatic hyperplasia and urinary symptoms: results of a population-based study*. Am J Epidemiol, 1995. 142(9): p. 965-73. PubMed ID: 7572978.

75. Safran, C and CG Chute, *Exploration and exploitation of clinical databases*. Int J Biomed Comput, 1995. 39(1): p. 151-6. PubMed ID: 7601529.

76. Yang, Y and CG Chute, *Sampling strategies in a statistical approach to clinical classification*. Proc Annu Symp Comput Appl Med Care, 1995: p. 32-6. PMCID: PMC2579050, PubMed ID: 8563294.

77. Campbell, KE, SP Cohn, CG Chute, G Rennels, and EH Shortliffe, *Galapagos: computer-based support for evolution of a convergent medical terminology*. Proc AMIA Annu Fall Symp, 1996: p. 269-73. PMCID: PMC2233229, PubMed ID: 8947670.

78. Chute CG, *Conference Summary: Modeling the Medical Record at the Intersection of Information and Terminology*, in *Medical Records and Modeling: ANSI HISPP and CEN TC 251 Working Group 1*, L. Campbell and C. Waegemann, Editors. 1996, AHCPR, Pub. 96-NO12: Rockville, MD.

79. Chute, CG, SP Cohn, KE Campbell, DE Oliver, and JR Campbell, *The content coverage of clinical classifications. For The Computer-Based Patient Record Institute's Work Group on Codes & Structures*. J Am Med Inform Assoc, 1996. 3(3): p. 224-33. PMCID: PMC116304, PubMed ID: 8723613.

80. Campbell, JR, P Carpenter, C Sneiderman, S Cohn, CG Chute, and J Warren, *Phase II evaluation of clinical coding schemes: completeness, taxonomy, mapping, definitions, and clarity. CPRI Work Group on Codes and Structures*. J Am Med Inform Assoc, 1997. 4(3): p. 238-51. PMCID: PMC61239, PubMed ID: 9147343.

81. Chute, CG and PL Elkin, *A clinically derived terminology: qualification to reduction*. Proc AMIA

Annu Fall Symp, 1997: p. 570-4. PMCID: PMC2233541, PubMed ID: 9357690.

82. Claus, PL, PC Carpenter, CG Chute, DN Mohr, and PS Gibbons, *Clinical care management and workflow by episodes*. Proc AMIA Annu Fall Symp, 1997: p. 91-5. PMCID: PMC2233562, PubMed ID: 9357595.

83. Cohn, SP and CG Chute, *Clinical terminologies and computer-based patient records*. J ahima, 1997. 68(2): p. 41-3. PubMed ID: 10184701.

84. Elkin, PL, DN Mohr, MS Tuttle, WG Cole, GE Atkin, K Keck, . . . CG Chute, *Standardized problem list generation, utilizing the Mayo canonical vocabulary embedded within the Unified Medical Language System*. Proc AMIA Annu Fall Symp, 1997: p. 500-4. PMCID: PMC2233586, PubMed ID: 9357676.

85. Campbell, KE, SP Cohn, CG Chute, EH Shortliffe, and G Rennels, *Scalable methodologies for distributed development of logic-based convergent medical terminology*. Methods Inf Med, 1998. 37(4-5): p. 426-39. PubMed ID: 9865041.

86. Chute, CG, *The Copernican era of healthcare terminology: a re-centering of health information systems*. Proc AMIA Symp, 1998: p. 68-73. PMCID: PMC2232272, PubMed ID: 9929184.

87. Chute, CG, SP Cohn, and JR Campbell, *A framework for comprehensive health terminology systems in the United States: development guidelines, criteria for selection, and public policy implications. ANSI Healthcare Informatics Standards Board Vocabulary Working Group and the Computer-Based Patient Records Institute Working Group on Codes and Structures*. J Am Med Inform Assoc, 1998. 5(6): p. 503-10. PMCID: PMC61331, PubMed ID: 9824798.

88. Chute, CG, PL Elkin, SH Fenton, and GE Atkin, *A clinical terminology in the post modern era: pragmatic problem list development*. Proc AMIA Symp, 1998: p. 795-9. PMCID: PMC2232227, PubMed ID: 9929328.

89. Elkin, PL, KR Bailey, and CG Chute, *A randomized controlled trial of automated term composition*. Proc AMIA Symp, 1998: p. 765-9. PMCID: PMC2232145, PubMed ID: 9929322.

90. Elkin, PL, M Tuttle, K Keck, K Campbell, G Atkin, and CG Chute, *The role of compositionality in standardized problem list generation*. Stud Health Technol Inform, 1998. 52 Pt 1: p. 660-4. PubMed ID: 10384537.

91. Gibbons PS, Baker SA, Carpenter PC, Chute CG, Claus PL, Emerson P, . . . Randell CL, *Adding value to care delivery: approaches to episodes of care*. HIMSS '98 Imagine the future: Proceedings of the 1998 Annual HIMSS Conference, 1998. 2: p. 174-184.

92. Tuttle MS, Chute CG, Safran C, and Abelson DJ, *Formalizing Clinical Problem Lists Using Metaphrase*. Proceedings of Healthcare Information Systems Society, 1998. 2: p. 109-115.

93. Tuttle, MS, NE Olson, KD Keck, WG Cole, MS Erlbaum, DD Sherertz, . . . V Law, *Metaphrase: an aid to the clinical conceptualization and formalization of patient problems in healthcare enterprises*. Methods Inf Med, 1998. 37(4-5): p. 373-83. PubMed ID: 9865035.

94. Xia, Z, SJ Jacobsen, EJ Bergstralh, CG Chute, SK Katusic, and MM Lieber, *Secular changes in radical prostatectomy utilization rates in Olmsted County, Minnesota 1980 to 1995*. J Urol, 1998. 159(3): p. 904-8. PubMed ID: 9474179.

95. Chute, CG, *ISO TC 215: what the health world needs now*. MD Comput, 1999. 16(3): p. 21-2. PubMed ID: 10439594.

96. Chute, CG, *Standards move to center stage*. MD Comput, 1999. 16(1): p. 29-32. PubMed ID: 10202420.

97. Chute CG, Solbrig HR, and Elkin PL, *Terminology Services as Software Components: An Architecture and Preliminary Efforts*. Proceedings, IMIA Working Group 6 Conference, 1999

98. Chute, CG, PL Elkin, DD Sherertz, and MS Tuttle, *Desiderata for a clinical terminology server*. Proc AMIA Symp, 1999: p. 42-6. PMCID: PMC2232621, PubMed ID: 10566317.

99. Dunne, D and CG Chute, *Detailed content and terminological properties of DSM-IV*. Proc AMIA Symp, 1999: p. 57-61. PMCID: PMC2232634, PubMed ID: 10566320.

100. Elkin PL, Harris M, Ogren PV, Buntrock JD, Brown SH, Solbrig HR, and Chute CG, *Semantic Augmentation of Description Logic based Terminologies*. Proceedings, IMIA Working Group 6 Conference, 1999

101. Elkin, PL, KR Bailey, PV Ogren, BA Bauer, and CG Chute, *A randomized double-blind controlled trial of automated term dissection*. Proc AMIA Symp, 1999: p. 62-6. PMCID: PMC2232669, PubMed ID: 10566321.

102. McDonald, FS, CG Chute, PV Ogren, D Wahner-Roedler, and PL Elkin, *A large-scale evaluation of terminology integration characteristics*. Proc AMIA Symp, 1999: p. 864-7. PMCID: PMC2232475, PubMed ID: 10566483.

103. McKnight, LK, PL Elkin, PV Ogren, and CG Chute, *Barriers to the clinical implementation of compositionality*. Proc AMIA Symp, 1999: p. 320-4. PMCID: PMC2232608, PubMed ID: 10566373.

104. Wagner, JL, SR Alberts, JA Sloan, S Cha, J Killian, MJ O'Connell, . . . CG Chute, *Incremental costs of enrolling cancer patients in clinical trials: a population-based study*. J Natl Cancer Inst, 1999. 91(10): p. 847-53. PubMed ID: 10340904.

105. Chute, CG, *Public health, clinical data, and common cause: information standards as mediating foci*. MD Comput, 2000. 17(5): p. 15-6. PubMed ID: 11050852.

106. Chute, CG, *Clinical classification and terminology: some history and current observations*. J Am Med Inform Assoc, 2000. 7(3): p. 298-303. PMCID: PMC61433, PubMed ID: 10833167.

107. Chute, CG, *. . . and data for all: the NCI initiative on clinical infrastructure standards*. MD Comput, 2000. 17(2): p. 19-21. PubMed ID: 10778293.

108. Elkin, PL, A Ruggieri, L Bergstrom, BA Bauer, M Lee, PV Ogren, and CG Chute, *A randomized controlled trial of concept based indexing of Web page content*. Proc AMIA Symp, 2000: p. 220-4. PMCID: PMC2243865, PubMed ID: 11079877.

109. Harris, MR, JR Graves, LM Herrick, PL Elkin, and CG Chute, *The content coverage and organizational structure of terminologies: the example of postoperative pain*. Proc AMIA Symp, 2000: p. 335-9. PMCID: PMC2243894, PubMed ID: 11079900.

110. Harris, MR, JR Graves, HR Solbrig, PL Elkin, and CG Chute, *Embedded structures and representation of nursing knowledge*. J Am Med Inform Assoc, 2000. 7(6): p. 539-49. PMCID: PMC129662, PubMed ID: 11062227.

111. Ruggieri, AP, P Elkin, and CG Chute, *Representation by standard terminologies of health status concepts contained in two health status assessment instruments used in rheumatic disease management*. Proc AMIA Symp, 2000: p. 734-8. PMCID: PMC2243938, PubMed ID: 11079981.

112. Solbrig, HR, PL Elkin, PV Ogren, and CG Chute, *A formal approach to integrating synonyms with a reference terminology*. Proc AMIA Symp, 2000: p. 814-8. PMCID: PMC2244034, PubMed ID: 11079997.

113. Ball MJ, Silva JS, Peterson H, and Chute CG, *The patient record in cancer care*. Stud Health Technol Inform, 2001. 84: p. 1526.

114. Chute, CG, *Drugs, codes, standards, and other incompatible things in the dark*. MD Comput, 2001. 18(1): p. 45-6. PubMed ID: 11236386.

115. Chute CG, *Nomenclatures, classifications and case-mix: From patient description to abstraction*. Stud Health Technol Inform, 2001. 86: p. 1-7.

116. Elkin, PL, SH Brown, and CG Chute, *Guideline for health informatics: controlled health vocabularies--vocabulary structure and high-level indicators*. Stud Health Technol Inform, 2001. 84(Pt 1): p. 191-5. PubMed ID: 11604731.

117. Gwaltney, K, C Chute, D Hageman, W Kibbe, K McCormick, D Reeves, and L Wright, *An assessment of cancer clinical trials vocabulary and IT infrastructure in the U.S.* Proc AMIA Symp, 2001: p. 224-8. PMCID: PMC2243595, PubMed ID: 11825185.

118. Ruggieri, AP, PL Elkin, H Solbrig, and CG Chute, *Expression of a domain ontology model in unified modeling language for the World Health Organization International classification of impairment, disability, and handicap, version 2*. Proc AMIA Symp, 2001: p. 573-7. PMCID: PMC2243613, PubMed ID: 11825252.

119. Yasnoff WA, Chute CG, Scherrer JR, and Pittet D, *Charting the future of public health informatics*. Stud Health Technol Inform, 2001. 84: p. 1519.

120. Buntrock, JD and CG Chute, *An evaluation of unmediated versus mediated retrieval services*. Proc AMIA Symp, 2002: p. 81-5. PMCID: PMC2244403, PubMed ID: 12463791.

121. Chute, CG, *The horizontal and vertical nature of patient phenotype retrieval: new directions for clinical text processing*. Proc AMIA Symp, 2002: p. 165-9. PMCID: PMC2244580, PubMed ID: 12463808.

122. Chute, CG and D Koo, *Public health, data standards, and vocabulary: crucial infrastructure for reliable public health surveillance*. J Public Health Manag Pract, 2002. 8(3): p. 11-7.

PubMed ID: 15156620.

123. Harris MR, Frost M, Clement-Brown KA, Novotny PJ, and Chute CG, *Quality of Life of Cancer Patients as Reported in a Tumor Registry Follow-Up*. Clinical Therapeutics, 2002. 24((Suppl B)): p. 43-44.

124. Pakhomov, SV, A Ruggieri, and CG Chute, *Maximum entropy modeling for mining patient medication status from free text*. Proc AMIA Symp, 2002: p. 587-91. PMCID: PMC2244576, PubMed ID: 12463891.

125. Chute, CG, JS Carter, MS Tuttle, M Haber, and SH Brown, *Integrating pharmacokinetics knowledge into a drug ontology: as an extension to support pharmacogenomics*. AMIA Annu Symp Proc, 2003: p. 170-4. PMCID: PMC1480302, PubMed ID: 14728156.

126. Harris, M, H Kim, L Rhudy, G Savova, and C Chute, *Testing the generalizability of the ISO model for nursing diagnoses*. AMIA Annu Symp Proc, 2003: p. 274-8. PMCID: PMC1480242, PubMed ID: 14728177.

127. Harris, MR, AP Ruggieri, and CG Chute, *From clinical records to regulatory reporting: formal terminologies as foundation*. Health Care Financ Rev, 2003. 24(3): p. 103-20. PMCID: PMC4194822, PubMed ID: 12894638.

128. Harris, MR, GK Savova, TM Johnson, and CG Chute, *A term extraction tool for expanding content in the domain of functioning, disability, and health: proof of concept*. J Biomed Inform, 2003. 36(4-5): p. 250-9. PubMed ID: 14643720.

129. Pakhomov SV, Buntrock JD, and Chute CG, *Identification of Patients with Congestive Heart Failure Using a Binary Classifier: A Case Study*. Proceedings of the ACL 2003 Workshop on Natural Language Processing in Biomedicine, 2003: p. 89-96.

130. Savova, GK, M Harris, T Johnson, SV Pakhomov, and CG Chute, *A data-driven approach for extracting "the most specific term" for ontology development*. AMIA Annu Symp Proc, 2003: p. 579-83. PMCID: PMC1480306, PubMed ID: 14728239.

131. Solbrig, HR, DC Armbrust, and CG Chute, *The Open Terminology Services (OTS) project*. AMIA Annu Symp Proc, 2003: p. 1011. PMCID: PMC1480027, PubMed ID: 14728514.

132. BA Thomson-McInnes, SV Pakhomov, T Pedersen, and CG Chute, *Incorporating Bigram Statistics to Spelling Correction tools*. Medinfo, 2004: p. 1882.

133. Freimuth, RR, M Wiepert, CG Chute, ED Wieben, and RM Weinshilboum, *Human cytosolic sulfotransferase database mining: identification of seven novel genes and pseudogenes*. Pharmacogenomics J, 2004. 4(1): p. 54-65. PubMed ID: 14676822.

134. Pakhomov, SV, JD Buntrock, and CG Chute, *Using compound codes for automatic classification of clinical diagnoses*. Stud Health Technol Inform, 2004. 107(Pt 1): p. 411-5. PubMed ID: 15360845.

135. Ruggieri, AP, SV Pakhomov, and CG Chute, *A corpus driven approach applying the "frame semantic" method for modeling functional status terminology*. Stud Health Technol Inform, 2004. 107(Pt 1): p. 434-8. PubMed ID: 15360850.

136. Savova GK, Becker D, Harris M, and C Chute, *Combining Rule-based Methods and Latent Semantic Analysis for Ontology Structure Construction*. Medinfo, 2004: p. 1848.

137. Solbrig, HR and CG Chute, *Terminology access methods leveraging LDAP resources*. Stud Health Technol Inform, 2004. 107(Pt 1): p. 545-9. PubMed ID: 15360872.

138. Tu, SW, MA Musen, R Shankar, J Campbell, K Hrabak, J McClay, . . . MK Goldstein, *Modeling guidelines for integration into clinical workflow*. Stud Health Technol Inform, 2004. 107(Pt 1): p. 174-8. PubMed ID: 15360798.

139. Coden, AR, SV Pakhomov, RK Ando, PH Duffy, and CG Chute, *Domain-specific language models and lexicons for tagging*. J Biomed Inform, 2005. 38(6): p. 422-30. PubMed ID: 16337567.

140. Pakhomov, S, T Pedersen, and CG Chute, *Abbreviation and acronym disambiguation in clinical discourse*. AMIA Annu Symp Proc, 2005: p. 589-93. PMCID: PMC1560669, PubMed ID: 16779108.

141. Pakhomov, SV, J Buntrock, and CG Chute, *Prospective recruitment of patients with congestive heart failure using an ad-hoc binary classifier*. J Biomed Inform, 2005. 38(2): p. 145-53. PubMed ID: 15797003.

142. Savova, G, M Harris, S Pakhomov, and CG Chute, *Frame semantics and the domain of*

functioning, disability and health. AMIA Annu Symp Proc, 2005: p. 1106. PMCID: PMC1560655, PubMed ID: 16779393.

143.   Supekar, K, CG Chute, and H Solbrig, *Representing lexical components of medical terminologies in OWL.* AMIA Annu Symp Proc, 2005: p. 719-23. PMCID: PMC1560674, PubMed ID: 16779134.

144.   Joshi, M, S Pakhomov, T Pedersen, and CG Chute, *A comparative study of supervised learning as applied to acronym expansion in clinical reports.* AMIA Annu Symp Proc, 2006: p. 399-403. PMCID: PMC1839635, PubMed ID: 17238371.

145.   Kim, H, MR Harris, G Savova, and CG Chute, *Content coverage of SNOMED-CT toward the ICU nursing flowsheets and the acuity indicators.* Stud Health Technol Inform, 2006. 122: p. 722-6. PubMed ID: 17102358.

146.   Ogren, PV, G Savova, JD Buntrock, and CG Chute, *Building and evaluating annotated corpora for medical NLP systems.* AMIA Annu Symp Proc, 2006: p. 1050. PMCID: PMC1839264, PubMed ID: 17238668.

147.   Pakhomov, S and CG Chute, *A hybrid approach to determining modification of clinical diagnoses.* AMIA Annu Symp Proc, 2006: p. 609-13. PMCID: PMC1839348, PubMed ID: 17238413.

148.   Pakhomov, SV, JD Buntrock, and CG Chute, *Automating the assignment of diagnosis codes to patient encounters using example-based and machine learning techniques.* J Am Med Inform Assoc, 2006. 13(5): p. 516-25. PMCID: PMC1561792, PubMed ID: 16799125.

149.   Pakhomov, SV, A Coden, and CG Chute, *Developing a corpus of clinical notes manually annotated for part-of-speech.* Int J Med Inform, 2006. 75(6): p. 418-29. PubMed ID: 16169769.

150.   Rubin, DL, SE Lewis, CJ Mungall, S Misra, M Westerfield, M Ashburner, . . . MA Musen, *National Center for Biomedical Ontology: advancing biomedicine through structured organization of scientific knowledge.* Omics, 2006. 10(2): p. 185-98. PubMed ID: 16901225.

151.   Herasevich, V, M Yilmaz, H Khan, CG Chute, and O Gajic, *Rule base system for identification of patients with specific critical care syndromes: The "sniffer" for acute lung injury.* AMIA Annu Symp Proc, 2007: p. 972. PubMed ID: 18694072.

152.   Jiang, G, MR Harris, GK Savova, and CG Chute, *Formalizing the International Classification of Functioning, Disability, and Health (ICF) using Formal Concept Analysis (FCA).* AMIA Annu Symp Proc, 2007: p. 994. PubMed ID: 18694094.

153.   Kim, H, MR Harris, GK Savova, SM Speedie, and CG Chute, *Toward near real-time acuity estimation: a feasibility study.* Nurs Res, 2007. 56(4): p. 288-94. PubMed ID: 17625469.

154.   Pakhomov, S, SA Weston, SJ Jacobsen, CG Chute, R Meverden, and VL Roger, *Electronic medical records for clinical research: application to the identification of heart failure.* Am J Manag Care, 2007. 13(6 Part 1): p. 281-8. PubMed ID: 17567225.

155.   Pedersen, T, SV Pakhomov, S Patwardhan, and CG Chute, *Measures of semantic similarity and relatedness in the biomedical domain.* J Biomed Inform, 2007. 40(3): p. 288-99. PubMed ID: 16875881.

156.   Chute, CG, *Commentary: nursing practice content standards.* Nurs Outlook, 2008. 56(5): p. 267. PubMed ID: 18922282.

157.   Chute, CG, *Biosurveillance, classification, and semantic health technologies.* J Am Med Inform Assoc, 2008. 15(2): p. 172-3. PMCID: PMC2274785, PubMed ID: 18396506.

158.   Freimuth, RR, MW Schauer, P Lodha, P Govindrao, R Nagarajan, and CG Chute, *caBIG compatibility review system: software to support the evaluation of applications using defined interoperability criteria.* AMIA Annu Symp Proc, 2008: p. 197-201. PMCID: PMC2655978, PubMed ID: 18999296.

159.   Herasevich, V, B Afessa, CG Chute, and O Gajic, *Designing and testing computer based screening engine for severe sepsis/septic shock.* AMIA Annu Symp Proc, 2008: p. 966. PubMed ID: 18999146.

160.   Jiang G and Chute CG, *Comparing the Effects of Two Semantic Terminology Models on Classification of Clinical Notes: A Study of Heart Murmur Findings*, in *Proceedings of KR-MED: CEUR Workshop*2008: Phoenix. p. 59-65.

161.   Jiang, G, KJ Peterson, TM Johnson, C Celik, R Jakob, and CG Chute, *Representing the ClaML-based ICD10 in LexGrid terminology model.* AMIA Annu Symp Proc, 2008: p. 992. PubMed

ID: 18998953.

162. Kim, H, MR Harris, GK Savova, and CG Chute, *The first step toward data reuse: disambiguating concept representation of the locally developed ICU nursing flowsheets.* Comput Inform Nurs, 2008. 26(5): p. 282-9. PMCID: PMC2699893, PubMed ID: 18769183.

163. Pakhomov, SV, SJ Jacobsen, CG Chute, and VL Roger, *Agreement between patient-reported symptoms and their documentation in the medical record.* Am J Manag Care, 2008. 14(8): p. 530-9. PMCID: PMC2581509, PubMed ID: 18690769.

164. Pathak, J, G Jiang, SO Dwarkanath, JD Buntrock, and CG Chute, *LexValueSets: an approach for context-driven value sets extraction.* AMIA Annu Symp Proc, 2008: p. 556-60. PMCID: PMC2656093, PubMed ID: 18998955.

165. Pathak, J, G Jiang, SO Dwarkanath, JD Buntrock, and CG Chute, *Adopting Graph Traversal Techniques for Context-Driven Value Sets Extraction from Biomedical Knowledge Sources.* Proc IEEE Int Conf Semant Comput, 2008. 2008: p. 460-467. PMCID: PMC3101576, PubMed ID: 21625412.

166. Pathak, J, TM Johnson, and CG Chute, *Modular Ontology Techniques and their Applications in the Biomedical Domain.* Proc IEEE Int Conf Inf Reuse Integr, 2008. 2008: p. 351-356. PMCID: PMC3101570, PubMed ID: 21625409.

167. Savova G, Kipper-Schuler K, Buntrock J, and Chute C, *UIMA-based clinical information extraction system.* Language Resources and Evaluation Conference (LREC) Annual Conf. Proc., 2008: p. 39-42.

168. Savova, GK, AR Coden, IL Sominsky, R Johnson, PV Ogren, PC de Groen, and CG Chute, *Word sense disambiguation across two domains: biomedical literature and clinical notes.* J Biomed Inform, 2008. 41(6): p. 1088-100. PubMed ID: 18375190.

169. Savova, GK, PV Ogren, PH Duffy, JD Buntrock, and CG Chute, *Mayo clinic NLP system for patient smoking status identification.* J Am Med Inform Assoc, 2008. 15(1): p. 25-8. PMCID: PMC2274870, PubMed ID: 17947622.

170. Bernstam, EV, WR Hersh, SB Johnson, CG Chute, H Nguyen, I Sim, . . . MJ Becich, *Synergies and distinctions between computational disciplines in biomedical research: perspective from the Clinical andTranslational Science Award programs.* Acad Med, 2009. 84(7): p. 964-70. PMCID: PMC2884382, PubMed ID: 19550198.

171. Jiang, G and CG Chute, *Auditing the semantic completeness of SNOMED CT using formal concept analysis.* J Am Med Inform Assoc, 2009. 16(1): p. 89-102. PMCID: PMC2605587, PubMed ID: 18952949.

172. Jiang, G, J Pathak, and CG Chute, *Formalizing ICD coding rules using Formal Concept Analysis.* J Biomed Inform, 2009. 42(3): p. 504-17. PubMed ID: 19236957.

173. Katipamula, R, AC Degnim, T Hoskin, JC Boughey, C Loprinzi, CS Grant, . . . MP Goetz, *Trends in mastectomy rates at the Mayo Clinic Rochester: effect of surgical year and preoperative magnetic resonance imaging.* J Clin Oncol, 2009. 27(25): p. 4082-8. PMCID: PMC2734420, PubMed ID: 19636020.

174. Noy, NF, NH Shah, PL Whetzel, B Dai, M Dorf, N Griffith, . . . MA Musen, *BioPortal: ontologies and integrated data resources at the click of a mouse.* Nucleic Acids Res, 2009. 37(Web Server issue): p. W170-3. PMCID: PMC2703982, PubMed ID: 19483092.

175. Pathak J and Chute CG, *Debugging Mappings between Biomedical Ontologies: Preliminary Results from the NCBO BioPortal Mapping Repository.* International Conference on Biomedical Ontology (ICBO) Proceedings, 2009: p. 95.

176. Pathak, J, TM Johnson, and CG Chute, *Survey of modular ontology techniques and their applications in the biomedical domain.* Integr Comput Aided Eng, 2009. 16(3): p. 225-242. PMCID: PMC3113511, PubMed ID: 21686030.

177. Pathak, J, HR Solbrig, JD Buntrock, TM Johnson, and CG Chute, *LexGrid: a framework for representing, storing, and querying biomedical terminologies from simple to sublime.* J Am Med Inform Assoc, 2009. 16(3): p. 305-15. PMCID: PMC2732233, PubMed ID: 19261933.

178. Sim, I, CG Chute, H Lehmann, R Nagarajan, M Nahm, and RH Scheuermann, *Keeping raw data in context.* Science, 2009. 323(5915): p. 713. PubMed ID: 19197039.

179. Solbrig HR and Chute CG, *Concepts, Modeling and Confusion.* International Conference on Biomedical Ontology (ICBO) Proceedings, 2009: p. 123.

180.   Tao C, Pathak J, Solbrig HR, and Chute CG, *LexOWL: A Bridge from LexGrid to OWL.* International Conference on Biomedical Ontology (ICBO) Proceedings, 2009: p. 131.

181.   Tao, C, J Pathak, HR Solbrig, WQ Wei, and CG Chute, *LexRDF Model: An RDF-based Unified Model for Heterogeneous Biomedical Ontologies.* CEUR Workshop Proc, 2009. 521: p. 3. PMCID: PMC3146261, PubMed ID: 21804785.

182.   Chute, CG, *Distributed biomedical terminology development: from experiments to open process.* Yearb Med Inform, 2010: p. 58-63. PubMed ID: 20938572.

183.   Chute, CG, SA Beck, TB Fisk, and DN Mohr, *The Enterprise Data Trust at Mayo Clinic: a semantically integrated warehouse of biomedical data.* J Am Med Inform Assoc, 2010. 17(2): p. 131-5. PMCID: PMC3000789, PubMed ID: 20190054.

184.   Jiang G, Solbrig H, and Chute CG, *Mash-up of LexWiki and Web-Protege for Distributed Authoring of Large-Scale Biomedical Terminologies.* Proceedings of the 18th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB 2010) Bio-Ontologies 2010: Semantic Applications in Life Sciences, 2010: p. 132-35.

185.   Jiang, G, HR Solbrig, D Iberson-Hurst, RD Kush, and CG Chute, *A Collaborative Framework for Representation and Harmonization of Clinical Study Data Elements Using Semantic MediaWiki.* AMIA Jt Summits Transl Sci Proc, 2010. 2010: p. 11-5. PMCID: PMC3041544, PubMed ID: 21347136.

186.   Kullo, IJ, K Ding, H Jouni, CY Smith, and CG Chute, *A genome-wide association study of red blood cell traits using the electronic medical record.* PLoS One, 2010. 5(9) PMCID: PMC2946914, PubMed ID: 20927387.

187.   Kullo, IJ, J Fan, J Pathak, GK Savova, Z Ali, and CG Chute, *Leveraging informatics for genetic studies: use of the electronic medical record to enable a genome-wide association study of peripheral arterial disease.* J Am Med Inform Assoc, 2010. 17(5): p. 568-74. PMCID: PMC2995686, PubMed ID: 20819866.

188.   Pathak, J and CG Chute, *Analyzing categorical information in two publicly available drug terminologies: RxNorm and NDF-RT.* J Am Med Inform Assoc, 2010. 17(4): p. 432-9. PMCID: PMC2995643, PubMed ID: 20595311.

189.   Pathak, J, L Peters, CG Chute, and O Bodenreider, *Comparing and evaluating terminology services application programming interfaces: RxNav, UMLSKS and LexBIG.* J Am Med Inform Assoc, 2010. 17(6): p. 714-9. PMCID: PMC3000749, PubMed ID: 20962136.

190.   Savova, GK, J Fan, Z Ye, SP Murphy, J Zheng, CG Chute, and IJ Kullo, *Discovering peripheral arterial disease cases from radiology notes using natural language processing.* AMIA Annu Symp Proc, 2010. 2010: p. 722-6. PMCID: PMC3041293, PubMed ID: 21347073.

191.   Savova, GK, JJ Masanz, PV Ogren, J Zheng, S Sohn, KC Kipper-Schuler, and CG Chute, *Mayo clinical Text Analysis and Knowledge Extraction System (cTAKES): architecture, component evaluation and applications.* J Am Med Inform Assoc, 2010. 17(5): p. 507-13. PMCID: PMC2995668, PubMed ID: 20819853.

192.   Schildcrout, JS, MA Basford, JM Pulley, DR Masys, DM Roden, D Wang, . . . JC Denny, *An analytical approach to characterize morbidity profile dissimilarity between distinct cohorts using electronic medical records.* J Biomed Inform, 2010. 43(6): p. 914-23. PMCID: PMC2991387, PubMed ID: 20688191.

193.   Tao C, Solbrig HR, Deepak S, Wei W-Q, Savova G, and Chute CG, *Time-Oriented Question Answering from Clinical Narratives Using Semantic-Web Techniques.* International Semantic Web Conference, Lecture Note of Computer Science, 2010. 6497: p. 241-56. PMCID: PMC3198866,

194.   Tao, C, WQ Wei, HR Solbrig, G Savova, and CG Chute, *CNTRO: A Semantic Web Ontology for Temporal Relation Inferencing in Clinical Narratives.* AMIA Annu Symp Proc, 2010. 2010: p. 787-91. PMCID: PMC3041418, PubMed ID: 21347086.

195.   Wei, WQ, C Tao, G Jiang, and CG Chute, *A high throughput semantic concept frequency based approach for patient identification: a case study using type 2 diabetes mellitus clinical notes.* AMIA Annu Symp Proc, 2010. 2010: p. 857-61. PMCID: PMC3041302, PubMed ID: 21347100.

196.   Bielinski, SJ, HS Chai, J Pathak, JA Talwalkar, PJ Limburg, RE Gullerud, . . . CG Chute, *Mayo Genome Consortia: a genotype-phenotype resource for genome-wide association studies with an application to the analysis of circulating bilirubin levels.* Mayo Clin Proc, 2011. 86(7): p.

606-14. PMCID: PMC3127556, PubMed ID: 21646302.

197. Chute, CG, J Pathak, GK Savova, KR Bailey, MI Schor, LA Hart, . . . SM Huff, *The SHARPn project on secondary use of Electronic Medical Record data: progress, plans, and possibilities.* AMIA Annu Symp Proc, 2011. 2011: p. 248-56. PMCID: PMC3243296, PubMed ID: 22195076.

198. Clark, KK, DK Sharma, CG Chute, and C Tao, *Application of a temporal reasoning framework tool in analysis of medical device adverse events.* AMIA Annu Symp Proc, 2011. 2011: p. 1366-71. PMCID: PMC3243139, PubMed ID: 22195199.

199. Conway, M, RL Berg, D Carrell, JC Denny, AN Kho, IJ Kullo, . . . J Pathak, *Analyzing the heterogeneity and complexity of Electronic Health Record oriented phenotyping algorithms.* AMIA Annu Symp Proc, 2011. 2011: p. 274-83. PMCID: PMC3243189, PubMed ID: 22195079.

200. Denny, JC, DC Crawford, MD Ritchie, SJ Bielinski, MA Basford, Y Bradford, . . . M de Andrade, *Variants near FOXE1 are associated with hypothyroidism and other thyroid conditions: using electronic medical records for genome- and phenome-wide studies.* Am J Hum Genet, 2011. 89(4): p. 529-42. PMCID: PMC3188836, PubMed ID: 21981779.

201. Jiang G, Duke JD, Pathak J, and Chute CG, *An ontological representation of adverse drug events.* CEUR Workshop Proceedings, 2011. 833: p. 329-31.

202. Jiang G, Solbrig HR, Chalmers RJG, Spackman K, Rector AL, and Chute CG, *A case study of ICD-11 anatomy value set extraction from SNOMED CT.* CEUR Workshop Proceedings, 2011. 833: p. 133-8.

203. Jiang, G, HR Solbrig, and CG Chute, *ADEpedia: a scalable and standardized knowledge base of Adverse Drug Events using semantic web technology.* AMIA Annu Symp Proc, 2011. 2011: p. 607-16. PMCID: PMC3243176, PubMed ID: 22195116.

204. Jiang, G, HR Solbrig, and CG Chute, *Quality evaluation of cancer study Common Data Elements using the UMLS Semantic Network.* J Biomed Inform, 2011. 44 Suppl 1: p. S78-85. PubMed ID: 21840422.

205. Kho, AN, JA Pacheco, PL Peissig, L Rasmussen, KM Newton, N Weston, . . . JC Denny, *Electronic medical records for genetic research: results of the eMERGE consortium.* Sci Transl Med, 2011. 3(79): p. 79re1. PMCID: PMC3690272, PubMed ID: 21508311.

206. Kullo, IJ, K Ding, K Shameer, CA McCarty, GP Jarvik, JC Denny, . . . CG Chute, *Complement receptor 1 gene variants are associated with erythrocyte sedimentation rate.* Am J Hum Genet, 2011. 89(1): p. 131-8. PMCID: PMC3135803, PubMed ID: 21700265.

207. Liu, K, WW Chapman, G Savova, CG Chute, N Sioutos, and RS Crowley, *Effectiveness of lexico-syntactic pattern matching for ontology enrichment with clinical documents.* Methods Inf Med, 2011. 50(5): p. 397-407. PMCID: PMC3125434, PubMed ID: 21057720.

208. McCarty, CA, RL Chisholm, CG Chute, IJ Kullo, GP Jarvik, EB Larson, . . . WA Wolf, *The eMERGE Network: a consortium of biorepositories linked to electronic medical records data for conducting genomic studies.* BMC Med Genomics, 2011. 4: p. 13. PMCID: PMC3038887, PubMed ID: 21269473.

209. Pakhomov, SV, T Pedersen, B McInnes, GB Melton, A Ruggieri, and CG Chute, *Towards a framework for developing semantic relatedness reference standards.* J Biomed Inform, 2011. 44(2): p. 251-65. PMCID: PMC3063326, PubMed ID: 21044697.

210. Pathak, J and CG Chute, *Further revamping VA's NDF-RT drug terminology for clinical research.* J Am Med Inform Assoc, 2011. 18(3): p. 347-8. PMCID: PMC3078669, PubMed ID: 21415066.

211. Pathak, J, SP Murphy, BN Willaert, HM Kremers, BP Yawn, WA Rocca, and CG Chute, *Using RxNorm and NDF-RT to classify medication data extracted from electronic health records: experiences from the Rochester Epidemiology Project.* AMIA Annu Symp Proc, 2011. 2011: p. 1089-98. PMCID: PMC3243205, PubMed ID: 22195170.

212. Pathak, J, H Pan, J Wang, S Kashyap, PA Schad, CM Hamilton, . . . CG Chute, *Evaluating Phenotypic Data Elements for Genetics and Epidemiological Research: Experiences from the eMERGE and PhenX Network Projects.* AMIA Jt Summits Transl Sci Proc, 2011. 2011: p. 41-5. PMCID: PMC3248754, PubMed ID: 22211178.

213. Pathak, J, J Wang, S Kashyap, M Basford, R Li, DR Masys, and CG Chute, *Mapping clinical phenotype data elements to standardized metadata repositories and controlled terminologies: the eMERGE Network experience.* J Am Med Inform Assoc, 2011. 18(4): p. 376-86. PMCID:

PMC3128396, PubMed ID: 21597104.

214.   Sohn, S, JP Kocher, CG Chute, and GK Savova, *Drug side effect extraction from clinical narratives of psychiatry and psychology patients*. J Am Med Inform Assoc, 2011. 18 Suppl 1: p. i144-9. PMCID: PMC3241172, PubMed ID: 21946242.

215.   Tao C, Noy N, Solbrig H, Shah N, Musen M, and Chute CG, *Proposed SKOS Extensions for BioPortal Terminology Services*. Joint International Semantic Technology Conference Proceedings (JIST), 2011. Volume 7185 of the series Lecture Notes in Computer Science p. 342-349.

216.   Tao C, Pathak J, Welch SR, Bouamrane MM, Huff SM, and Chute CG, *Toward semantic web based knowledge representation and extraction from electronic health records*. International Conference on Information and Knowledge Management, Proceedings, 2011: p. 75-8.

217.   Tao, C, G Jiang, W Wei, HR Solbrig, and CG Chute, *Towards Semantic-Web Based Representation and Harmonization of Standard Meta-data Models for Clinical Studies*. AMIA Jt Summits Transl Sci Proc, 2011. 2011: p. 59-63. PMCID: PMC3248749, PubMed ID: 22211181.

218.   Tao, C, CG Parker, TA Oniki, J Pathak, SM Huff, and CG Chute, *An OWL meta-ontology for representing the Clinical Element Model*. AMIA Annu Symp Proc, 2011. 2011: p. 1372-81. PMCID: PMC3243162, PubMed ID: 22195200.

219.   Tao, C, HR Solbrig, and CG Chute, *CNTRO 2.0: A Harmonized Semantic Web Ontology for Temporal Relation Inferencing in Clinical Narratives*. AMIA Jt Summits Transl Sci Proc, 2011. 2011: p. 64-8. PMCID: PMC3248753, PubMed ID: 22211182.

220.   Whetzel PL, Noy N, Shah N, Alexander P, Dorf M, Fergerson R, . . . Musen M, *Ontologies and integrated data resources at the click of a mouse*. CEUR Workshop Proceedings, 2011. 833: p. 292-3.

221.   Wu ST, Kaggal VC, Savova GK, Liu H, Dligach D, Zheng J, . . . Chute CG, *Generality and reuse in a common type system for clinical natural language processing*. International Conference on Information and Knowledge Management, Proceedings, 2011: p. 27-34.

222.   Chute, CG, SM Huff, JA Ferguson, JM Walker, and JD Halamka, *There are important reasons for delaying implementation of the new ICD-10 coding system*. Health Aff (Millwood), 2012. 31(4): p. 836-42. PubMed ID: 22442180.

223.   Ding, K, K Shameer, H Jouni, DR Masys, GP Jarvik, AN Kho, . . . IJ Kullo, *Genetic Loci implicated in erythroid differentiation and cell cycle regulation are associated with red blood cell traits*. Mayo Clin Proc, 2012. 87(5): p. 461-74. PMCID: PMC3538470, PubMed ID: 22560525.

224.   Jiang, G, HR Solbrig, and CG Chute, *Quality evaluation of value sets from cancer study common data elements using the UMLS semantic groups*. J Am Med Inform Assoc, 2012. 19(e1): p. e129-36. PMCID: PMC3392855, PubMed ID: 22511016.

225.   Kho, AN, MG Hayes, L Rasmussen-Torvik, JA Pacheco, WK Thompson, LL Armstrong, . . . WL Lowe, *Use of diverse electronic medical record systems to identify genetic risk for type 2 diabetes within a genome-wide association study*. J Am Med Inform Assoc, 2012. 19(2): p. 212-8. PMCID: PMC3277617, PubMed ID: 22101970.

226.   Li D, Tao C, Liu H, and Chute C, *Ontology-based temporal relation modeling with map-reduce latent dirichlet allocations for big EHR data*. Proceedings - 2nd International Conference on Cloud and Green Computing and 2nd International Conference on Social Computing and Its Applications, CGC/SCA 2012, 2012: p. 708-15.

227.   Li, D, CM Endle, S Murthy, C Stancl, D Suesse, D Sottara, . . . J Pathak, *Modeling and executing electronic health records driven phenotyping algorithms using the NQF Quality Data Model and JBoss(R) Drools Engine*. AMIA Annu Symp Proc, 2012. 2012: p. 532-41. PMCID: PMC3540464, PubMed ID: 23304325.

228.   Liu H, Wu S, Tao C, and Chute C, *Modeling UIMA type system using web ontology language – Towards interoperability among UIMA-based NLP tools*. International Conference on Information and Knowledge Management, Proceedings, 2012: p. 31-6.

229.   Liu, H, ST Wu, D Li, S Jonnalagadda, S Sohn, K Wagholikar, . . . CG Chute, *Towards a semantic lexicon for clinical natural language processing*. AMIA Annu Symp Proc, 2012. 2012: p. 568-76. PMCID: PMC3540492, PubMed ID: 23304329.

230.   Musen, MA, NF Noy, NH Shah, PL Whetzel, CG Chute, MA Story, and B Smith, *The National*

Center for Biomedical Ontology. J Am Med Inform Assoc, 2012. 19(2): p. 190-5. PMCID: PMC3277625, PubMed ID: 22081220.

231. Pathak J, Kiefer RC, and Chute CG, *Applying Linked Data principles to represent patient's electronic health records at Mayo Clinic: A case report*. IHI'12 – Proceedings of the 2nd ACM SIGHIT International Health Informatics Symposium, 2012: p. 455-64.

232. Pathak, J, R Kiefer, R Freimuth, and C Chute, *Validation and discovery of genotype-phenotype associations in chronic diseases using linked data*. Stud Health Technol Inform, 2012. 180: p. 549-53. PubMed ID: 22874251.

233. Pathak, J, RC Kiefer, SJ Bielinski, and CG Chute, *Mining the human phenome using semantic web technologies: a case study for Type 2 Diabetes*. AMIA Annu Symp Proc, 2012. 2012: p. 699-708. PMCID: PMC3540447, PubMed ID: 23304343.

234. Pathak, J, RC Kiefer, SJ Bielinski, and CG Chute, *Applying semantic web technologies for phenome-wide scan using an electronic health record linked Biobank*. J Biomed Semantics, 2012. 3(1): p. 10. PMCID: PMC3554594, PubMed ID: 23244446.

235. Pathak, J, RC Kiefer, and CG Chute, *Using semantic web technologies for cohort identification from electronic health records for clinical research*. AMIA Jt Summits Transl Sci Proc, 2012. 2012: p. 10-9. PMCID: PMC3392057, PubMed ID: 22779040.

236. Pathak, J, LC Weiss, MJ Durski, Q Zhu, RR Freimuth, and CG Chute, *Integrating VA's NDF-RT drug terminology with PharmGKB: preliminary results*. Pac Symp Biocomput, 2012: p. 400-9. PMCID: PMC3909655, PubMed ID: 22174295.

237. Rea, S, J Pathak, G Savova, TA Oniki, L Westberg, CE Beebe, . . . CG Chute, *Building a robust, scalable and standards-driven infrastructure for secondary use of EHR data: the SHARPn project*. J Biomed Inform, 2012. 45(4): p. 763-71. PMCID: PMC4905766, PubMed ID: 22326800.

238. Saitwal, H, D Qing, S Jones, EV Bernstam, CG Chute, and TR Johnson, *Cross-terminology mapping challenges: a demonstration using medication terminological systems*. J Biomed Inform, 2012. 45(4): p. 613-25. PMCID: PMC4398308, PubMed ID: 22750536.

239. Savova, GK, JE Olson, SP Murphy, VL Cafourek, FJ Couch, MP Goetz, . . . RM Weinshilboum, *Automated discovery of drug treatment patterns for endocrine therapy of breast cancer within an electronic medical record*. J Am Med Inform Assoc, 2012. 19(e1): p. e83-9. PMCID: PMC3392847, PubMed ID: 22140207.

240. Sohn S, Murphy SP, Jonnalagadda SR, Wagholikar K, Wu ST, Chute CG, . . . Halgrim S, *Systematic analysis of cross-institutional medication description patterns in clinical notes*. Proceedings – 2012 IEEE 2nd Conference on Healthcare Informatics, Imaging and Systems Biology, HISB 2012, 2012: p. 118.

241. Sohn, S, S Wu, and CG Chute, *Dependency Parser-based Negation Detection in Clinical Narratives*. AMIA Jt Summits Transl Sci Proc, 2012. 2012: p. 1-8. PMCID: PMC3392064, PubMed ID: 22779038.

242. Song, D, CG Chute, and C Tao, *Semantator: annotating clinical narratives with semantic web ontologies*. AMIA Jt Summits Transl Sci Proc, 2012. 2012: p. 20-9. PMCID: PMC3392053, PubMed ID: 22779043.

243. Tao C, Wongsuphasawat K, Clark K, Plaisant C, Shneiderman B, and Chute CG, *Towards Event Sequence Representation, Reasoning, and Visualization for EHR Data*. ACM SIGHIT International Health Informatics Symposium (IHI), 2012

244. Tao C, Zhang Y, Jiang G, Bouamrane MM, and Chute CG, *Optimizing semantic MEDLINE for translational science studies using semantic web technologies*. International Conference on Information and Knowledge Management, Proceedings, 2012: p. 53-7.

245. Tao, C, Y He, H Yang, GA Poland, and CG Chute, *Ontology-based time information representation of vaccine adverse events in VAERS for temporal analysis*. J Biomed Semantics, 2012. 3(1): p. 13. PMCID: PMC3554604, PubMed ID: 23256916.

246. Wei, WQ, CL Leibson, JE Ransom, AN Kho, PJ Caraballo, HS Chai, . . . CG Chute, *Impact of data fragmentation across healthcare centers on the accuracy of a high-throughput clinical phenotyping algorithm for specifying subjects with type 2 diabetes mellitus*. J Am Med Inform Assoc, 2012. 19(2): p. 219-24. PMCID: PMC3277630, PubMed ID: 22249968.

247. Wu, ST, H Liu, D Li, C Tao, MA Musen, CG Chute, and NH Shah, *Unified Medical Language*

System term occurrences in clinical notes: a large-scale corpus analysis. J Am Med Inform Assoc, 2012. 19(e1): p. e149-56. PMCID: PMC3392861, PubMed ID: 22493050.

248. Zhu, Q, G Jiang, and CG Chute, *Profiling structured product labeling with NDF-RT and RxNorm.* J Biomed Semantics, 2012. 3(1): p. 16. PMCID: PMC3570438, PubMed ID: 23256517.

249. Zhu, Q, C Tao, Y Ding, and CG Chute, *Time-related patient data retrieval for the case studies from the pharmacogenomics research network.* J Med Syst, 2012. 36 Suppl 1: p. S37-42. PMCID: PMC3600379, PubMed ID: 23076712.

250. Chute, CG, *Coding patient information, reimbursement for care, and the ICD transition.* Virtual Mentor, 2013. 15(7): p. 596-9. PubMed ID: 23890432.

251. Chute, CG and IS Kohane, *Genomic medicine, health information technology, and patient care.* Jama, 2013. 309(14): p. 1467-8. PMCID: PMC3959893, PubMed ID: 23571583.

252. Chute, CG, M Ullman-Cullere, GM Wood, SM Lin, M He, and J Pathak, *Some experiences and opportunities for big data in translational research.* Genet Med, 2013. 15(10): p. 802-9. PMCID: PMC3906918, PubMed ID: 24008998.

253. Denny, JC, L Bastarache, MD Ritchie, RJ Carroll, R Zink, JD Mosley, . . . DM Roden, *Systematic comparison of phenome-wide association study of electronic medical record data and genome-wide association study data.* Nat Biotechnol, 2013. 31(12): p. 1102-10. PMCID: PMC3969265, PubMed ID: 24270849.

254. Gottesman, O, H Kuivaniemi, G Tromp, WA Faucett, R Li, TA Manolio, . . . MS Williams, *The Electronic Medical Records and Genomics (eMERGE) Network: past, present, and future.* Genet Med, 2013. 15(10): p. 761-71. PMCID: PMC3795928, PubMed ID: 23743551.

255. Jiang G, Evans J, Endle CM, Solbrig HR, and Chute CG, *Using semantic web technologies for the generation of domain templates to support clinical study meta-data standards.* CEUR Workshop Proceedings, 2013: p. 1114.

256. Jiang, G, H Liu, HR Solbrig, and CG Chute, *ADEpedia 2.0: Integration of Normalized Adverse Drug Events (ADEs) Knowledge from the UMLS.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 100-4. PMCID: PMC3845793, PubMed ID: 24303245.

257. Jiang, G, HR Solbrig, and CG Chute, *Using Semantic Web technology to support icd-11 textual definitions authoring.* J Biomed Semantics, 2013. 4(1): p. 11. PMCID: PMC3653695, PubMed ID: 23601451.

258. Jiang, G, C Wang, Q Zhu, and CG Chute, *A Framework of Knowledge Integration and Discovery for Supporting Pharmacogenomics Target Predication of Adverse Drug Events: A Case Study of Drug-Induced Long QT Syndrome.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 88-92. PMCID: PMC3814489, PubMed ID: 24303306.

259. Jiang, G, L Wang, H Liu, HR Solbrig, and CG Chute, *Building a knowledge base of severe adverse drug events based on AERS reporting data using semantic web technologies.* Stud Health Technol Inform, 2013. 192: p. 496-500. PubMed ID: 23920604.

260. Jonnalagadda SR, Moosavinasab S, Li D, Abel MD, Chute CG, and Liu H, *Prioritizing journals relevant to a topic for addressing clinician's information needs.* Proceedings – 2013 IEEE International Conference on Bioinformatics and Biomedicine, IEEE BIBM 2013, 2013: p. 5-6.

261. Kiefer, RC, RR Freimuth, CG Chute, and J Pathak, *Mining Genotype-Phenotype Associations from Public Knowledge Sources via Semantic Web Querying.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 118-22. PMCID: PMC3845769, PubMed ID: 24303249.

262. Li, D, G Simon, CG Chute, and J Pathak, *Using association rule mining for phenotype extraction from electronic health records.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 142-6. PMCID: PMC3845788, PubMed ID: 24303254.

263. Li DC, Liu H, Chute CG, and Jonnalagadda SR, *Towards assigning references using semantic, journal and citation relevance.* Proceedings – 2013 IEEE International Conference on Bioinformatics and Biomedicine, IEEE BIBM 2013, 2013: p. 499-503.

264. Liu, H, SJ Bielinski, S Sohn, S Murphy, KB Wagholikar, SR Jonnalagadda, . . . CG Chute, *An information extraction framework for cohort identification using electronic health records.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 149-53. PMCID: PMC3845757, PubMed ID: 24303255.

265. Ludvigsson, JF, J Pathak, S Murphy, M Durski, PS Kirsch, CG Chute, . . . JA Murray, *Use of computerized algorithm to identify individuals in need of testing for celiac disease.* J Am Med

Inform Assoc, 2013. 20(e2): p. e306-10. PMCID: PMC3861918, PubMed ID: 23956016.

266. Martinez-Costa, C, D Bosca, MC Legaz-Garcia, C Tao, JT Fernandez Breis, S Schulz, and CG Chute, *Isosemantic rendering of clinical information using formal ontologies and RDF*. Stud Health Technol Inform, 2013. 192: p. 1085. PubMed ID: 23920859.

267. Newton, KM, PL Peissig, AN Kho, SJ Bielinski, RL Berg, V Choudhary, . . . JC Denny, *Validation of electronic medical record-based phenotyping algorithms: results and lessons learned from the eMERGE network*. J Am Med Inform Assoc, 2013. 20(e1): p. e147-54. PMCID: PMC3715338, PubMed ID: 23531748.

268. Pathak J, Kiefer RC, and Chute CG, *Mining anti-coagulant drug-drug interactions from electronic health records using linked data*. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2013. 7970: p. 128-40.

269. Pathak J, Kiefer RC, and Chute CG, *Mining drug-drug interaction patterns from linked data: A case study for Warfarin, Clopidogrel, and Simvastatin*. Proceedings – 2013 IEEE International Conference on Bioinformatics and Biomedicine, IEEE BIBM 2013, 2013: p. 23-30.

270. Pathak, J, KR Bailey, CE Beebe, S Bethard, DC Carrell, PJ Chen, . . . CG Chute, *Normalization and standardization of electronic health records for high-throughput phenotyping: the SHARPn consortium*. J Am Med Inform Assoc, 2013. 20(e2): p. e341-8. PMCID: PMC3861933, PubMed ID: 24190931.

271. Pathak, J, RC Kiefer, and CG Chute, *Using linked data for mining drug-drug interactions in electronic health records*. Stud Health Technol Inform, 2013. 192: p. 682-6. PMCID: PMC3909652, PubMed ID: 23920643.

272. Ranallo, PA, TJ Adam, KJ Nelson, RF Krueger, M LaVenture, and CG Chute, *Psychological assessment instruments: a coverage analysis using SNOMED CT, LOINC and QS terminology*. AMIA Annu Symp Proc, 2013. 2013: p. 1333-40. PMCID: PMC3900148, PubMed ID: 24551411.

273. Ridgeway, JL, TJ Beebe, CG Chute, DT Eton, LA Hart, MH Frost, . . . JA Sloan, *A brief Patient-Reported Outcomes Quality of Life (PROQOL) instrument to improve patient care*. PLoS Med, 2013. 10(11): p. e1001548. PMCID: PMC3825652, PubMed ID: 24265598.

274. Ritchie, MD, JC Denny, RL Zuvich, DC Crawford, JS Schildcrout, L Bastarache, . . . DM Roden, *Genome- and phenome-wide analyses of cardiac conduction identifies markers of arrhythmia risk*. Circulation, 2013. 127(13): p. 1377-85. PMCID: PMC3713791, PubMed ID: 23463857.

275. Rodrigues JM, Schulz S, Rector A, Spackman K, Ustun B, Chute CG, . . . Kalra D, *Do we need a Common Ontology between ICD 11 and SNOMED CT to ensure Seamless Re-Use and Semantic Interoperability?* Stud Health Technol Inform, 2013. 192: p. 1234.

276. Rodrigues, JM, S Schulz, A Rector, K Spackman, B Ustun, CG Chute, . . . KB Persson, *Sharing ontology between ICD 11 and SNOMED CT will enable seamless re-use and semantic interoperability*. Stud Health Technol Inform, 2013. 192: p. 343-6. PubMed ID: 23920573.

277. Seedorff, M, KJ Peterson, LA Nelsen, C Cocos, JB McCormick, CG Chute, and J Pathak, *Incorporating expert terminology and disease risk factors into consumer health vocabularies*. Pac Symp Biocomput, 2013: p. 421-32. PMCID: PMC3587774, PubMed ID: 23424146.

278. Shuldiner, AR, MV Relling, JF Peterson, JK Hicks, RR Freimuth, W Sadee, . . . CG Chute, *The Pharmacogenomics Research Network Translational Pharmacogenetics Program: overcoming challenges of real-world implementation*. Clin Pharmacol Ther, 2013. 94(2): p. 207-10. PMCID: PMC3720847, PubMed ID: 23588301.

279. Sohn, S, C Clark, SR Halgrim, SP Murphy, SR Jonnalagadda, KB Wagholikar, . . . H Liu, *Analysis of cross-institutional medication description patterns in clinical narratives*. Biomed Inform Insights, 2013. 6(Suppl 1): p. 7-16. PMCID: PMC3702197, PubMed ID: 23847423.

280. Sohn, S, Z Ye, H Liu, CG Chute, and IJ Kullo, *Identifying Abdominal Aortic Aneurysm Cases and Controls using Natural Language Processing of Radiology Reports*. AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 249-53. PMCID: PMC3845740, PubMed ID: 24303276.

281. Tao C, Li D, Shen F, Lian Z, Pathak J, Liu H, and Chute CG, *Phenotyping on EHR data using OWL and semantic web technologies*. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2013. 8040: p. 31-2.

282. Tao, C, G Jiang, TA Oniki, RR Freimuth, Q Zhu, D Sharma, . . . CG Chute, *A semantic-web*

oriented representation of the clinical element model for secondary use of electronic health records data. J Am Med Inform Assoc, 2013. 20(3): p. 554-62. PMCID: PMC3628064, PubMed ID: 23268487.

283. Tao, C, J Pathak, HR Solbrig, WQ Wei, and CG Chute, *Terminology representation guidelines for biomedical ontologies in the semantic web notations.* J Biomed Inform, 2013. 46(1): p. 128-38. PMCID: PMC3563768, PubMed ID: 23026232.

284. Tao, C, D Song, D Sharma, and CG Chute, *Semantator: semantic annotator for converting biomedical text to linked data.* J Biomed Inform, 2013. 46(5): p. 882-93. PMCID: PMC4837761, PubMed ID: 23867104.

285. Wei, WQ, CL Leibson, JE Ransom, AN Kho, and CG Chute, *The absence of longitudinal data limits the accuracy of high-throughput clinical phenotyping for identifying type 2 diabetes mellitus subjects.* Int J Med Inform, 2013. 82(4): p. 239-47. PMCID: PMC3478423, PubMed ID: 22762862.

286. Wu, ST, VC Kaggal, D Dligach, JJ Masanz, P Chen, L Becker, . . . CG Chute, *A common type system for clinical natural language processing.* J Biomed Semantics, 2013. 4(1): p. 1. PMCID: PMC3575354, PubMed ID: 23286462.

287. Zhu, Q, RR Freimuth, Z Lian, S Bauer, J Pathak, C Tao, . . . CG Chute, *Harmonization and semantic annotation of data dictionaries from the Pharmacogenomics Research Network: a case study.* J Biomed Inform, 2013. 46(2): p. 286-93. PMCID: PMC3606279, PubMed ID: 23201637.

288. Zhu, Q, RR Freimuth, J Pathak, and CG Chute, *PharmGKB Drug Data Normalization with NDF-RT.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 180. PMCID: PMC4852296, PubMed ID: 24303334.

289. Zhu, Q, RR Freimuth, J Pathak, and CG Chute, *Using clinical element models for pharmacogenomic study data standardization.* AMIA Jt Summits Transl Sci Proc, 2013. 2013: p. 292-6. PMCID: PMC3845787, PubMed ID: 24303283.

290. Zhu, Q, RR Freimuth, J Pathak, MJ Durski, and CG Chute, *Disambiguation of PharmGKB drug-disease relations with NDF-RT and SPL.* J Biomed Inform, 2013. 46(4): p. 690-6. PMCID: PMC3746070, PubMed ID: 23727027.

291. Zhu, Q, G Jiang, L Wang, and CG Chute, *Standardized drug and pharmacological class network construction.* Stud Health Technol Inform, 2013. 192: p. 1125. PMCID: PMC3909176, PubMed ID: 23920899.

292. Bielinski, SJ, JE Olson, J Pathak, RM Weinshilboum, L Wang, KJ Lyke, . . . IJ Kullo, *Preemptive genotyping for personalized medicine: design of the right drug, right dose, right time-using genomic data to individualize treatment protocol.* Mayo Clin Proc, 2014. 89(1): p. 25-33. PMCID: PMC3932754, PubMed ID: 24388019.

293. Chute, CG, *Invited commentary: Observational research in the age of the electronic health record.* Am J Epidemiol, 2014. 179(6): p. 759-61. PubMed ID: 24488512.

294. Chute, CG, LA Hart, AK Alexander, and DW Jensen, *The Southeastern Minnesota Beacon Project for Community-driven Health Information Technology: Origins, Achievements, and Legacy.* EGEMS (Wash DC), 2014. 2(3): p. 1101. PMCID: PMC4371447, PubMed ID: 25848625.

295. Clark, K, D Sharma, R Qin, CG Chute, and C Tao, *A use case study on late stent thrombosis for ontology-based temporal reasoning and analysis.* J Biomed Semantics, 2014. 5(1): p. 49. PMCID: PMC4275934, PubMed ID: 25540680.

296. Cronin, RM, JR Field, Y Bradford, CM Shaffer, RJ Carroll, JD Mosley, . . . JC Denny, *Phenome-wide association studies demonstrating pleiotropy of genetic variants within FTO with and without adjustment for body mass index.* Front Genet, 2014. 5: p. 250. PMCID: PMC4134007, PubMed ID: 25177340.

297. Freimuth, RR, K Wix, Q Zhu, M Siska, and CG Chute, *Evaluation of RxNorm for Medication Clinical Decision Support.* AMIA Annu Symp Proc, 2014. 2014: p. 554-63. PMCID: PMC4419908, PubMed ID: 25954360.

298. Freimuth, RR, Q Zhu, J Pathak, and CG Chute, *Simplifying complex clinical element models to encourage adoption.* AMIA Jt Summits Transl Sci Proc, 2014. 2014: p. 26-31. PMCID: PMC4419759, PubMed ID: 25954573.

299. Haug, PJ, X Wu, JP Ferraro, GK Savova, SM Huff, and CG Chute, *Developing a section labeler*

for clinical documents. AMIA Annu Symp Proc, 2014. 2014: p. 636-44. PMCID: PMC4419880, PubMed ID: 25954369.

300. Hripcsak, G, M Bloomrosen, P FlatelyBrennan, CG Chute, J Cimino, DE Detmer, . . . AB Wilcox, *Health data use, stewardship, and governance: ongoing gaps and challenges: a report from AMIA's 2012 Health Policy Meeting.* J Am Med Inform Assoc, 2014. 21(2): p. 204-11. PMCID: PMC3932468, PubMed ID: 24169275.

301. Jonnalagadda, SR, S Moosavinasab, C Nath, D Li, CG Chute, and H Liu, *An automated approach for ranking journals to help in clinician decision support.* AMIA Annu Symp Proc, 2014. 2014: p. 757-66. PMCID: PMC4420004, PubMed ID: 25954382.

302. Kullo, IJ, K Shameer, H Jouni, TG Lesnick, J Pathak, CG Chute, and M de Andrade, *The ATXN2-SH2B3 locus is associated with peripheral arterial disease: an electronic medical record-based genome-wide association study.* Front Genet, 2014. 5: p. 166. PMCID: PMC4070196, PubMed ID: 25009551.

303. Li, DC, T Thermeau, C Chute, and H Liu, *Discovering associations among diagnosis groups using topic modeling.* AMIA Jt Summits Transl Sci Proc, 2014. 2014: p. 43-9. PMCID: PMC4419765, PubMed ID: 25954576.

304. Malinowski, JR, JC Denny, SJ Bielinski, MA Basford, Y Bradford, PL Peissig, . . . DC Crawford, *Genetic variants associated with serum thyroid stimulating hormone (TSH) levels in European Americans and African Americans from the eMERGE Network.* PLoS One, 2014. 9(12): p. e111301. PMCID: PMC4249871, PubMed ID: 25436638.

305. Masanz, J, SV Pakhomov, H Xu, ST Wu, CG Chute, and H Liu, *Open Source Clinical NLP - More than Any Single System.* AMIA Jt Summits Transl Sci Proc, 2014. 2014: p. 76-82. PMCID: PMC4419764, PubMed ID: 25954581.

306. Overby, CL, LV Rasmussen, A Hartzler, JJ Connolly, JF Peterson, RE Hedberg, . . . MS Williams, *A Template for Authoring and Adapting Genomic Medicine Content in the eMERGE Infobutton Project.* AMIA Annu Symp Proc, 2014. 2014: p. 944-53. PMCID: PMC4419923, PubMed ID: 25954402.

307. Pathak, J, G Simon, D Li, JM Biernacka, GJ Jenkins, CG Chute, . . . RM Weinshilboum, *Detecting Associations between Major Depressive Disorder Treatment and Essential Hypertension using Electronic Health Records.* AMIA Jt Summits Transl Sci Proc, 2014. 2014: p. 91-6. PMCID: PMC4419773, PubMed ID: 25954583.

308. Rasmussen-Torvik, LJ, SC Stallings, AS Gordon, B Almoguera, MA Basford, SJ Bielinski, . . . JC Denny, *Design and anticipated outcomes of the eMERGE-PGx project: a multicenter pilot for preemptive pharmacogenomics in electronic health record systems.* Clin Pharmacol Ther, 2014. 96(4): p. 482-9. PMCID: PMC4169732, PubMed ID: 24960519.

309. Rodrigues, JM, S Schulz, A Rector, K Spackman, J Millar, J Campbell, . . . KB Persson, *ICD-11 and SNOMED CT Common Ontology: circulatory system.* Stud Health Technol Inform, 2014. 205: p. 1043-7. PubMed ID: 25160347.

310. Schulz, S, JM Rodrigues, A Rector, K Spackman, J Campbell, B Ustun, . . . K Brand Persson, *What's in a class? Lessons learnt from the ICD - SNOMED CT harmonisation.* Stud Health Technol Inform, 2014. 205: p. 1038-42. PubMed ID: 25160346.

311. Shameer, K, JC Denny, K Ding, H Jouni, DR Crosslin, M de Andrade, . . . IJ Kullo, *A genome- and phenome-wide association study to identify genetic variants influencing platelet count and volume and their pleiotropic effects.* Hum Genet, 2014. 133(1): p. 95-109. PMCID: PMC3880605, PubMed ID: 24026423.

312. Shen F, Li D, Liu H, Lee Y, Pathak J, Chute CG, and Tao C, *Using semantic web technologies for quality measure phenotyping algorithm representation and automatic execution on EHR data.* IEEE-EMBS International Conference on Biomedical and Health Informatics, BHI 2014, 2014. 3: p. 531-4.

313. Sohn, S, C Clark, SR Halgrim, SP Murphy, CG Chute, and H Liu, *MedXN: an open source medication extraction and normalization tool for clinical text.* J Am Med Inform Assoc, 2014. 21(5): p. 858-65. PMCID: PMC4147619, PubMed ID: 24637954.

314. Solbrig H, Prud'Hommeaux E, Chute CG, and Davies J, *A formal model for RDF dataset constraints.* Lecture Notes in Computer Science (including subseries Lexture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 2014. 8388: p. 244-60.

315. Wagholikar, KB, KL MacLaughlin, PM Casey, TM Kastner, MR Henry, RA Hankey, . . . R Chaudhry, *Automated recommendation for cervical cancer screening and surveillance*. Cancer Inform, 2014. 13(Suppl 3): p. 1-6. PMCID: PMC4214690, PubMed ID: 25368505.

316. Wang, C, MT Zimmermann, N Prodduturi, CG Chute, and G Jiang, *Adverse Drug Event-based Stratification of Tumor Mutations: A Case Study of Breast Cancer Patients Receiving Aromatase Inhibitors*. AMIA Annu Symp Proc, 2014. 2014: p. 1160-9. PMCID: PMC4419882, PubMed ID: 25954427.

317. Zhang, Y, C Tao, G Jiang, AA Nair, J Su, CG Chute, and H Liu, *Network-based analysis reveals distinct association patterns in a semantic MEDLINE-based drug-disease-gene network*. J Biomed Semantics, 2014. 5: p. 33. PMCID: PMC4137727, PubMed ID: 25170419.

318. Zhu, Q, C Tao, F Shen, and CG Chute, *Exploring the pharmacogenomics knowledge base (PharmGKB) for repositioning breast cancer drugs by leveraging Web ontology language (OWL) and cheminformatics approaches*. Pac Symp Biocomput, 2014: p. 172-82. PMCID: PMC3909178, PubMed ID: 24297544.

319. Harrison, AM, C Thongprayoon, R Kashyap, CG Chute, O Gajic, BW Pickering, and V Herasevich, *Developing the surveillance algorithm for detection of failure to recognize and treat severe sepsis*. Mayo Clin Proc, 2015. 90(2): p. 166-75. PubMed ID: 25576199.

320. Herr, TM, SJ Bielinski, E Bottinger, A Brautbar, M Brilliant, CG Chute, . . . J Starren, *Practical considerations in genomic decision support: The eMERGE experience*. J Pathol Inform, 2015. 6: p. 50. PMCID: PMC4629307, PubMed ID: 26605115.

321. Herr, TM, SJ Bielinski, E Bottinger, A Brautbar, M Brilliant, CG Chute, . . . J Starren, *A conceptual model for translating omic data into clinical action*. J Pathol Inform, 2015. 6: p. 46. PMCID: PMC4584438, PubMed ID: 26430534.

322. Hong, N, G Jiang, J Pathak, and CG Chute, *A Pilot Study on Modeling of Diagnostic Criteria Using OWL and SWRL*. Stud Health Technol Inform, 2015. 216: p. 1093. PubMed ID: 26262392.

323. Jiang, G, J Evans, TA Oniki, JF Coyle, L Bain, SM Huff, . . . CG Chute, *Harmonization of detailed clinical models with clinical study data standards*. Methods Inf Med, 2015. 54(1): p. 65-74. PubMed ID: 25426730.

324. Jiang, G, H Liu, HR Solbrig, and CG Chute, *Mining severe drug-drug interaction adverse events using Semantic Web technologies: a case study*. BioData Min, 2015. 8: p. 12. PMCID: PMC4379609, PubMed ID: 25829948.

325. Jiang, G, S Sohn, MT Zimmermann, C Wang, H Liu, and CG Chute, *Drug Normalization for Cancer Therapeutic and Druggable Genome Target Discovery*. AMIA Jt Summits Transl Sci Proc, 2015. 2015: p. 72-6. PMCID: PMC4525232, PubMed ID: 26306243.

326. Jiang, G, HR Solbrig, R Kiefer, LV Rasmussen, H Mo, P Speltz, . . . J Pathak, *A Standards-based Semantic Metadata Repository to Support EHR-driven Phenotype Authoring and Execution*. Stud Health Technol Inform, 2015. 216: p. 1098. PMCID: PMC4898771, PubMed ID: 26262397.

327. Jiang, G, HR Solbrig, J Pathak, and CG Chute, *Developing a Standards-Based Information Model for Representing Computable Diagnostic Criteria: A Feasibility Study of the NQF Quality Data Model*. Stud Health Technol Inform, 2015. 216: p. 1097. PMCID: PMC4898779, PubMed ID: 26262396.

328. Jiang, G, HR Solbrig, E Prud'hommeaux, C Tao, C Weng, and CG Chute, *Quality Assurance of Cancer Study Common Data Elements Using A Post-Coordination Approach*. AMIA Annu Symp Proc, 2015. 2015: p. 659-68. PMCID: PMC4765658, PubMed ID: 26958201.

329. Legaz-Garcia Mdel, C, M Menarguez-Tortosa, JT Fernandez-Breis, CG Chute, and C Tao, *Transformation of standardized clinical models based on OWL technologies: from CEM to OpenEHR archetypes*. J Am Med Inform Assoc, 2015. 22(3): p. 536-44. PMCID: PMC5566199, PubMed ID: 25670753.

330. Mo, H, WK Thompson, LV Rasmussen, JA Pacheco, G Jiang, R Kiefer, . . . PA Harris, *Desiderata for computable representations of electronic health records-driven phenotype algorithms*. J Am Med Inform Assoc, 2015. 22(6): p. 1220-30. PMCID: PMC4639716, PubMed ID: 26342218.

331. Priya, S, G Jiang, S Dasari, MT Zimmermann, C Wang, J Heflin, and CG Chute, *A Semantic Web-based System for Mining Genetic Mutations in Cancer Clinical Trials*. AMIA Jt Summits Transl Sci Proc, 2015. 2015: p. 142-6. PMCID: PMC4525254, PubMed ID: 26306257.

332. Richesson, RL and CG Chute, *Health information technology data standards get down to business: maturation within domains and the emergence of interoperability*. J Am Med Inform Assoc, 2015. 22(3): p. 492-4. PubMed ID: 25981416.

333. Rodrigues, JM, D Robinson, V Della Mea, J Campbell, A Rector, S Schulz, . . . K Brand Persson, *Semantic Alignment between ICD-11 and SNOMED CT*. Stud Health Technol Inform, 2015. 216: p. 790-4. PubMed ID: 26262160.

334. Shirts, BH, JS Salama, SJ Aronson, WK Chung, SW Gray, LA Hindorff, . . . CL Overby, *CSER and eMERGE: current and potential state of the display of genetic information in the electronic health record*. J Am Med Inform Assoc, 2015. 22(6): p. 1231-42. PMCID: PMC5009914, PubMed ID: 26142422.

335. Wagholikar, KB, KL MacLaughlin, CG Chute, RA Greenes, H Liu, and R Chaudhry, *Granular Quality Reporting for Cervical Cytology Testing*. AMIA Jt Summits Transl Sci Proc, 2015. 2015: p. 178-82. PMCID: PMC4525216, PubMed ID: 26306264.

336. Wang, C, MT Zimmermann, CG Chute, and G Jiang, *Adverse Drug Events-based Tumor Stratification for Ovarian Cancer Patients Receiving Platinum Therapy*. AMIA Jt Summits Transl Sci Proc, 2015. 2015: p. 51-5. PMCID: PMC4525249, PubMed ID: 26306234.

337. Wang, L, H Liu, CG Chute, and Q Zhu, *Cancer based pharmacogenomics network supported with scientific evidences: from the view of drug repurposing*. BioData Min, 2015. 8: p. 9. PMCID: PMC4345035, PubMed ID: 25729430.

338. Zhu, Q, H Liu, CG Chute, and M Ferber, *EHR based Genetic Testing Knowledge Base (iGTKB) Development*. BMC Med Inform Decis Mak, 2015. 15 Suppl 4: p. S3. PMCID: PMC4660117, PubMed ID: 26606281.

339. Borma, T, J Harrison, S Weber, and C Chute. *The ICD: What it Means to Countries and to Global Health*. in *18th IFHIMA International Congress*. 2016, O. Takahashi, Editor. Tokyo: IFHIMA. 16-24.

340. Bush, WS, DR Crosslin, A Owusu-Obeng, J Wallace, B Almoguera, MA Basford, . . . MD Ritchie, *Genetic variation among 82 pharmacogenes: The PGRNseq data from the eMERGE network*. Clin Pharmacol Ther, 2016. 100(2): p. 160-9. PMCID: PMC5010878, PubMed ID: 26857349.

341. Cornet, R and CG Chute, *Health Concept and Knowledge Management: Twenty-five Years of Evolution*. Yearb Med Inform, 2016. Suppl 1: p. S32-41. PMCID: PMC5171511, PubMed ID: 27488404.

342. Hong, N, J Pathak, CG Chute, and G Jiang, *Developing a modular architecture for creation of rule-based clinical diagnostic criteria*. BioData Min, 2016. 9: p. 33. PMCID: PMC5073928, PubMed ID: 27785153.

343. Jiang, G, J Evans, CM Endle, HR Solbrig, and CG Chute, *Using Semantic Web technologies for the generation of domain-specific templates to support clinical study metadata standards*. J Biomed Semantics, 2016. 7: p. 10. PMCID: PMC4778326, PubMed ID: 26949508.

344. Jiang, G, RC Kiefer, LV Rasmussen, HR Solbrig, H Mo, JA Pacheco, . . . J Pathak, *Developing a data element repository to support EHR-driven phenotype algorithm authoring and execution*. J Biomed Inform, 2016. 62: p. 232-42. PMCID: PMC5490836, PubMed ID: 27392645.

345. Mosley, JD, CM Shaffer, SL Van Driest, PE Weeke, QS Wells, JH Karnes, . . . DM Roden, *A genome-wide association study identifies variants in KCNIP4 associated with ACE inhibitor-induced cough*. Pharmacogenomics J, 2016. 16(3): p. 231-7. PMCID: PMC4713364, PubMed ID: 26169577.

346. Mosley, JD, SL van Driest, QS Wells, CM Shaffer, TL Edwards, L Bastarache, . . . DM Roden, *Defining a Contemporary Ischemic Heart Disease Genetic Risk Profile Using Historical Data*. Circ Cardiovasc Genet, 2016. 9(6): p. 521-530. PMCID: PMC5177499, PubMed ID: 27780847.

347. Oniki, TA, N Zhuo, CE Beebe, H Liu, JF Coyle, CG Parker, . . . SM Huff, *Clinical element models in the SHARPn consortium*. J Am Med Inform Assoc, 2016. 23(2): p. 248-56. PubMed ID: 26568604.

348. Rasmussen, LV, CL Overby, J Connolly, CG Chute, JC Denny, R Freimuth, . . . J Starren, *Practical considerations for implementing genomic information resources. Experiences from eMERGE and CSER*. Appl Clin Inform, 2016. 7(3): p. 870-82. PMCID: PMC5052555, PubMed ID: 27652374.

349. Chute, CG and SM Huff, *The Pluripotent Rendering of Clinical Data for Precision Medicine*.

Stud Health Technol Inform, 2017. 245: p. 337-340. PubMed ID: 29295111.

350. Dumitrescu, L, MD Ritchie, JC Denny, NM El Rouby, CW McDonough, Y Bradford, . . . DC Crawford, *Genome-wide study of resistant hypertension identified from electronic health records*. PLoS One, 2017. 12(2): p. e0171745. PMCID: PMC5319785, PubMed ID: 28222112.

351. Heit, JA, SM Armasu, BM McCauley, IJ Kullo, H Sicotte, J Pathak, . . . M de Andrade, *Identification of unique venous thromboembolism-susceptibility variants in African-Americans*. Thromb Haemost, 2017. 117(4): p. 758-768. PMCID: PMC5831339, PubMed ID: 28203683.

352. Mosley, JD, MB Shoemaker, QS Wells, D Darbar, CM Shaffer, TL Edwards, . . . DM Roden, *Investigating the Genetic Architecture of the PR Interval Using Clinical Phenotypes*. Circ Cardiovasc Genet, 2017. 10(2) PMCID: PMC5434456, PubMed ID: 28416512.

353. Overby, CL, P Thompkins, H Lehmann, CG Chute, and JS Sheffield, *Value of Genetics-informed Drug Dosing Guidance in Pregnant Women: A Needs Assessment with Obstetric Healthcare Providers at Johns Hopkins*. AMIA Annu Symp Proc, 2017. 2017: p. 1342-1351. PMCID: PMC5977707, PubMed ID: 29854203.

354. Schulz, S, JM Rodrigues, A Rector, and CG Chute, *Interface Terminologies, Reference Terminologies and Aggregation Terminologies: A Strategy for Better Integration*. Stud Health Technol Inform, 2017. 245: p. 940-944. PubMed ID: 29295238.

355. Sharma, DK, HR Solbrig, C Tao, C Weng, CG Chute, and G Jiang, *Building a semantic web-based metadata repository for facilitating detailed clinical modeling in cancer genome studies*. J Biomed Semantics, 2017. 8(1): p. 19. PMCID: PMC5460361, PubMed ID: 28583204.

356. Wagholikar, KB, JC Mandel, JG Klann, N Wattanasin, M Mendis, CG Chute, . . . SN Murphy, *SMART-on-FHIR implemented over i2b2*. J Am Med Inform Assoc, 2017. 24(2): p. 398-402. PMCID: PMC5391721, PubMed ID: 27274012.

357. Aronson, S, L Babb, D Ames, RA Gibbs, E Venner, JJ Connelly, . . . C Overby Taylor, *Empowering genomic medicine by establishing critical sequencing result data flows: the eMERGE example*. J Am Med Inform Assoc, 2018 PubMed ID: 29860405.

358. Chute, CG, *The rendering of human phenotype and rare diseases in ICD-11*. J Inherit Metab Dis, 2018. 41(3): p. 563-569. PMCID: PMC5959961, PubMed ID: 29600497.

359. Mosley, JD, Q Feng, QS Wells, SL Van Driest, CM Shaffer, TL Edwards, . . . DM Roden, *A study paradigm integrating prospective epidemiologic cohorts and electronic health records to identify disease biomarkers*. Nat Commun, 2018. 9(1): p. 3522. PMCID: PMC6117367, PubMed ID: 30166544.

360. Overby, CL, P Thompkins, H Lehmann, CG Chute, and JS Sheffield, *Value of Genetics-informed Drug Dosing Guidance in Pregnant Women: A Needs Assessment with Obstetric Healthcare Providers at Johns Hopkins*. AMIA Annu Symp Proc, 2017. 2017: p. 1342-1351. PMCID: PMC5977707, PubMed ID: 29854203.

361. Haendel, MA, CG Chute, and PN Robinson, *Classification, Ontology, and Precision Medicine*. N Engl J Med, 2018. 379(15): p. 1452-1462. PubMed ID: 30304648.

362. Stanaway, IB, TO Hall, EA Rosenthal, M Palmer, V Naranbhai, R Knevel, . . . DR Crosslin, *The eMERGE genotype set of 83,717 subjects imputed to ~40 million variants genome wide and association with the herpes zoster medical record phenotype*. Genet Epidemiol, 2018 PubMed ID: 30298529.

363. Haendel, MA, JA McMurry, R Relevo, . . . CG Chute. *A Census of Disease Ontologies*. Annu. Rev. Biomed. Data Sci, 2018. 1:305–31.

BOOKS, MONOGRAPHS, OR BOOK CHAPTERS:

364. Robins JM, Pambrun M, Chute CG, Blevins D. *Estimating the Effect of Formaldehyde Exposure on Lung Cancer and Non-malignant Respiratory Disease (NMRD) Mortality Using a New Method to Control for the Healthy Worker Survivor Effect*. In: Hogstedt C, Reuterwall C, eds. *Progress in occupational epidemiology*. New York: Elsevier; 1988; 75-78.

365. Stampfer M, Colditz GA, London SL, Chute CG, Rosner B, Willett WC, Hennekens CH, Speizer FE. *Smoking and Hormone-related disorders in the Nurses Health Study*. Wald N, Baron B, eds. Smoking and Hormone-Related Disorders. Oxford: Oxford University Press, 1990:20-31.

366. <u>Chute CG</u>. *Endogenous and Exogenous Estrogen, Body Size, and Smoking on Colon Cancer Risk in Women*. Boston, MA: Harvard School of Public Health; 1990. Thesis.

367. <u>Chute CG</u>, Ballard DJ, Nemetz PN. *Contributions of autopsy to population-based cancer epidemiology: Targeted intervention to improve ascertainment*. E Riboli, M. Delendi, eds. Autopsy in Epidemiology and Medical Research. Lyon: IARC Scientific Publication No. 112, 1991:207-16.

368. <u>Chute CG</u>. Epidemiology. Clark BR, Neave G (Eds.). *The Encyclopedia of Higher Education*. Oxford: Pergamon Press, 1992:2285-92.

369. McCray AT, Scherrer JR, Safran C, <u>Chute CG</u> (Eds.). Special issue on concepts, knowledge, and language in health-care information systems (IMIA). Methods of Information in Medicine 1995:34(1/2).

370. Johnson C, Arrighi M, Van Grevenhof P, Mueller R, Panser L, Lee R, <u>Chute CG</u>. *Some considerations in designing SAS-based data management systems for large international epidemiologic studies*. Client/ Server Computing with the SAS System: Tips and Techniques. Cary, NC: SAS Institute Inc, 1995:244-52.

371. <u>Chute CG</u>, Crowson DL, Buntrock JD. *Medical information retrieval and www browsers at Mayo*. Toward an electronic patient record '96: proceedings. Volume One. Newton, MA: Medical Records Institute; 1996:350-5.

372. Blair J, Narcisi J, Turner A, Appavu S, <u>Chute CG</u>, Fitzmaurice JM, et al. *Healthcare informatics standards board inventory of health care information standards*. New York, NY: American National Standards Board, 1997.

373. <u>Chute, CG</u>. Editor, Proceedings of the AMIA Annual Symposium, Philadelphia: Hanley & Belfus, 1998.

374. <u>Chute CG</u>, Baud RH, Cimino JJ, Patel VL, Rector AL. Special issue on coding and language processing. (Proceedings of the 1997 International Medical Informatics Association (IMIA) Working Group 6 Conference on Natural Language and Medical Concept Representation). Methods of Information in Medicine 1998; 37(4/5):311-575.

375. <u>Chute CG</u>. *Nomenclatures, Classifications and Case-Mix: From Patient Description to Abstraction*. Case Mix: Global Views, Local Actions. Roger France, FH, et al. (Eds.). IOS Press; 2001; 1-7.

376. <u>Chute CG</u>, Langlotz CP. *The Spectrum of Existing and Emerging Health Data Standards: Their Relevance and Application to Cancer Information* (Section 3 Introduction). Cancer Informatics: Essential Technologies for Clinical Trials. Silva JS, Ball MJ, <u>Chute CG</u>, Douglas JV, Langlotz CP, Niland JC, Scherlis WL (Eds.). Springer, 2002; 99-101.

377. <u>Chute CG</u>. *Cancer Data, Information Standards, and Convergent Efforts* (Chapter 7). Cancer Informatics: Essential Technologies for Clinical Trials. Silva JS, Ball MJ, Chute CG, Douglas JV, Langlotz CP, Niland JC, Scherlis WL (Eds.). Springer, 2002; 102-105.

378. Ball MJ, Becich MJ, Blayney DW, Campbell DN, <u>Chute CG</u>. et al. *Translating Cancer Research into Cancer Care: Final Report of the Long Range Planning Committee*. Cancer Informatics: Essential Technologies For Clinical Trials 2002; 5-16.

379. Ball MJ, Becich MJ, Blayney DW, Campbell DN, <u>Chute CG</u>. et al. *Visions of the Future*. Cancer Informatics: Essential Technologies For Clinical Trials 2002; 17-32.

380. Silva JS, Ball MJ, <u>Chute CG</u>, et al., Eds. *Cancer Informatics: Essential Technologies for Clinical Trials*. Health Informatics. New York, Springer, 2002.

381. Meyer RE, Ball MJ, <u>Chute CG</u>, et al. Eds. *Information Technology Enabling Clinical Research*: Findings and Recommendations from a Conference Sponsored by the Association of American Medical Colleges with funding from the National Science Foundations, AAMC 2003.

382. <u>Chute CG</u>. *Medical Concept Representation*. Medical Informatics: Knowledge Management and Data Mining in Biomedicine. Chen H, Fuller S, Friedman C, Hersh W., Eds.; New York, Springer, 2005, pp. 163-182.

383. <u>Chute, CG.</u> *The Unified Medical Language System and Associated Vocabularies* (Encyclopedia Entry). Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics. Subramaniam S, Ed.; John Wiley & Sons Ltd., 2005. pp 3400-3409.

384. <u>Chute CG</u>. *From Notations to Data: The Digital Transformation of Clinical Research*. In: Richesson RL, Andrews JE. (eds.) Clinical Research Informatics. New York: Springer; 2012. p. 17-26.

385. <u>Chute CG</u>, Üstün B. *"ICD-11 Preview,"* in Healthcare Code Sets, Clinical Terminologies, and Classification Systems, Third Edition, edited by Kathy Giannangelo, AHIMA, 2014, Chicago, Illinois. pp. 128-137.

386. <u>Chute, CG.</u> *Analytics*. In: J.T. Finnell, B.E. Dixon (eds.), Clinical Informatics Study Guide: Text and Review. Switzerland, Springer; 2015. p. 163-185.

EDITORIALS:
387. <u>Chute CG</u>, Willett WC, Colditz GA, Stampfer MJ, Rosner B, Speizer FE. *Exogenous hormones and colorectal cancer*. Epidemiology. 1991; 2(5):395. PMID: 1742394.

388. <u>Chute CG</u>. *The Journey of Meaningful Use*. The Standards Standard eNewsletter, an AMIA publication. May/June 2010; 1(1).

LETTERS:
389. Frumkin H, <u>Chute CG</u>. The health effects of Heptachlor. JAMA 1987; 257:100. PubMed ID: 3820507.

390. Greenberg ER, <u>Chute CG</u>, Stukel T, et al. Influence of Nonmedical Factors in the Choice of Lung-Cancer Treatment – Reply. N Eng J Med. 1988 Sept 8; 319:652-3.

391. Talley NJ, <u>Chute CG</u>, Larson D, Melton LJ III. Pernicious anemia and colorectal cancer. Ann Intern Med 1990; 112(8):630-1.

392. Jacobsen SJ, Katusic SK, Bergstralh EJ, Oesterling JE, Klee GG, <u>Chute CG</u>, Lieber MM. Incidence of prostate cancer diagnosis in the eras before and after serum prostate-specific antigen testing. JAMA 1996; 275:115-116.

NON PEER-REVIEWED, PUBLISHED ARTICLES:
393. Van Grevenhof P, <u>Chute CG</u>, Ballard DJ. The Use of SAS for Developing a Common and Clonable Environment in Support of Research Applications. *Proceedings of Second Annual Conference of the Midwest SAS Users Group (MWSUG '91)* 1991:327-331.

394. <u>Chute CG</u>, Grain H. Health Information Terminologies: Standards and Practice. *ISO Focus* 2007; 4(2): 28-29.

395. <u>Chute CG</u>, Kullo IJ. From bench to bedside: The eMERGE project and the integration of genomic data into practice. *Minnesota Physician - The Independent Medical Business Newspaper*. March 2013; XXVI(12):24-5.

ABSTRACTS:
396. <u>Chute CG</u>, Baron J, Plymate S, Kiel D, Pavia A, Lozner E. Sex hormones and coronary artery disease in men. *Clin Res* 1985:33:246A.

397. <u>Chute CG</u>, Baron J, Plymate S, Pavia A, Kiel D. Relationship of risk factors for coronary artery disease and sex hormones in men. *Clin Res* 1985;33:517A.

398. <u>Chute CG</u>, Baron J, Greenberg E. The influence of non-clinical factors on the choice of lung cancer treatment. *Clin Res* 1985;33:717A.

399. <u>Chute CG</u>, Smith R, Baron J. Risk factors for endemic giardiasis. *Am J Epidemiol* 1985;122:515.

400. <u>Chute CG</u>, Baron J, Plymate S, Kiel D, Lozner E. Endogenous sex steroids and heart disease in men. *Am J Epidemiol* 1987;126:739.

401. Hunter D, <u>Chute CG</u>, Kushner E, Colditz G, Stampfer M, Speizer F, Morris J, Willett W. Predictors of selenium concentration in nail tissues. *Am J Epidemiol* 1987;126:743.

402. Baron JA, <u>Chute CG</u>, Berlin J. An overview of sex hormones and coronary artery disease in men. *Clin Res* 1988;36:260A.

403. Robins JM, Pambrun M, <u>Chute CG</u>, Blevins D. Estimating the effect of formaldehyde exposure on lung cancer and non-malignant respiratory disease (MNRD) mortality using a new method to control for the healthy worker survivor effect. *Am J Publ Hlth* 1988;S114-5.

404. <u>Chute CG</u>, Willett WC, Colditz GA, Stampfer MJ, Rosner R. A prospective study of parity, cholecystec-tomy, exogenous estrogens and the risk of colon cancer in women. *Am J Epidemiol* 1988;128(4):908-9.

405. Talley NJ, <u>Chute CG</u>, Larson DE, Epstein R, Lydick EG, Melton LJ. Increased risk of colorectal adeno-carcinoma in pernicious anemia: A population-based cohort study. *Aust NZ J Med* 1990;20(Suppl 1):364.

406. <u>Chute CG</u>, Willett WC, Colditz GA, Stampfer MJ, Rosner B, Speizer FE. A prospective study of reproductive history and exogenous estrogens on the risk of colorectal cancer in women. *Epidemiology* 1991;2(5):395.

407. <u>Chute CG</u>, Stephenson WP, Guess HA, Lieber MM. Surgically treated benign prostatic hypertrophy in Rochester, Minnesota. 1980-1987. *J Urology* 1991;145(4)Suppl:264A.

408. Oesterling JE, Lieber MM, Panser LA, Epstein RS, Schwartz SW, <u>Chute CG</u>. Urologic symptoms and quality of life associated with benign prostatic hyperplasia (BPH). *J Urology* 1991;145(4)Suppl:398A.

409. <u>Chute CG</u>, Panser LA, Johnson CL, Oesterling JE, Guess HA, Lieber MM. Natural history of benign prostatic hyperplasia (BPH): Prostatic symptom prevalence in a non-referred population. *Am J Epidemiol* 1992;136(8): 988A.

410. Johnson CL, <u>Chute CG</u>, Panser LA, Hanson KA, Guess HA, Oesterling JE, Lieber MM. Natural history of Benign Prostatic Hyperplasia (BPH): Urinary flow rates in an age-stratified, randomly sampled group of 2,113 men. *J Urol* 1992;147(4)Suppl:233A

411. Oesterling JE, <u>Chute CG</u>, Panser LA, Johnson CL, Guess HA, Lieber MM. Natural history of Benign Prostatic Hyperplasia (BPH): Serum PSA concentration in an age-stratified, randomly sampled population--Influence of age and prostatic volume. *J Urol* 1992;147(4)Suppl:250A.

412. Panser LA, <u>Chute CG</u>, Johnson CL, Guess HA, Jacobsen SJ, Oesterling JE, Lieber MM. Sexual satisfaction among men aged 40-79 years. *Proceedings of the American Psychiatric Association's 44th Institute on Hospital & Community Psychiatry* 1992;PS36:76-7.

413. Panser LA, Johnson CL, <u>Chute CG</u>, Guess HA, Jacobsen SJ, Oesterling JE, Lieber MM. Psychological well being among men aged 40-79 years. *Proceedings of the American Psychiatric Association's 44th Institute on Hospital & Community Psychiatry* 1992;PS48:82-3.

414. Corder E, <u>Chute C</u>, Guess HA, O'Fallon M. Prostate cancer incidence in Rochester, Minnesota 1935-89. *Am J Epidemiol* 1992;136(8):987A.

415. Jacobsen SJ, Guess HA, Panser LA, <u>Chute CG</u>, Lieber MM. Marital status and self-referral for medical care of urinary symptoms: The Olmsted County Study of Urinary Symptoms and Health Status Among Men. *Ann Behav Med* 1993;15:S100.

416. Jacobsen SJ, Guess HA, Panser LA, Johnson CL, <u>Chute CG</u>, Lieber MM. Health-seeking behavior for urinary symptoms: A population-based study of symptoms and social factors among men. *Proceedings of the Third Primary Care Research Conference of the Agency of Health Care Policy and Research (AHCPR), Challenges in Practice-based Research* 1993;22.

417. <u>Chute CG</u>, Guess HA, Panser LA, Johnson CL, Jacobsen SJ, Oesterling JE, Lieber MM. The non-relationship of urinary symptoms, prostate volume, and uroflow in a population-based sample of men. *Journal of Urology* 1993;149(Suppl):356A.

418. Jacobsen SJ, Guess HA, Panser LA, Johnson CL, <u>Chute CG</u>, Oesterling JE, Lieber MM. Does severity of symptoms predict who will seek medical care? A population-based study of urinary symptoms among men. *Journal of Urology* 1993;149(4):496A.

419. Lieber MM, Guess HA, Johnson CL, <u>Chute CG</u>, Hanson KA, King BF, Jacobsen SJ, Oesterling JE. Natural history of prostatism: Prostate size in a randomly-selected community-based population. *Journal of Urology* 1993;149(4):243A.

420. Oesterling JE, <u>Chute CG</u>, Jacobsen SJ, Guess HA, Panser LA, Johnson CL, Lieber MM. Longitudinal changes in Serum PSA (PSA Velocity) in community-based cohort of men. *Journal of Urology* 1993;149(Suppl):412A.

421. Oesterling JE, Jacobsen SJ, <u>Chute CG</u>, Guess HA, Pansen LA, Girman CJ, Lieber MM. The establishment of age-specific reference ranges for prostate-specific antigen. *J Urology* 1993;149(Suppl):510A.

422. Ruckle HC, <u>Chute CG</u>, Velagapudi S, Oesterling JE, Wilson TM, Zincke H. Prostate Specific Antigen (PSA) and Transrectal Ultrasound (TRUS) cause an early downward stage migration in Prostate Cancer (PC) which is not manifest in patients undergoing Radical Prostatectomy (RP). *Journal of Urology* 1993;149(4):347A.

423. Jacobsen SJ, Guess HA, Panser LA, Girman CJ, <u>Chute CG</u>, Oesterling JE, Lieber MM. A population-based study of men who downplay their urinary symptoms: The Olmsted County Study of Urinary Symptoms and Health Status Among Men. *Clinical Research* 1993;41(2):520A.

424. Guess HA, Jacobsen SJ, Garraway WM, Girman CJ, Panser LA, <u>Chute CG</u>, Oesterling JE, McKelvie G, Lee R, Lieber MM. Urinary symptoms and health care use in Scottish and American men: A comparison of community-based studies. *Clinical Research* 1993;41(2):518A.

425. Panser LA, Chang H-Y, Girman CJ, Guess HA, <u>Chute CG</u>, Lieber MM, Oesterling JE, Jacobsen SJ. A population-based study of erectile dysfunction. *Proceedings of the 146th Annual Meeting of the American Psychiatric Association* 1993:142-3.

426. Girman CJ, Sarle WS, <u>Chute CG</u>, Guess HA, Panser LA, Jacobsen SJ, Oesterling JE, Lieber MM. Use of statistical clustering techniques to develop diagnostic criteria based on clustering analysis of community-based studies. *Am J Epidem* 1993;138:617.

427. Jacobsen SJ, Guess HA, Panser LA, Girman CJ, <u>Chute CG</u>, Oesterling JE, Lieber MM. A population-based study of factors associated with discordance between frequency and bother of urinary symptoms of men. *Am J Epidem* 1993;138:663.

428. Panser LA, <u>Chute CG</u>, LarsonKeller JJ, Girman CJ, Guess HA, Lieber MM, Oesterling JE, Jacobsen SJ. Comparison of prevalence rates and health care seeking behavior among survey

responders and non-responders: The Olmsted County Study of Urinary Symptoms and Health Status Among Men. *Am J Epidem* 1993;138:642.

429. Giovannuci E, Rimm EB, <u>Chute CG</u>, Kawachi I, Colditz GA, Stampfer MJ, Willett WC. Prospective study of obesity and benign prostatic hyperplasia. *American Journal of Epidemiology* 1993;138(8):620.

430. <u>Chute CG</u>, Girman CJ, Jacobsen SJ, Guess HA, Panser LA, Oesterling JE, Lieber MM. The informatics problem of benign prostatic hyperplasia recognition. *Clinical Research* 1993;41(2):526A.

431. Evans D, <u>Chute CG</u>, Cimino J, Greenes R, Hersh W, Huff S, Musen M. CANON: Toward a medical-concept representation language for electronic medical records. *AMIA Spring Co*nference 1993.

432. Panser LA, Girman CJ, Lieber MM, Oesterling JE, Chang H-Y, Guess, <u>Chute CG</u>, Jacobsen SJ. A population-based study of sexuality among men aged 60-79 years. *Proceedings of the 120th Meeting of the American Public Health Association* 1993;304.

433. Jacobsen SJ, Guess HA, Panser LA, Girman CJ, <u>Chute CG</u>, Oesterling JE, Lieber MM. Do prostate size and urinary flow rates predict health-seeking behavior for urinary symptoms in men? *Proceedings of the 121st Meeting of the American Public Health Association* 1993;385.

434. Guess HA, Jacobsen SJ, Girman CJ, Oesterling JE, <u>Chute CG</u>, Panser LA, Lieber MM. The role of community-based longitudinal studies in evaluating treatment effects. Example: Benign Prostatic Hyperplasia. *Agency for Health Care Policy and Research* 1994.

435. Jacobsen SJ, Guess HA, Panser LA, Girman CJ, <u>Chute CG</u>, Oesterling JE, Lieber MM. Clinical, physiologic, and anatomic correlates of healthcare-seeking behavior for urinary symptoms. *Journal of Urology* 1994;151:291A.

436. Panser LA, Jacobsen SJ, Girman CJ, <u>Chute CG</u>, Rhodes T, Oesterling JE, Guess HA, Lieber MM. Erectile dysfunction and sexual satisfaction in a population-based sample of men aged 40-79 years. *Journal of Urology* 1994;151:430A.

437. Jacobsen SJ, Guess HA, Oesterling JE, Girman CJ, Panser LA, <u>Chute CG</u>, Lieber MM. A community-based longitudinal study of the natural history of prostatism. *European Urology* 1994:233.

438. Guess HA, Jacobsen SJ, Oesterling JE, Girman CJ, Panser LA, <u>Chute CG</u>, Lieber MM. Long-term differences in urologic health-care seeking behavior between vasectomized and non-vasectomized men. *Journal of General Internal Medicine* 1994;9(Suppl 2):30.

439. Jacobsen SJ, Guess HA, Girman CJ, <u>Chute CG</u>, Panser LA, Oesterling JE, Lieber MM. Population-based Study of Risk Factors for Progression of Urologic Symptoms. *Journal of General Internal Medicine* 1994;9(Suppl 2):31.

440. Oesterling JE, Jacobsen SJ, Guess HA, Girman CJ, <u>Chute CG</u>, Panser LA, Lieber MM. Baseline and Longitudinal Changes in Serum PSA in a Community-based Cohort of Men. *Societe Internationale D'Urologie (SIU)* 1994:296.

441. Oesterling JE, Jacobsen SJ, Guess HA, Girman CJ, <u>Chute CG</u>, Panser LA, Lieber MM. Baseline and longitudinal changes in serum PSA in a community-based cohort of men. *European Urology* 1994:41.

442. Jacobsen SJ, Guess HA, Oesterling JE, Girman CJ, Panser LA, <u>Chute CG</u>, Lieber MM. The natural history of prostatism: A community-based study of changes in symptoms. *Societe Internationale D'Urologie (SIU)* 1994:253.

443. Roberts RO, Rhodes T, Panser LA, Girman CJ, Chute CG, Guess HA, Oesterling JE, Lieber MM, Jacobsen SJ. The association between family history of benign prostatic hyperplasia and urinary symptoms: Results of a population-based study. *American Journal of Public Health Association* 1994;95.

444. Roberts RO, Jacobsen SJ, Rhodes T, Guess HA, Girman CJ, Panser LA, Chute CG, Oesterling JE, Lieber MM. A population-based study of cigarette smoking and prostatism. *American Journal of Public Health Association* 1994;298.

445. Chute CG, Cohn SP, Campbell JR, Campbell KE, Oliver DE. The content coverage of clinical classifications. *American Journal of Epidemiology.* 1995;S82.

446. Chute CG. Richer Coding: The Prerequisite to practice guidelines. *Proceedings of the 23rd Annual Meeting of the North American Primary Care Research Group* 1995; 93.

447. Elkin PL, Mohr DN, Tuttle MS, Cole W, Atkin GE, Keck KD, Fisk T, Lee K, Chute CG. Browser independent communication utilizing the WWW over a CHIN. *JAMIA.* 1996.

448. Xia X, Jacobsen SJ, Bergstralh EJ, Chute CG, Katusic SK, Lieber MM. Recent changes in radical prostatectomy utilization rates in Olmsted County, Minnesota, 1980-95. *J Urology* 1997;157(Suppl); 233.

449. Cole WG, Sherertz DD, Tuttle MS, Keck KD, Olson NE, Chute CG. Metaphrase: Achieving formalized EMR problem lists from informal input. *JAMIA Symp.Suppl.* 1997;931.

450. Keck KD, Campbell KE, Chute CG, Elkin PL, Tuttle MS, Cole WG. *JAMIA Symp. Suppl.*; 1997;955.

451. Chute CG. Clinical information as a primary information source. *Proceedings of the 1998 IEEE International Conference on Information Technology Applications in Biomedicine (ITAB '98)* 1998;138.

452. Elkin PL, Tuttle MS, Keck KD, Atkin GE, Chute CG. A Java-based Tool for entry of a Medical problem List, Which Accesses a Remote Large Scale Enterprise Vocabulary Server. *JAMIA Symp.Suppl.;* 1998; 1120.

453. Liu Q, Buntrock JD, Crowson DL, Tuttle MS, Elkin PL, Chute CG. A Java-based Interface for Medical Research Project Classification Using Metaphrase. *JAMIA Symp.Suppl.;* 1998; 1037.

454. Harris MR, Chute CG. Toward unambiguous representation of nursing-sensitive concepts. *JAMIA Symp. Suppl.* 1999;1072.

455. Thomson McInnes BA, Pakhomov SV, Pedersen T, Chute CG. Incorporating Bigram Statistics to Spelling Correction tools. *Medinfo* 2004;1882.

456. Salavaggione OE, Wiepert M, Reddy R, Chute CG, Weinshilboum RM. Methylation pharmacogenomics: database mining to identify novel human small molecule and protein methyltransferases. *Journal of Investigative Medicine* 2005 Mar;53(2):S363.

457. Novotny PJ, Harding KS, Sloan JA, Harris MR, Frost MH, Clement-Brown KA; Chute CG, Huntington, J. A population-based study on the quality of life for cancer patients as reported in a tumor registry follow-up. *American Society of Clinical Oncology (ASCO)* 2006.

458. Novotny PJ, Sloan JA, Frost M, Harris M, Huntington J, Chute CG, Clement-Brown K. A population-based study on the quality of life for cancer patients as reported in a tumor registry follow up. *J Clin Oncol.* 2006 June 20; 24(18s). Abstract no. 8594.

459. Joshi M, Pakhomov S, Pedersen T, Maclin R, Chute C. An End-to-End Supervised Target-Word Sense Disambiguation System. *AAAI Conference* 2006.

460. Freimuth R, <u>Chute C</u>, Govindrao P, Adiga S, Nagarajan R. VCDE Compatibility Review System. National Cancer Institute Cancer Biomedical Informatics Grid (caBIG) Annual Meeting. Washington DC, 2007 Feb.

461. Ogren PV, Savova GK, <u>Chute CG</u>. Constructing Evaluation Corpora for Automated Clinical Named Entity Recognition. *Sixth International Conference on Language Resources and Evaluation.* 2008.

462. Herasevich V, Afessa B, <u>Chute CG</u>, Hubmayr RD, Gajic O. Development and Validation of Computer "Sniffer" for Septic Shock. *National KL2/K12/K30 Clinical Research Scholars Annual Meeting.* 2008.

463. Freimuth RR, Schauer MW, Lodha P, Govindrao P, Dhindhwal B, Doshi A, Kadam P, Pinnamaneni K, Shetty Y, <u>Chute CG</u>, Nagarajan R. caBIG Compatibility Review System: Software to Support Compatibility Reviews. National Cancer Institute Cancer Biomedical Informatics Grid Annual Meeting. Washington DC. 2008 June.

464. Jiang G, Peterson KJ, Johnson TM, Cerlik C, Jakob R, <u>Chute C</u>. Representing the ClaML-based ICD10 in LexGrid Terminology Model. *AMIA Annu Symp Proc* 2008; 992. Epub 2008 Nov 6.

465. Wolf WA, Chisholm RL, <u>Chute CG</u>, Jarvik G, Larson E, Masys DR, McCarty CA, Roden DM, Struewing JP. The eMERGE Network: A National Consortium of Electronic Health Record-Linked Biobanks Furthering Large-Scale Genetic Research. eMERGE ASHG. 2008.

466. Freimuth RR, Pathak J, <u>Chute CG</u>. SemDEQ: A tool for Semantic-Based Querying of Data Elements. National Cancer Institute Cancer Biomedical Informatics Grid Annual meeting. Washington DC 2008 June.

467. Pathak J, Jiang G, Dwarkanath SO, Buntrock JD, <u>Chute CG</u>. LexValueSets: A framework for context-driven value sets extraction. Proceedings of KR-MED May 31-June 2, 2008, Phoenix, AZ.

468. Jiang G, <u>Chute CG</u>. Comparing the Effects of Two Semantic Terminology Models on Classification of Clinical Notes: A Study of Heart Murmur Findings. Proceedings of KR-MED May 31-June 2, 2008, Phoenix, AZ.

469. Pathak J, Solbrig HR, Buntrock JD, Johnson TM, <u>Chute CG</u>. The LexGrid Project: Providing Infrastructure for Building a Distributed Network of Terminological Resources. AMIA Spring Congress 2009.

470. Tao C, Pathak J, Solbrig HR, Wei WQ, <u>Chute CG</u>. An RDF-based Normalized Model for Biomedical Lexical Grid. In Proceedings of the 98th International Semantic Web Conference (ISWC 2009). Poster/Demo Session, Chantilly, Virginia 2009.

471. Freimuth RR, Pathak J, <u>Chute CG</u>. SemDEQ: A Tool for Semantic-Based Quering of Data Elements. AMIA Spring Congress. March 2009.

472. Whetzel PL, Shah NH, Noy NF, Dai B, Dorf M, Griffith N, Jonquet C, Youn C, Callendar C, Coulet A, Rubin DL, Smith B, Storey MA, <u>Chute CG</u>, Musen MA. BioPortal: Ontologies and Integrated Data Resources at the Click of the Mouse (Poster). International Conference on Biomedical Ontology (ICBO) Proceedings. July 2009.

473. Dong Y, Rethlefsen M, <u>Chute CG</u>, Gajic O, Heraservich V. Trends in Collaborative Approaches in Medical Informatics Over the Past Decades (Poster). AMIA 2009 Annual Symposium. November 2009.

474. Freimuth R, Nintemann C, <u>Chute CG</u>. caBIG® Vocabulary Knowledge Center (Poster). AMIA 2009 Annual Symposium. November 2009.

475. Jiang G, Tao C, <u>Chute CG</u>. Measuring Semantic Richness of Biomedical Ontologies Using OWL Constructs (Poster). AMIA 2009 Annual Symposium. November 2009.

476. Tao C, Pathak J, Solbrig H, <u>Chute CG</u>. An Approach for Representing Ontologies Modeled in LexGrid in OWL (Poster). AMIA 2009 Annual Symposium. November 2009.

477. Wei W, <u>Chute CG</u>. Identification of Type 2 Diabetes Mellitus Patients by SNOMED CT Concept Frequency (Poster). AMIA 2009 Annual Symposium. November 2009.

478. Gyil L, McCarty CA, Chisholm RL, <u>Chute CG</u>, Crane PK, Jarvik G, Kullo I, Larson E, Masys DR, Roden DM, Li R. The eMERGE Network: Challenges and Lessons Learned. 43rd Annual Meeting of the Society for Epidemiologic Research. Seattle, WA. June 23-26, 2010.

479. Jiang G, Solbrig H, <u>Chute CG</u>. LexWiki and Web-Protege Integration: A Comprehensive Framework of Collaborative Authoring for Large-scale Biomedical Terminologies. caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

480. Jiang G, Solbrig H, Freimuth R, <u>Chute CG</u>. Harmonizing Clinical Study Data Elements in Heterogenous Meta-Data Repositories Using the CSHARE/LexWiki Environment. caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

481. Tao C, Solbrig HR, Pathak J, <u>Chute CG</u>. Connecting EVS with the Semantic Web. caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

482. <u>Chute CG</u>, Stancl C, Bauer S, Peterson K, Dwarkanath S, St. Martin T. LexEVS 6.0. caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

483. <u>Chute CG</u>, Stancl C, Solbrig H, Hamm R, St. Martin T. Common Terminology Services 2 (CTS 2). caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

484. Freimuth RR, Bleeker T, <u>Chute CG</u>. caBIG Vocabulary Knowledge Center. caBIG Annual Meeting 2010: Building a Collaborative Biomedical Network. (Poster). Sept 13-15, 2010.

485. Wei W, Tao C, Jiang G, <u>Chute CG</u>. An Evaluation of the Performance of Using Concepts from Different Clinical Note Sections in an Automatic Patient Identification Task (Poster). AMIA 2010 Annual Symposium. November 2010.

486. Pathak J, Wang J, Kashyap S, Li R, Masys D, <u>Chute CG</u>. eleMAP: An Online Tool for Harmonizing Data Elements using Standardized Metadata Registries and Biomedical Vocabularies (Poster). AMIA 2010 Annual Symposium. November 2010.

487. Tao C, Savova G, Wei W, <u>Chute CG</u>. A User-friendly Platform for Querying Temporal Information in Clinical Narratives (Poster). AMIA 2010 Annual Symposium. November 2010.

488. Jiang G, Solbrig H. <u>Chute CG</u>. Usability Study on a LexWiki-based Collaborative Platform for Biomedical Terminology Authoring (Poster). AMIA 2010 Annual Symposium. November 2010.

489. Jiang G, Solbrig H, <u>Chute CG</u>. LexWiki-based Collaborative Platform for Biomedical Terminology Authoring (Poster). AMIA 2010 Annual Symposium. November 2010.

490. Chandra S, Kashyap R, Pickering BW, <u>Chute CG</u>, Kore DJ, Herasevich V. An Evaluation of the Time from Onset of Severe Sepsis to Documentation in the Electronic Medical Record: How Long is the Delay? (Poster). AMIA 2010 Annual Symposium. November 2010.

491. Malinowski JR, Denny JC, Bielinski SJ, Basford MA, Bradford Y, Chai HS, Peissig PL, Carrell D, Pathak J, Wilke RA, Rasmussen L, Wang X, Pacheco JA, Kho A, Weston N, Matsumoto M, Newton KM, Li R, Kullo IJ, <u>Chute CG</u>, Chisholm RL, Larson EB, McCarty CA, Masys DR, Roden DM, de Andrade M, Ritchie MD, Crawford DC, on behalf of the eMERGE Network. Leveraging resources in biobanks from the eMERGE network: a genome-wide association study of thyroid stimulating hormone levels in European Americans and African Americans. ASHG/ICHG 2011 Meeting in Montreal, Canada. October 11-15.

492. Tao C, Welch S, Wei W, Oniki T, Parker C, Pathak J, Huff S, <u>Chute CG</u>. Normalized Representation of Data Elements for Phenotype Cohort Identification in the Electronic Health Record (Poster). AMIA 2011 Annual Symposium. October 24, 2011.

493. Freimuth RR, Pathak J, Sharma DK, Durski MJ, <u>Chute CG</u>. PGRN Ontology Network Resource (Poster). AMIA 2011 Annual Symposium. October 24, 2011.

494. <u>Chute CG</u>, Wei W, Leibson CL. An Evaluation of the Impact of Additional Longitudinal Data on an EMR-Based Phenotype Algorithm for Identifying Type 2 Diabetes Mellitus Subjects (Poster). AMIA 2011 Annual Symposium. October 25, 2011.

495. Jiang G, Pathak J, Tao C, Solbrig HR, <u>Chute CG</u>. A Formal Representation of Phenotyping Algorithm Elements (Poster). AMIA 2011 Annual Symposium. October 25, 2011.

496. Pathak J, Kiefer RC, <u>Chute CG</u>. The Linked Clinical Data Project: Applying Semantic Web Technologies for Phenomics using Electronic Medical Records (Poster). AMIA 2011 Annual Symposium. October 25, 2011.

497. Song D, <u>Chute CG</u>, Tao C. Semantator: A Semi-automatic Semantic Annotation Tool for Clinical Narratives (Poster). ISWC. 2011.

498. Pathak J, Kiefer R, <u>Chute CG</u>. Applying Linked Data Principles to Represent Patient's Electronic Health Records at Mayo Clinic: A Case Report (Poster). 2nd Annual ACM (SIGHIT) International Health Information Symposium. Miami, Fl. January 2012.

499. Zhu Q, Freimuth RR, Durski MJ, Pathak J, <u>Chute CG</u>. Standardization of Data Dictionaries: A Case Study from the Pharmacogenomics Research Network (Poster). AMIA Clinical Research Informatics (CRI) Summit. San Francisco CA. March 2012.

500. Liu H, Torii M, Wu ST, Kaggal VC, <u>Chute CG</u>. Modeling UIMA Type System Using Web Ontology Language ? towards Interoperability among UIMA NLP Tools (poster). AMIA Clinical Research Informatics (CRI) San Francisco, CA. March 21, 2012.

501. Sohn S, Wu ST, <u>Chute CG</u>. Dependency Parser-based Negation Detection in Clinical Narratives. AMIA Clinical Research Informatics (CRI) Summit. San Francisco, CA. March 21, 2012.

502. Liu H, <u>Chute CG</u>, Chapman WW, Shah N, Xu H. Natural Language Processing for Clinical and Translational Research. AMIA Clinical Research Informatics (CRI) Summit. San Francisco, CA. March 22, 2012.

503. Tao C, Welch S, Pathak J, Oniki T, Huff S, <u>Chute CG</u>. Toward Computable Mappings of Normalized EHR Data to Input Specifications for Phenotyping Algorithms. AMIA Clinical Research Informatics (CRI) Summit. San Francisco, CA. March 22, 2012.

504. Jiang G, Solbrig HR, <u>Chute CG</u>. Quality Evaluation of Value Sets from Cancer Study Common Data Elements Using the UMLS Semantic Groups. AMIA Clinical Research Informatics (CRI) Summit. San Francisco, CA. March 23, 2012.

505. Li DC, Shrestha G, Murthy S, Sottara D, Huff SM, <u>Chute CG</u>, Pathak J. Applying JBoss ® Drools Business Rules Management System for Electronic Health Records Driven Phenotyping. AMIA 2012 Annual Symposium. Chicago IL. Nov 2012.

506. Pathak J, Al-Kali A, Talwalkar JA, Kho AN, Denny JC, Murphy SP, Bruce KT, Durski MJ, <u>Chute CG</u>. Using Electronic Health Records to Identify Patient Cohorts for Drug-Induced Thrombocytopenia, Neutropenia, and Liver Injury. AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

507. Shrestha G, Murthy S, Li DC, Hart LA, <u>Chute CG</u>, Pathak J. Visualization and Reporting of Results for Electronic Health Records Driven Phenotyping using the Open-Source popHealth Platform (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

508. Pathak J, Kiefer RC, Freimuth RR, Bielinski SJ, <u>Chute CG</u>. Mining Genotype-Phenotype Associations from Electronic Health Records and Biorepositories using Semantic Web Technologies (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

509. Tao C, Solbrig H, Kanjamala P, Peterson K, Stancl Craig, <u>Chute CG</u>. Common Terminology Services 2 (CTS2) for Biomedical Community (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

510. Jiang G, Endle C, Solbrig H, <u>Chute CG</u>. A Proposal Provenance Model for ICD-11 Revision Beta Phase (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

511. Zhu Q, Jiang G, <u>Chute CG</u>. A Standardized Drug and Drug Class Universal Network (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

512. Wu S, Wieland M, Kaggal V, Liu H, <u>Chute CG.</u> Tracking Immigrant Health with Natural Language Processing (poster). AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

513. Pathak J, AK A, Talwalkar J, Kho A, Denny J, Murphy S, Bruce K, Durski M, <u>Chute CG</u>. Using Electronic Health Records to Identify Patient Cohorts for Drug-Induced Thrombocytopenia, Neutropenia, and Liver Injury. AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

514. <u>Chute CG</u>, Alexander A, Peters T, Riess K, Hughbanks R, Hart L, Lemmon L, Jensen D, Beebe C. Comprehensive, Population-based, Peer-to-Peer Health Information Exchange and Clinical Data Repository Creation among Rural Practices and County Public Health Departments: The SE MN Beacon Community. AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

515. Carroll R, Liao K, Eyler A, Bastarache L, Crawford D, Peissig P, Pathak J, Carrell D, Kho A, Li R, Masys D, Jarvik G, <u>Chute CG</u>, Chisholm R, Larson E, McCarty C, Kullo I, Haines J, Roden D, Plenge R, Denny J. Using PheWAS to Assess Pleiotropy of Genetic Risk Scores for Rheumatoid Arthritis and Coronary Artery Disease in the eMERGE Network. AMIA 2012 Annual Symposium. Chicago, IL. Nov 2012.

516. Freimuth R, <u>Chute CG</u>. Pharmacogenomic Drug Dosing Guidelines: A Model to Support Adoption (Poster). AMIA 2013 Joint Summits on Translational Science. San Francisco, CA. March 19, 2013.

517. Garcia MCL, Tao C, Tortosa MM, Fernandez-Breis J, <u>Chute CG</u>. An Approach for the Mapping of CEM and OpenEHR Archetypes (Poster). AMIA 2013 Joint Summits on Translational Science. San Francisco, CA. March 20, 2013.

518. Kaggal V, Oniki T, Marchant K, Bleeker T, Solbrig H, Haug P, Wu Z, Schor M, Hart L, Beebe C, Huff S, <u>Chute CG</u>, Liu H. SHARPn Data Normalization Pipeline (Poster). AMIA 2013 Joint Summits on Translational Science. San Francisco, CA. March 21, 2013.

519. Warzel D, Freimuth R, Oniki T, Reeves D, <u>Chute CG</u>, Huff S. Approaches to Improving Clinical and Translational Biomedical Research Data Through Data Standards: Registration of Clinical Element Models Using ISO/IEC 11179 (Poster). AMIA 2013 Joint Summits on Translational Science. San Francisco, CA. March 21, 2013.

520. <u>Chute CG</u>. Big data meets healthcare: The case for comparability and consistency. Proceedings BIG DATA in health and biomedicine. April 2013; p16 hisa.org.au/bigdata2013.

521. Marpuri I, Bottinger EP, Brilliant MH, Carey D, Chisholm RL, <u>Chute CG</u>, Haines JL, Hakonarson H, Harly J, Jarvik GP, Kohane I, Kullo I, Larson EB, McCarty C, Roden D, Smith M, Williams MS, Li R. Electronic medical records and genomic network – from GWAS to implementation. 46th Annual SER Meeting. Boston, MA. June 2013.

522. Peterson S, Skierka J, Bielinski SJ, Kullo IJ, Chute CG, Black JL. Complexities of Cytochrome P450 Genotyping: The RIGHT Protocol and eMERGE Grant Perspective (Poster). Individualizing Medicine Conference. Rochester, MN. Oct 2013.

523. Sohn S, Halgrim SR, Clark C, Murphy SP, Chute CG, Liu H. Comprehensive Medication Information Extraction and Normalization for Medication Reconciliation (Poster). Individualizing Medicine Conference. Rochester, MN. Oct 2013.

524. Jiang G, Wang C, Prodduturi N, Chute CG. Reusing MayoGC Genotype Data for Pharmacogenomics Study of Adverse Drug Events (Poster). Individualizing Medicine Conference. Rochester, MN. Oct 2013.

525. Campbell J, Chute CG, Harry M, Della Mea V, Rector A, Rodrigues JM, Schulz S, Solbrig H. A Common Ontology for ICD11 and SNOMED CT (Poster). MedInfo 2013. Copenhagen, Denmark. August 20-22, 2013.

526. Jiang G, Endle CM, Solbrig HR, Chute CG. Integrating An Ontology Visualization Tool for Supporting ICD-11 Revision Beta Phase (Poster). MedInfo 2013. Copenhagen, Denmark. August 20-22, 2013.

527. Bielinski SJ, Olson JE, Pathak J, Weinshilboum, RM, Wang L, Lyke KJ, Ryu E, Targonski PV, Van Norstrand MD, Hathcock MA, Takahashi PY, McCormick JB, Johnson KJ, Maschke KJ, Rohrer Vitek CR, Ellingson MS, Wieben ED, Farrugia G, Morrisette JA, Krukeberg KJ, Bruflat JK, Peterson LM, Blommel JH, Skierka JM, Ferber MJ, Black JL, Baudhuin LM, Klee EW, Ross JL, Veldhuizen TL, Schultz CG, Caraballo PJ, Freimuth RR, Chute CG, Kullo IJ. Preemptive Genotyping for Personalized Medicine: Design of the Right Drug, Right Dose, Right Time - Using Genomic Data to Individualize Treatment Protocol (Poster). Individualizing Medicine Conference. Rochester MN. Oct 2013.

528. Freimuth RR, Zhu Q, Lian Z, Pathak J, Chute CG. The Pharmacogenomic Guideline Repository (Poster). Individualizing Medicine Conference 2013. Rochester, MN. Oct 2013

529. Campbell J, Chute CG, Harry M, Della Mea V, Rector A, Rodrigues JM, Schulz S, Solbrig H, Spackman K, Millar J, Ustun, B. A Common Ontology for ICD11 and SNOMED CT (Poster). WHO Family of International Classifications, Beijing, China. Oct 2013.

530. Zhu Q, Tao C, Chute C. Standardized drug and pharmacological class network in ontology representation. Abstracts Of Papers Of The American Chemical Society. 2013 Sep 8; 246.

531. Zhu Q, Pathak J, Freimuth RR, Chute CG. Using standardized clinical data modeling and knowledge representation to compute pharmacogenomic data elements. AMIA 2013 Annual Symposium. Washington, DC. November 2013.

532. Pathak J, Hall-Flavin DK, Biernacka JM, Jenkins GD, Bruce KT, Murphy SP, Sagen JA, Skime MK, Bobo WV, Chute CG, Wang L, Weinshilboum RM. Using electronic health ecords driven phenotyping for major depressive disorder. Biol Psychiatry. 2014 May 1; 75(9):343S.

533. Rodrigues JM, Schulz S, Rector A, Spackman K, Millar J, Campbell J, Üstün B, Chute C, Solbrig H, Della Mae V, Brand Persson K. ICD 11 and SNOMED CT common ontology: Circulatory system. MIE 2014; Istanbul, Turkey. August 31 to Sept 3, 2014.

534. Jiang G, Solbrig HR, Chute CG. Building ICD-11 Terminology Services Using the Common Terminology Services 2 (CTS2) Standard (Poster). WHO FIC 2014; Barcelona, Spain. Oct 11 - 17, 2014.

535. Schulz S, Rodrigues JM, Rector A, Spackman K, Campbell J, Üstün B, Chute CG, Solbrig H, Della Mae V, Millar J, Brand Persson K. What's in a class? Lessons learnt from the ICD – SNOMED CT harmonization. MIE 2014; Istanbul, Turkey. August 31 to Sept 3, 2014.

536. Freimuth RR, Gordon AS, Zhu Q, Nickerson DA, <u>Chute CG</u>. Evaluating the Application of Star Allele Nomenclature for Pharmacogenomics in the Era of High-Throughput Sequencing (Poster). Individualizing Medicine Conference. 10/7/2014.

537. Caraballo PJ, Bielinski S, Pathak J, Weinshilboum R, Farrugia G, <u>Chute C</u> , Black J, Elliott M, Schultz C, Rohrer-Vitek C, Gabrielson D, Blair D, Markulo M, Kullo I. Implementation of pharmacogenomics into clinical practice: Mayo Cinic experience (Poster). ASHG 2014 Annual Meeting; San Diego, CA. October 2014.

538. Haddad RA, Jouni H, Isseh IN, McCormick JB, <u>Chute CG</u> , Kullo IJ. Patient perspectives on the use of elctronic health records for research: the MI-GENES study (Poster). ASHG 2014 Annual Meeting; San Diego, CA. October 2014.

539. Kullo IJ, Bielinski SJ, Carrell DS, Stallings S, Pathak J, Gordon A, Rasmussen-Torvik L, Dohney KF, Volpi S, Ritchie MD, Denny JC, <u>Chute CG</u> , Roden DM, Nickerson DA, Jarvik GP, Crosslin DR. Association of rare variants in LDLR, HMGCR, NAT2, ABCA1, and APOA1 with plasma lipid levels; initial results from the eMERGE PGx project (Poster). ASHG 2014 Annual Meeting; San Diego, CA. October 2014.

540. Verma SS, Verma A, Lucas A, Linneman J, Peissig P, Brilliant M, McCarty CA, Haines JL, Vrabec TR, Tromp G, Pathak J, <u>Chute C</u> , Crosslin DR, Jarvik GP, Larson EB, Hays MG, Ritchie MD. Genome-wide association and gene-gene interaction studies to explore etiology of glaucoma and ocular hypertension (Poster). ASHG 2014 Annual Meeting; San Diego, CA. October 2014.

541. Gordan A, Zhu Q, Chute C, Nickerson D, Freimuth R. Evaluating the Application of Star Allele Nomenclature for Pharmacogenomics in the Era of High-Throughput Sequencing (Poster). ASHG 2014 Annual Meeting; San Diego, CA. October 2014.

542. Jiang G, Solbrig HR, Ustun B, <u>Chute CG</u>. Lexical term standardization of ICD-11 using semantic web technologies. AMIA 2014 Annual Symposium. November 2014.

543. Zhu Q, Liu H, <u>Chute CG</u> , Ferber M. iGenetics: An individualized genetic test recommendation system based on EHRs (Poster). AMIA 2014 Annual Symposium. November 2014.

544. Freimuth RR, Wix K, Zhu Q, Siska M, <u>Chute CG</u>. Evaluation of RxNorm for Medication Clinical Decision Support (Paper). AMIA 2014 Annual Symposium. Washington, DC. November 2014.

545. Overby CL, Rasmussen LV, Hartzler AL, Connolly JJ, Peterson JF, Hedberg RM, Freimuth RR, Shirts BH, Denny JC, Larson EB, <u>Chute CG</u> , Jarvik G, Ralston J, Shuldiner AR, Kullo IJ, Tarczy-Hornoch P, Williams M. A template for authoring and adapting genomic medicine content in the eMERGE Infobutton Project (Podium Presentation). AMIA 2014 Annual Symposium. Washington, DC. November 2014.

546. Haug PJ, Wu X, Ferraro JP, Savova G, Huff SM, <u>Chute CG</u>. Developing a section labeler for clinical documents (podium presentation). AMIA 2014 Annual Symposium; Washington, DC. November 2014.

547. Jonnalagadda SR, Moosavanasab S, Nath C, Li DC, <u>Chute CG</u> , Liu H. An automated approach for ranking journals to help in clinician decision support (Podium Presentation). AMIA 2014 Annual Symposium. Washington, DC. November 2014.

548. Wang C, Zimmermann MT, Prodduturi N, <u>Chute CG</u> , Jiang G. Adverse drug event-based stratification of tumor mutations: A case study of breast cancer patients receiving aromatose inhibitors. AMIA 2014 Annual Symposium; Washington, DC. November 2014.

549. Zhu Q, Liu H, <u>Chute CG</u>, Ferber M. Genetic testing knowledge base (GTKB) towards individualized genetic test recommendation – an experimental study. AMIA 2014 Annual Symposium; Washington, DC. November 2014.

550. Li R, Chisholm R, Bottinger E, Brilliant M, Carey D, <u>Chute C</u>, Hakonarson H, Harley J, Harris P, Holm I, Jarvik G, Kullo I, Larson EB, McCarty C, Odgis J, Wiley K, Roden D, Smith M, Williams MS, Manolio TA. Electronic Medical Records and Genomics – Translational Research from Genomic Discovery to Clinical Implementation (Poster). NGHRI Scientific Symposium; Bethesda, MD. December 2014.

551. Jiang G, Solbrig HR, Kiefer R, Rasmussen LV, Mo H, Speltz P, Thompson WK, Denny JC, <u>Chute CG</u>, Pathak J. A semantic framework for quality data model to support EHR-driven phenotype authoring and execution (podium presentation). AMIA 2015 Joint Summits on Translational Science. San Francisco, CA. March 2015.

552. Solbrig HR, Jiang G, Chute CG. ICD-11 Common Ontology and Diagnostic Criteria. WHO Family of International Classifications Annual Meeting, Manchester, UK. October, 2015.

553. Jiang G, Solbrig HR, Kiefer RC, Rasmussen L, Mo H, Pacheco JA, Montague E, Xu J, Speltz P, Thompson WK, Denny JC, Chute CG, Pathak J. Harmonization of Quality Data Model with HL7 FHIR to Support EHR-driven Phenotype Authoring and Execution: A Pilot Study. AMIA 2015 Annual Symposium; San Francisco, CA. November 2015.

554. Solbrig HT, Prud'hommeaux E, Chute CG, Jiang G. Representing and Validating Cancer Study Metadata Standard Using RDF Shapes Expression Language. AMIA 2015 Annual Symposium; San Francisco, CA. November 2015.

BOOK REVIEWS:

555. <u>Chute CG</u>. Sagan LA. The Health of Nations: True causes of sickness and well-being. *The New Physician*, September 1988;42.

556. <u>Chute CG</u>. Healthcare Knowledge Management: Issues, Advances, and Successes. *Mayo Clinic Proceedings*, 2007;82:893.