The Future State of Clinical Data Capture and Documentation, AMIA

Trent Rosenbloom, Vanderbilt University Gil Kuperman, Columbia University

S. Trent Rosenbloom, MD MPH FACMI is the Vice Chair for Faculty Affairs, the Director of Patient Engagement and an Associate Professor of Biomedical Informatics, Medicine, Pediatrics and Nursing at Vanderbilt University. He is a board certified Internist and Pediatrician who earned his MD, completed a residency in Internal Medicine and Pediatrics, a fellowship in Biomedical Informatics, and earned an MPH all at Vanderbilt. Dr. Rosenbloom has become a nationally recognized investigator in the field of health information technology evaluation. His research has focused on studying how healthcare providers interact with health information technologies when engaging patients, documenting patient care and making clinical decisions.

Dr. Rosenbloom has successfully competed for extramural funding from the National Library of Medicine and from the Agency for Healthcare Research and Quality in the role of principal investigator. Funded research grants have included awards under career development (K) award, R01 and R18 funding mechanisms. Dr. Rosenbloom's work has resulted in lead and collaborating authorship on over 55 peer reviewed manuscripts, which have been published in Journal of the American Medical Informatics Association, Pediatrics, Annals of Internal Medicine, and Academic Medicine, among others. In addition, Dr. Rosenbloom has authored and coauthored 5 book chapters and numerous posters, white papers and invited papers. He has been a committed member of the principal professional organization in his field, the American Medical Informatics Association (AMIA). He has served AMIA in leadership roles, including participating in: a Scientific Program Committee, the Journal of the American Medical Informatics Association (JAMIA) Editorial Board, a national Health Policy Meeting Committee, the JAMIA Editor in Chief search committee, and a Working Group on Unintended Consequences. As a result of his research success and service to AMIA, Dr. Rosenbloom was the annual recipient of the competitive AMIA New Investigator Award in 2009 and was elected to the American College of Medical Informatics (ACMI) in 2011. In addition, Dr. Rosenbloom has provided service in study sections for the National Library of Medicine and the Agency for Healthcare Research and Quality's Healthcare. He has also participated as a member of the HL7 Pediatric Data Special Interest Group and the American Academy of Pediatrics' Council on Clinical Information Technology. In addition, Dr. Rosenbloom is an active reviewer several journals covering general medicine, pediatrics and biomedical informatics.

Gilad J. Kuperman, MD, PhD is the Director for Interoperability Informatics at NewYork-Presbyterian Hospital, an Adjunct Associate Professor of Biomedical

Informatics at Columbia University and, for 2012-2013, the Board Chair for AMIA, the 4000-member home for informatics professionals.

Dr. Kuperman's role at NewYork-Presbyterian Hospital is to help the hospital realize the benefits of interoperability. From 2006-2012, representing NewYork-Presbyterian Hospital, Dr. Kuperman served as Board Chair of NYCLIX, Inc., the largest RHIO in NY State. Currently, he is the IT lead on the hospital's Care Coordination Steering Committee and the informatics lead for the hospital's Medicaid Health Home initiative.

Dr. Kuperman's informatics research activities have been related to the design, development, implementation and evaluation of clinical information systems, with a focus of the impact of such systems on the quality, safety and efficiency of health care. The research has covered clinical decision support, health information exchange and care coordination.

Dr. Kuperman has been an author on 90 articles related to medical informatics and lead author on 25of those.

Panel 1: Role of Clinical Documentation for Clinicians

Pete Stetson, Columbia University Charles Kennedy, Aetna George Hripcsak, Columbia University David Bates, Brigham and Women's Hospital John Anderson, Duke University School of Medicine Hal Baker, WellSpan Health Capt. Michael Weiner, Defense Health Information Management System

Peter D. Stetson, MD, MA is the Chief Medical Officer and Chief Medical Informatics Officer for ColumbiaDoctors, one of the nation's largest multi-specialty physician organizations. He is an NIH-funded investigator, hospitalist, and informatician. He has overseen the successful implementation of Allscripts Enterprise EHR to over 1000 physicians in ColumbiaDoctors, and has developed novel interoperability solutions between vendor EHRs. Under his direction, ColumbiaDoctors has attested successfully for Meaningful Use, and is leveraging Health IT to improve ambulatory care quality and care coordination. He has built advanced physician documentation systems in production use for over 5 years in the inpatient and outpatient setting by thousands of providers. He has developed and validated underlying models and measurement tools for provider documentation, including physician handoff tools. His research lab (Informatics Intervention Research Collaboration- I2RC) has developed novel methods for detecting redundancy of work and data in electronic health records, and documentation quality. He also serves as the co-chair of the Clinical Decision Support Committee for New-York Presbyterian Hospital, developing and managing alerts.

Charles Kennedy, M.D., is chief executive officer of Accountable Care Solutions from Aetna, a business segment at Aetna focused on collaborating with high quality health

systems to implement new accountable care models that are designed to drive higher quality, greater coordination, and an overall better patient health care experience.

Dr. Kennedy is a recognized expert in health care and health information technology. He was a founding commissioner of the Certification Commission for Health Information Technology (CCHIT), the first organization recognized by the federal government to certify EMRs. He is currently the health insurance industry representative on the HIT Policy Committee, a Federal Advisory Committee that is guiding Centers for Medicare and Medicaid Services (CMS) policies to allocate \$40 billion in federal funding for HIT deployment. Dr. Kennedy serves on the AHIP Foundation Board of Directors and on the advisory board for the Center for Healthcare Innovation, Healthcare and Life Science Innovation Lab.

Prior to Aetna, Dr. Kennedy was vice president of Health Information Technology for WellPoint Inc. Previously, he served as chief executive officer at CareAssured, which he co-founded, and previously as director of Strategic Informatics at Blue Shield of California. Prior to Blue Shield, Dr. Kennedy served in consulting positions at Electronic Data Systems and its management consulting subsidiary, A.T. Kearney. He was on the medical staff at Kaiser Permanente and other Northern California medical facilities for seven years.

Dr. Kennedy holds an M.D. in Internal Medicine from the University of California at Los Angeles, an MBA in Corporate Strategy and Health Care Economics from Stanford University, and a bachelor's degree in Genetics from the University of California at Berkeley. He has been featured and quoted on the topics of health care technology and operations in news publications and outlets that include *ComputerWorld, Bloomberg, Associated Press, The Pink Sheet, The Industry Standard, Modern Healthcare, HealthLeaders* and others.

George Hripcsak, MD, MS, is Vivian Beaumont Allen Professor and Chair of Columbia University's Department of Biomedical Informatics and Director of Medical Informatics Services for NewYork-Presbyterian Hospital. He is a board-certified internist with degrees in chemistry, medicine, and biostatistics. Dr. Hripcsak's current research focus is on the clinical information stored in electronic health records and on the development of next-generation health record systems. Using nonlinear time series analysis, machine learning, knowledge engineering, and natural language processing, he is developing the methods necessary to support clinical research and patient safety initiatives. He is currently co-chair of the Meaningful Use Workgroup of HSS's Office of the National Coordinator of Health Information Technology; it defines the criteria by which health care providers collect incentives for using electronic health records. He led the effort to create the Arden Syntax, a language for representing health knowledge that has become a national standard. Dr. Hripcsak chaired the National Library of Medicine's Biomedical Library and Informatics Review Committee, and he is a fellow of the Institute of Medicine, the American College of Medical Informatics, and the New York Academy of Medicine. He has published over 250 papers.

David W. Bates, M.D., M.Sc. is an internationally renowned expert in patient safety, using information technology to improve care, quality-of-care, cost-effectiveness, and outcomes assessment in medical practice. He is a Professor of Medicine at Harvard Medical School, and a Professor of Health Policy and Management at the Harvard School of Public Health, where he co-directs the Program in Clinical Effectiveness. He directs the Center for Patient Safety Research and Practice at Brigham and Women's Hospital, and serves as external program lead for research in the World Health Organization's Global Alliance for Patient Safety. He is the president-elect of the International Society for Quality in Healthcare (ISQua). He is also the Associate Editor of the Journal of Patient Safety. He has been elected to the Institute of Medicine, the American Society for Clinical Investigation, the Association of American Physicians and the American Medical Informatics Association. He has over 600 peer-reviewed publications.

John B. Anderson, MD MPH has an undergraduate degree from DePauw University, Greencastle, IN in Chemistry and Zoology. He obtained his medical degree from the University Of Cincinnati College Of Medicine in 1980 and completed a Family Medicine residency at the Medical College of Virginia in Blackstone, VA in 1983. He has been board certified in Family Medicine since 1983.

Dr. Anderson is a practicing family physician with Oxford Family Physicians in Oxford, NC. He has served as Chief Medical Officer of Duke Primary Care since 1999. He holds an appointment at Duke University School of Medicine as a Clinical Assistant Professor in the department of Community and Family Medicine. Dr Anderson participated in the IHI's Breakthrough Series Collaborative on Access in 2001/02 and was a presenter at the 2003 NICHQ Annual Forum on Advanced Access. Since receiving his Masters in Public Health (MPH) from the University Of North Carolina School Of Public Health in 2007, Dr. Anderson has continued to work on strategies for improving patient safety and quality at Duke Primary Care and the Duke University Health System. In his role as CMO for the DPC network, Dr. Anderson has led the effort to implement the Chronic Care Model and promote the use of a disease registry for tracking health maintenance indicators and managing the care of diabetic patients. He has also helped to develop and implement components of Duke's Electronic Health Record so as to improve electronic prescribing and clinical documentation.

R. Hal Baker, MD FACP, is Vice President and Chief Information Officer of WellSpan Health, which is an 9000 employee integrated delivery system in South-Central Pennsylvania. An undergraduate and medical school graduate of Cornell University, he completed a residency in internal medicine at the Hospital of the University of Pennsylvania in 1993 and a general Internal Medicine Fellowship at Johns Hopkins in 1995. He joined the teaching practice of the IM residency at York Hospital and completed ten years as Associate Program Director before assuming leadership in Information Systems in 2005. He still practices primary care two days a week. **U.S. Navy CAPT Michael S. Weiner, DO, MSM, MSIST CAPT MC, (FS/DMO) USN** is a graduate of the U.S. Naval Academy and attended medical school at the Philadelphia College of Osteopathic Medicine. He is a board certified Internal Medicine physician, holds a masters degree in Management and a masters degree in Information Systems Technology from George Washington University. He is Defense Acquisition University Level III trained, is a Certified Professional in Healthcare Information and Management (CPHIMS), and has been certified as a Chief Information Officer (CIO) by the General Services Administration.

CAPT Weiner is currently the Chief Medical Information Officer (CMIO) and Director of Clinical Informatics and Requirements at the Department of Defense/Department of Veterans Affairs Interagency Program Office (DoD/VA IPO). In this capacity, he is responsible for overseeing the development and deployment of the next generation of the Department of Defense's and the Department of Veterans Affairs' Integrated Electronic Health Record (iEHR) system. CAPT Weiner also serves as Chairman of the NATO Medical Clinical Information System Expert Panel which focuses on providing high quality care for those who serve and partner with NATO by establishing interoperability and best National practices within the NATO Clinical Systems.

Prior to his current positions, CAPT Weiner served as Director of the Military Health System Electronic Health Record (EHR) Way Ahead Planning Office. The EHR Way Ahead Planning Office was established to transform the current Military Health System into a more interoperable and agile clinical infrastructure that will continue to provide world class care to the military's 9.6 million valued beneficiaries while creating a more intuitive, quality driven process for healthcare providers.

CAPT Weiner's previous experience includes serving as the Deputy Program Manager (DPM) and Chief Medical Officer (CMO) for the Defense Health Information Management System (DHIMS), the Director of Information Technology Plans and Policy, the Director of IT Governance and Enterprise Architecture for the Chief Information Officer of Navy Medicine at the Bureau of Medicine and Surgery (BUMED).

As a plank owner of the Navy Expeditionary Combat Command (NECC), CAPT Weiner served as the Senior Medical Officer to more than 200 medical departments supporting 40,000 sailors worldwide in support of ongoing military operations. In addition to leveraging IT capabilities within the healthcare arena to include digitalizing healthcare records and voice recognition with the Navy Theater Electronic Medical Record for contingency operations worldwide, his team also created and globally deployed "blow out injury" kits that provide Service Members immediate care during deployment at the point of injury. His team's medical work was praised by the House Appropriations Committee and has become the standard for many international forces. As the Director of Ambulatory Care at Yokosuka Naval Hospital in Japan, Capt Weiner brought significant business process transformation to Japan's busiest outpatient healthcare setting, resulting in unprecedented patient and clinician satisfaction.

He is an active member of the American College of Physicians, the American Osteopathic Association and the American Telemedicine Association, the American Medical Infrastructure Association, and is the military representative to the Philadelphia College of Osteopathic Medicine Alumni Board, as well as the former DoD representative for Health and Human Services' Office of the National Coordinator, Health Information IT Policy Committee. He has received numerous awards from the Navy, including two Meritorious Service Medals, an Air Medal, an Air Medal Single Strike Award, Navy Commendation Medals and a Navy Achievement Medal.

Panel 2: Role of Clinical Documentation for Care Coordination across the Health Team

Neil Wagle, Patient Reported Outcomes Measurement – PartnersHealthCare Chris Snyder, American Hospital Association Lipika Samal, Brigham and Women's Hospital Sarah Collins, Partners HealthCare Madeleine Rooney, Rush University Medical Center Larry Garber, Reliant Medical Group Bill Russell, American Medical Directors Association Health IT Jan Walker, OpenNotes Candice Wolk, Patient from OpenNotes

Neil W. Wagle, M.D., M.B.A. is the Medical Director of the Partners Patient Reported Outcomes Measurement initiative at Partners HealthCare and a primary care physician at Brigham Circle Medical Associates at Brigham and Women's Hospital, Boston. He earned his bachelor's degree in biochemistry *magna cum laude* from Harvard University and received his M.D. from Harvard Medical School *cum laude* in the Harvard/MIT Division of Health Sciences and Technology. He was awarded a Howard Hughes Fellowship to conduct translational research in the field of lipid and carbohydrate metabolism. After his experience in two startup ventures, he earned an M.B.A. with high distinction as a Baker Scholar from Harvard Business School where he focused on health care management and earned the Dean's Award. He is completing his residency in Internal Medicine at Brigham and Women's Hospital in the Department of General Medicine Primary Care Program and has led several initiatives around innovative healthcare delivery as a member of the Management Leadership Program.

Dr. Christopher Snyder has been in primary care and hospital medicine for 16 years. He graduated from Kirksville college of Osteopathic Medicine and completed his residency in St. Petersburg, Florida in family practice. He is board certified in Family Practice since 1996. He practiced primary care for 5 years then became a hospitalist at Peninsula Regional Medical Center (PRMC) in 2002. He is currently the Chief Medical Information Officer, and the physician advisor for utilization review, case management and performance improvement at PRMC. He has 15 year's experience as a Deputy Medical Examiner for the state of Maryland where he provided forensic investigation and clinical guidance to local and federal authorities performing death investigations. . Dr. Snyder became the Chief Medical Information Officer in 2004 and is involved in the development and implementation of a fully integrated clinical informatics system. He has recently been charged as the Chief Quality Officer for PRMC and specializes in clinical data mining and physician engagement using evidence based educational and informatics tools. The clinical analytics developed under Dr. Snyder's leadership have demonstrated the modification of clinical staff behavior yielding improved patient safety and reduced cost. He has recently been appointed an advisor for the National Quality Forum HITAC committee and he is an advisor for the Maryland Health Information Exchange development board (CRISP). He is the recipient of the AMDIS award 2010 for his efforts in using clinical informatics to promote patient safety. He represented PRMC as the 2009 CPOE Contest winner for clinical informatics and just won the McKesson Distinguished Achievement Award for clinical excellence in 2011. In 2010, he was honored as one of the top 25 clinical informaticists by Modern Healthcare Magazine. Dr. Snyder continues to practice medicine at PRMC as a hospitalist.

Lipika Samal, M.D., M.P.H., is a clinician investigator in the Division of General Internal Medicine and Primary Care at Brigham and Women's Hospital and an Instructor at Harvard Medical School. Dr. Samal has a Medical Degree from Case Western Reserve University and a MPH from Johns Hopkins Bloomberg School of Public Health. She completed a General Internal Medicine fellowship at Hopkins. Her research interest is in health information technology for chronic disease management and improved care coordination. Her research has shown that previously documented patterns of racial disparities in blood pressure control are not present among patients whose physicians use electronic health records with clinical decision support. She has led two projects funded by the National Quality Forum to study the potential for measurement of care coordination using HIT. She is currently analyzing qualitative data from a series of interviews with clinicians from acute care hospitals, emergency departments, skilled nursing facilities, and home health agencies.

Sarah Collins, RN, PhD is a Nurse Informatician in the Knowledge Management group at Partners Healthcare Systems, Clinical Informatics Research and Development Department and an Instructor in Medicine at Harvard Medical School and Brigham and Women's Hospital Division of Internal Medicine and Primary Care. Before starting at Partners, she was a National Library of Medicine Post-Doctoral Research Fellow at Columbia University's Department of Biomedical Informatics. Dr. Collins holds a PhD in Nursing Informatics from Columbia University School of Nursing and a Bachelor of Science from the School of Nursing at the University of Pennsylvania with a minor in Health Care Management from the Wharton School of Business. Dr. Collins began her nursing career at Massachusetts General Hospital (MGH) as a staff nurse in the Cardiac Intensive Care Unit and has worked as a critical care nurse at Scripps Memorial Hospital in California and New-York Presbyterian Hospital in New York City. Her research is focused on modeling, developing, and evaluating standards-based, patientcentered collaborative informatics tools to further knowledge development, clinical decision-support, and continuity of patient care. In 2012, Dr. Collins was selected as one of two national Emerging Leaders by the Alliance for Nursing Informatics and is

investigating models of nursing informatics governance within health care organizations as part of that program. Her research has been recognized and awarded by the American Medical Informatics Association and the 11th International Congress on Nursing Informatics.

Madeleine Rooney, MSW, LCSW is the Manager of Transitional Care for Health and Aging at Rush University Medical Center in Chicago, IL. She earned an undergraduate degree in social work from James Madison University in Virginia and her MSW with a clinical concentration in healthcare from The University of Maryland. She has over 30 years of experience in health and aging as a social worker in long term care, acute care hospitals, and as a manager in senior housing and outpatient services. Since 2007, she has been the lead clinician in the development and implementation of The Enhanced Discharge Planning Program (EDPP) known nationally as Bridge, which is an evidenced based transitions of care model utilizing social workers in the care coordination role. She has contributed to multiple publications about EDPP and participates in professional organizations and hospital committees advocating for practice change in healthcare through innovation, quality improvement, and community partnerships.

Larry Garber, MD is a practicing Internist and the Medical Director for Informatics at Reliant Medical Group (formerly known as Fallon Clinic). He has had decades of experience and success in Medical Informatics. Shortly after joining Reliant in 1986, he led the clinic through an extensive redesign of the paper medical record system. Twenty years later, he successfully led the HIMSS Davies Award-winning replacement of these paper records with an Electronic Health Record system for the practice's 1 million visits each year.

Dr. Garber is Acting Chair of the Massachusetts eHealth Collaborative's Executive Committee, a member of the Massachusetts State Health Information Technology Council, a member of ONC Policy Committee's Health Information Exchange Workgroup, and a co-leader for ONC's S&I Framework Longitudinal Coordination of Care Workgroup. He has been Principal Investigator on \$3.5 Million AHRQ and HHS/ONC grants to develop innovative Health Information Exchanges.

Dr. Garber has long been a proponent for patient safety, having served on Reliant's risk management committee for many years, as well as co-authoring articles in JAMA and JAMIA on Adverse Drug Events in the ambulatory setting. Dr. Garber is recipient of the 2010 eHealth Initiative eHealth Advocate Award and the 2011 Health Data Management EHR Game Changer Award.

Bill Russell, MD is a 1982 graduate of Georgetown University School of Medicine and completed Internal Medicine, Oncology and Geriatrics training at Johns Hopkins Medical Institutions.

Dr. Russell recently served as Vice President, Clinical Informatics for Erickson Living Management, where he married his passion for patient care with his robust understanding of technology to develop solutions to improve outcomes.

Since February, 2011, Dr. Russell has served as the clinical liaison from ONC to the four states building HIE solutions to improve Transitions of Care in the Long Term/Post Acute Care space. In addition, he is working with a leading hospice service provider to improve the automation of clinical processes.

He is a workgroup lead for the Standards and Interoperability Framework Longitudinal Coordination of Care Workgroup.

He has a special interest in supporting autonomy and realistic service planning for seniors with limited opportunity for recovery and with high risk for burdensome and futile services.

He currently serves as chairman of the American Medical Directors Association Health IT committee and serves on the LTPAC Collaborative Workgroup for Health IT.

Jan Walker, RN, MBA, co-principal investigator of OpenNotes, is a member of the research faculty of the Division of General Medicine and Primary Care at Beth Israel Deaconess Medical Center and Harvard Medical School in Boston. Her primary research interests are in patients' perspective on care, the use of information technologies to improve their experience, and the strategies to reorganize and improve primary care practice.

Ms. Walker formerly served as vice president for Client Services and Research at the Picker Institute, an organization devoted to measuring patient experiences and incorporating the patient perspective into care. She was the founding executive director of the Center for Information Technology Leadership at Partners HealthCare, and also directed national program evaluation for the Albert Schweitzer Fellowship. Educated at the University of Kansas (BSN) and Boston University (MBA), she has a clinical background in nursing. Her publications have focused on patient perspectives on hospital care, interoperability among critical elements of the health system, and patient insights into new electronic technologies. She is a Principal Associate in Medicine at Harvard Medical School.

Candice Faith Wolk was born November 14, 1972 in Johannesburg, South Africa. She is a graduate of Florida International University with a BA in Hotel Restaurant Management. Upon graduating she obtained a two-year Associates degree in Culinary Arts from the Culinary Institute of America. Candice later went on to become an Area Manager for Red Bull Energy Drink where she managed South Florida and launched Latin America. She left Red Bull to move to Boston where she was a Director of Permanent Placement Services for Robert Half International. Candice ran the Boston office, the second largest in the company at the time, and went on to be named the 'Number One Manager' world-wide for the company. (RHI is a publicly traded international staffing firm). Candice left RHI in 2009 to travel and start a family. She currently resides in Weston, MA where she lives with her husband and twin 15 month old daughters. She is currently serving on three non-profit boards in the Boston area, including JF&CS, one of the largest non-profits in the U.S.

Panel 3: Role of Clinical Documentation for Secondary Uses

Michael Buck, New York City Department of Health and Mental Hygiene Roland Gamache, Indiana University School of Medicine Shaun Grannis, Regenstrief Institute Marc Overhage, Siemens Healthcare Marjorie Rallins, American Medical Association Rosemary Kennedy, National Quality Forum Joe Selby, Patient-Centered Outcomes Research Institute Becky Kush, Clinical Data Interchange Standards Consortium Christopher Chute, Mayo Clinic

Michael D Buck, PhD is the Director of Biomedical Informatics for the Primary Care Information Project in the NYC Department of Health and Mental Hygiene. He is also an Associate Research Scientist in the Department of Biomedical Informatics at Columbia University. His professional interests include healthcare analytics, health information exchange, clinical research informatics, EHR pay-for-performance initiatives, syndromic surveillance, clinical decision support, and small-practice EHR implementation. Dr. Buck completed his PhD in Biomedical Informatics at the University of Utah, School of Medicine and his postdoctoral fellowship at Columbia University.

Roland Gamache, Ph.D., MBA is a Visiting Associate Professor with the School of Informatics at Indiana University and an Affiliate Research Scientist with Regenstrief Institute, Inc. He completed his undergraduate work at the University of Lowell, MA. He received a Ph.D. in Chemistry from Purdue University in 1984 and an MBA from Indiana University in 1991. Dr. Gamache joined Indiana University and Regenstrief Institute, Inc. in 2009, enhancing the public health expertise supporting a variety of ongoing and emerging public health informatics initiatives. His research activities focus on the secondary use of clinical data to improve population health and to use population health measures to impact the clinical encounter. Dr. Gamache has eighteen years of state public health experience. He was a long time member of the ASTHO Public Health Informatics Policy Committee. He was the first full-time Director of the State Health Data Center, the first full-time Director of the Public Health Preparedness program, and Director of the Data Analytics Team at the Indiana State Department of Health (ISDH).

J. Marc Overhage, MD, PhD is the Chief Medical Informatics Officer for Siemens Healthcare. Prior to joining Siemens he was the founding Chief Executive Officer of the Indiana Health Information Exchange and was Director of Medical Informatics at the Regenstrief Institute, Inc., and a Sam Regenstrief Professor of Medical Informatics at the Indiana University School of Medicine.

He has spent over 25 years developing and implementing scientific and clinical systems and evaluating their value. With his colleagues from the Regenstrief Institute, he created a community wide electronic medical record (called the Indiana Network for Patient Care) containing data from many sources including laboratories, pharmacies and hospitals in central Indiana. The system currently connects a majority of acute care hospitals in central Indiana and includes inpatient and outpatient encounter data, laboratory results, immunization data and other selected data. In order to create a sustainable financial model, he helped create the Indiana Health Information Exchange, a not-for-profit corporation. In addition Dr. Overhage has developed and evaluated clinical decision support including inpatient and outpatient computerized physician order entry and the underlying knowledge bases to support them. He practiced general internal medicine for over 20 years including the ambulatory, inpatient and emergency care settings.

Over the last decade, Dr Overhage has played a significant regional and national leadership role in advancing the policy, standards, financing and implementation of health information exchange. He serves on the National Committee for Vital and Health Statistics and the Health Information Technology Standards Committee as well as serving on the Board of Directors of the National Quality Form and being engaged in a number of national healthcare initiatives.

Marjorie Rallins, DPM, is the Director of Measure Implementation and Informatics for the AMA and the AMA-convened PCPI. She leads a highly skilled team in testing clinical quality measures and developing technical specifications to ensure PCPI clinical quality measures leverage information from EHRs and other electronic media. Dr. Rallins and the measure implementation and informatics team have developed EHR specifications for many of the quality measures in the CMS EHR Incentive Program (Meaningful Use) Stage I and are currently involved in preparing quality measure specifications and testing efforts for Meaningful Use Stages II and III.

Dr. Rallins has a background in health care informatics and vocabulary standards. At the AMA she also led the efforts to develop a rules-based map between SNOMED CT[®] and Current Procedural Terminology (CPT[®]) as well as a data model and Developers Toolkit for CPT. She is involved in a number of health information technology efforts and currently is co-chair of the Clinical Quality Workgroup of the Health Information Technology Standards Committee and the CHIPRA Pediatric Quality Measure Program (PQMP) Workgroup.

Prior to coming to the AMA, Dr. Rallins was the Director, Clinical Editors for the College of American Pathologists where she led the terminology operations effort for SNOMED International.

Dr. Rosemary Kennedy, RN, MBA, FAAN, is Vice President for Health Information Technology at the National Quality Forum (NQF) and also Associate Professor at the Thomas Jefferson University School of Nursing, teaching informatics.

In addition to being an informatics domain expert, she holds many leadership roles through her work with the American Medical Informatics Association (AMIA) and Technology Informatics Guiding Educational Reform Board (TIGER). Dr. Kennedy is widely presented and published in the field of nursing informatics, clinical documentation and terminology standards. She is a fellow in the American Academy of Nursing and received the HIMSS 2009 Nursing Informatics Award as well as the top 25 women in healthcare award for 2009. For many years, she was the Chief Nursing Informatics Officer for Siemens Healthcare Solutions where she provided professional practice leadership over the development and deployment of solutions to ensure nursing practice and interdisciplinary requirements were met.

Joe V. Selby, M.D., M.P.H., is the first Executive Director of the Patient-Centered Outcomes Research Institute (PCORI). A family physician, clinical epidemiologist and health services researcher, he has more than 35 years of experience in patient care, research and administration. He will identify strategic issues and opportunities for PCORI and implement and administer the research agenda authorized by the PCORI Board of Governors.

Building on the work of the Board and interim staff, Selby will lead the organizational development of PCORI, which was established by Congress through the 2010 Patient Protection and Affordable Care Act. In addition to creating an organizational structure to carry out a national research agenda, Selby will lead PCORI's external communications, including work to establish effective two-way communication channels with the public and stakeholders about PCORI's work.

Selby joined PCORI from Kaiser Permanente, Northern California, where he was Director of the Division of Research for 13 years and oversaw a department of more than 50 investigators and 500 research staff working on more than 250 ongoing studies. He was with Kaiser Permanente for 27 years. An accomplished researcher, Selby has authored more than 200 peer-reviewed articles and continues to conduct research, primarily in the areas of diabetes outcomes and quality improvement. His publications cover a spectrum of topics, including effectiveness studies of colorectal cancer screening strategies; treatment effectiveness, population management and disparities in diabetes mellitus; primary care delivery and quality measurement.

Selby was elected to membership in the Institute of Medicine in 2009. A native of Fulton, Missouri, Selby received his medical degree from Northwestern University; his training in family medicine from Contra Costa County Medical Center, Martinez, CA, and his master's in public health from the University of California, Berkeley. He was a commissioned officer in the Public Health Service from 1976-1983 and received the Commissioned Officer's Award in 1981.

He serves as Lecturer in the Department of Epidemiology and Biostatistics, University of California, San Francisco School of Medicine, and as a Consulting Professor, Health Research and Policy, Stanford University School of Medicine.

Dr. Selby was appointed PCORI executive director on May 16, 2011.

Rebecca Daniels Kush, Ph.D. is Founder, President and CEO of the Clinical Data Interchange Standards Consortium (CDISC), a non-profit standards developing organization (SDO) with a vision of *"Informing patient care and safety through higher quality medical research"*. Dr. Kush has over 30 years of experience in the area of clinical research, including positions with the U.S. National Institutes of Health, academia, a global CRO and biopharmaceutical companies in the U.S. and Japan. She earned her doctorate in Physiology and Pharmacology from the University of California San Diego (UCSD) School of Medicine. Dr. Kush has presented keynotes in the U.S., Japan and Europe. She is lead author on the book: eClinical Trials: Planning and Implementation and has authored numerous publications for journals including New England Journal of Medicine and Science Translational Medicine. She has developed a Prescription Education Program for elementary and middle schools and was named in PharmaVoice in 2008 as one of the 100 most inspiring individuals in the life-sciences industry.

Dr. Kush has served on the Board of Directors for the U.S. Health Information Technology Standards Panel (HITSP) and the Drug Information Association (DIA), is currently on the Board of Health Level 7 (HL7) and was a member of the advisory committee for the WHO International Clinical Trials Registry Platform. She currently serves as a member of the Informatics Oversight Committee of the National Cancer Advisory Board (NCAB) and was appointed in 2011 to represent research on the U.S. Health Information Technology (HIT) Standards Committee.

Christopher G. Chute, MD, DrPH received his undergraduate and medical training at Brown University, internal medicine residency at Dartmouth, and doctoral training in Epidemiology at Harvard. He is Board Certified in Internal Medicine, and a Fellow of the American College of Physicians, the American College of Epidemiology, and the American College of Medical Informatics. He became founding Chair of Biomedical Informatics at Mayo in 1988, and is PI on a large portfolio of research. He is presently Chair, ISO Health Informatics Technical Committee (ISO TC215) and Chairs the World Health Organization (WHO) ICD-11 Revision. He also serves on the Health Information Technology Standards Committee for the Office of the National Coordinator in the US DHHS, and the HL7 Advisory Board.

Panel 4: Role of Clinical Documentation for Legal Purposes

Chad Brouillard, Foster & Eldridge, LLP Michelle Dougherty, AHIMA Foundation Donald Mon, RTI Ivy Baer, Association of American Medical Colleges

Chad P. Brouillard Esq. is a healthcare law attorney and medical malpractice defense attorney practicing at the law firm of Foster & Eldridge LLP in Cambridge, Massachusetts. He is licensed in the Commonwealth of Massachusetts, States of New York and New Hampshire, as well as the Federal District Courts and Court of Appeals for the First Circuit. Mr. Brouillard is a national speaker on Electronic Health Records liability, e-discovery, data breach and healthcare technology liability for Continuing Medical Education, Continuing Legal Education and Risk Management programs. Notably, on January 24, 2013, Mr. Brouillard was a speaker on healthcare e-discovery

at the American Bar Association's "e-Discovery and Information Governance National Institute" annual meeting in Tampa, Florida. Mr. Brouillard has authored numerous articles including, "Emerging Trends in Electronic Health Record Liability" and "The Impact of E-Discovery on Healthcare Litigation" for the Defense Research Institute's national magazine, For the Defense. He serves on the Board of Directors for the Massachusetts Defense Lawyers Association.

Michelle L. Dougherty, MA, RHIA, CHP is the Director of Research and Development with the AHIMA Foundation. Michelle has served as principal investigator, director, manger or facilitator for numerous government contracts and projects that shape healthcare and HIM policy and practices. She provided leadership to the HIM profession and healthcare industry on a wide array of topics including healthcare policy, HIT adoption, electronic health records and health information exchange, privacy/security, data governance, data integrity, data standards, e-discovery, and personal health records.

Michelle has served in key industry leadership roles including an appointment to a national workforce committee, testifying to policy-makers on clinical documentation practices, and convening key stakeholders to shape national HIT policies for the long-term and post acute care sector. Additionally, Michelle has represented AHIMA and the HIM profession at HIT standards organizations and co-leads a standards workgroup developing critical EHR standards to support data quality and integrity. She is a frequent speaker and an award-winning author.

Prior to joining AHIMA in 1999, Michelle served as an HIM consultant in the Post-Acute Consulting Services Group of Minneapolis-based Larson, Allen, Weishair & Co., LLP. As a consultant, she provided health information, documentation, survey, prospective payment system (PPS), and compliance consulting.

Michelle holds a Master's degree in healthcare informatics and information management and Bachelor of Arts degree in Health Information Administration from the College of St. Scholastica in Duluth, Minnesota.

Donald T. Mon, PhD, as a senior director, leads the standards and interoperability practice in the Center for Advancement of Health Information Technology (CAHIT). In this capacity, he represents RTI in key national and international standards development activities and directs RTI's business development and project implementations related to data, functional and interoperability standards. Additionally, Mon is chair of Health Level Seven International (HL7), co-chair of the HL7 EHR Work Group, president of the Public Health Data Standards Consortium, a subject matter expert in the U.S. Technical Advisory Group (the US representative to ISO Technical Committee 215-Health Informatics), and has served on numerous electronic health records, personal health records, quality measurement, and secondary data use, and healthcare transformation expert panels.

Mon has more than 35 years of experience in the areas of health information management/technology and informatics practice, research and advocacy. He is a national and international leader in the development of health policy and functional, data and interoperability standards for electronic health records (EHR), personal health records (PHR), and health information exchange.

Prior to joining RTI, Mon was vice president, Practice Leadership, at the American Health Information Management Association (AHIMA) where he led the implementation of AHIMA's top strategic national and international initiatives, including the electronic health record (EHR); the legal EHR; personal health record (PHR); health information exchange (HIE), privacy, security, and confidentiality; vocabulary, terminology, classification, and coding systems; quality measurement; and reusing clinical data. He has also developed IT strategic and business process re-engineering plans, and helped design, develop and maintain large scale databases and information systems for the Biological Sciences Division/Pritzker School of Medicine at the University of Chicago, Catholic Healthcare West, University of Illinois at Chicago, Premier, Inc., Oracle Corporation, Rush University Medical Center, and Schwab Rehabilitation Hospital.

Mon earned a doctorate degree in education psychology, counseling and research methods from Loyola University of Chicago and a bachelor's degree in psychology from San Francisco State University.

Ivy Baer is Director and Senior Regulatory Counsel at the Association of American Medical Colleges. She is heads the Association's Medicare and Medicaid regulatory and policy group which is responsible for monitoring, educating, and advocating on a wide variety of regulations issued by the Centers for Medicare and Medicaid Services (CMS), the HHS Office of Inspector General (OIG), and other HHS agencies, with a particular emphasis on those that affect teaching hospitals and faculty physicians. Ms. Baer works closely with members to advise and educate them on a broad range of regulatory and legal issues. She serves as primary staff to the AAMC's Group on Faculty Practice, composed of the physician and non-physician leadership of the many of the nation's major faculty practice plans, and the Compliance Officers Forum, the only organization devoted to the compliance issues faced by academic institutions. She is a member of the American Health Lawyers Association and served as co-chair of the American Health Lawyers Association annual meeting on Legal Issues Affecting Academic Medical Centers and Other Teaching Institutions from 2004-2009. Prior to working at the AAMC, Ms. Baer worked for the Mid-Atlantic Region of Kaiser Permanente, a federal regulatory agency, and a public interest group.

Ms. Baer holds a Bachelor's degree with honors from Johns Hopkins University; a law degree from Emory University; and Masters of Public Health degree from the Harvard School of Public Health's Department of Health Policy and Management.