

# Acknowledging Our Track Chairs

- Steve Simon, Harvard Medical School
- Jack Starmer, Vanderbilt University
- Atif Zafar, Indiana University
- Marc Overhage, Regenstrief Institute
- Mark Frisse, Vanderbilt University
- Jan Walker, Partners Health Care and Cntr for Health IT Leadership
- Eric Poon, Partners Health Care and Harvard Medical School
- Theresa Cullen, Indian Health Service
- David Bates, Partners Health Care and Harvard Medical School
- Hal Kaplan, Columbia University
- Jules Rosen, University of Pittsburgh
- Chris Landrigan, Harvard Medical School
- Judy Ozbolt, University of Maryland School of Nursing
- Michael Harrison, Agency for Healthcare Research and Quality
- David Munch, Exempla Lutheran Medical Center

**Track 1:**  
**Patient Safety and Health IT**  
**Across Settings and Populations**

**Chair:**  
**Steven Simon, Harvard Medical School**

# Overview of Track 1

- Settings outside the hospital not as far along
- Research descriptive, observational, translational
- Large gaps exist in knowledge, quality, safety in wide range of settings:
  - Rural/critical access
  - Outpatient
  - Elderly/long-term care
  - Tele-health

# Key Insights, Key Challenges (1)

- Health IT and Special Populations (rural hospitals, pediatrics, long-term care, HIV patients)
  - Perception of technology adoption  $\neq$  actual adoption  $\neq$  use of the technology
  - Helpful to use multiple methods (quantitative, qualitative, self-report, observation) to detect errors.
  - All events identified as errors may not represent true safety problems (false positives)
  - Using IT to maximize human-based care (e.g., case management in HIV)

# Key Insights, Key Challenges (2)

- EHRs in Outpatient Clinics
  - Less than 1 in 4 practices have EHRs – but adoption alone not adequate measure
  - Importance of organizational culture in EHR adoption
  - Need to understand predictors of usage, esp. CDSS
  - Expectations and actual experiences about EHR implementation not always aligned

# Key Insights, Key Challenges (3)

- Patient Safety in Emergency Care
  - Unexplored territory for quality and safety, esp. outside hospital (e.g., paramedics)
  - Providers willing (enthusiastic) to enroll in simulation-based training
  - High-tech solutions (IR, RF) to track patients and staff → quality, safety.
- Improving the Safety and Quality of Care for the Elderly
  - CDSS not magic bullet (anticoagulation alerts)
  - Health literacy frequently overlooked as intervention target
  - Need for standardization in QI (e.g., ISO)

# **Track 2: Implementation Issues in Patient Safety and Health IT**

**Co-Chairs:**

**Atif Zafar, Indiana University  
Jack Starmer, Vanderbilt University**

# Overview of Track 2

- Focused on implementation issues:
  - People, process, and technology.
  - Rural, urban, community, academic.
- Presenters described implementation challenges and success stories with a focus on improving patient safety and delivering high quality patient care.

# Key Challenges Identified by Participants

## ■ People

- Technology that doesn't support clinical workflow.
- Disconnect between management and clinical staff.

## ■ Process

- Lack of standard process across units or provider groups.
- Inefficient and ineffective process.

## ■ Technology

- Technology not intuitive.
- Interoperability and readiness of external organizations limits achieving full value.

# What Did We Learn? Key Insights

- People
  - Well meaning providers are not always right (e.g. adjusting anticoagulants).
  - Trust is key in developing a culture of quality.
- Process
  - Demonstrating value at the user level is a critical factor for adoption.
  - Understanding processes up front can better inform how to integrate technology into workflow.
- Technology
  - Independent and engaged expertise is critical.
  - Focus on low hanging fruit (start small and show value)

**Track 3:**  
**Improving the Health of  
Communities through Regional  
Health Information Exchange**

**Co-Chairs:**  
**Mark Frisse, Vanderbilt University**  
**Marc Overhage, Regenstrief Institute**

# Overview of The Track

- Addressing the critical issues in health information exchange
- Aligning these issues with the broader patient safety and quality agenda of AHRQ
- Programmatic linkages with other government, private sector, and community initiatives
- Sharing ideas; gauging progress
- Defining our collective research agenda

# Key Challenges Identified by Participants

- There remains no generic approach. Need to abstract the lessons learned for dissemination
- Linkage among HIE, population health, quality, and safety will take time (but work being done)
- Slow progress (like weight loss) doesn't give many early wins; no "short cuts." This work requires long-term commitment
- Differing agenda remain; fragmented health care system

# What Did We Learn? Key Insights

- Positive repetition – focus on key ideas
- Real results; real models; real issues
- Differences are good differences
- Building the foundations; digging the trenches
- Things take time and patience
- Privacy and confidentiality are central
- Funding and sustainability in context

# **Track 4: Assessing Value & Evaluating Project Impact**

**Co-chairs:  
Jan Walker, RN MBA  
Eric Poon, MD MPH**

# Overview of Track 4

- Assess value and impact of health IT tools:
  - Computerized Physician Order Entry
  - Electronic Health Records
  - Health Information Exchange
  - Medication Administration Technologies
  - Clinical Decision Support
- Explore new evaluation approaches
- Share early results of evaluation
  - Impact on quality of care, cost, satisfaction
  - Success factors for adoption
  - Lessons learned

# Key Challenge: Evaluation is Hard in the Real World!

- Not easy to find good comparison group
- It is difficult to isolate the impact of the technology from the quality of implementation and other environmental factors
- Not all systems allow for easy retrieval of data useful for evaluation
- Limited resources (expertise & budget) -- how do we “evaluation lite”?

# What Did We Learn? Key Insights

- Implementation Lessons:
  - Multidisciplinary approach: “It takes a village to be successful.”
  - It is important to capture unintended consequences
  - IT is a means, not an end
  - Use evaluation results to help adoption
- Successful Methodologies
  - Leverage existing sociological framework, novel approaches
  - Multi-modal evaluation approaches (e.g., surveys, focus groups, observations, work system analysis, cost-benefit analysis)
  - Continuous evaluation and monitoring
- High interest in cross-Grantee Learning
  - Evaluation approaches
  - Lessons learned and best practices for implementation
  - National repository of clinical knowledge

# **Track 5: Achieving and Sustaining Improvements**

**Co-Chairs:  
Theresa Cullen, IHS  
David Bates, Partners Healthcare**

# Overview

- Need observational studies to track the frequencies of adverse medical device events
  - Standardizing nomenclature of medical devices is important, but it is not sufficient for patient safety. Unique device identification is also necessary.
- Preparation and planning including usability are key for HIT implementation, but they are not sufficient; systems need to be in place for ongoing revision and observation.
- EHRs need to facilitate the delivery of population based health care.
- Transitions represent vulnerable points in care and we are still learning how to manage them.

# Key Challenges Identified by Participants

- Adverse Medical Device Events are not routinely reported
  - There is no national standard for data collection of AMDEs
- Key tenets of usability are often ignored within technology development in healthcare.
- Many EHRs do not support population based care.
- Managing the critical points in transitions.

# What Did We Learn? Key Insights

- Rates of AMDEs are much higher than previously recognized. The frequency of these events varies according to surveillance method.
- Usability matters and change needs to be made on a continuous basis with HIT.
- Redesigning workflow before HIT implementation can lead to greater program success.
- Population health is possible.
- Care transitions must be improved.

**Track 6:  
Using Reporting Systems for  
Safety and Quality  
Improvement**

**Chair:  
Hal Kaplan, Columbia University**

# Overview

- **Improving the Accuracy and Utility of Reporting Systems**
- **Using Reporting Systems to Track Changes Over Time**
- **Using Reporting Systems to Track Adverse Drug Events**
- **Innovative Applications of Reporting Systems**

# Key Challenges Identified by Participants

- **Underreporting of adverse events**
  - **Fear of repercussions, disciplinary, regulatory**
    - **PSOs**
  - **Time consuming and cumbersome**
    - **Perception vs. Reality**
    - **Timely and useful feedback**
- **Inconsistent/incomplete data**
  - **Anonymous reporting makes re-contacting difficult**
  - **Patients reporting**
    - **may recognize adverse events differently**
  - **Triangulation**

# What Did We Learn? Key Insights

- Will report error when safeguards are in place and system is viewed as useful
  - Adoption vs. compliance
- Include working conditions and practice environment in data capture
- Event reporting systems as a community of practice
  - For example, “Plumtree” or “MySpace”
- Good examples of not only data capture, but data use
  - Sense-making

**Track 7:  
Working Conditions  
Challenges in Patient Safety**

**Co-Chairs:**

**Christopher Landrigan, Harvard Medical School  
Jules Rosen, University of Pittsburgh Medical  
Center**

# Overview of My Track

- Impact of health IT on provider working conditions and their performance:
  - Effects of working conditions on implementation of HIT
  - Exploring working conditions, relationships, and links to performance
  - Organizational and team strategies

# Key Challenges Identified by Participants

- We still understand far too little about human factors in the genesis of patient safety hazards
- Studying HIT in context—there is no way of separating the technology from the human interaction component
- Training curve is intensive
- Implementing solutions requires continuous management and investment
- The cost of implementing the solutions is greater than the cost of the technology

# What Did We Learn? Key Insights

- Culture—unequivocal leadership support and local champions are essential for change
- Return on investment is not obvious in terms of quality improvement. Long term investment
- Team building and communication as organizational priorities go hand in hand with HIT
- Taking care of providers in healthcare is a critical part of patient safety
  - Working conditions
  - Empowerment- Making sure they feel that they're part of the change process

**Track 8:  
Patient and Family-centered  
Health IT and Safety**

**Chair:  
Judy Ozbolt, University of MD School of Nursing**

# Overview of Patient-and Family-Centered Health IT and Safety

- New Approaches in Medication Management and Care Transition
  - Amy Friedman (Yale University), Kathryn Leonhardt (Aurora Health), Melinda Muller (Legacy Health), Robert Rosati (Visiting Nurse Service of New York)
- Patient-Centered Health IT: Perceptions and Approaches
  - James Ralston (Group Health Cooperative), Srinivas Emani (Fallon Clinic), Christopher Lamer (Cherokee Indian Hospital), John Reiling (St. Joseph's Hospital)

# Key Challenges in Reducing Medication Errors

- Maintain a complete, accurate, up-to-date medication list
  - What medications are currently prescribed by all providers—and consistent with formulary?
  - What medications are patients actually taking?
- Support patients in adhering to complex medication regimens
- Enhance communications across providers and settings of care

# What Did We Learn? Key Insights

- Competing health systems have created a single medication list document accepted by all.
- A web-based CCR and e-transitions system allows communication between MDs and home care nurses.
- Community partnerships may help to improve communications about medications. *Innovation: Medications bag to keep all meds together and bring them to clinic appointments.*
- With good support and training, even older patients who have never used a computer can learn to manage complex medication regimes.

# Key Challenges in Perceptions and Approaches to Patient-Centered HIT

- What are patients' concerns and preferences with regard to HIE?
- How can PCIT support communications between patients and providers?
- Can an EHR and other integrated IT support a tobacco cessation program?
- How can the design of a new hospital, incorporating HIT, improve safety?

# What Did We Learn? Key Insights

- Patients do have concerns about privacy and security, but they think appropriate information exchange is important and must happen.
- Patients like having access to their health information and being able to enter information, but see little value in emailing providers.
- An EHR and other IT are supporting communication and management of patients' progress in a tobacco cessation regime.
- Patient-centered hospital design can support a culture of safety.

# **Track 9: Emerging Approaches To Drive Change in Healthcare**

**Co-Chairs:  
Michael Harrison, AHRQ  
David Munch, Exempla Health System**

# Overview

- Human vigilance to IT defects
- The issues around developing PSI measures
- Use of Technology in High Reliability Systems
- Positive Deviance (Empowering users to discover doable, underused solutions)
- Lean approaches to improving safety and efficiency

# Key Challenges Identified by Participants

- It is hard to detect errors in IT function when results look plausible.
- Assuring comparability in composite measures and giving proper weight to high priority elements.
- Maintaining vigilance and awareness of risks in IT environment.
- Releasing the creativity of front line staff.
- Fitting industrial methods to complex health care processes.
- Pursuing the principals and not just the tools of Lean.

# What Did We Learn? Key Insights

- Do not assume things are working when they because they “*seem*” ok.
- More work is needed to make composite measures actionable.
- The five principals of High Reliability provide a relevant construct for improving healthcare safety.
- Positive Deviance is a successful approach to discovering the untapped solutions in healthcare.
- Lean principals and tools provide effective means to improve clinical and non-clinical processes in healthcare.