



# **Electronic Health Record Informatics:**

## **Workshop Human-Computer Interaction Lab**

### **Annual Symposium, University of Maryland**

**Wednesday, May 23, 2012**

[www.cs.umd.edu/hcil/sharp/workshop2012](http://www.cs.umd.edu/hcil/sharp/workshop2012)

### **Organizers**

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UNIVERSITY OF  
MARYLAND



# IOM Report: Health IT and Patient Safety



## Problem

- Poorly designed health IT can create new hazards in the already complex delivery of care.
- Dosing errors, failure to detect life-threatening illnesses & delaying treatment due to poor HCI or loss of data have led to serious injury & death.

## Recommendations:

- **User-centered design & human factors applied to health IT**



# Strategic Health IT Advanced Research Projects (SHARP): Office of National Coordinator

- Security of Health Information Technology
- **Patient-Centered Cognitive Support**
- Healthcare Application and Network Platform Architectures
- Secondary Use of EHR Data



The screenshot shows the official website of the Strategic Health IT Advanced Research Projects (SHARP) program, part of the U.S. Department of Health & Human Services. The header features the department's name, the program's title, a search bar, and social media links. A left sidebar lists various health IT programs, with 'Strategic Health IT Advanced Research Projects Program' highlighted. The main content area includes a breadcrumb trail, the program title, and tabs for 'OVERVIEW', 'AREA ONE', 'AREA TWO', 'AREA THREE', 'AREA FOUR', and 'NIH AFFILIATE'. The 'OVERVIEW' tab is active, displaying a photograph of three healthcare professionals in white coats reviewing a computer screen. Text on the page describes the program's mission: to support innovative research addressing well-documented problems that impede the adoption of health IT, with the goal of accelerating progress toward a high-performing, adaptive, nationwide health care system. It mentions that the SHARP program is led by major collaborative efforts at the University of Illinois at Urbana-Champaign, the University of Texas at Houston, Harvard University, the Mayo Clinic of Medicine, and Massachusetts General Hospital. The text also states that these collaborations are conducting breakthrough research to achieve tangible goals in their respective research areas and services to create fundamental improvements along critical areas toward a high-performing, learning health care system. A 'Feature' section on the right encourages visitors to visit [healthIT.gov](http://healthIT.gov) to learn more about how health IT is helping patients, doctors, and stakeholders get the information they need, empowering them to make changes, and improving the nation's health. Below this is a 'Quick Links' section with links to 'Grants Resources', 'ATCBs', 'HITECH Programs', and 'Certification'.

[Sharpc.org](http://Sharpc.org)

[www.cs.umd.edu/hcil/sharp](http://www.cs.umd.edu/hcil/sharp)



# EHR Informatics Workshop Agenda



8.15am	Registration & Breakfast	
9am	Demos & Posters	
10.30am	Welcome and Greeting	Catherine Plaisant, Associate Director of Research, HCIL, UMD
10.45am	Introduction	Ben Shneiderman, Professor, Department of Computer Science, UMD



# EHR Informatics Workshop Agenda



	Session 1: Visualization	
11am	Visualizing Patterns of Asthma Medication Prescribing in the Military Health System using EventFlow	Tamra Meyer, Megan Monroe, Jeff Millstein, Suji Xie, Trinkia S Coster -- Pharmacovigilance Center, Office of the Surgeon General, Dept of the Army; Univ of Maryland, Computer Science & HCIL; Oracle Health Sciences
11.20am	Visual Analytics for Tracking Disease Progression in Electronic Health Records	Adam Perer -- IBM
11.40am	Integrating Cognitive Science and Information Visualization in Modality Management	Paul Nagy -- Johns Hopkins University
12pm	Real-time Radiology Workflow Monitoring Tool for Overnight ED Residents	Michael Cohen -- Johns Hopkins University
12.20pm	Lunch	

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	Session 2: EHR Design and Evaluation	
1.40pm	Electronic Health Records and the Clinical Narrative	Philip Resnik -- UMD
2pm	Development of a Model Electronic Health Record Format for Children	P. Kenyon Crowley, MBA, MS -- UMD Center of Excellence in HIT Research & CHIDS
1.20pm	NIST Advances in Measuring, Evaluating and Improving the Usability of Electronic Health Records	Matt Tyrone Quinn, Usability Scientist -- National Institute of Science and Technology (NIST)
2.20pm	Break	)

# EHR Informatics Workshop Agenda



	Session 3: Safety and Errors	
3pm	Forget Statistical Significance: Visualization Tools Enhance Drug Safety Surveillance	Sheila Weiss -- UMD
3.20pm	Using Process Definition and Analysis Techniques to Reduce Errors and Improve Efficiency in the Delivery of Healthcare	Leon J. Osterweil -- Department of Computer Science, University of Massachusetts, Amherst
3.40pm	A Systematic Yet Flexible Systems Analysis of Medication Entry	Eliz Markowitz -- University of Texas
4pm	Discussion & Future Steps	
4.40pm	Closing	

# Take Away Messages



**Healthcare is fertile area for HCI & InfoVis**  
**Patient Safety is a national priority**  
**We have tools for analysts**

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**`www.cs.umd.edu/hcil/sharp`**

**`www.cs.umd.edu/hcil/lifeflow   /eventflow   /pairfinder`**

