

# CSLS History 101: What Led Us to This Event

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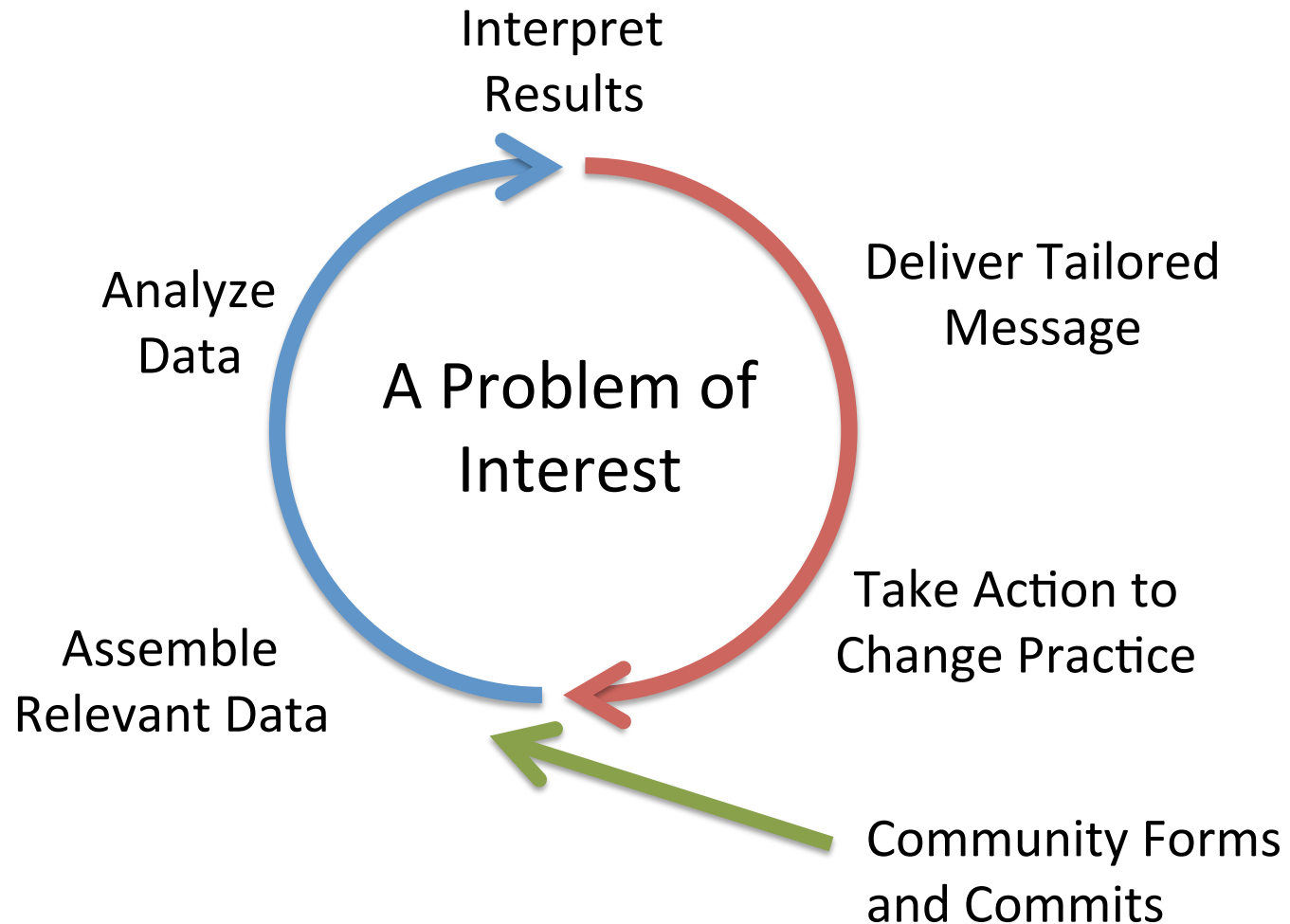
August 29, 2016



# Disclosure

I am the past chair, and a member, of the Interim Steering Committee of the Learning Health Community, a grassroots not-for-profit organization.

# General Vision of CSLS: Cycles of Study and Improvement



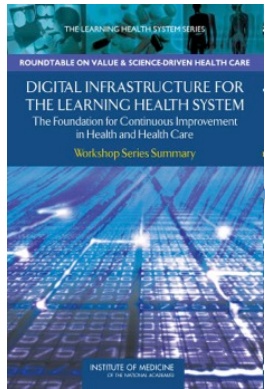
# History: What Brought Kevin and Me Together



20<sup>th</sup> Century



# And the Events That Followed...



Institute of  
Medicine  
2011

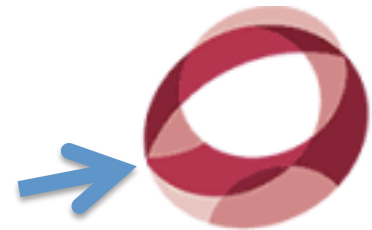


NSF Workshop  
2013

Research and applications  
Toward a science of learning systems: a research agenda  
for the high-functioning Learning Health System  
Charles Friedman,<sup>1</sup> Joshua Rubin,<sup>1</sup> Jeffrey Brown,<sup>2</sup> Melinda Buntin,<sup>3</sup> Milton Corn,<sup>4</sup>  
Lynn Etheredge,<sup>5</sup> Carl Gunter,<sup>6</sup> Mark Musen,<sup>7</sup> Richard Platt,<sup>2</sup> William Stead,<sup>3</sup>  
Kevin Sullivan,<sup>8</sup> Douglas Van Houweling<sup>1</sup>



NSF  
Workshop at HICSS  
2015



CCC  
Computing Community  
Consortium  
Catalyst

CSLS  
Workshops  
2016



National LHS  
Summit 2012

# NSF-Sponsored 2013 Workshop



- A national workshop to explore the *research challenges* inherent in realizing a high functioning LHS
- April, 2013 in Washington, DC
- 55 attendees: 45 invited participants plus federal liaisons
- Many disciplines represented: computer science to epidemiology to economics



# Outcomes of the 2013 Workshop



*Reflected in report and JAMIA article:*

- A vision of a high-functioning system
- 106 research questions organized into 4 broad categories and 19 sub-categories
- A suggestion of a new area of basic and applied science, engineering, and design

Research and applications

Toward a science of learning systems: a research agenda  
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# LHS System Requirements from 2013 Workshop

1. A system that is trusted and valued by all stakeholders
2. An economically sustainable and governable system
3. An adaptable, self-improving, stable, certifiable, and responsive system
4. A system capable of engendering a virtuous cycle of improvement

# Second NSF Workshop at HICSS '15

- 10 invited speakers, ~ 80 participants overall
- Deeper dive into the computer and information science of the LHS
- **Validation that there is a scientific agenda and community interested in addressing it**
- **Recognition that this transcends health**



# Is This For Real?

## *At least in health:*

- There are many believers
- Pinnacle goal of U.S. Health IT policy
- Several organizations have LHS initiatives
- Precision Medicine *is* a CSLS
- Growing international movement
- A journal and at least one academic department
- A significant literature (1740 in Google Scholar)
- A grassroots organization with ~1500 on its mailing list

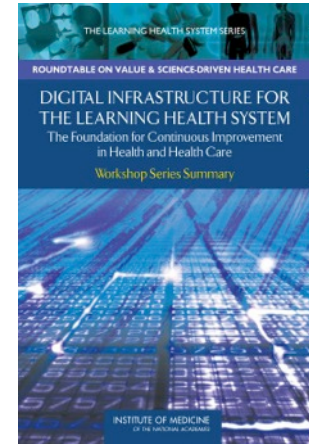
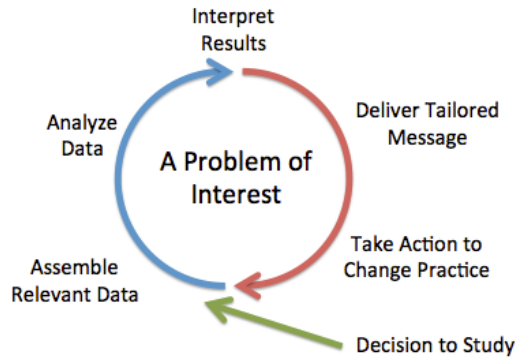
# The Believers

## (99/105 Endorsers of the LHS Core Values)

(As of 3/21/2016)



\*To be included on the [www.LearningHealth.org](http://www.LearningHealth.org) website.



Thanks  
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