

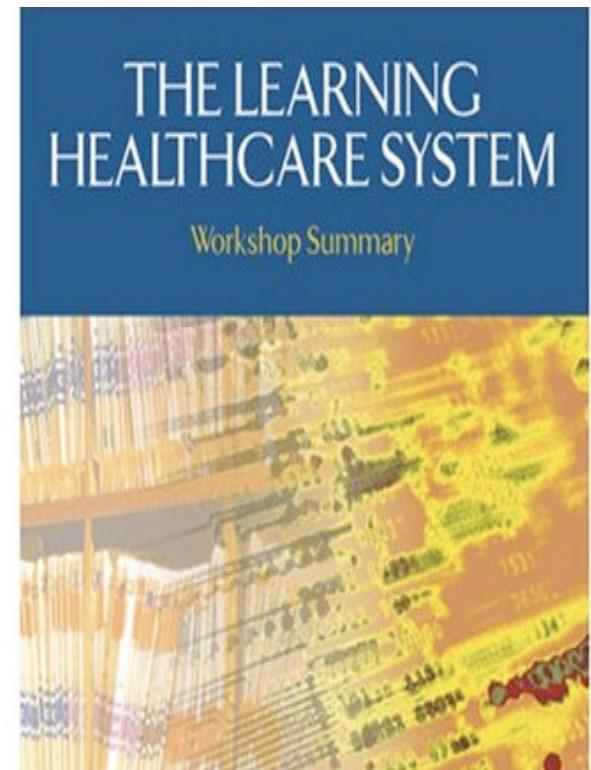


# Building Reusable Research Networks

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November 27, 2012

# Learning Healthcare System

- Patients and providers work together to choose care based on best evidence
- Drive discovery as natural outgrowth of patient care
- Ensure innovation, quality, safety and value
- All in real-time



# CCHMC Learning Networks

*5 Networks, 119 Locations, 38 CTSAs*

***Ohio Children's Hospitals Solutions for Patient Safety***

***Ohio Perinatal Quality Collaborative***

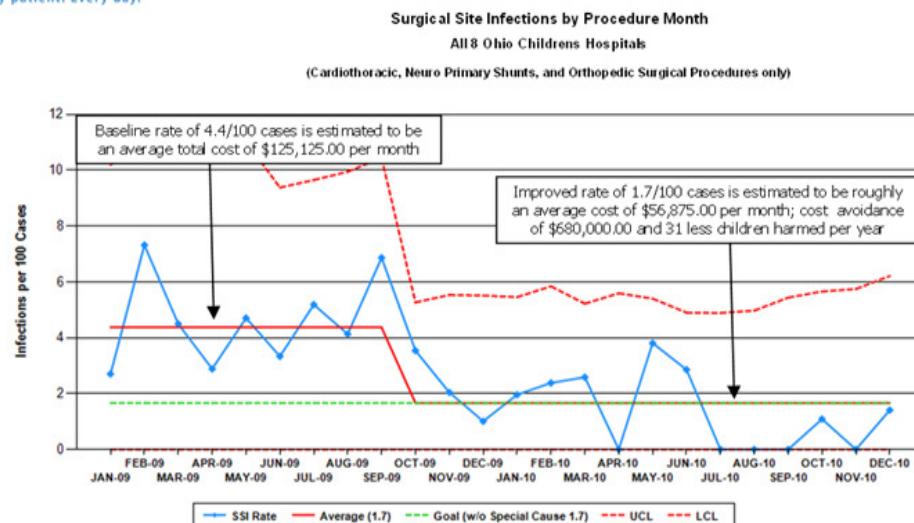
***ImproveCareNow Network***

***National Pediatric Cardiology Quality Improvement Collaborative***

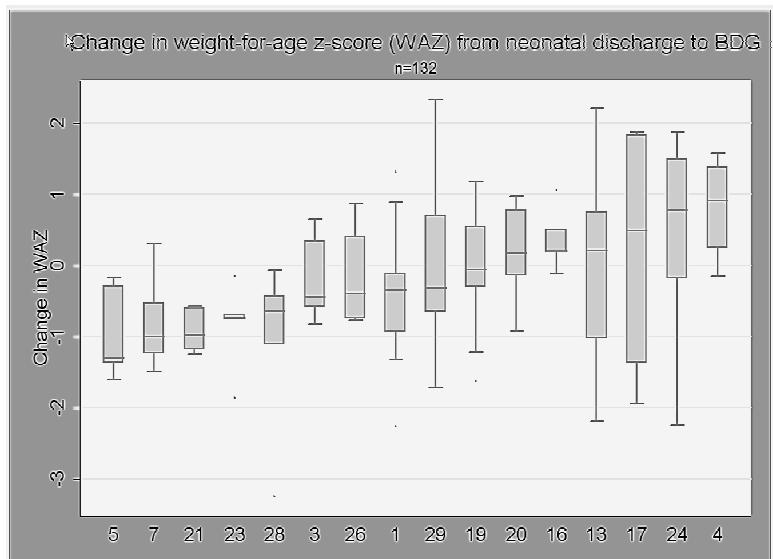
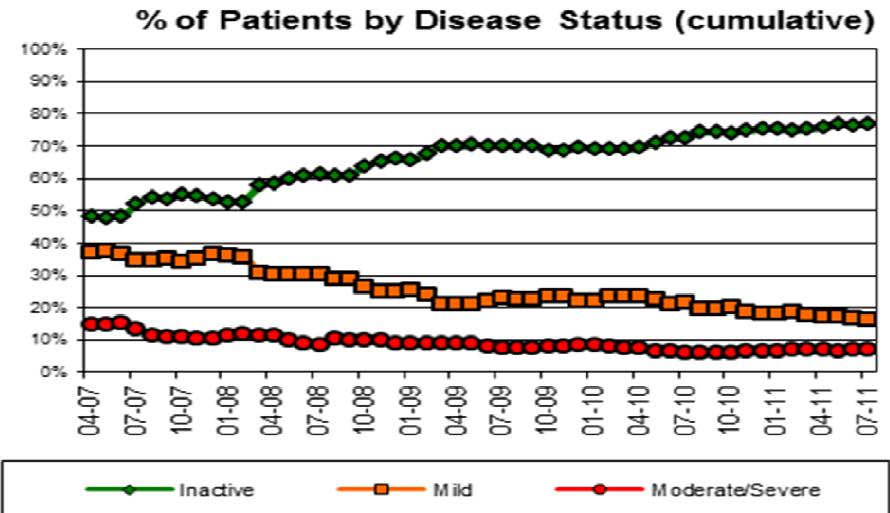
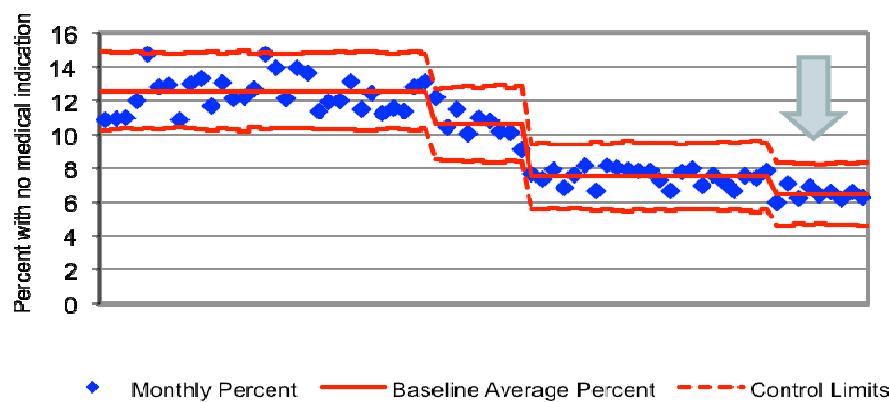
***Pediatric Rheumatology Care and Outcomes Improvement Network***



# Results



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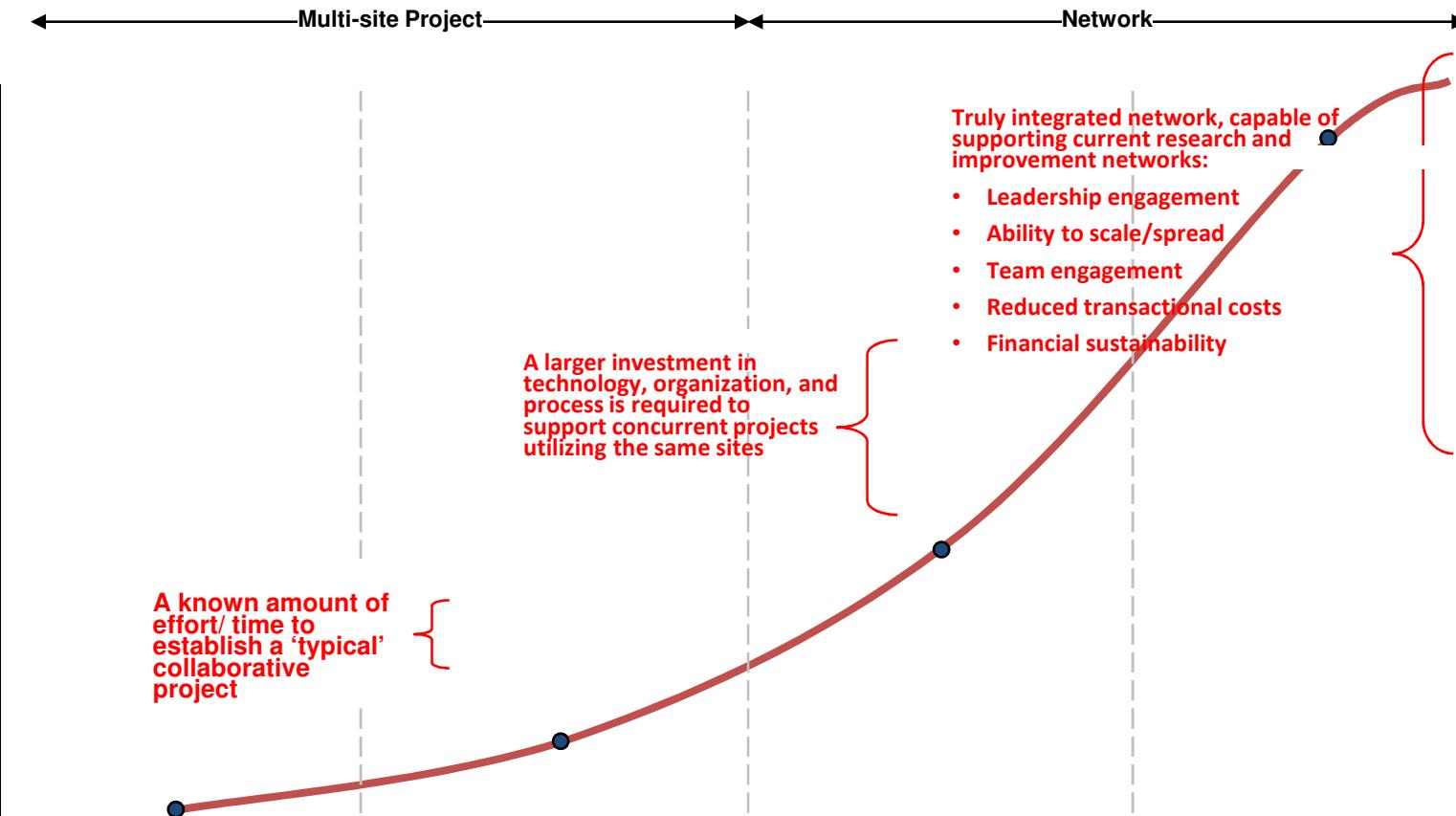


Registries that have higher likelihood to  
constitute long-term infrastructure are those  
*with at least one purpose being QI.*

Rich Gliklich, MD  
Harvard Medical School  
President, Quintiles Outcomes

# *Draft LN Maturity Model*

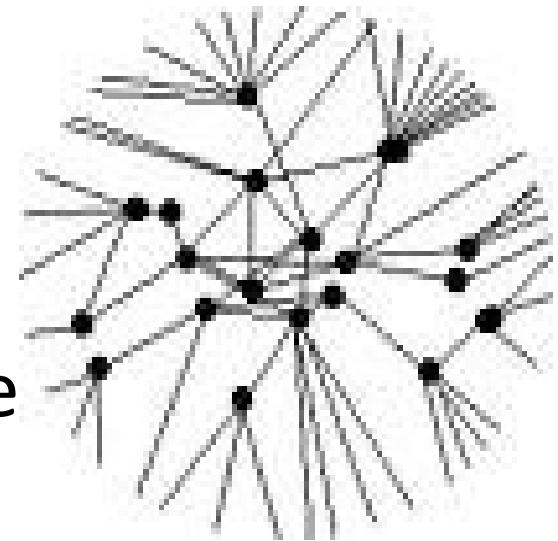
## Based on CCHMC Network Experiences



Phase 0 (Design)	Phase 1 (Emerging)	Phase 2 (Developing)	Phase 3 (Integrated)
<i>Network and project(s) under development and not yet deployed</i>	<i>Multiple sites participating in a 'typical' collaborative improvement project or research project; capability to support only a single project at a time</i>	<i>Established network with capability to support concurrent projects</i>	<i>Stable network with capability to support concurrent projects; long-term plan to support research and improvement</i>

# How do you create a ‘**reusable network**’?

1. Focus on outcome
2. Build community
3. Effective use of technology
4. Learning system--system science  
QI, qualitative research, clinical  
research



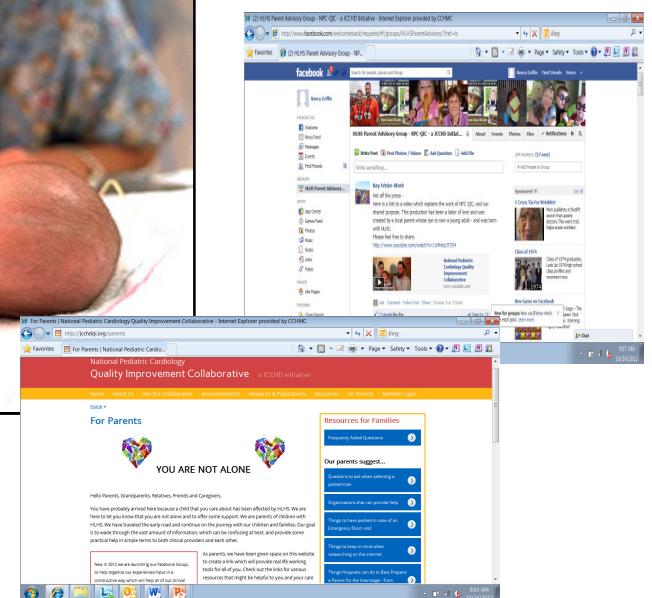
# ImproveCareNow

## Chronic Collaborative Care Network



# Building community

- Compelling purpose
- Core leadership – patients, clinicians, researchers
- Sharing stories
- Many ways to contribute

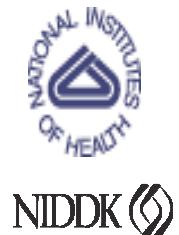


“I have learned more about the needs of parents during the few years of the collaborative than in my previous 18 years of clinical practice”.

Pediatric Cardiologist Team Lead  
National Pediatric Cardiology Quality Improvement  
Collaborative



# IMPROVECARENOW



COLLABORATIVE CHRONIC CARE  
NETWORK



American  
Board of  
Pediatrics



ENHANCED  REGISTRY

# Effective use of technology



Example: Data Collection

## Data in once

- Automate chronic care processes for clinical care
- Performance measurement for QI and learning
- Measure and improve data quality
- Research - care center, population and individual level

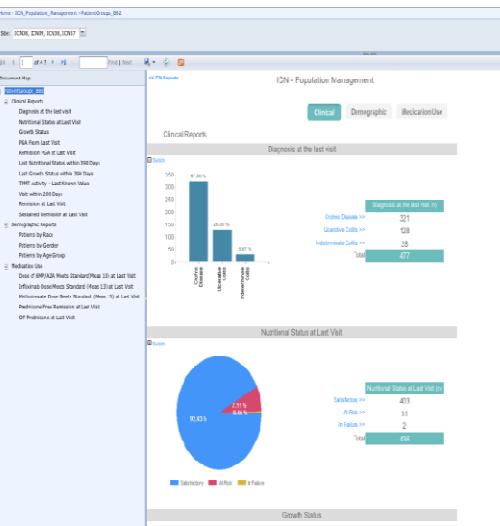
John Hutton, MD; Keith Marsolo, PhD; Charles Bailey, MD; Christopher Forrest, MD, PhD; Marshall Joffe, MD, PhD; Wallace Crandall, MD; Mike Kappler, MD, MPH; Eileen King, PhD

# ImproveCareNow

## Chronic Collaborative Care Network

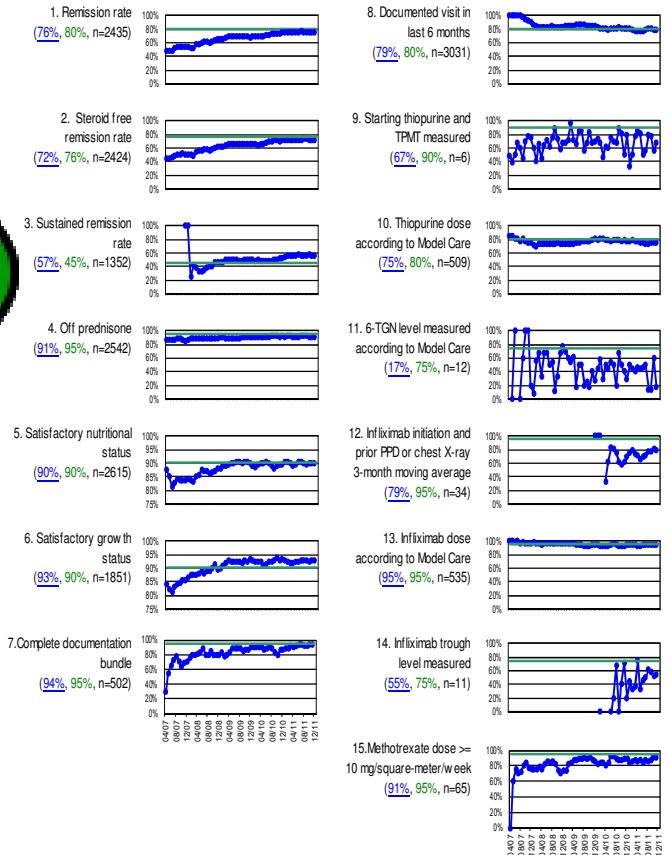


IBD PRE VISIT ASSESSMENT		Date Printed: 10/4/2012
PATIENT NAME:	20	Primary Provider:
Date of last visit:	2012	Last wt (kg): 53.70
Disease Activity:GDM	Severe	Last PPD: 0.600
Number of hospitalizations:	0	PPD Date: 2008-12-20 00:00:00
Diagnosis: Crohn's Disease	Don't Know	Last CXR: Don't Know
Phenotype:	DK	CRP Date:
Extent:	DK	Last BSA: 1.6
Provider:		
Nutritional Status: At risk		Consider dietary cures, supplemental calories, increased activity, refer to Nutrition Algorithm
Growth Status: Suboptimal		



Key Measures  
Monthly Report – December 2011

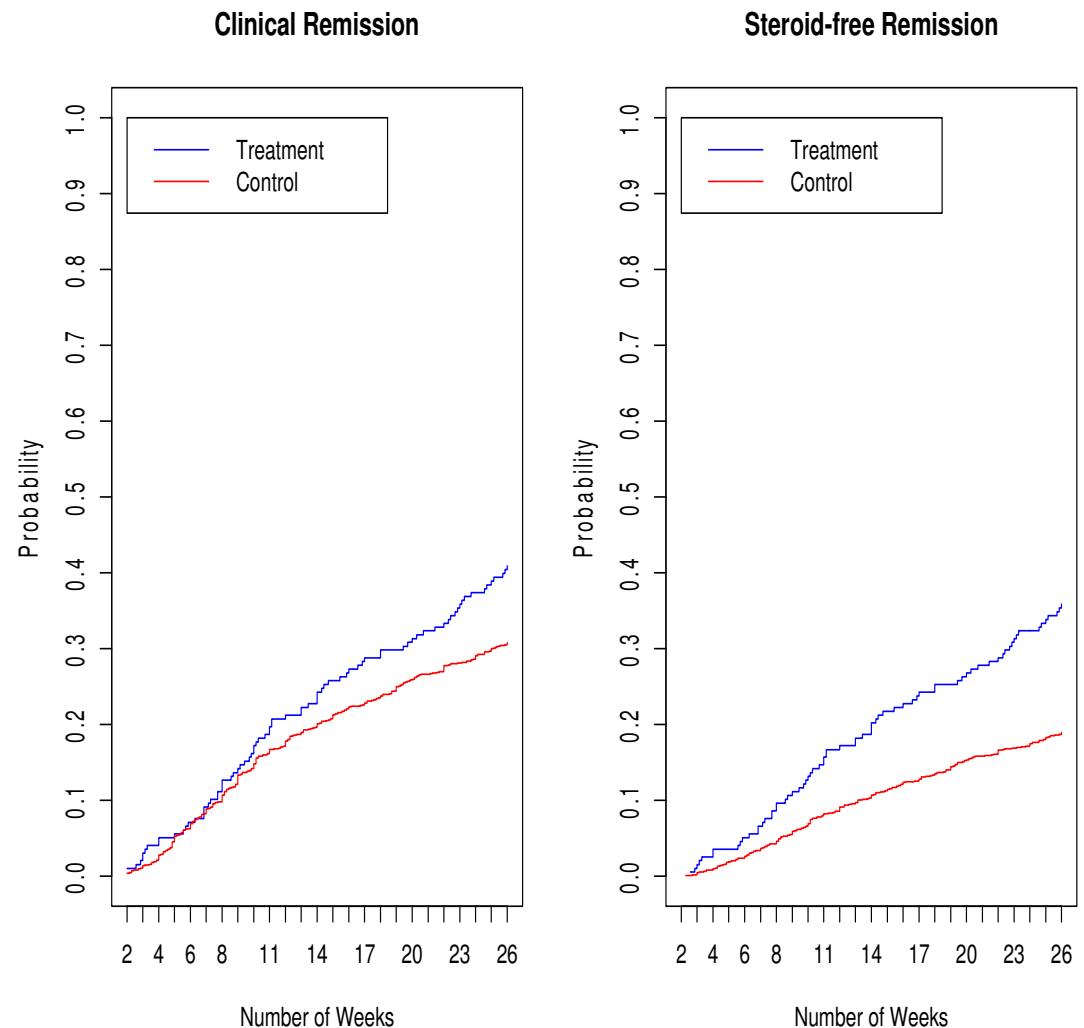
Advanced Track  
All Sites Performance  
(score, goal, n)



# ‘Big Data’ Population Comparative Effectiveness Research

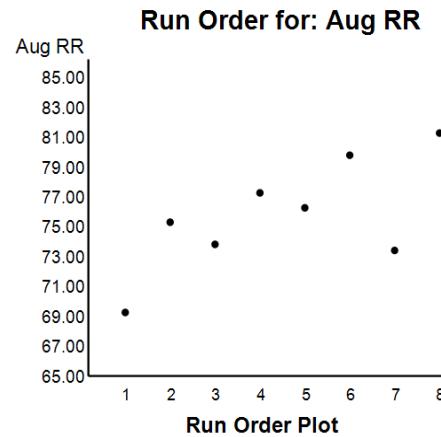
Replicated results of study showing  
benefits of therapy

Simulation: Used control group  
to estimate treatment effect for  
patients with moderate/ severe Crohn’s

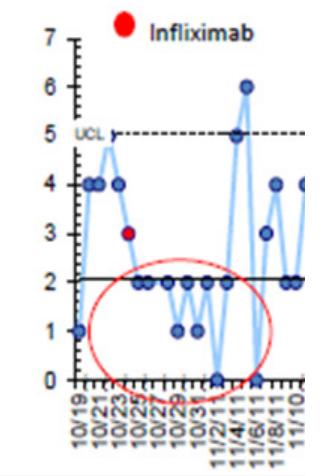


# ImproveCareNow

## Chronic Collaborative Care Network



Treatment Combination	Pre-visit Planning	Population Management	Self-Management Support
Site 1	-	-	-
Site 2	+	-	-
Site 3	-	+	-
Site 4	-	-	+
Site 5	+	-	+
Site 6	-	+	+
Site 7	+	+	-
Site 8	+	+	+



# Challenges

# Where is the puck going?

- Some ideas:
  - Big Data/HIT
  - Ubiquitous sensors (e.g. smart phones)
  - Registries -> Cloud computing
  - Distributed production with engaged patients and clinicians