

IMPROVING THE HEALTH
OF AMERICA'S CHILDREN



Hi/Lo CoIN

Using Collaborative Improvement to Optimize NCS Performance & Learning

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NCS NIH Research Day
Wednesday August 24, 2011

NCS: The Challenge



- NCS is studying the development of one of the most complex systems known
- NCS itself is a complex system with lots moving parts, responding to a fluid scientific and policy environment
- Science of human health development is...
 - continuously evolving conceptual models
 - rapidly evolving empirical approaches
- Important to implement the NCS...
 - in a cost effective, flexible & responsive manner
 - in a continuous improvement and innovation

NCS: Triple AIM



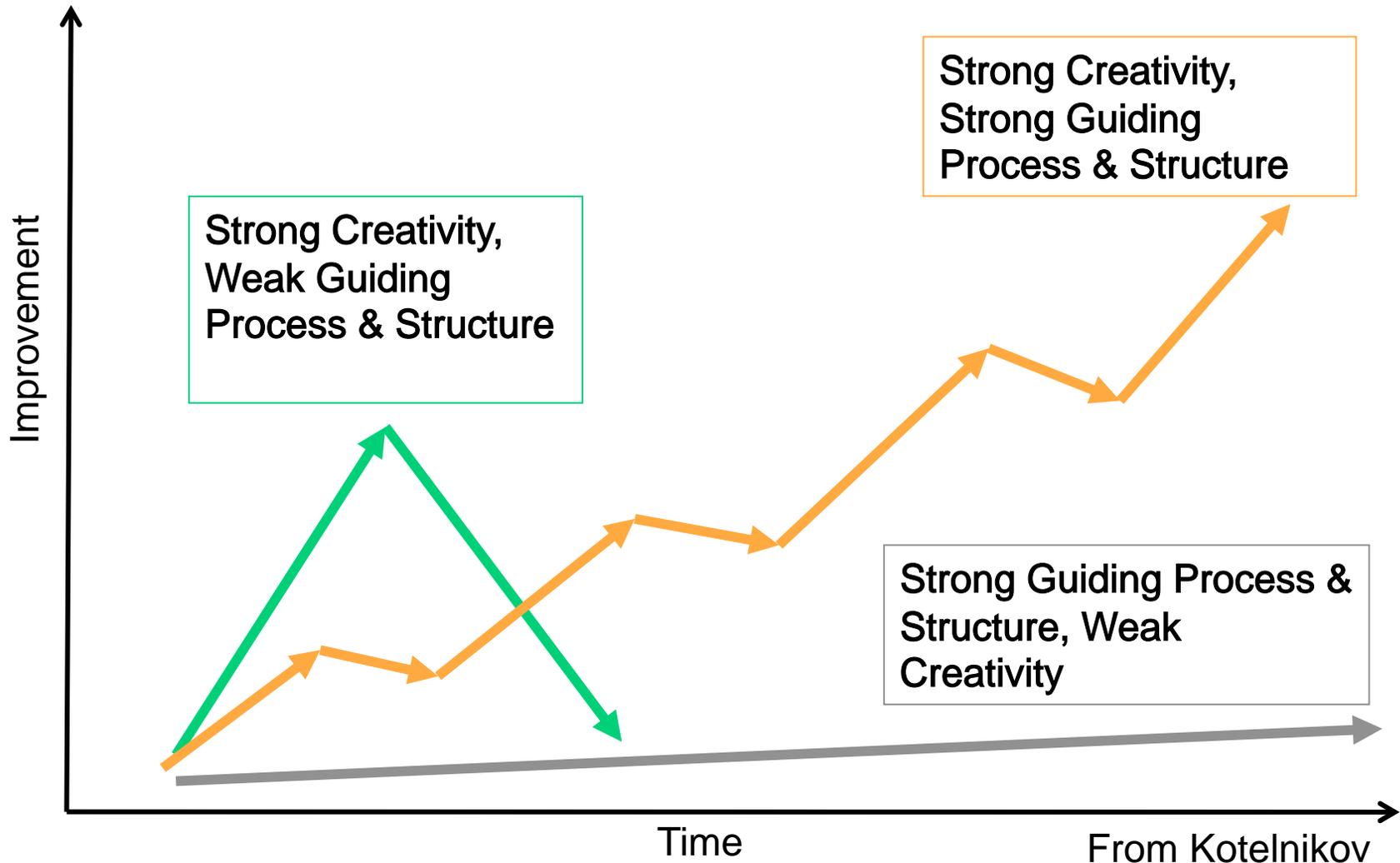
- Produce optimal **results** and important scientific breakthrough
- Provide best **experience** possible for study participants and SCs;
- Implement the study in the most **cost** effective way possible.

Assumptions



- Site-specific implementation of different options face many common barriers and challenges
- There are pre-existing best practices that can be employed (if we know what they are), and there are many new and creative ideas that need to be tested and optimized
- That innovative solution to addressing common barriers and challenges should be actively sought and facilitated
- That pursuing these solutions/change strategies will improve the performance of individual sites, optimize the performance of the NCS, and provide information about scalability
- This approach can be catalyzed by a collaborative improvement process that can be organized, managed, and directed

Different Paths to Success

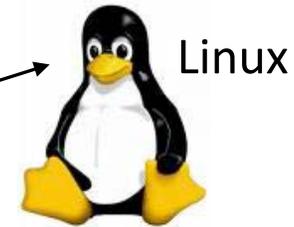


Collaborative Innovation Networks



- Collaborative Innovation Networks (CoIN)
 - cyberteams of self-motivated people with collective vision, enabled by technology to collaborate in achieving an innovation by sharing ideas, information, and work.

- Older examples
 - Hunter-gatherers
- Newer examples
 - Linux
 - Kite-surfing
 - World wide web consortium
 - Human Genome Project
 - Wikipedia



Value of a CoIN for NCS



- Supports and enhances the learning and knowledge base
- Shortens cycle time between introducing change and realizing outcomes/improvements
- Facilitates productive working relationships
- Enables exploration of differing perspectives and solutions
- Provides an additional resources to aid in achieving each sites study objectives
- Engages and mobilizes collaborators from different fields to apply their ingenuity
- Provides real time data and analysis to optimize performance
- Create momentum for adopting methodological improvement that will improve the implementation of the study at the local site and national levels

Objectives for Hi/Lo CoIN



- Harvest, analyze, synthesize, categorize, share and spread innovative approaches to solving Hi/Lo implementation problems, challenges and issues
- Use rapid cycle improvement methodologies to optimize performance, document learning and support collaborative learning
- Facilitate the spread and scaling of ideas and change strategies that work

The IHI Breakthrough Series



An improvement method that relies on spread and adaptation of existing knowledge to multiple settings to accomplish a common aim.

The IHI Breakthrough Series Is Not:

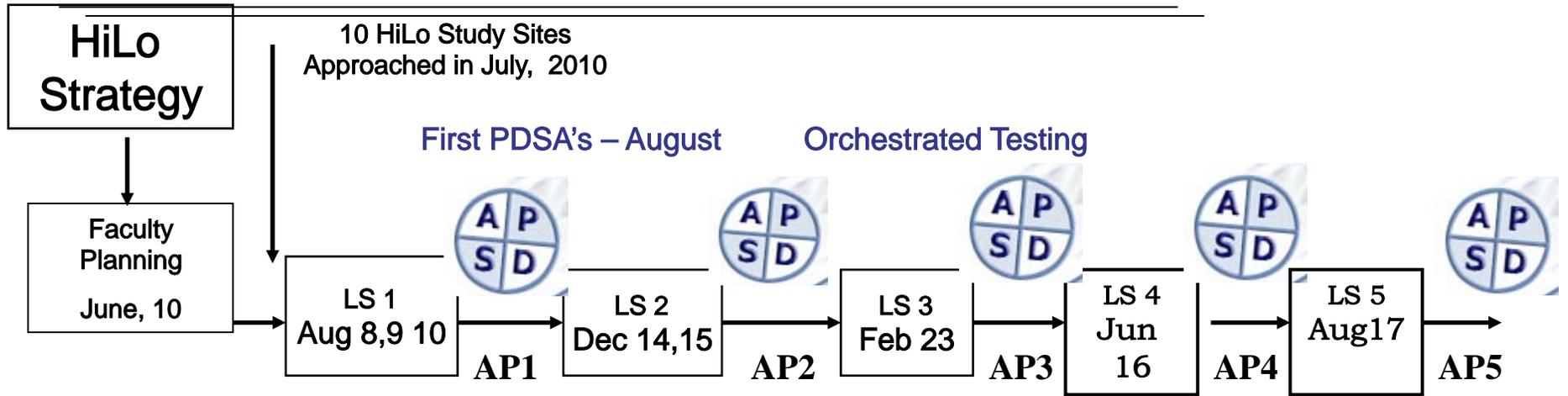
- Research for new knowledge
- Single-setting (single team) focus
- Small changes to existing systems
- A benchmarking project
- A consulting engagement

Key Elements of the BTS:



- Focused topic
- Multiple teams (20-60 seems optimal, have done 4-160)
- Theory: aim, measures, changes
- Common Model for Improvement
- Short monthly reporting format to provide focus
- Tension for change: deadlines, transparency, assessments, peer pressure
- Strategy for small scale testing, then spread of changes within an organization

HiLo CoIN (after 1 year)



COIN Framework:

Charter

Driver Diagram

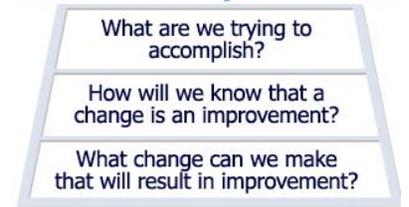
Measurement Dashboard

Model for Improvement

Supports:

CoIN Website 1st CC Call (Aug 24)

Reviewed Data on Apr 21 CC Call



LS – Learning Session

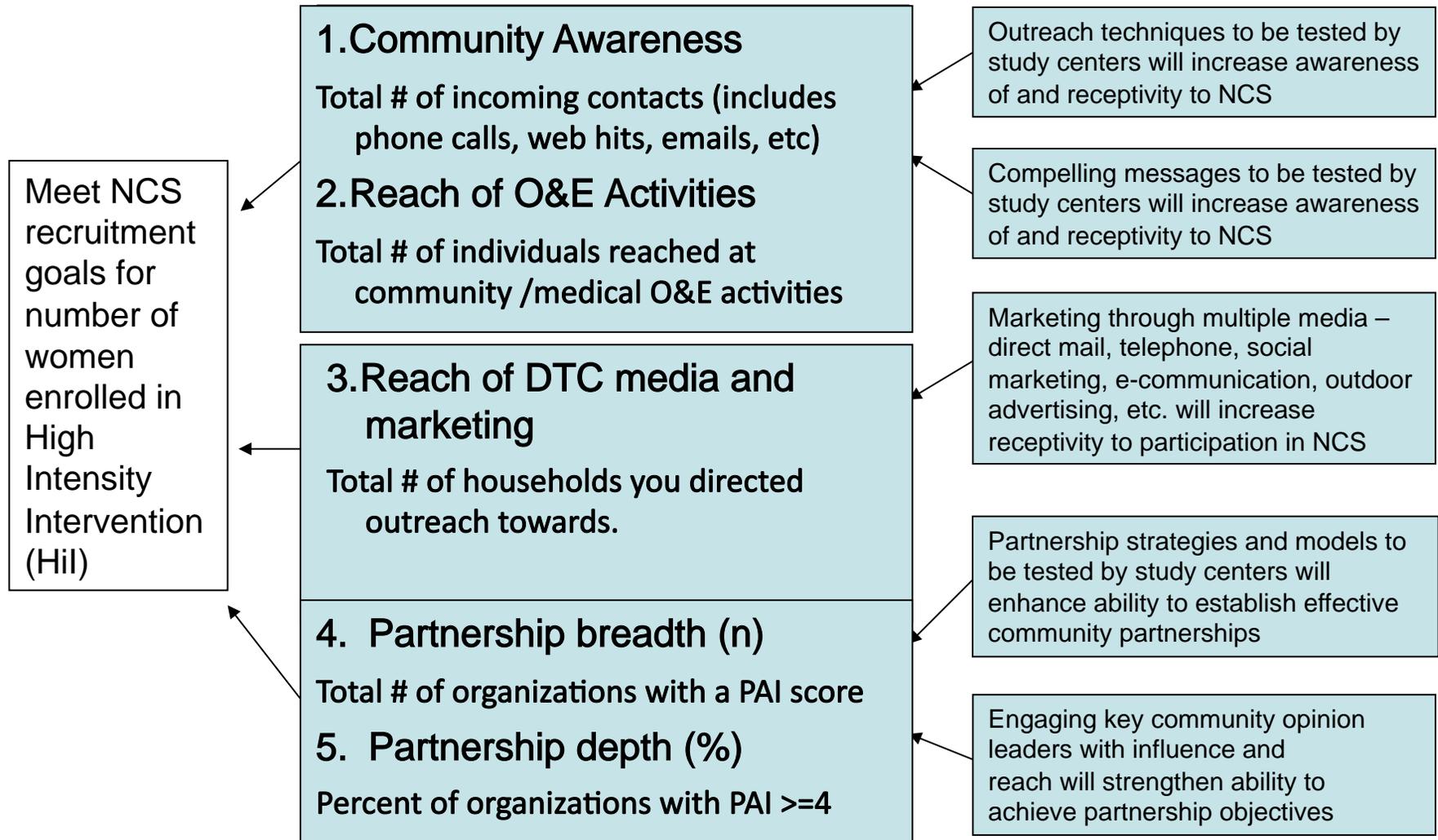
AP – Action Period

CC – CoIN Coordinators



Developed Metrics Based On Drivers

Community Awareness, Outreach & Partnership



Model for Improvement



Plan

- Objective
- Questions & Predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Plan for Data Collection

Do

- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

Study

- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

Act

- What changes are to be made?
- Next cycle?



MODEL FOR IMPROVEMENT

CYCLE: 2

DATE: 8/30/10

OBJECTIVE(S) FOR THIS PDSA CYCLE
Test the acceptability of the Household Inventory Questionnaire (HIQ) and accompanying materials with individuals identified by study center staff

PLAN

Questions:

- Is completing the Household Inventory Questionnaire acceptable to persons familiar with study center staff?
- Is the Cover Letter clear in describing the purpose of completing the HIQ?

Predictions:

- The HIQ will be viewed positively and acceptable
- After revisions, all respondents will accurately describe the purpose of completing the HIQ

Plan for Change or Test: who, what, when, where.

- Study center team members will distribute test package to individuals they have identified. Feedback will be provided by 9/3 and summarized by the COIN coordinator. Based on feedback, the HIQ and Cover Letter will be revised.

Plan for Collection of Data: who, what, when, where.

- 2-3 Study center team members will identify individuals to test the acceptability of the HIQ and clarity of the accompanying Cover Letter. The test package provided to volunteers will include a cover letter, brochure, HIQ, and evaluation survey. The volunteers will be asked to complete the HIQ and provide feedback to the team via the evaluation survey by Friday 9/3/10.

DO: carry out the change or test; collect data and begin analysis.

Three SC team members asked individuals to complete the HIQ and provide feedback. In this cycle, respondents were representative of our potential pool of participants, women aged 18-49. All feedback was received by 9/3. There were no apparent problems or unexpected observations.

STUDY: complete analysis of data; summarize what was learned.

Similar to the results of Cycle 1, respondents read the accompanying materials and found that none of the questions were hard to complete. The HIQ was completed in an average of 3.6 mins. Forty percent thought the purpose of completing the form was to see if any women living in the household are eligible to participate in the NCS. We received minimal feedback for revisions to the cover letter, whereas in Cycle 1, most of the feedback was in making the cover letter clearer. As predicted, the HIQ was viewed positively and acceptable for respondents to complete. It was also predicted that all respondents would accurately describe the purpose of completing the HIQ. This prediction tested at a 40% rate of respondents accurately describing the purpose.

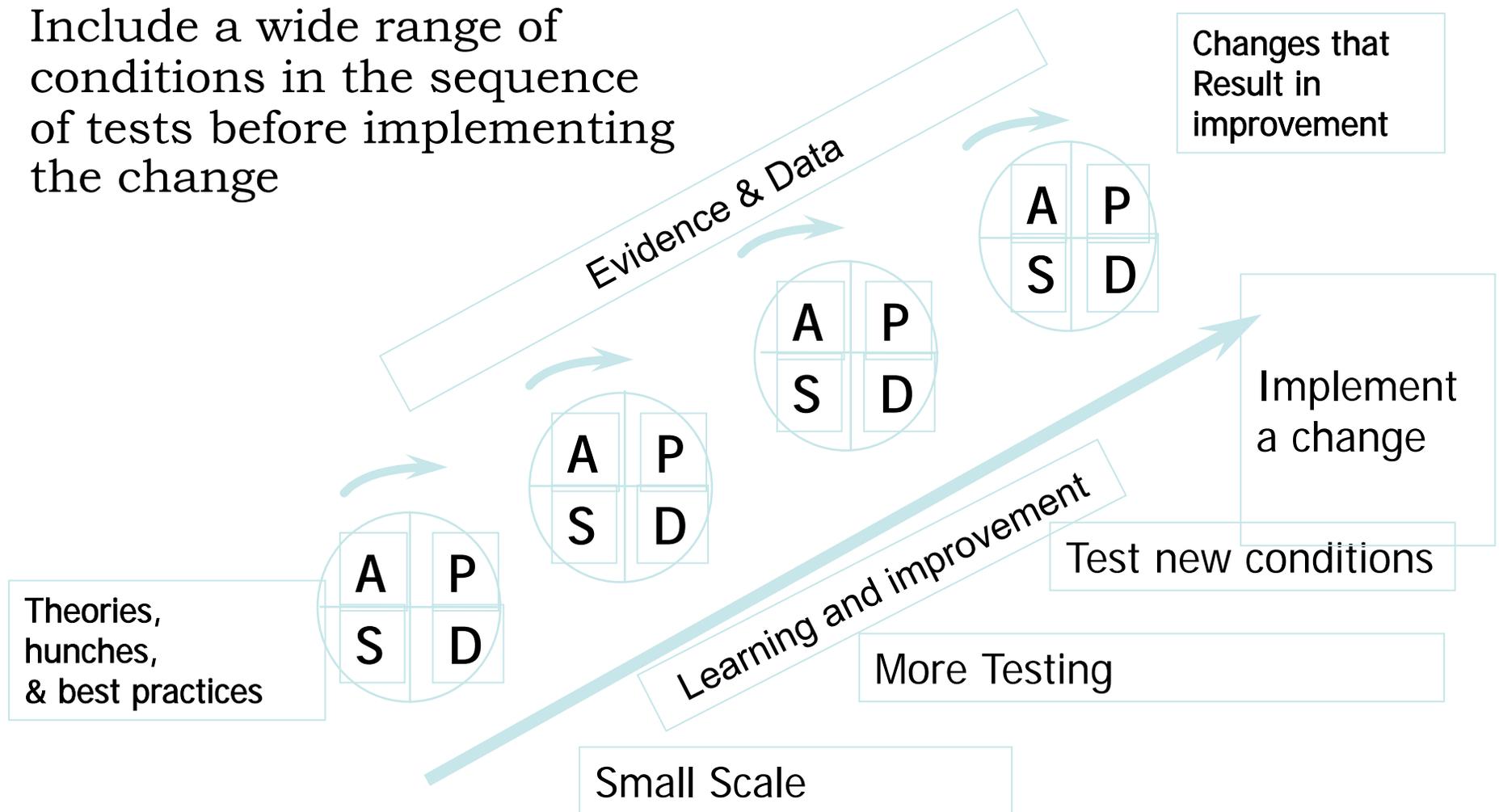
ACT: are we ready to make a change? Plan for the next cycle.

Minimal revisions will be made to the cover letter based on feedback. Due to time constraints, this test of acceptability was the last for these materials. Final drafts of the materials will be distributed to all Centers using the HIQ to be submitted to the IRB.

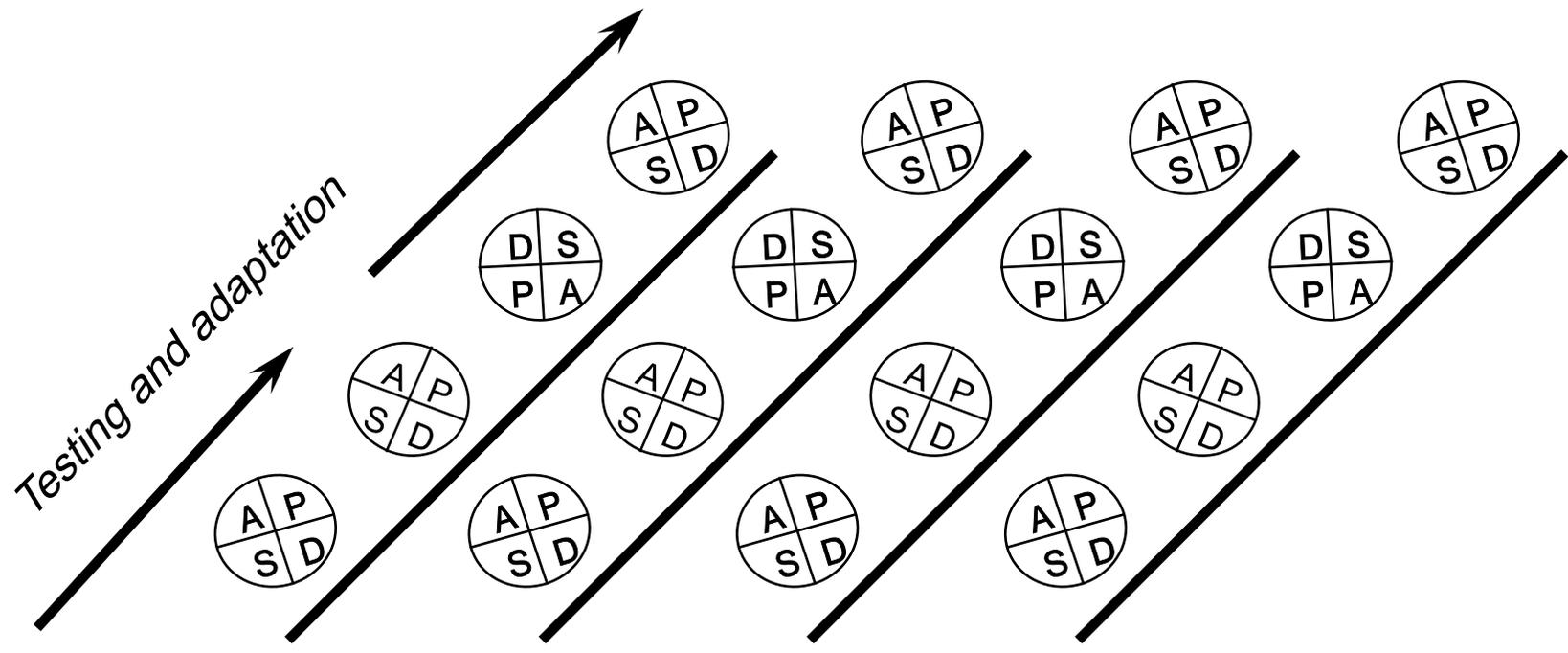
Multiple Cycles: Sequential Building of Knowledge



Include a wide range of conditions in the sequence of tests before implementing the change



Plan Multiple PDSA Cycle Ramps



Community Meetings

Incentives

Follow-up Calls

Other Ideas

Change Concepts

Multiple Change Concepts for Project

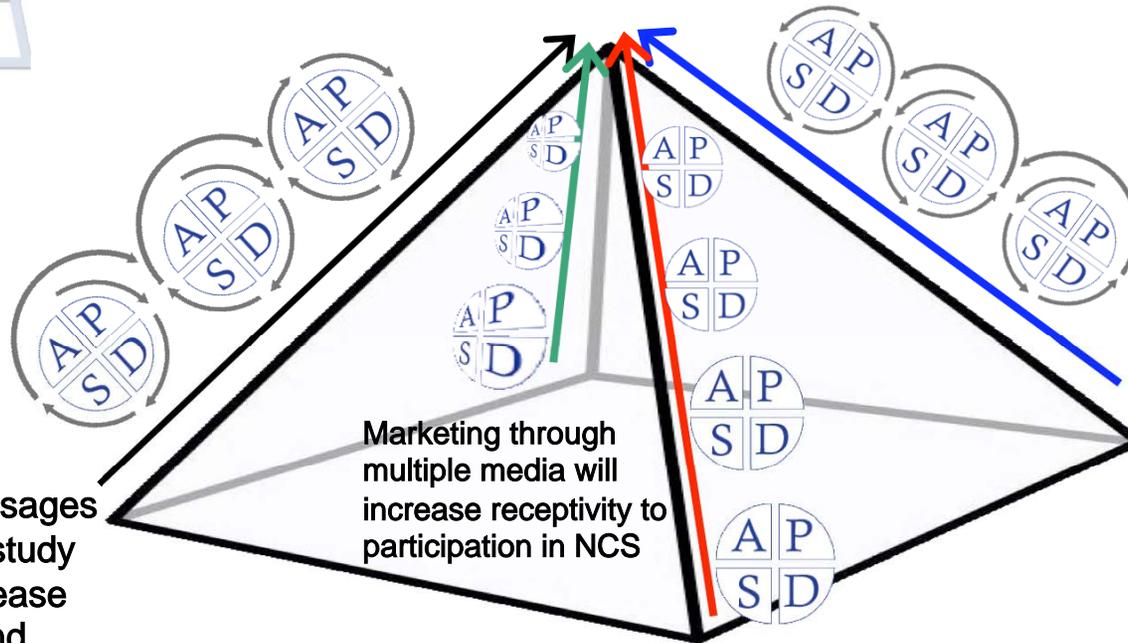


Model for Improvement



HiLo AIM: Meet NCS recruitment goals for number of women enrolled in High Intensity Intervention (HiI)

Compelling messages to be tested by study centers will increase awareness of and receptivity to NCS

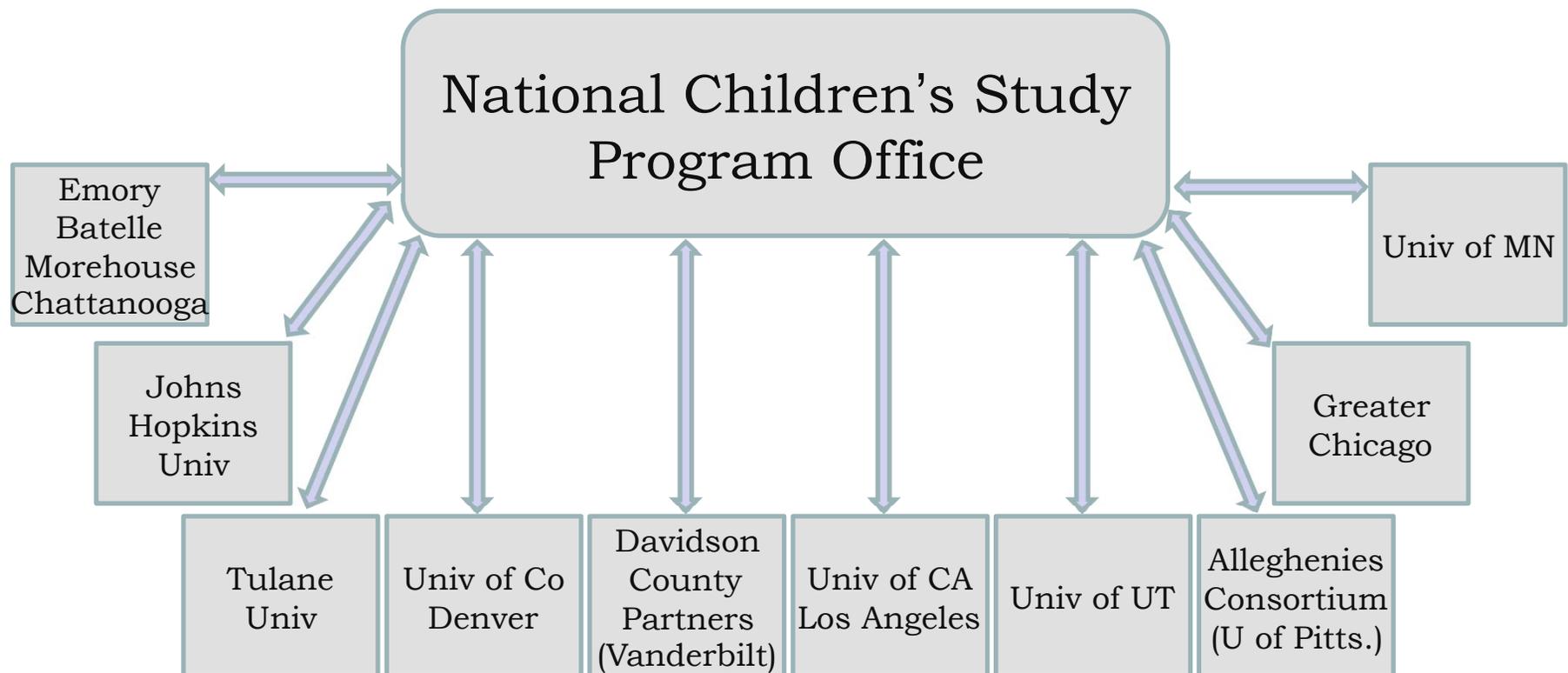


Marketing through multiple media will increase receptivity to participation in NCS

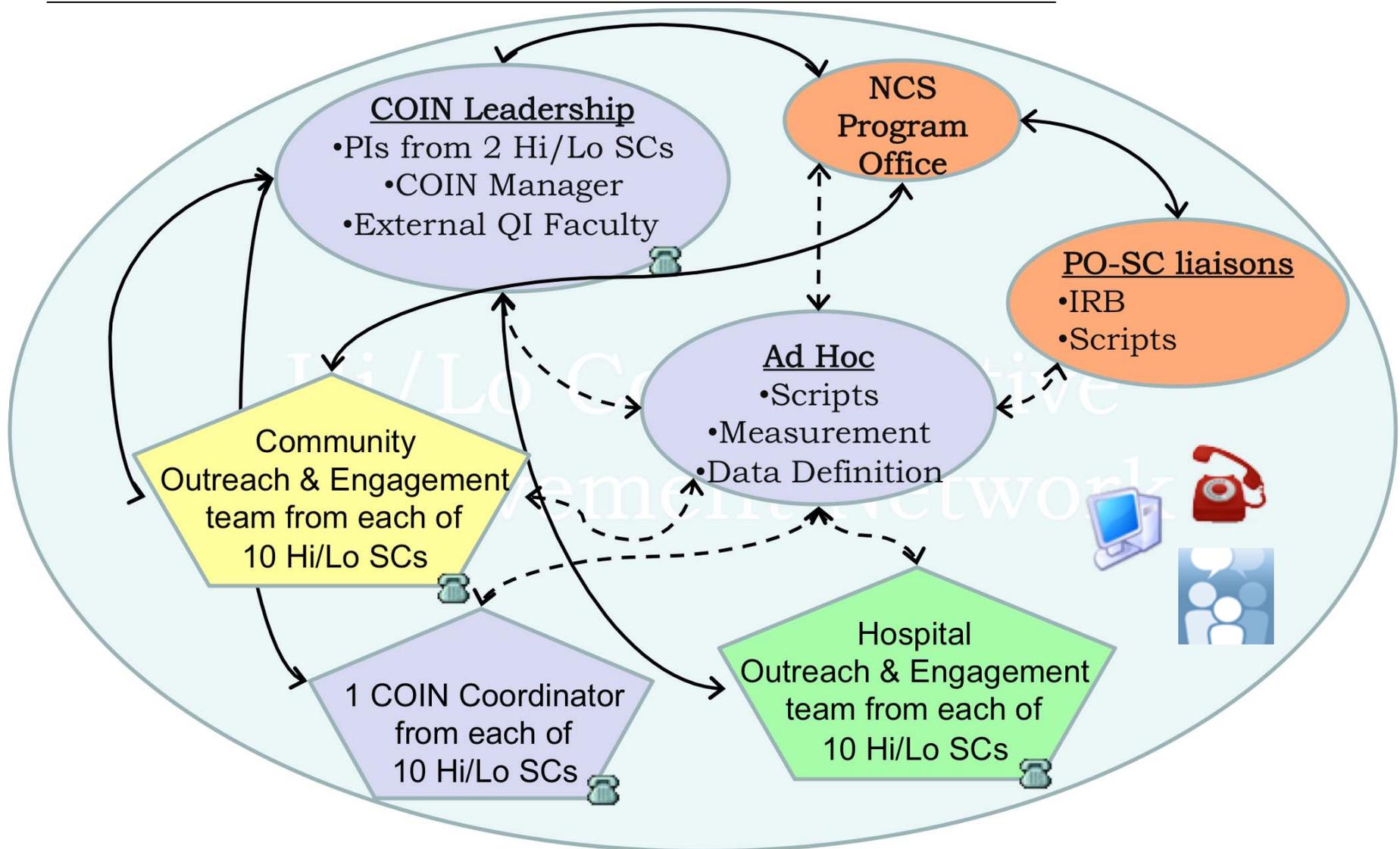
Outreach techniques to be tested by study centers will increase awareness of and receptivity to NCS

Partnership strategies and models to be tested by study centers will enhance ability to establish effective community partnerships

Hi/Lo SCs Before COIN



Hi/Lo SCs After COIN



HiLo CoIN Forum



[Home](#)
[Help](#)
[COIN Shared Google Calendar](#)
[Metrics Dashboard \(test\)](#)
[Projects](#)
[Search](#)
[Admin](#)
[Moderate](#)
[Profile](#)
[My Messages](#)
[Media](#)
[Members](#)
[Glossary](#)
[Logout](#)

NCS Hi/Lo COIN

News and Announcements		Unread Posts	
	Current News and Announcements	5 Posts 4 Topics	Last post by Lynette Lau Schumann in Interest & Availability ... on February 10, 2011, 07:06:13 PM
	News and Announcements Archive	7 Posts 6 Topics	Last post by Lynette Lau Schumann in Learning Session 3 Date ... on January 10, 2011, 01:37:10 PM

General Category		Unread Posts	
	General Discussion Feel free to talk about anything and everything in this board. For example, topics that do not fit in any one of the other sections (e.g., hiring/training new staff, general NCS Hi/Lo questions, etc.) would be posted in this section. Also, this section houses the minutes from the weekly Thursday Hi/Lo conference call.	53 Posts 20 Topics	Last post by Bonika Steward in Hi/Lo Conference Call (F... on February 16, 2011, 01:58:02 PM
Child Boards: General Operations Call Agendas & Minutes new			
	Filing Cabinet For final (or latest) versions of documents.	4 Posts 4 Topics	Last post by Lynette Lau Schumann in PO Guidance re: collecti... on December 23, 2010, 11:40:56 AM
	For New Staff A board for resources for new staff who are just joining the team. Also for discussing staff recruitment and training issues.	3 Posts 1 Topics	Last post by Will Nicholas in Re: HiLo overview on October 14, 2010, 04:42:39 PM
	IRB/OMB Issues For discussing any and all IRB or OMB issues. Note that item content that is not specifically IRB related (e.g. while we are still working on script development or discussing various	7 Posts	Last post by Mischka Garel

Established Aug '10

Expanded to include discrete sections by HiLo and EHBR

Total
 Members: 178
 Topics: 281
 New Posts: 685

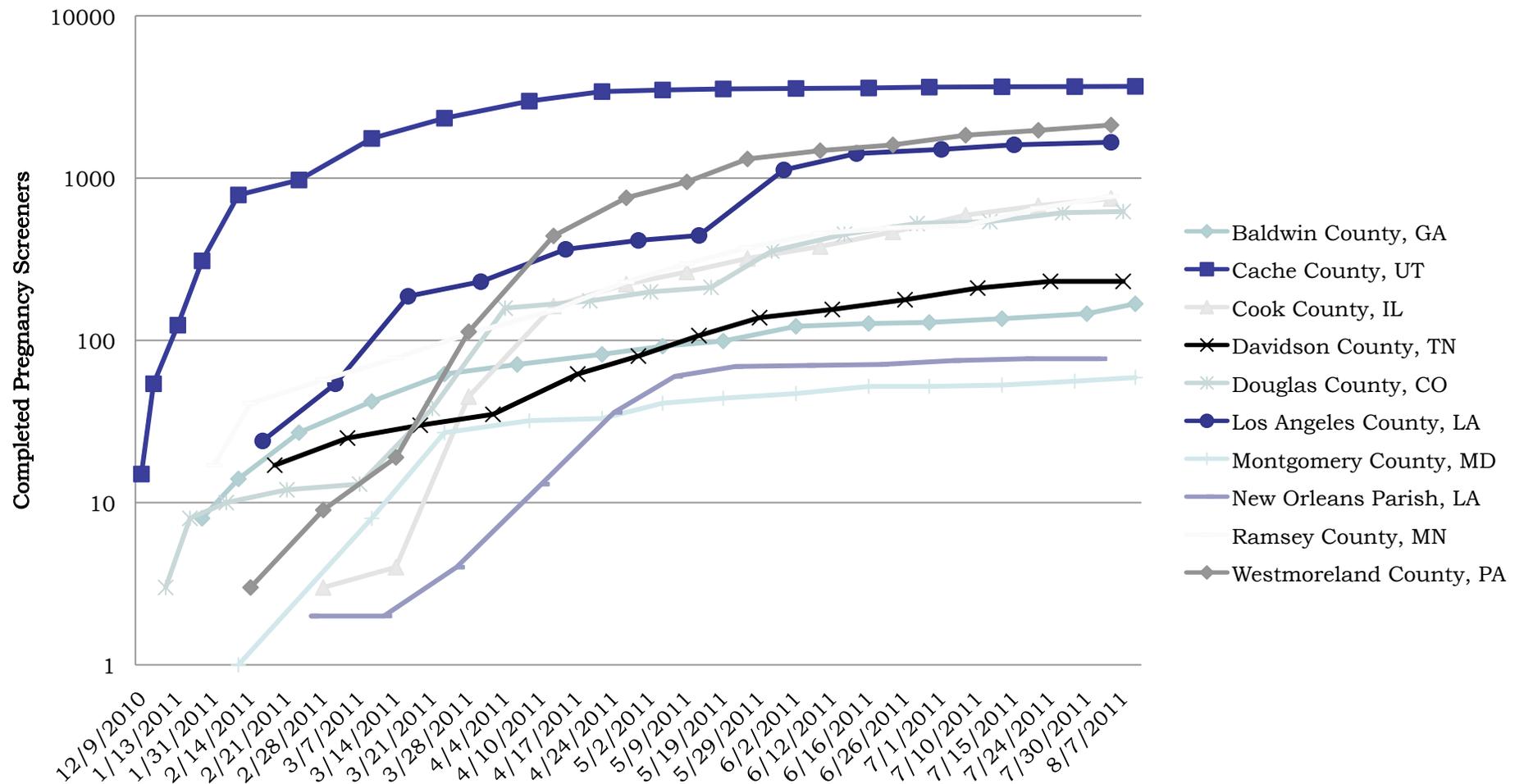
Average / Month
 Members: 19
 Topics: 22
 New Posts: 53

Members include:
 Hi/Lo Staff
 Program Office
 EHBR & PRINCS
 Booz Allen

Pregnancy Screeners



Cumulative Number of Pregnancy Screeners Completed Over Time
(Log Transformation)



NCS HiLo Community Partnership Action Index

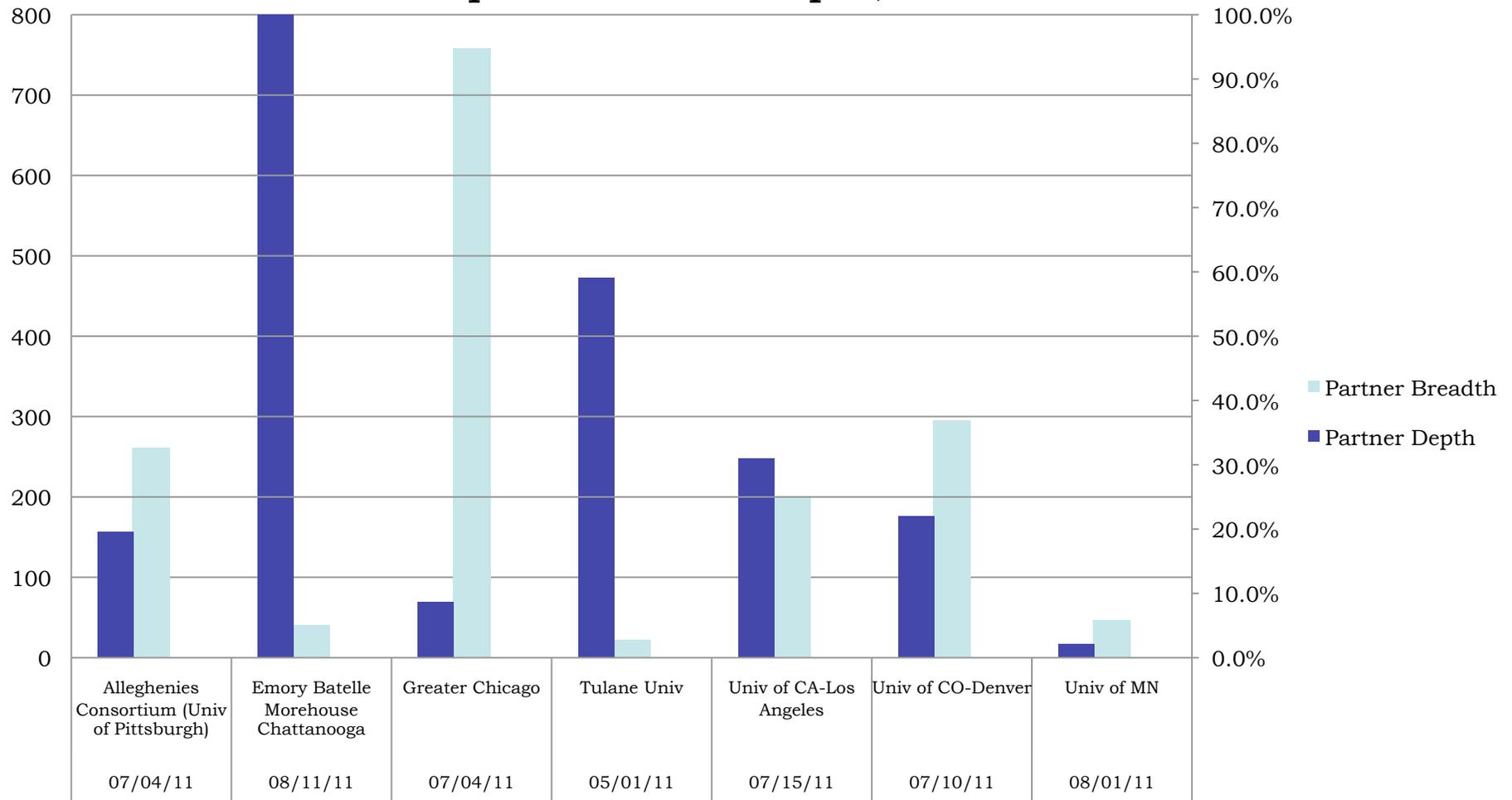
Index Score	Criteria
1. Identification	Potential partner identified & contacted (indirectly)
2. Introduction	SC has face-face meeting with organization's leadership about NCS
3. Passive Support	Organization will display NCS promotional materials or invites SC staff to meet with clients/constituents at upcoming organizational events
4. Active Support- Isolated	<p>Organization works with SC staff to plan NCS event for clients/constituents (x1)</p> <p>Organization describes NCS in organizational newsletter (x1)</p> <p>Organizational leader writes letter of endorsement for NCS or acts as NCS advocate (x1)</p>
5. Active Support- Ongoing	<p>School sends home NCS information to parents via children</p> <p>Organization hosts a series of NCS events/educational sessions organized by SC staff</p> <p>Organization incorporates NCS information into its one-on-one interactions with clients/constituents or in newsletter on an ongoing basis</p>

Will Nicholas & the Driver Diagram Metrics Team

Partnership Breadth and Depth



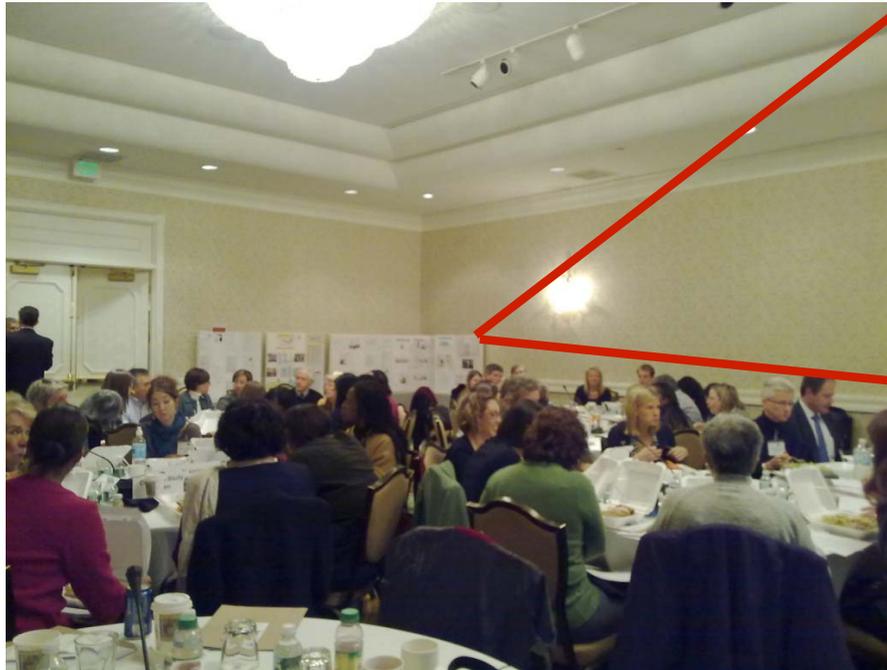
Partnership Breadth and Depth, Last Data Point



HiLoCoIN Learning Sessions 2, 3 & 4



- Refined/updated knowledge of SC strategies (storyboards)
- Collaborative work on new problems (orchestrated PDSAs)





From Individual to Orchestrated Testing



CoIN Shared Learning



- Strategies for optimizing SC work (SCs have shared with colleagues)
 - Outdoor media campaign
 - Email reduction strategy
 - Use of mailed pregnancy self-screener
 - Quarterly Newsletter for NCS Champions
 - Refining NCS outreach presentations for use with local hospitals
 - Redefining the roles and responsibilities of CAB members
 - Refining contact log for incoming calls
 - Employing Neighborhood Ambassadors and other peer outreach staff
 - Using Social Media
 - Segment Resource Binders

CoIN Shared Learning (continued)



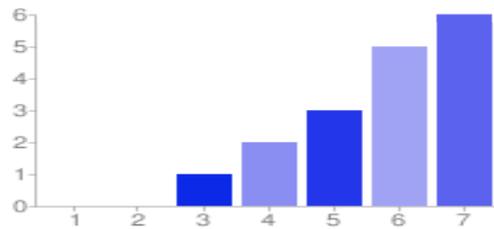
- Cross-SC collaborations on PDSA testing to reduce workload for larger projects
 - Recruitment Scripts Development
 - Partnership Action Index Design
 - Data Elements Definition – Outreach events & MDES
 - Health Care Provider Letter
 - Design of Household Inventory Questionnaire
- Collaboration with PO on problem solving
 - OMB process
 - IRB process
 - Instrument development process

CoIN Year 1 Evaluation

How effective has the CoIN been in...

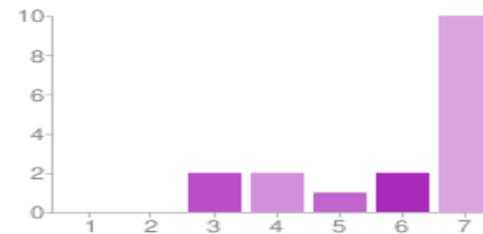


Increasing your exposure to new ideas for testing?

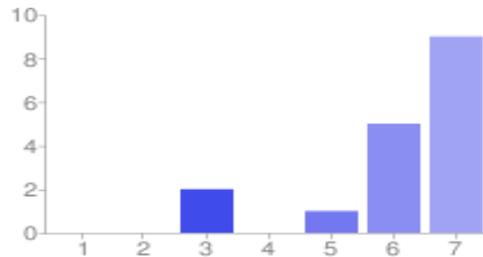


Motivating you to contribute to the shared work of the HiLo Study Centers?

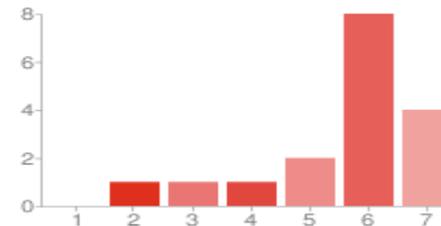
1 – Not Effective
7 – Very Effective



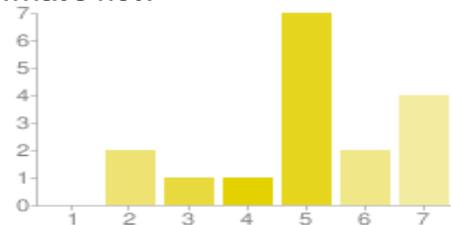
Enhancing your trust of individuals to share expertise across Study Centers?



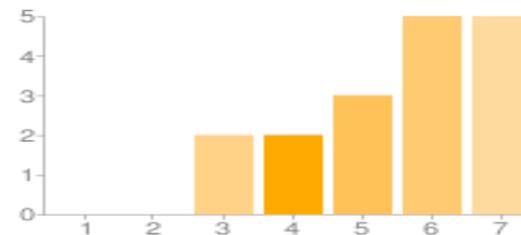
Helping you and your team be more strategic in developing and implementing recruitment approaches?



Providing you and your team with opportunities to rapidly test, evaluate, and share results about what's working and what's not?



Helping you and your team to test things that you might never have thought of?



Next Steps for CoIN Within the NCS



- Incorporate EHBR group into the system
- Continue individual SC testing across HiLo & EHBR
 - Recruitment round #2
 - Retention
- Orchestrated Testing within & between ARS
 - Use of incentives
 - Lo-to-Hi conversion timing
- Synthesize Lessons Learned
 - ID best practices
 - Update Driver Diagram
 - Further refine measurement strategy
- Bundle Successful Strategies into Recruitment Toolkits
- Publication