Improving *the* Nation's Health

through

Public *and* Private Partnerships

JULY 9–11 · 2019 · ORLANDO · FL

NACCHO ANNUAL 2019

NEW ENGLAND PUBLIC HEALTH TRAINING CENTER

Systems Thinking Skills Can't Be Built in a Day:

Coaching to Build Cross Cutting Skills for Public Health

July 10, 2019
11:30 am

Acknowledgements

PUBLIC HEALTH LEARNING NETWORK

NEPHTC

BU
Boston University School of Public Health
Activist Lab

SYSTEMS THINKING TRAINING FOR PUBLIC HEALTH

Strategic Workforce Action Agenda

In fall 2018, the Public Health Learning Network released the Strategic Workforce Action Agenda, suggesting that "quality, multi-modal training" is needed, as well as "geared toward practical application and integration of learning to address system changes."

The de Beaumont Foundation's
Call to Action – Systems Thinking Highlighted

Systems Thinking is frequently cited as one of [the most needed skills](#) for progress in public health.

"[The Consortium]identified eight indispensable, high-performance workplace skills applicable to the entire public health workforce regardless of specialty or discipline…*Systems thinking: Grasp patterns and relationships to understand systems contributing to public health problems and identify high-impact interventions.*

> - Building Skills for a More Strategic Public Health Workforce: A Call to Action, The deBeaumont Foundation

FIGURE 2.
The Public Health T—Complementing Specialized with Strategic Skills

STRATEGIC SKILLS

POLICY ENGAGEMENT · RESOURCE MANAGEMENT · DIVERSITY AND INCLUSION · PROBLEM SOLVING · DATA ANALYTICS · PERSUASIVE COMMUNICATION · CHANGE MANAGEMENT · SYSTEMS THINKING

SPECIALIZED SKILLS

COMMUNICABLE DISEASE CONTROL · EPIDEMIOLOGY
CHRONIC DISEASE & INJURY PREVENTION · MATERNAL, CHILD, AND FAMILY HEALTH
ENVIRONMENTAL PUBLIC HEALTH · HEALTH EDUCATION

HRSA required all PHTCs to train in Systems Thinking

HRSA Strategic Workforce Skills

- Systems thinking
- Change management
- Persuasive communication

HHS Clinical Priority Areas

- Opioid abuse
- Mental health
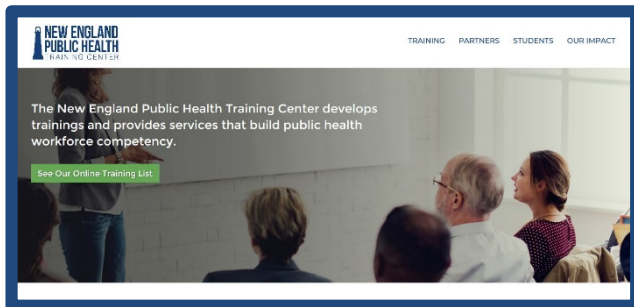- Childhood Obesity

Medically Underserved Communities

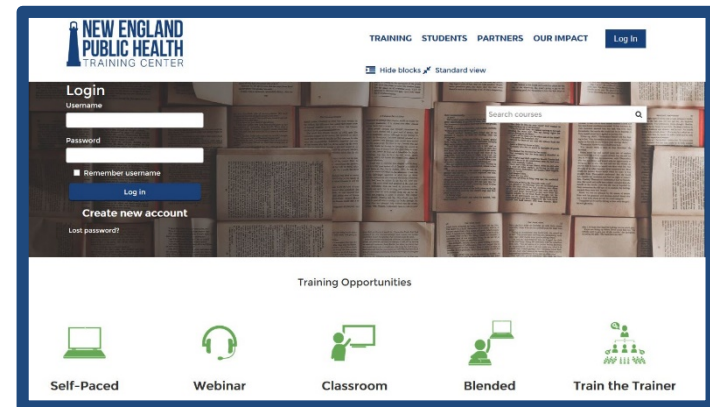# NEPHTC'S SYSTEMS THINKING TRAINING PROGRAM

NEW ENGLAND PUBLIC HEALTH TRAINING CENTER

We deliver a wide range of training programs and services that strengthen the public health workforce.

http://sites.bu.edu/nephtc/   http://www.nephtc.org/

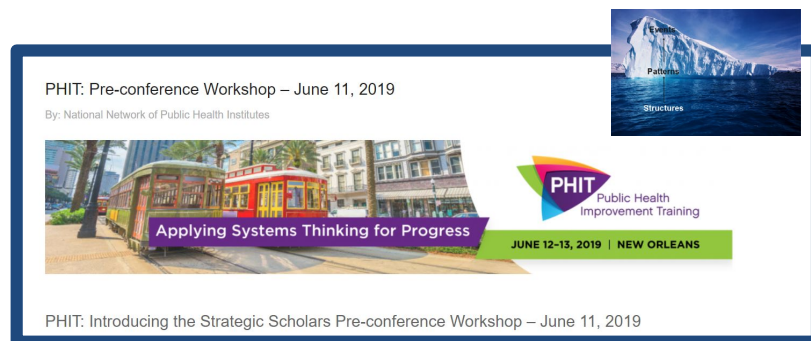# Systems Thinking – A Flagship for NEPHTC

Featured on CDC Learning Connection
March 2019

Received Quality Seal on PH Learning Navigator

Featured as Pre conference training at PHIT Conference in New Orleans
June 2019

What is Systems Thinking?

Systems Thinking provides a framework for identifying and addressing the underlying causes of complex problems. This approach minimizes responding to problem symptoms and the associated unintended consequences of quick fixes.

Take the course!

Highlights of Systems Thinking

How it feels

- Collective approach
- Seeing the connections
- Not about blaming
- About the dynamics of what is happening over time

Seeing the big picture, and also seeing *your role* in the big picture that are keeping things as they are

Event level perspective	What just happened? Behavior is reaction.
Patterns and trends perspective	What pattern has been happening? Prepare and plan.
Structural perspective	Why does this happen? Behavior is design and creation. *(highest leverage)*

Source: Ross and Company, 2019
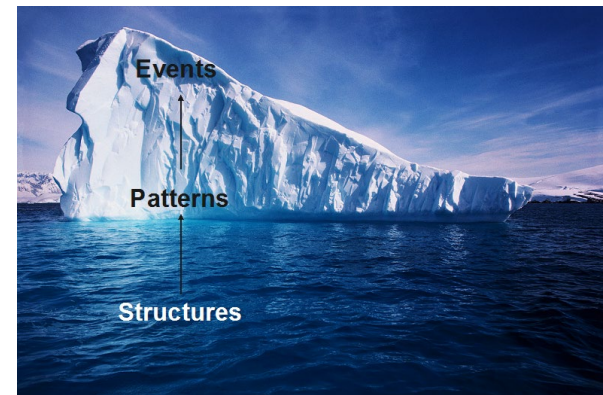
Key Concepts and Practices

Mental Models

"Mental models are deeply held internal images of how the world works"
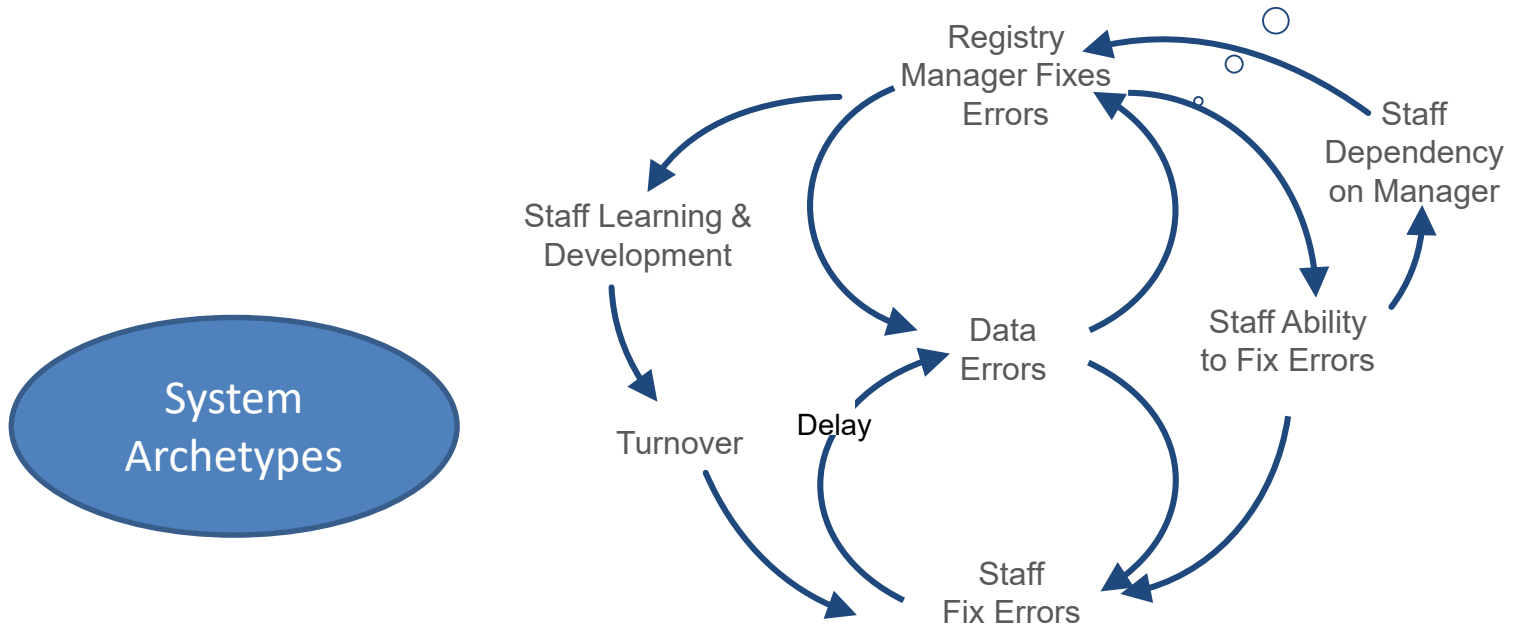- Peter Senge

System Archetypes

Delegation

I need this done right now. No one else can do it!!

Registry Manager Fixes Errors

Staff Dependency on Manager

Staff Learning & Development

Data Errors

Staff Ability to Fix Errors

Turnover

Delay

Staff Fix Errors

What is the NEPHTC
Systems Thinking Training Program?

	Classroom	Online Self-Paced	Coaching
Learning Objectives	Apply systems thinking to see the bigger picture behind complex problems

Demonstrate enhanced capacity to consider unintended consequences of actions

Distinguish between short term fixes and high leverage interventions

Use systems archetypes to understand system performance and communicate about complex issues

Recognize how you may be implicated in the very system challenges you face | Define Systems Thinking and describe its application in understanding and resolving complex problems.

Explain three Systems Thinking tools (the Iceberg, Systems Archetypes, Belief/Action/Result framework).

Apply Systems Thinking Tools in your workplace.

Link to training | Continue to develop capacity in using a systems thinking approach

Apply systems thinking tools to a specific workplace issue

Develop a robust action plan to address a workplace issue with specific measurable outcomes identified |
Length	One day	One hour	Three 90 minute sessions over three months
Cost	$3,750 + $500 in instructor travel and meeting expenses	Free	$1,500 per team
Size	Up to 30 participants	Unlimited	3-6 participants per team

https://sites.bu.edu/nephtc/2018/11/16/live-online-and-coaching-options-for-system-thinkings/
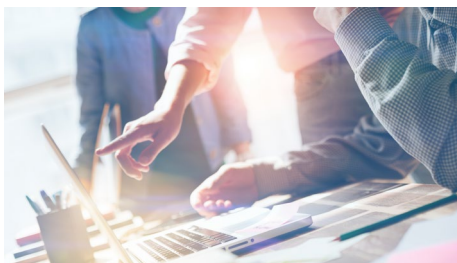
https://sites.bu.edu/nephtc/files/2019/04/NEPHTC-Systems-Thinking-Offerings-May-2019.pdf

NEPHTC

Adaptable for Most PH Teams/Problems

why?

- Why are Grantees not following guidelines?
- Why are Teams not collaborating on health outcomes?
- Why are we struggling to monitor and track grants?
- Why are children's' blood lead levels elevated despite regulation/intervention?
- Why is it difficult to choose and prioritize initiatives?
- Why does our agency lack employee engagement?
- Why is my project not what Management is expecting?
- Why are hospitals not collaborating with my program?
- Why are applications for hearing aids declining?
- Why do we consistently have a one-year backlog in case processing (visual review and consolidation)?

Coaching is Evolving

Moving to Implementation

- Implementing an MOU
- Planning for "unintended consequences"
- Planning communication

Systems Thinking to Prepare for a Learning Collaborative (in planning phase)

- Focus on Mapping
- Working with teams to select issues
- Working on how to use for health equity work and culture

More Coaching Please!

NEPHTC

To Learn How You Can Adapt Coaching
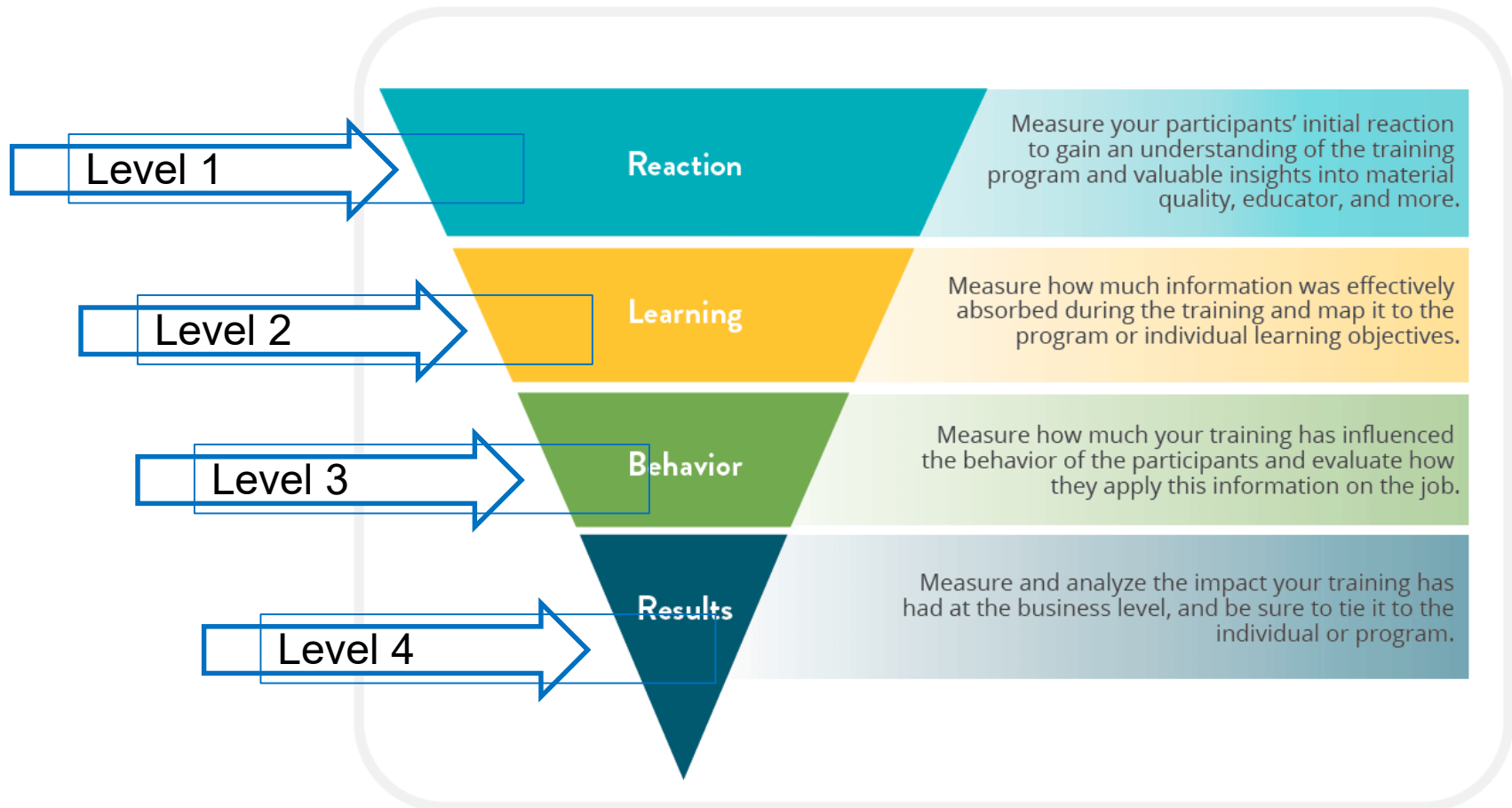
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EVALUATION

THE KIRKPATRICK MODEL

Level 1 → Reaction — Measure your participants' initial reaction to gain an understanding of the training program and valuable insights into material quality, educator, and more.

Level 2 → Learning — Measure how much information was effectively absorbed during the training and map it to the program or individual learning objectives.

Level 3 → Behavior — Measure how much your training has influenced the behavior of the participants and evaluate how they apply this information on the job.

Level 4 → Results — Measure and analyze the impact your training has had at the business level, and be sure to tie it to the individual or program.

Levels 1 and 2

Classroom

Satisfaction: 89.3%
N= 112 (5 states)
Knowledge
Pre test mean: 21.55
Post test mean: 69.66
N= 58 (3 states), p<.001
Confidence to address complex problems: 77.6%
N=49 (4 states)

Self-paced

Users=676*
49 states, 5 countries*
Satisfaction: 85.2%**
Knowledge
Pre test mean: 66
Post test mean: 89
N=204 (nephtc.org)

★★★★★ March 21, 2019
This was a very nice overview, very clear and understandable material. I liked having opportunities to type elements into the models and compare against a the standard. Useful resources to go along with the materials.

★★★★★ March 21, 2019

★★★★★ March 21, 2019
The narration was helpful as the graphics flowed well with the succinct presentation and I'm an auditory learner. I liked the "compare" function where user types in responses and then compares with course suggestions. The examples were varied and very useful for conceptualizing key learning objectives. The ability to download resources and user controlled "pace" of the course was helpful. Having the outline in the margin that shows progression through the course was helpful. I did have 2 slides where the audio cut out for part of the content/script showing on the slide. However, having the script on the slide didn't impede the instruction for me. Great course!!

*TRAIN and nephtc.org data as of 6/26/19
** nephtc.org, n = 78 as of 7/1/19

https://www.train.org/cdctrain/course/1081824/

Classroom Level 3

Statements:	n =	Moderate Change (i.e., I do this quite a bit more than I did before the training)		Major change (i.e., I do this a lot more than I did before the training		Total
		#	%	#	%	%
I consider unintended consequences of proposed solutions prior to taking action on them.	43	14	32.56%	3	6.98%	**39.54**
When problems arise, I first seek to understand why they happened.	46	14	30.43%	7	15.22%	**45.65**
When I disagree with others, I actively seek to understand their reasoning.	47	19	40.43%	5	10.64%	**51.07**
I understand how my work affects others and find ways to make the "whole" work better.	48	20	41.67%	4	8.33%	**50.00**
When something goes wrong, I attempt to look at the "big picture" rather than solving the immediate problem with a quick fix.	46	22	47.83%	2	4.35%	**52.18**

Classroom Level 3

The Systems Thinking Training enhanced my ability to do my job by better preparing me to address problems effectively with others in the workplace: 67.3%
N=49

The resources/materials from the training have already helped me perform my job more effectively: 53.1%
N=49

I anticipate the resources/materials from the training will help me perform my job more effectively moving forward: 67.3%
N=49

Classroom Enhance my ability to do my job better ... write in examples (Level 3)

- **Thinking through to the end helps better develop initial planning.**

- Have encouraged the different divisions to write up their strategy and work process with a view of creating an overall Agency policy ad procedure manual.

- **Use some techniques learned in the training when sitting in brainstorming meetings with other departments.**

- I am more intentional and critical in my thought process to secure training for the different Divisions.

- **Pausing to think of unintended consequences that may result from performing a certain task or doing a program a certain way**

- Looking at the way we are currently running programs to see what we can change to create a more systematic approach

- **Incorporate systems thinking into guidance document creation and review**

- Used systems thinking to identify causes of circular conflict on advisory council and lack of resolution

- **Slowing down from the quick fix to looking at underlying source of problem**

- Concentrating on being in the moment when having a conversation to better understand the other person.

N= 11/45

- **Joined a systems thinking work group**

Output Examples from Systems Thinking Classroom
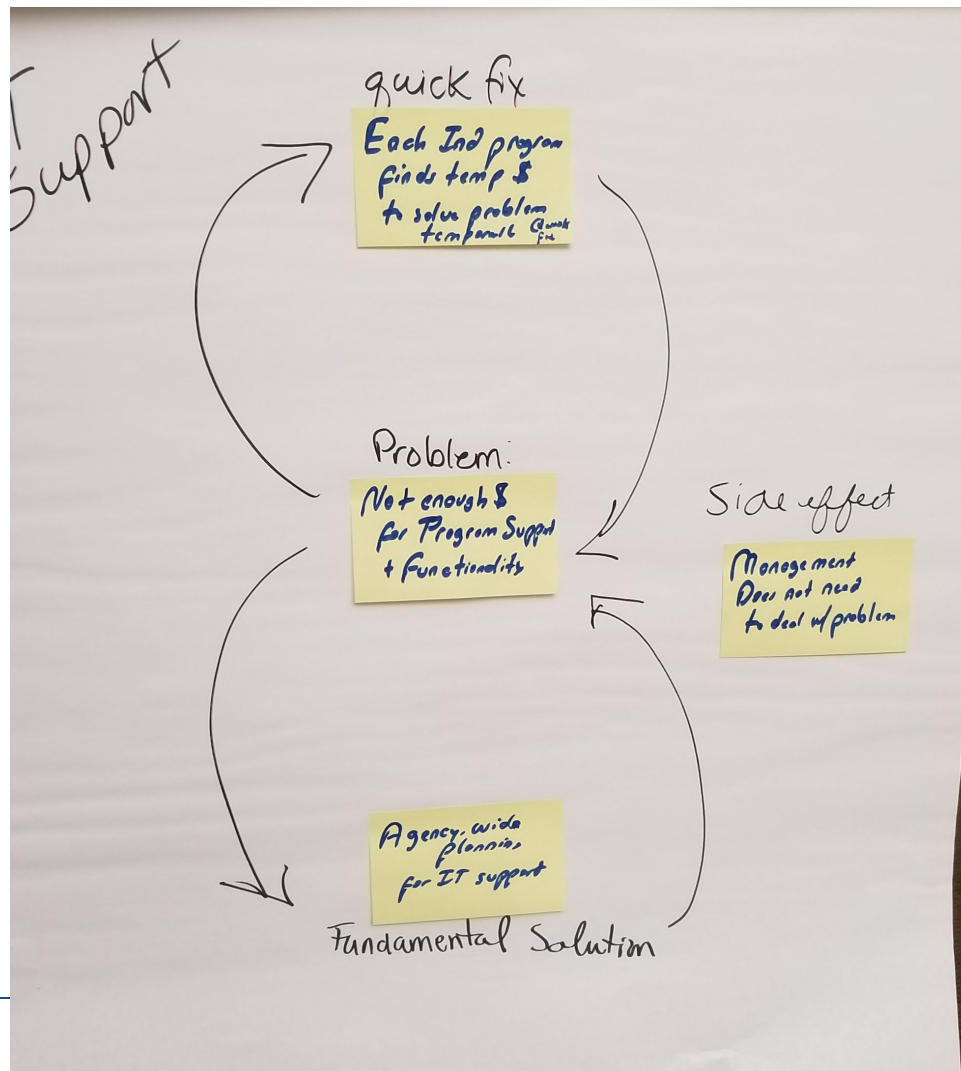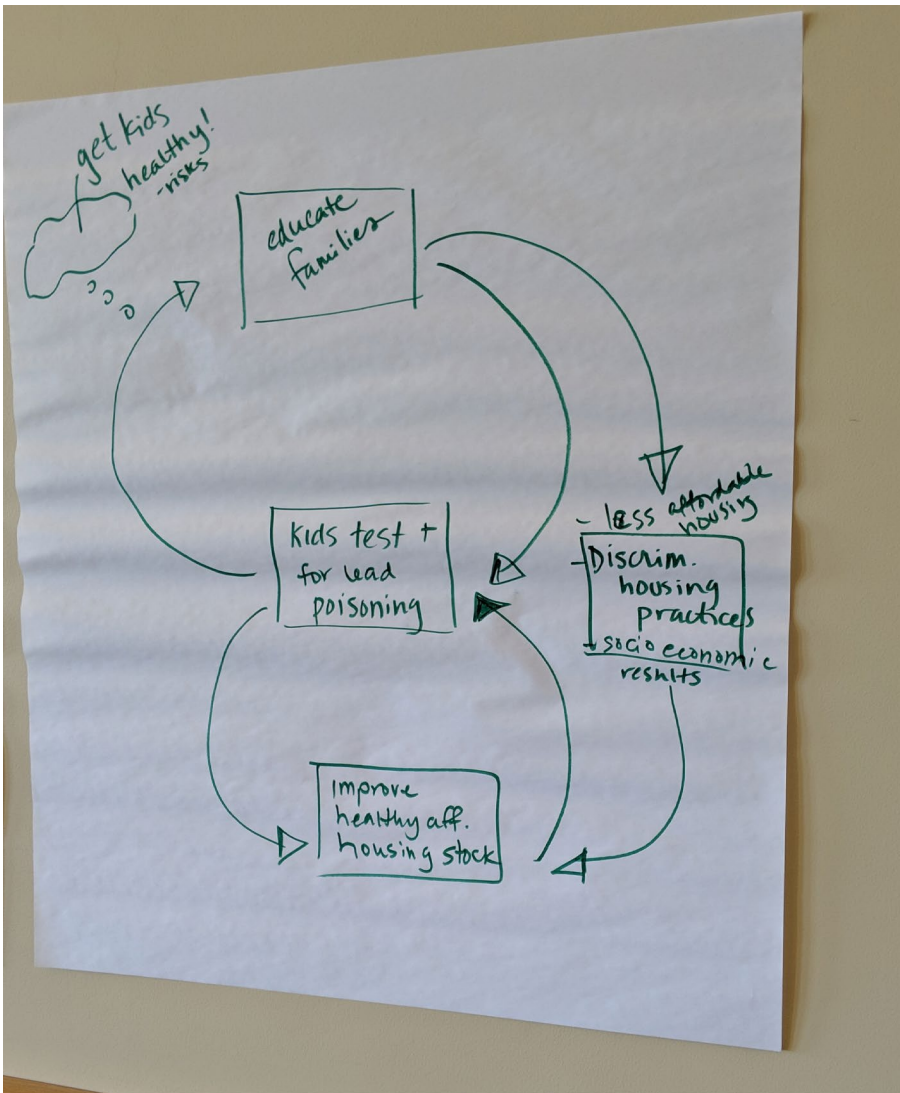
Coaching: Level 3

#	Question	Likert Agree or Strongly Agree	Weighted Average
1.	Systems Thinking coaching allowed me/my team to reframe the problem.	71.4%	3.79
2.	Participating in Systems Thinking coaching allowed me to gain perspectives from others.	85.7%	4.07
3.	The homework required by Systems Thinking coaching challenged me/my team to use the Systems Thinking tools.	71.4%	3.79
4.	Due to the Systems Thinking coaching, I have improved my ability to recognize my own and others mental models that lead to difficulty in a system.	100.0%	4.25
5.	Despite constraints of limited time and resources, I am more likely NOW than I was BEFORE the Systems Thinking coaching to slow down, inquire more and look for a high leverage intervention.	78.7%	3.86
6.	My team has developed an action plan on how we intend to pursue an aspect of our problem.	57.1%	3.79

N= 14

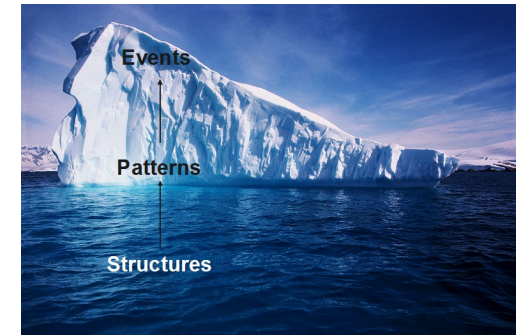# Output Examples from Systems Thinking Coaching: Hospital Collaboration (1)

Why do hospitals fail to adhere to conditions of [Program] MOU regarding their responsibility for patient care, mostly when [a program nurse] is unable to respond to care?

Events:
1. Hospital staff continually call [nurse pager] if a [nurse doesn't respond per established protocol]
2. Supplies are not available when nurse arrives, including bed
3. Patients are not medially cleared when nurse arrives
4. Substandard patient care provided in absence of nurse, hospital staff not following protocols
5. Request for information responses indicated lack of understanding regrading the limitation of nurse resources and hospital accountability.

Patterns:
1. Consistently low training attendance by hospitals on site or regional trainings
2. Increased tension between hospitals and program

Output Examples from Systems Thinking Coaching: Hospital Collaboration (2)

3. Trend toward substandard care for patients in the absence of [program nurse]
4. Increased pressure and stress on program nurse and staff

Structures:

1. Senior hospital administration awareness of program
2. ED level administration unresponsive, don't return calls, don't support trainings by program staff
3. ED is not environmentally/structurally the best place for type of care
4. EDs are stretched thin/high turnover/staff burnout/competing patients priorities
5. Program operating within a bureaucracy
6. Limited program resources
7. Hospital staff anxiety about caring for type of patient (mental model) – concerned about being 'hauled into court' feeling responsible for outcome of case
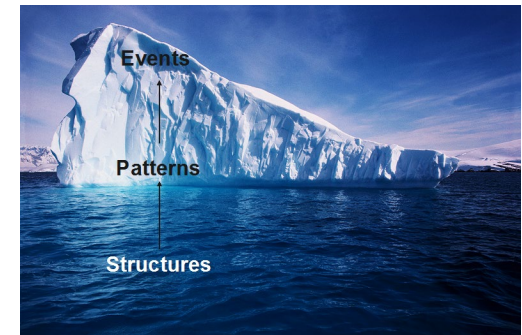
Output Examples from Systems Thinking Coaching: Cancer Registry

Challenge: Why do we consistently have a one-year backlog in case processing (visual review and consolidation)?

Vision Statement for Data Processing:
- Morale is great.
- Visual review and consolidation processing is up to date. Workload is fair and sustainable.
- We follow clear and reasonable procedures. We provide current, usable, and constructive feedback to reporting sources.

Desired Future	Current Reality	Action Steps	Indicators
Morale is great.	Unknown volume and expected pace of upcoming workload.	Create checklist (similar to ▮▮ for submittals. Use processing schedule. Monitor amount and type of incoming data.	% of staff meetings where the checklist and schedule are discussed. By July 31, % completeness of data year to be evaluated by November ▮▮ submission. (goal: 90%). (AKA "not scrambling," AKA "safety net intact")
	Frustrated about persistent lack of resources (software, etc.)	Ask ▮▮ Registry Group how they make more efficient use of existing resources. Separate agenda into operations and analysis.	# of ▮▮ Registry Group meetings where solutions to resource constraints are discussed.
	Hopeful based on willingness to communicate and work together to solve problems	Maintain current level of communication.	# of QA meetings

How has the Systems Thinking training and/or coaching been helpful to you in your day-to-day work?

- I have applied the concept of mental models from the training in my day to day work
- It has allowed me to incorporate some aspect into my program debriefing stages throughout the year.
- Systems Thinking has really allowed me to take a step back and slow down the planning and implementing process. I really consider the unintended consequences that will stem from decisions being made prior to doing them.
- It taught me to look at problems from a different angle and frame them using a systems thinking mindset
- Problem solving is a more thoughtful process now
- Pause, reflect, use curiosity, ask why
- Even when I have limited influence, I am able to think about issues at a broader level.

- Asking questions about needs and assumptions.
- Great way to help me slow down and think before i complete complex tasks
- It has assisted me...though I have not particularly put it to use, many of the aspects have trickled into my daily management.
- I'm continuously thinking about my work from a systems perspectives and trying to incorporate themes or models as appropriate
- The questions we've asked in our project have influenced the questions I'm asking day-to-day. I'm looking more critically at how we do things and looking for connections to our systems thinking work.

N= 12

Insight?

Summary for Systems Thinking + Coaching

- **ST Coaching** is flexible for many public health and health department issues

- **ST Coaching** can result in a plan (and sometimes implementation)

- Evaluation of **ST Coaching** to Show Impact:
    - Small "n"
    - Do a survey
    - Gather sample output during process
    - Document before and after

Pricing for Systems Thinking Training (2019)

Classroom training (6 hours)	$3,750
Online self-paced (1 hour)	Free
Coaching (3 sessions per team)	$1,500

https://sites.bu.edu/nephtc/2018/11/16/live-online-and-coaching-options-for-system-thinkings

Questions? toddks@bu.edu, Program Manager NEPHTC

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