How Do You Know?
Best Practices in Performance Measurement

Jennifer Miller Haight
Emily Rhodes
Sara Feldman

Chapin Hall at the University of Chicago
Policy research that benefits children, families, and their communities

AGENDA

Introduction

- Overview of the CQI Cycle
- Priority concepts

Section I: Know your question

- Improvement Starts with a Question
- Asking and answering questions in the CQI cycle

Section II: Know the population you are measuring

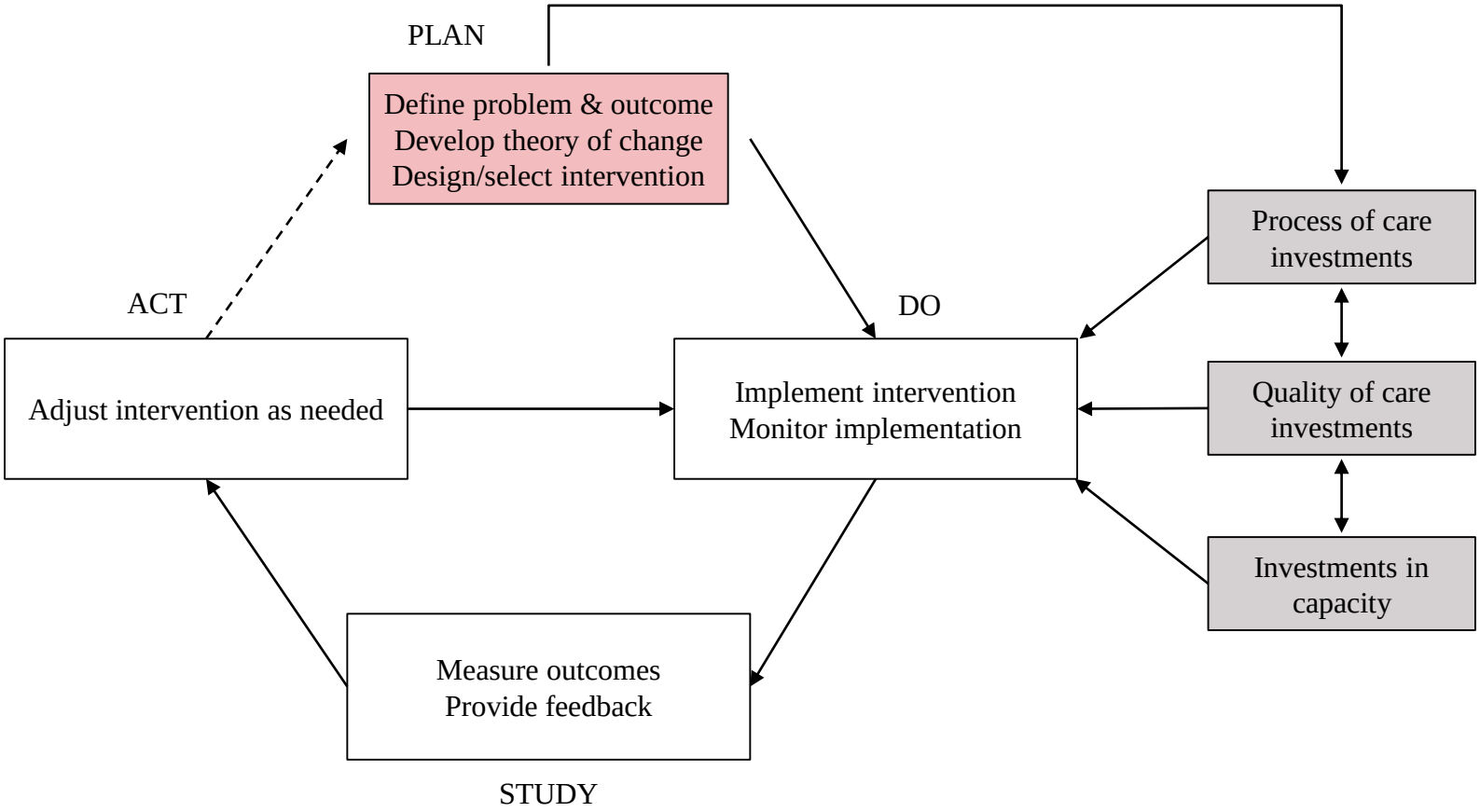
- What population to select
- The denominator and its consequences

Section III: Converting data into evidence

- What is evidence and how it can be used in the CQI cycle
- Evidence from Illinois: core child welfare outcomes

ChapinHall

The Cycle of CQI



ChapinHall

Key Elements of CQI

- Converting data into evidence is about **summarizing**, from one case to many cases.
- **Data** are converted into **evidence** through the process of **analysis**.
- Evidence is needed at all points of the **Plan-Do-Study-Act** cycle.
- It is important to get it right. When **generated correctly**, analytic results become evidence, otherwise they become useless.
- Getting it right depends a great deal on identifying the proper **population at risk.**

ChapinHall

Priority Concepts

1. Know your question. Write it down. Measurement starts with a question.

2. Know the population from which you are measuring (usually the denominator). The choice of measurement depends on the question.

3. Use an entry cohort to answer general questions about characteristics or outcomes.

More Priority Concepts

4. Know your data and organize it well. From what date forward does it contain information about every child served? Through what date is activity reflected?

5. Stratification: Identifying and managing diagnostically-related groups.

6. The Window: Reform can only influence that which has yet to happen.

7. Reinvestment: Looking into the future, could we spend the same money more effectively?

ChapinHall

Good Habits for CQI

Create good habits for producing knowledge to fuel the CQI process:

- Train yourself to ask who is being counted…**or who is in the risk population (denominator).**

- Similarly, train yourself to **think rigorously** about the information **you generate**.

- Train yourself to **think rigorously** about the information **you consume**.

ChapinHall

SECTION I:
KNOW YOUR QUESTION

The process of improvement starts with a question.

"…Though they often perused [reports] very quickly, they did pay attention to them, and they looked for information that they thought might contribute to their understanding of their work environment. It was continual in that new evidence was continually becoming available, and it was **unsystematic** in that **participants tended to look indiscriminately at everything that came their way, and in that they could not describe exactly what it was they were looking for…"**

Kennedy, M. (1983). Working knowledge. *Knowledge: Creation, Diffusion, Utilization, 5*(2), 193-211.

ChapinHall

The process of improvement starts with a question.

Becoming systematic in your use of evidence starts with **curiosity** and taking **ownership** over the inquiry.

Access to reports is critical, but the process of improvement doesn't start there. Reports are only helpful if they contain the **answer to the right question**.

Whether you **acquire** evidence from some pre-existing place or **generate** it yourself—your engagement must start with you **articulating your own question.**

Reactive/Passive	**Active/Empowered**
"Let's see what the data are telling us."	"Let's answer this question so we get the information we know we need."

ChapinHall

The process of improvement starts with a question.

What do you want to know?

- What questions do you have about system performance, either statewide or in your region/county?
- Write down three questions on your index card.
- Note: A question ends in a question mark.
- Example: *How many children are placed in congregate care?*

ChapinHall

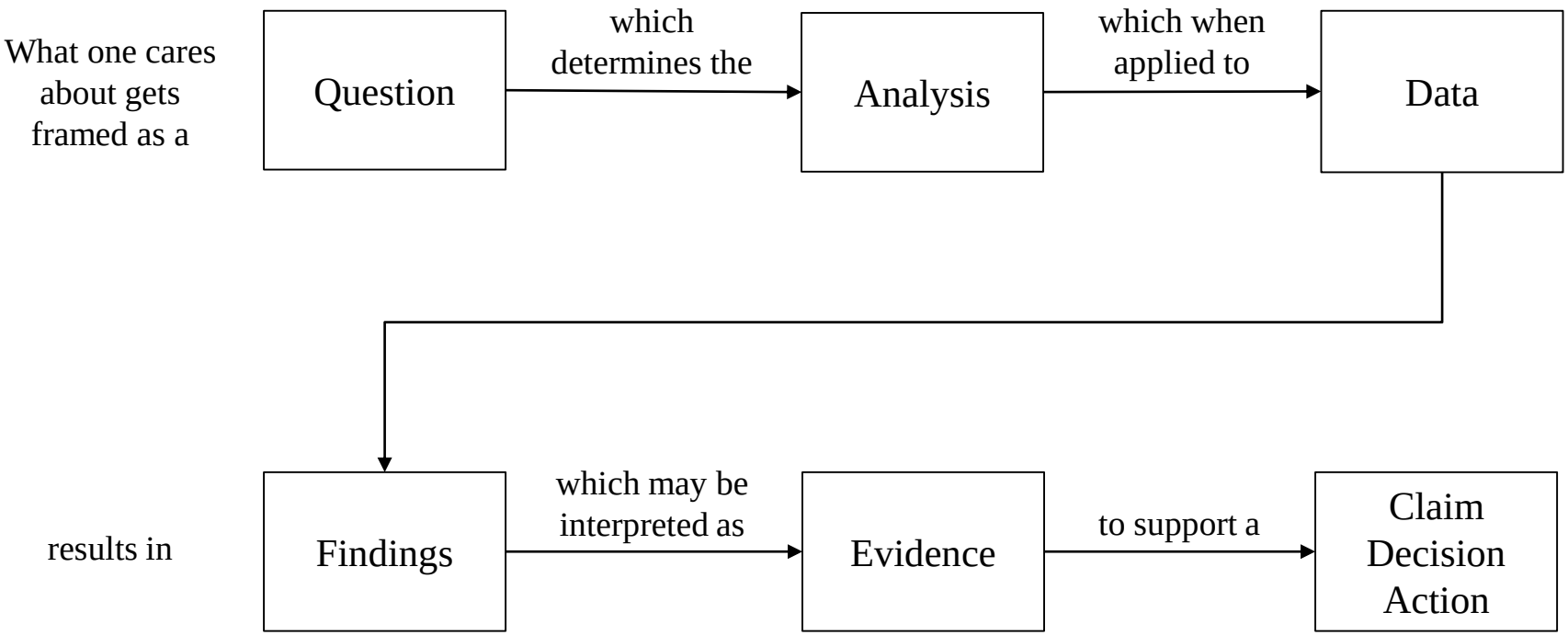
The process of improvement starts with a question.

- Today we will learn:
  - **What questions** should be asked and answered at each point in the CQI cycle
  - How to **craft** those questions so that the answers are **actionable**. What differentiates a **useful question** from a not so useful question? (If you answer that question, will you have evidence that can really fuel the CQI cycle?)
  - What measurement practices get you the **correct answer** to your question?

ChapinHall

Why spend so much time on developing questions?

A mismatched question can set off an unfortunate domino effect…



Lery, B. Haight, J. M., Alpert, L. (in press). Four principles of big data practice for effective child welfare decision-making. *Journal of Public Child Welfare*.

ChapinHall

Asking Questions in the CQI Cycle

I observe [**some outcome that we want to improve**].

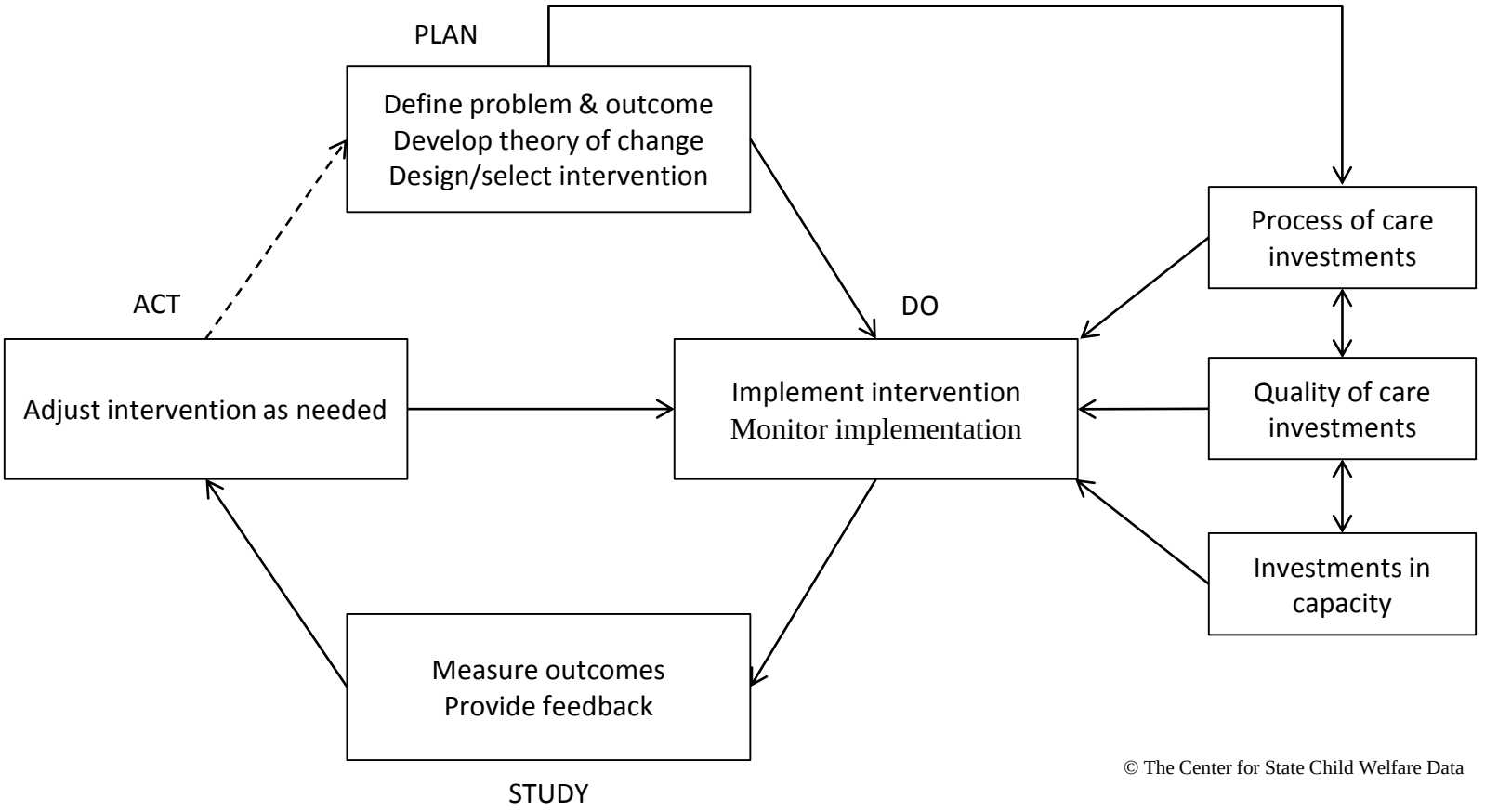
I think it's because of [**this reason**].

So I plan to [**implement this intervention**],

which I think will result in [**an improved outcome**].

ChapinHall

The CQI cycle: Plan-Do-Study-Act



ChapinHall

Exercise: So we have questions about…

Processes	Quality	Capacity	Outcomes

ChapinHall

SECTION II:
KNOW THE POPULATION YOU ARE MEASURING

ChapinHall

What population should I select?
Put differently, who will be in my population?

Three common choices, using foster care as an example:

- *Children in foster care* - the active caseload (other terms: point-in-time, cross-section, or census)
- *Children entering foster care* - children placed during some period of time, usually one year (other terms: an admission cohort)
- *Children leaving foster care* - children who left placement in the last year (other terms: an exit cohort)

ChapinHall

What is the difference?

- Point-in-time - only children in care
- Exit cohort - only children who left care
- Entry cohort - all children who entered

By definition, these are very different populations.

ChapinHall

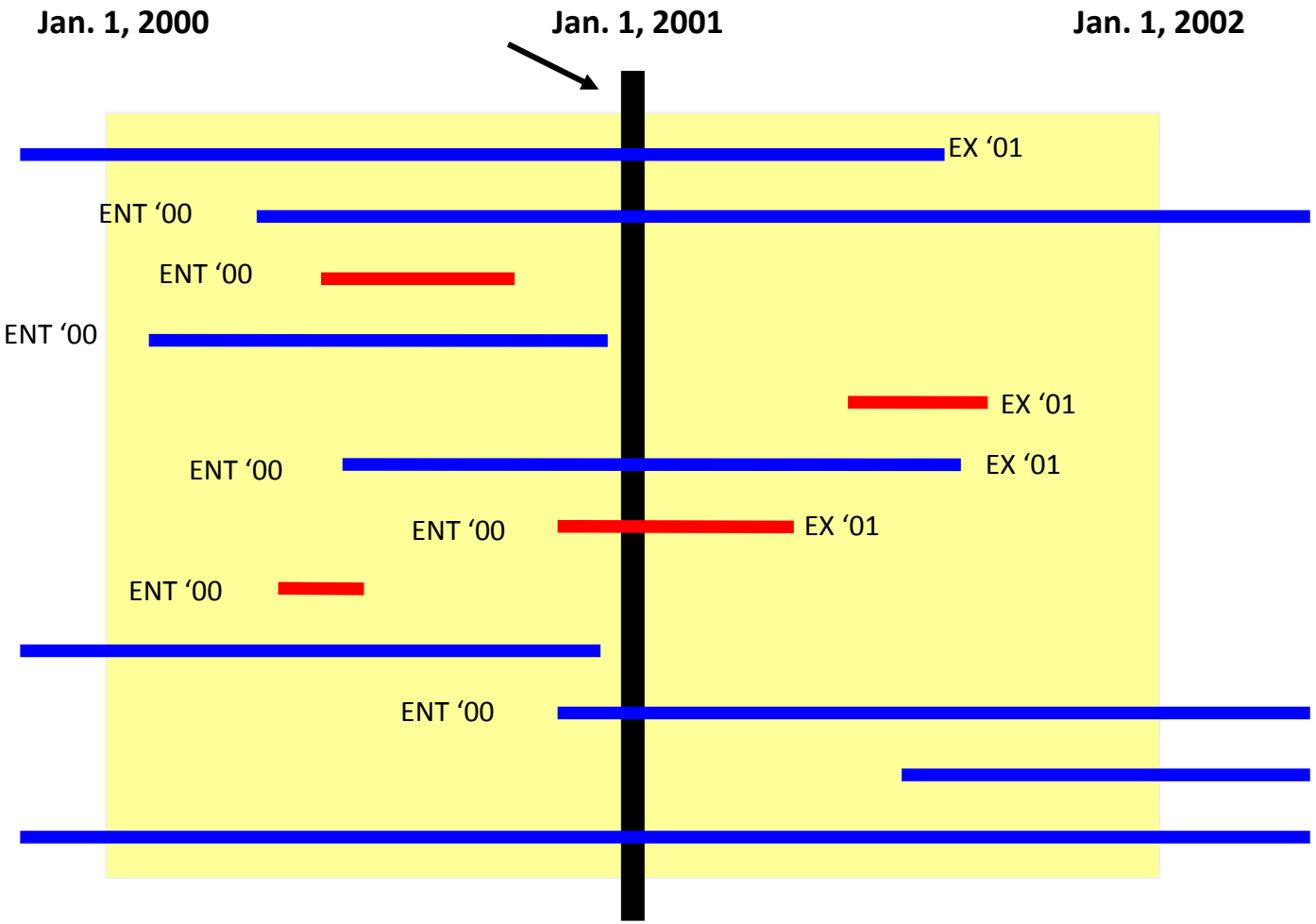
Why does it matter who is in the risk set or population?

- When part of the population is excluded from the risk population, **you can no longer make a statement about what's typical**.

- When you want to measure the **effect of an intervention over** time you have to include everyone the intervention touches in your analysis.

ChapinHall

Who is being Counted?



Source: Aron Shlonsky, Columbia University School of Social Work (formerly at CSSR)

ChapinHall

The denominator and its consequences

	Includes	Ignores	Implications (& examples)
PIT	Only the children in care on that day.	All the children who have already exited by that day. PIT questions ignore the flow entirely. They only give you information about the *consequences* of the flow.	Typically over-represents the long stayers. By definition, none of the information is complete. (All spells are still in process.)
Exit	Only the children who exited during the period.	All the children who are still in care. Exit questions only describe the experiences of children who achieve the outcome of interest. Exit cohort outcomes are dependent on the flow in.	Could over-represent the short stayers. Akin to measuring the effect of a new drug by only examining the people who survived. If you admit a lot of short stayers, you might conclude you have an efficient FC system (short LOS) when you really have a porous admission system. If you discharge a lot of long stayers, your LOS will look poor even though your practice was good.
Entry	All the children entering during a particular period.	Nobody.	All children who could potentially achieve the outcome of interest are included in the analysis.

ChapinHall

The denominator and its consequences

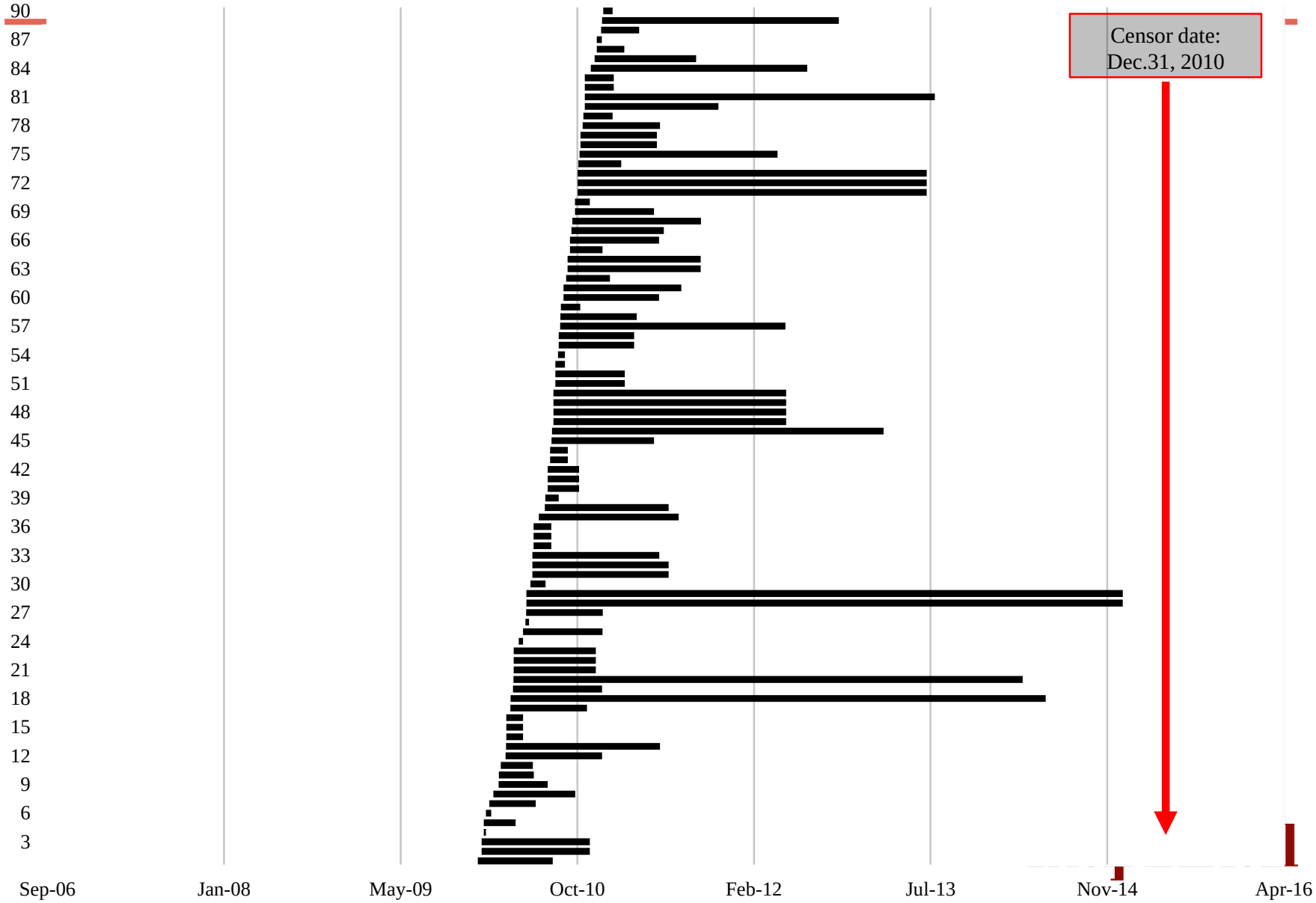
Example: What is the median length of stay?

Research question	Denominator	Median length of stay
Point-in-time: Of all children who were in care on 1/1/2010, what was their median length of stay as of that day?	All children who were in foster care on 1/1/2010	28.2 months
Exit cohort: Of all children who exited foster care in 2010, what was their median length of stay?	All children who exited foster care in 2010	8.13 months
Entry cohort: Of all children who entered foster care in 2010, what was their median length of stay?	All children who entered foster care in 2010	7.63 months

Wulczyn, F., Alpert, L., Orlebeke, B., & Haight, J. (2014). *Principles, language, and shared meaning: Toward a common understanding of CQI in child welfare.* Chicago: The Center for State Child Welfare Data, Chapin Hall at the University of Chicago.

ChapinHall

Entry and duration patterns for all children first placed in 2006, observed through Dec. 31, 2010 (Sample FCDA County)



Implications

When looking at any data analysis (or table):

- Know the question.
- Know the population that was used to generate the data.
- Always, ask: Is it the right risk population for the question? *If it isn't, set the data aside.*

Implications Continued

For caseworkers and other practitioners:

- When thinking about your "caseload," don't think about your "active" cases only.
- Think about the all the cases that came onto your caseload in the last year or two, so that your view of the children and families you worked with is more balanced.

Exercise: Name the Population

Instructions:

- Below is a list of analytic questions one could ask about the performance or characteristics of a child welfare system.
- For each one, indicate whether the population being analyzed is an **entry cohort**, an **exit cohort**, or a **point-in-time** population.

Of all infants who were admitted to foster care during FY 2011, how many were adopted within 2 years of entry?

What percent of children on the active foster care caseload have experienced 2 or more placements?

Of all the teens that were discharged from care last year, what percent reached majority/aged out?

Exercise: Name the Population

Was there any difference in length of stay between children who reunified in 2010 and children who reunified in 2011?

Of all the CPS investigations that opened last year, how many did we close within 60 days?

Of all children who entered foster care in a 12-month period and who exited within 12 months to reunification, live with relative, or guardianship, what percent re-enter foster care within 12 months of their discharge?

What proportion of the current case carrying staff at our agency have worked at the agency for less than 1 year?

What was the average case length for the CPS cases that closed last month (i.e., how long on average was the case open)?

Exercise: Name the Population

Of all children in foster care on the first day of a 12-month period who had been in foster care (in that episode) between 12 and 23 months, what percent discharged from foster care to permanency within 12 months of the first day of the 12-month period?

Of all the foster homes that closed last year, how many closed because the foster parent's license was revoked?

SECTION III: CONVERTING DATA INTO EVIDENCE

ChapinHall

What does all this have to do with CQI?

- Evidence is derived from the data through the process of **analysis**.
- Evidence **supports** claims, hypotheses, and actions throughout the Plan-Do-Study-Act cycle.
- It is important to get the **analysis** right. That is when **findings** become **evidence**; otherwise they become useless.
- Getting it right depends a great deal on identifying the proper **denominator** or **population at risk**.

Converting data into evidence

Evidence is information that is used to support an observation, claim, hypothesis, or decision.

Evidence can be found in or derived from a number of places (e.g., administrative data archives, case record review, stakeholder feedback, social science literature).

Evidence:

- points to the outcomes that need improvement (**Plan**)
- informs the selection of interventions (**Do**)
- guides the assessment of interventions (**Study**)
- informs decisions about what to do in light of those results (**Act**).

ChapinHall

Converting data into evidence

Not all “data” is evidence.

Not all “data” answers the questions you have.

ChapinHall

Where, then, does evidence come in?

Evidence is information that is used to support an observation, claim, hypothesis, or decision. In other words, evidence provides an answer to the question: **How do you know?**

Evidence can be quantitative or qualitative. Evidence is information that has been developed using **scientifically defensible** methods that are explicit, systematic, and open to scrutiny.*

Evidence can be found in or derived from a number of places (e.g., administrative data archives, case record review, stakeholder feedback, social science literature).

* Adapted from Davies, H. T. O., & Nutley, S. M. (2008). Learning more about how research-based knowledge gets used: guidance in the development of new empirical research. William T. Grant Foundation, New York, NY.

Minimize time in non-permanent home (duration, length of stay)

Quartile Duration in Months (IL, first admissions)

Total First Admissions			
Entry Year	25th Percentile	50th Percentile	75th Percentile
2009	11.05	28.36	48.69
2010	11.25	25.57	46.43
2011	13.25	28.56	46.52
2012	12.30	29.21	--
2013	12.52	27.61	--
2014	12.52	--	--
2015	--	--	--

Censor date 6/30/2016

ChapinHall

Maximize likelihood of exit to reunification; relatives or other support family; adoption. (permanency)

Number and Percent of First Admissions by Entry Year and Exit Destination from First Spell
(IL, first admissions)

Entry Year	Total First Admissions	Total Discharged as of 06-30-2015	Reunification	Adoption	Relative	Reach Majority	Runaway	Other	Still in First Spell as of 06-30-2015
Number to Each Outcome									
2008	4,660	4,338	2,051	1,370	294	110	218	295	322
2009	4,383	3,924	1,922	1,176	279	86	213	248	459
2010	4,504	3,839	2,010	1,082	220	60	228	239	665
2011	4,150	3,135	1,685	878	183	26	207	156	1,015
2012	4,283	2,609	1,636	499	152	4	194	124	1,674
2013	4,322	1,869	1,454	145	27	1	147	95	2,453
2014	4,569	1,061	856	12	21	0	99	73	3,508
2015	2,197	191	164	0	2	0	15	10	2,006
Percent to Each Outcome									
2008	100%	93%	44%	29%	6%	2%	5%	6%	7%
2009	100%	90%	44%	27%	6%	2%	5%	6%	10%
2010	100%	85%	45%	24%	5%	1%	5%	5%	15%
2011	100%	76%	41%	21%	4%	1%	5%	4%	24%
2012	100%	61%	38%	12%	4%	0%	5%	3%	39%
2013	100%	43%	34%	3%	1%	0%	3%	2%	57%
2014	100%	23%	19%	0%	0%	0%	2%	2%	77%
2015	100%	9%	7%	0%	0%	0%	1%	0%	91%

Censor date 6/30/2015

ChapinHall

Minimize likelihood of reentry

Mix of First Admissions and Reentries by Year (IL, all admissions)

Entry Year	All Admissions	Number		Percent	
		First Admission	Re-entry	First Admission	Re-entry
2008	6,125	4,660	1,465	76%	24%
2009	5,683	4,383	1,300	77%	23%
2010	5,896	4,504	1,392	76%	24%
2011	5,439	4,150	1,289	76%	24%
2012	5,581	4,283	1,298	77%	23%
2013	5,593	4,322	1,271	77%	23%
2014	5,773	4,569	1,204	79%	21%
2015	2,758	2,197	561	80%	20%

Censor date 6/30/2015

This table tells you what proportion of the entry population is coming into care as a reentry…

…it does not tell you the *likelihood* of re-entering care after exiting.

ChapinHall

Minimize likelihood of reentry (exit)

Re-entries from an exit cohort (IL, first admissions)

All Exits (Except Adoption and Reach Majority)					
Exit Year	Total Exits (First Admissions)	Total Re-entries To Date	Re-entries w/in 1 Year	Total Re-entries to Date as Percent of Exits	Re-entries w/in 1 Year as Percent of Exits
2008	2,787	714	496	26%	18%
2009	3,225	678	487	21%	15%
2010	2,769	642	478	23%	17%
2011	2,790	651	500	23%	18%
2012	2,820	630	530	22%	19%
2013	2,638	540	481	20%	18%
2014	2,758	461	458	17%	17%
2015	1,287	123	123	10%	10%

Censor date 6/30/2015

ChapinHall

Wrap Up -- When looking at any data analysis (or table)

- Know the question.
- Know the population that was used to generate the data.
- Always, ask: Is it the right population for the question? *If it isn't, set the data aside.*

- When measuring outcomes, what you see depends on how you look.
- When desire is to characterize what's typical, most of the time, this means outcome measures should be based on entry cohorts.

ChapinHall

Some resources

For more information about CQI in Child Welfare and examples of analytics applied to child welfare:

Website: fcda.chapinhall.org
Paper: http://www.chapinhall.org/research/report/principles-language-and-share-meaning-toward-common-understanding-cqi-child-welfare

For an online version of Chapin Hall's analytics course, see set of videos and workbook-based exercises produced in partnership with the Northern California Training Academy: http://academy.extensiondlc.net/mod/resource/view.php?id=916

For overview of federal CFSR Outcomes, including review of importance of selecting the right population, select "CFSR 3 Data Overview" at http://cssr.berkeley.edu/cwscmsreports/presentations/

ChapinHall