An illustration of a family silhouette against a teal background with white clouds. The family consists of a red figure on the left, a purple figure in the middle, a red figure on the right, and a blue figure on the far right. The background is a textured teal color with several white, fluffy cloud shapes.

# Mapping a Model Fidelity Route for Measuring Program Effectiveness: *A Journey In-Progress*

Anita M Larson, DPA

CQI Conference, October 12, 2023

# Welcome! In this session:



The journey  
of model  
fidelity and  
link to EBP



What our  
organization's  
journey has  
looked like



Timing, and  
a little  
theory



Structuring  
fidelity  
measures



Readiness  
(timing,  
again)



Variations in  
fidelity work

# Planning the Journey

- ▶ Developing and/or implementing model fidelity measures occurs in the context of an Evidence-Based Practice (EBP)
  - One that is established, or
  - One that is being developed (sometimes referred too as a *Promising Practice*)




# The Journey: the Why & What

- ▶ Why launch an EBP or new Promising Practice?
  - We want to improve outcomes
  - Align with our sector, regulatory expectations or the direction of system
  - To meet expectations of funders
  
- ▶ What is model fidelity?



# Poll: What is model fidelity?

 CQI (Continuous Quality Improvement) Conference

Poll question  
**What does “model fidelity” mean to you?**

My response  
**Adherence**

Accuracy Integrity  
**Adherence**

Powered by Whova



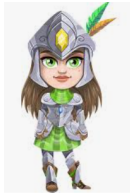
# Model Fidelity

- ▶ Adherence, or integrity to the original approach (*Child Welfare Information Gateway, childwelfare.gov.*)
- ▶ The extent to which delivery of an intervention adheres to the protocol or program model originally developed. (*Mowbray et al., 2003, American Journal of Evaluation*)
- ▶ Implementation fidelity is the degree to which an intervention or program is delivered as intended. (*Carroll et al., 2007, Implementation Science*)





# The Journey



Liz Williams, Director of  
Clinical Services, Residential

Compass (or GPS):  
Model fidelity

Map: EBP

Quest:  
Better  
outcomes

# If your Compass is “Off”...(or, you aren’t using one)

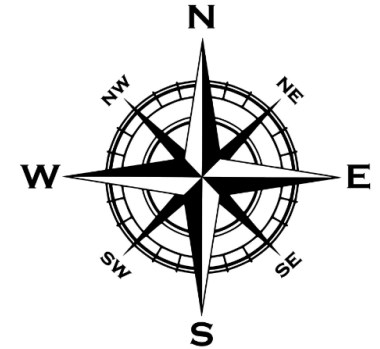
1. A program cannot be as confident that the outcomes observed can be attributed to the practice model
2. When outcomes change, programs are less able to pinpoint the contributing factor(s) that led to that change
  - Particularly important if outcomes worsen, clients needs become more acute, etc.





# By accepting the Quest (Outcomes) and the Map (EBP)...

- You have accepted the need for a sense of direction and thus, the obligations of model fidelity
  - You owe this to your clients and your funders (and staff)





# Our Journey

# New Promising Practice: Empowering Restorative Engagement (ERE)

- ▶ Combination of three EPBs
  - Essentially creating a new, trauma-informed practice
- ▶ Our purpose (or quest) was to
  - Improve outcomes for youth in residential by building better relationships with youth so that skills can be developed.
  - In line with expectations of funders and our field
  - Anticipated reductions in injury and staff turnover





# Model Fidelity

- ▶ Anita is new and asks, “How are we measuring model fidelity?”



- ▶ Timing matters: organization was busy
  - Training up staff to the new model
  - Tweaking material
  - Dealing with staff turnover
  - Had just launched a new EHR



# Why does Timing Matter?

- ▶ A shared understanding of certain key concepts and how they apply to model implementation and maintenance depend in part on the maturity of an organization's measurement and data use. Specifically,
  - Organization capacity for measurement
  - Maturity of data use
  - How information about performance is able to be communicated
  
- ▶ Here is the brief departure into theory....





# Evidence-Based Practice (Scale)



Not peer-reviewed, No  
Evidence; Concerning practice;  
Evidence fails to demonstrate  
effect

Emerging practice

Promising practice

Supported by research  
evidence

Well-supported by research  
evidence



# ...aligned to inquiry and problem-solving



Purpose of Inquiry /  
Type of Problem-  
Solving

**Exploratory**  
Familiar with facts, settings and concerns. Create a general mental picture of conditions. Formulate and focus questions. Generate new ideas and hypotheses. Determine the feasibility of research. Develop techniques for measurement.

**Descriptive**  
Detailed, highly accurate pictures. Locate new data that contradict past data. Create a set of categories or classify types. Clarify a sequence of steps or stages. Document causal processes or mechanisms. Report on the background or context of a situation.

**Explanatory**  
Test a theory's predictions or principle. Elaborate or enrich a theory's explanation. Extend a theory to new issues or topics. Support or refute an explanation or prediction. Link issues or topics with a general principle. Determine which of several explanations is best.

Evidence-Based  
Practice(EBP) Scale

Not peer-reviewed, No Evidence; Concerning practice; Evidence fails to demonstrate effect

Emerging practice

Promising practice

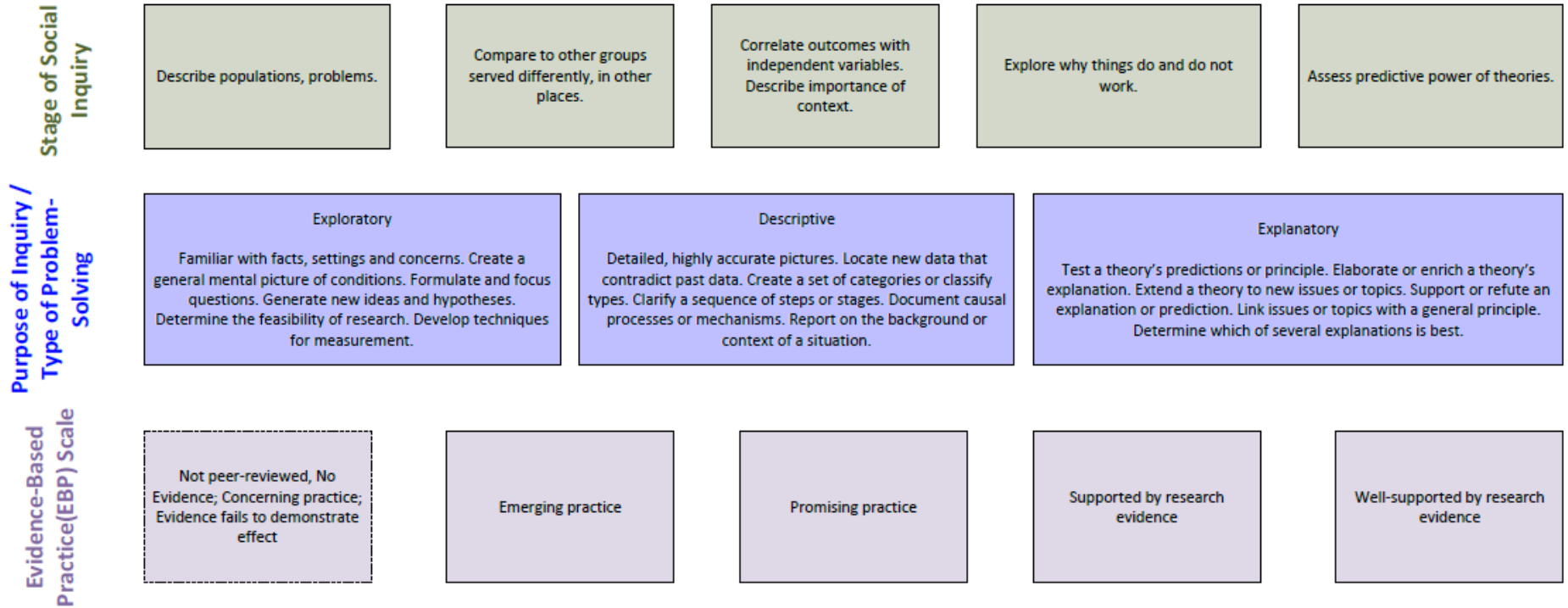
Supported by research evidence

Well-supported by research evidence

# ...now add what we know about social inquiry...



*Increasing complexity, rigor, accountability, systematization*



# Dimensions in Relation to the Organization



*Increasing complexity, rigor,  
accountability, systematization*

Organization  
Capacities &  
Activities

**Pre-Measurement**  
Little to no data (numerical or otherwise) on service delivery, perhaps small service populations, processes that are simple or "in the moment."

**Outputs**  
Can account for numbers served, attributes, can identify services received, perhaps analyze costs, identify some short-term outcomes.

**Outcomes**  
Data show change in short-term outcomes over service duration, differences detectable by sub-populations or service methods.

**Quality Improvement & Long-term View**  
Data identify short-term outcomes that literature shows lead to long-term outcomes. Staff see data as tool for quality service.

**Continuous Improvement & Mature Service**  
Data used continuously to inform status of services and/or clients. Data accessible internally. Services regularly reviewed for fidelity to model(s).



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Communication  
& Data Use

No data use (internal or external).

Data is collected, recorded, used for reporting only and based on mandates of funders. Data communication primarily external.

Leaders/staff identify potential practice changes based on data and monitoring of data occurs with greater frequency. External communication expands to include "changed lives" data.

Data use supports understanding of effective practices (including ceasing ineffective practices). Internal periodic monitoring of key opportunity points in service. External data communication begins to align with known EBP or new theory/evidence.

Evaluation used to measure and inform – internally and externally. External communication can confidently attest to evidence of successes. Internal continuous monitoring and improvement.



# Why is knowing this important?

- ▶ Can help with addressing barriers along your journey.
- Bridge of Death: the bridge keeper asks the Knights “questions three”:
  1. What is your name?
  2. What is your quest?
  3. What is the velocity of an unladen swallow?

A sign of readiness is when members of the organization begin asking, “***What type of swallow – African or European?***”



# Signs of Readiness at Nexus

1. Data quality improved and more complete
2. More agencies trained in the model (ERE)
3. Increased frequency of questions from CQI about model fidelity (*“How do we really know we’re doing this?”*)
4. Desire by executive leaders to measure more than restraint reduction



# Fidelity Measures Development

# Developed Structure

- ▶ Did a brief literature review and distilled down key concepts (see 1-pager in conference session materials)
  - Made it plain language
  - Short and sweet
  - Used it to structure work
- ▶ Identified and cultivated clinical leader partner
- ▶ Had support of executive leadership
  - Model fidelity measures development made it into the organization strategic plan





# Key Knowledge & Practices

1. **Structure:** Dosage, intensity, sessions
2. Model as **described:** Knowledge, changes in mindset/orientation to clients
3. Model as **delivered:** observable differences





# Key Knowledge & Practices

Structure: Duration of residential programming, daily services and physical environment (milieu), therapeutic services until discharge.

Intervention as Described	Intervention as delivered	
<ul style="list-style-type: none"><li>• What are staff taught?</li><li>• How do staff feel about clients?</li><li>• How do staff think about clients?</li><li>• How do staff interpret client behaviors?</li></ul>	<ul style="list-style-type: none"><li>• What are expected staff behaviors during: conflict, aggression, defiance?</li><li>• How do staff speak about or refer to clients to others?</li><li>• How do staff speak to clients?</li></ul>	<ul style="list-style-type: none"><li>• What does the physical environment look like?</li><li>• What client-specific resources are available?</li><li>• What privileges are offered to clients?</li></ul>

# Align Knowledge & Practices to Key Model Components and Intent

ERE Component	Intent
1. Trauma and the brain	The brain is impacted adversely by trauma and this impacts behavior.
2. Relationships	Youth behavior can change only when staff build relationships with them.
3. Collaborative problem-solving	Youth lag in specific skills that result in challenging behaviors that impair relationships.
4. Choice Theory	Youth make decisions and have challenging behaviors in attempts to meet their needs.
5. Restorative Approach	Build understanding about origins of challenging behaviors and how staff build relationships with youth to allow for skill development.

# Measures: Relationships Example

		<i>Intervention as described</i>	<i>Intervention as delivered</i>	
Component	Intent	Attributes, Indicators, Measures		
2. Relationships	Youth behavior can change only when staff build relationships with them.	<p><b>L</b> Improving relationships: getting to know youth; listening to youth; processing after an incident; spending time with youth; being self-aware as staff to understand challenging behavior.</p>	<p><b>P</b> Guidance Plan, presence &amp; quality</p> <p><b>P</b> Restorative Plan of Action, presence &amp; quality</p> <p><b>P</b> Plan of Action, presence &amp; quality</p> <p><b>P</b> Program observations of staff-youth interactions</p>	<p><b>E</b> Signage is not consequence-forward</p> <p><b>E</b> Youth consequences are not publicized</p>

L = Learning; P = Practice; E = Environment

# Measures

- ▶ Went through this process for each key model component
- ▶ Identified multiple measures for components
  - ~85% of measures and data source (process) identified
    - Annual Clinical Review
    - Staff career ladder checklist
  - Remaining knowledge measures under development
    - Staff pre- and post- tests of knowledge and attitudes



**ERE – Model Fidelity Measures**



Sources of Measures

4/10/2023

Five ERE components include the following Knowledge, Practices or Environmental factors: **L**=Learning; **P**=Practice; **E**=Environment

ERE Component	Intent of measure	Method	Source	Implementation
1) Trauma and the brain	L Knowledge of physical impacts of trauma on developing brain	Written Test	To be developed	NML and NOA have their own. Should have two versions: 1) new staff and 2) 90+ day employee version  Work with Stacey T-C to create. Also build pre- and post-tests for refreshers.
	L Knowledge of how brain impacts impair judgement and lead to challenging behaviors	Written Test	To be developed	
2) Relationships (relationship-focused programming)	L Improving relationships to improve kids’ behaviors must <u>include</u> : Getting to know kids; Listening to kids; Staff and youth process after an incident; and Spending time with the kids.  Being self-aware as a caregiver (to understand how staff behavior can contribute to challenging behavior).	Interview and Observation	<p>Clinical Review</p> <ul style="list-style-type: none"> <li>• SIQ1</li> <li>• SIQ2</li> <li>• SIQ15</li> <li>• YIQ1</li> <li>• YIQ3</li> <li>• YIQ6</li> <li>• YIQ13</li> <li>• YIQ15</li> <li>• FIQ1</li> <li>• FIQ7</li> <li>• FIQ10</li> <li>• PDQ 6, 7, 8</li> </ul> <p>YCP-to-YCP I item “Has safe interactions with clients.”                      YCP-to-YCP I item “Initiates engagement with client/s and responds to their needs.”                      YCP-to-YC PI item “Uses respectful language and tone of voice.”                      YCP I-to-YCP II item “Follows the program scheduled as outlined and ensures client/s are successfully engaging in structured and ongoing activity.”                      YCP I-to-YCP II item “Monitors and effectively coaches client/s to achieve activities of daily living and completing assignments.”                      YCP I-to-YCP II item “Manages crises appropriately; is professional and helpful during the crisis.”                      YCP II-to-YCP III item “Appropriately advocates for clients’ needs and can represent client treatment progress in team meetings.”                      YCP II-to-YCP III item “Effectively leads client education groups and manages the group dynamic appropriately.”                      YCP II-to-YCP III item “Follows and ensures the milieu program model, Empowering Restorative Engagement (ERE).”</p>	



# Measures & Practice Wisdom

## ► Connections to CQI

- Expectation that key model fidelity measures will be clearly linked to outcomes and performance improvement opportunities once data collection begins.
- When Anita asked Liz “*What is the one thing or work product that, if it is not in place, you know ERE is not robust?*” she stated “***The presence, quality and use of the Guidance Plan!***” without hesitation. (An example of practice wisdom.)
  - Supports focus on a key work product as a model “anchor”
  - Expect more key improvement measure anchor points as data collection begins

# Fidelity Measures & Outcomes

Inputs	Activities	Outputs	Outcomes <i>(The incremental events/changes that occur as a result of activity and outputs)</i>				
			Short At Discharge	Medium: (e.g., discharge +3 months)	Medium: (e.g., discharge +6 months)	Medium: (e.g., discharge +12 months)	Long-term
ERE Model M.I. Model Reimbursement Facilities Community support Agency treatment team Parent partners & Aftercare coordinators Therapists, Milieu Leads & YCPs Admission coordinators	Trauma-Informed Care (TIC) framework  ERE Model Program components Incident debriefing  – Guidance Plan development and use  ERE Model Fidelity Progressive training (staff and supv) Refreshers Pre- & Post-tests Clinical Review observations	100% of incidents are reviewed quarterly  10% decline in restraint use  100% elimination of prone restraint  100% of all clients have a Guidance Plan in place  New staff: 90% demonstrate increase ERE knowledge, pre- /post-test.  Current staff (>90 days): Twice annually, 100% of staff pass ERE knowledge test  Agency receives a score of at least 85%	Milieu improved  Client sense of safety improved  Staff sense of safety improved  At least 75% of families successfully discharge from program  80% of youth demonstrate increase in self- regulation skills (CANS)  At least 80% of clients demonstrate a reduction in # of needs by discharge  100% of families report overall satisfaction with services	     < 30% of clients report ongoing need of Emotional and/or Physical Dysregulation (2022 actual = 27%)  >50% of clients report maintaining Coping and Survival Skills (2022 actual = 55%)	     <25% of clients report ongoing need of Emotional and/or Physical Dysregulation (2022 = 21%)  >50% of clients report maintaining Coping and Survival Skills (2022 actual – 59%)	     <25% of clients report ongoing need of Emotional and/or Physical Dysregulation (2022 = 34%)  >50% of clients report maintaining Coping and Survival Skills (2022 actual = 65%)	Youth become productive, healthy adults.     “Healing the past, Breaking the Cycle, Changing the future.”

# To Do List and Challenges

- We are not done:\* knowledge measures under development
- Role of Supervision: still needs to be operationalized and measured
- Staff turnover

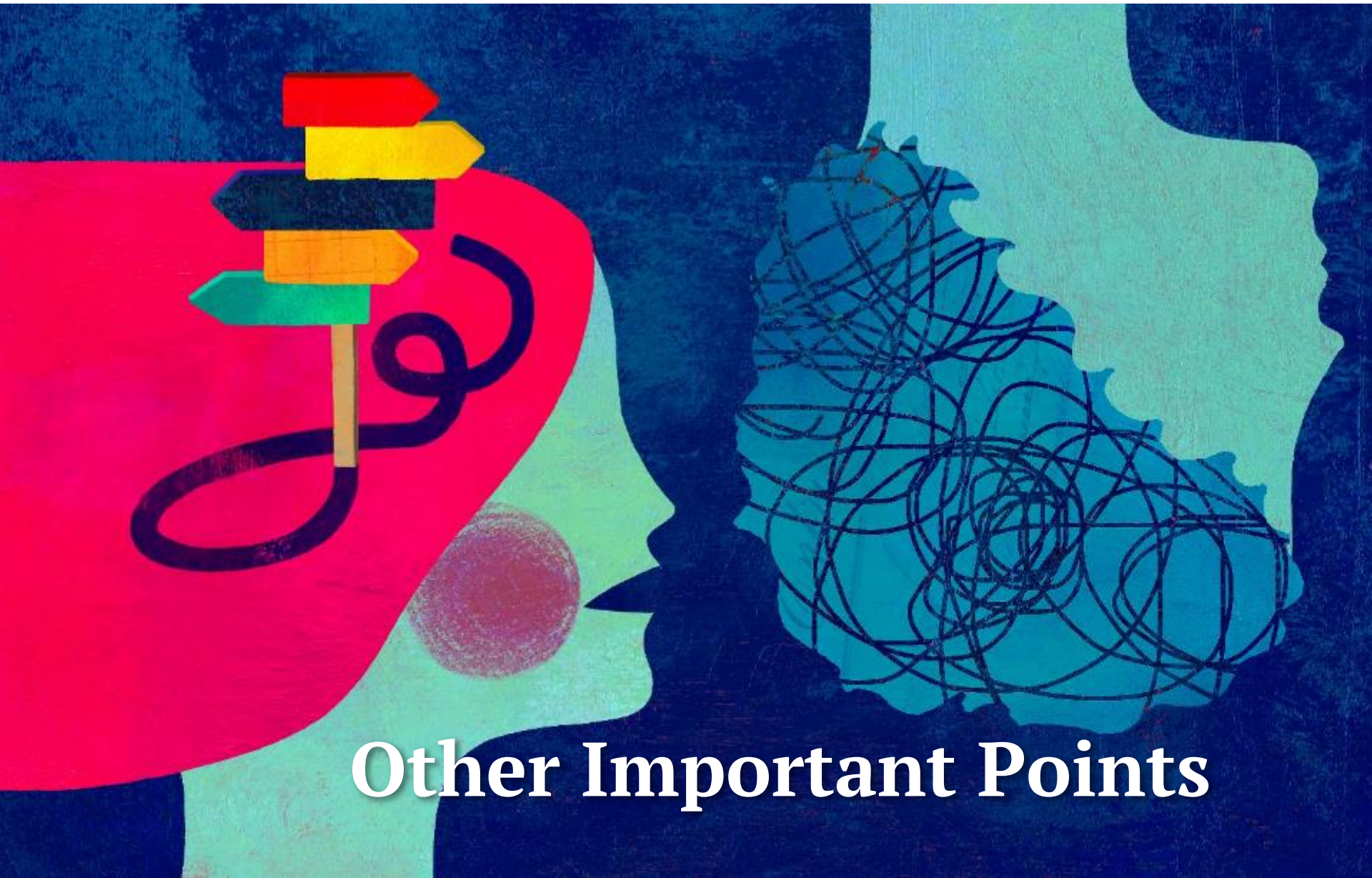


*\*Is CQI ever “done”?*



**...Importantly...Data will not be ready until 2024.....**





# Other Important Points



# *“Anita, This is still a lot of work....”*

▶ You may not need to do this much work: Know the “maturity” of your EBP!

- How “commercialized” is the model?

- Does it already come with model fidelity check tools?

- Ask if the developers if they have them. (Don’t be afraid to reach out to publishers or academics.)
- If you have them – USE THEM

- Is there a certification process?

- If so, the certification may be the model fidelity check.
- Consider prepping activities to boost success of certification (“inter-certification” model fidelity checks)



➤ But if you are building your own promising practice, you can do it.

# Materials & Suggestions

## 1. Don't be afraid to question:

- Not all EBPs out there will have aligned, complete model fidelity tools (if it feels like something is missing, it might be)
- Reach out to academics and evaluators (they love to talk about their work)

## 2. Be open to adaptation – EBPs evolve as they are adapted to new populations and settings

- Again, talk to developers, academics and evaluators



# Materials & Suggestions

3. **Remember: Anita doesn't know everything** – this is a pragmatic (“pracademic”) approach: highly applied and practical. There’s lots online and other training you can take.
  
4. **Tools :**
  - [Assessing Fidelity to Evidence Based Programs/Practices - YouTube \(SAMHA\)](#)
  - [Fidelity Criteria: Development, Measurement, and Validation \(Mowbray, Holter, Teague, and Bybee article 2003, American Journal of Evaluation \(Google Scholar\)\)](#)
  - [MDRC – Working with Practitioners to Develop Measures of Implementation Fidelity](#)
  - Brief literature review on model fidelity measures [[Alarson – Model Fidelity Summary.pdf](#)]
  - [Measurement & Data Use Continuum – A Larson.pdf](#)
  - Worksheet for tying model components to measures [[Model Fidelity Framework – Blank.doc](#)]
    - Example of relationships component of our measures [[Nexus Family Healing – Model Fidelity Measures Excerpt – Example – CQI Conference. pdf](#)]





**Thank you!**