

Root Cause Analysis Resources¹

Introduction

Root Cause Analysis (RCA) is a process used to investigate and categorize the root cause of a need, problem, barrier or challenge. The root cause is the factor that should be permanently eliminated to see improvement.² As with a weed, the challenge must be ‘rooted out’ to fully understand its causes and reduce the risk of it reappearing in the future in potentially different forms. RCA helps identify implementation, programmatic and systems level factors.

RCA can be used during any stage of implementation. During exploration, RCA might be used to investigate and categorize the root causes of community needs. RCA tools provide a systematic and formalized approach to considering these root causes. During installation, initial implementation and full implementation, RCA can be used by teams to look more deeply at implementation challenges and investigate precursors that can be addressed to prevent recurrence of the challenges.

The Fishbone Diagram and Five Whys are two commonly used RCA tools that teams can use to consider the root causes of needs or implementation challenges. The Fishbone Diagram helps teams explore all potential or real causes that result in the need or challenge. Once all inputs have been populated on the Fishbone, teams can use the Five Whys to drill down to the root causes. The Five Whys can be used individually or as a part of the Fishbone Diagram.³ Instructions for each tool are provided along with templates for recording data. Examples for identifying community need and implementation challenges are also provided for each tool.

Getting Started

- 1) Before beginning a Root Cause Analysis, it is important to convene a team of diverse stakeholders that includes content experts, practitioners, community members and individuals and families who engage in services. Having these varied roles and perspectives will increase the team’s ability to identify a broad array of potential root causes.

¹ These resources were adapted from the work of IPRO, the Medicare Quality Improvement Organization for New York State, and the Centers for Medicare & Medicaid Services (CMS). https://atlanticquality.org/download/508_7_1-12-14_RCA_Toolkit_final.pdf

² American Society for Quality. (2018). <http://asq.org/learn-about-quality/root-cause-analysis/overview/overview.html>.

³ iSixSigma. Determine the Root Cause: 5 Whys. <https://www.isixsigma.com/tools-templates/cause-effect/determine-root-cause-5-whys/>

- 2) All team members should participate in a brainstorming session that includes analysis and discussion of data prior to completing the Fishbone Diagram and Five Whys. Teams should come to shared agreement on what they wish to address through the RCA process. Teams should also have access to disaggregated data pertaining to the need or challenge they wish to address and should attend to the following equity considerations during their discussion:
 - Are we overlooking important issues of institutional and structural racism?
 - How might implicit bias be impacting our thinking or perception of the need or challenge?
 - How might deficit thinking be impacting our response to the need or challenge?
- 3) The team should then decide whether they want to begin with a Fishbone Diagram to consider all potential causes for their identified need or challenge or the Five Whys.

Fishbone Diagram – Instructions

The Fishbone Diagram starts with the community need or implementation challenge identified in the team’s data analysis and brainstorming session. The need or challenge is placed in the head of the fish. The backbone of the fish lists factors that may impact the need or challenge: context, resources, competency and organizations. For each factor, the team should brainstorm possible causes related to the need or challenge. The examples below provide further detail on the factors and example causes:

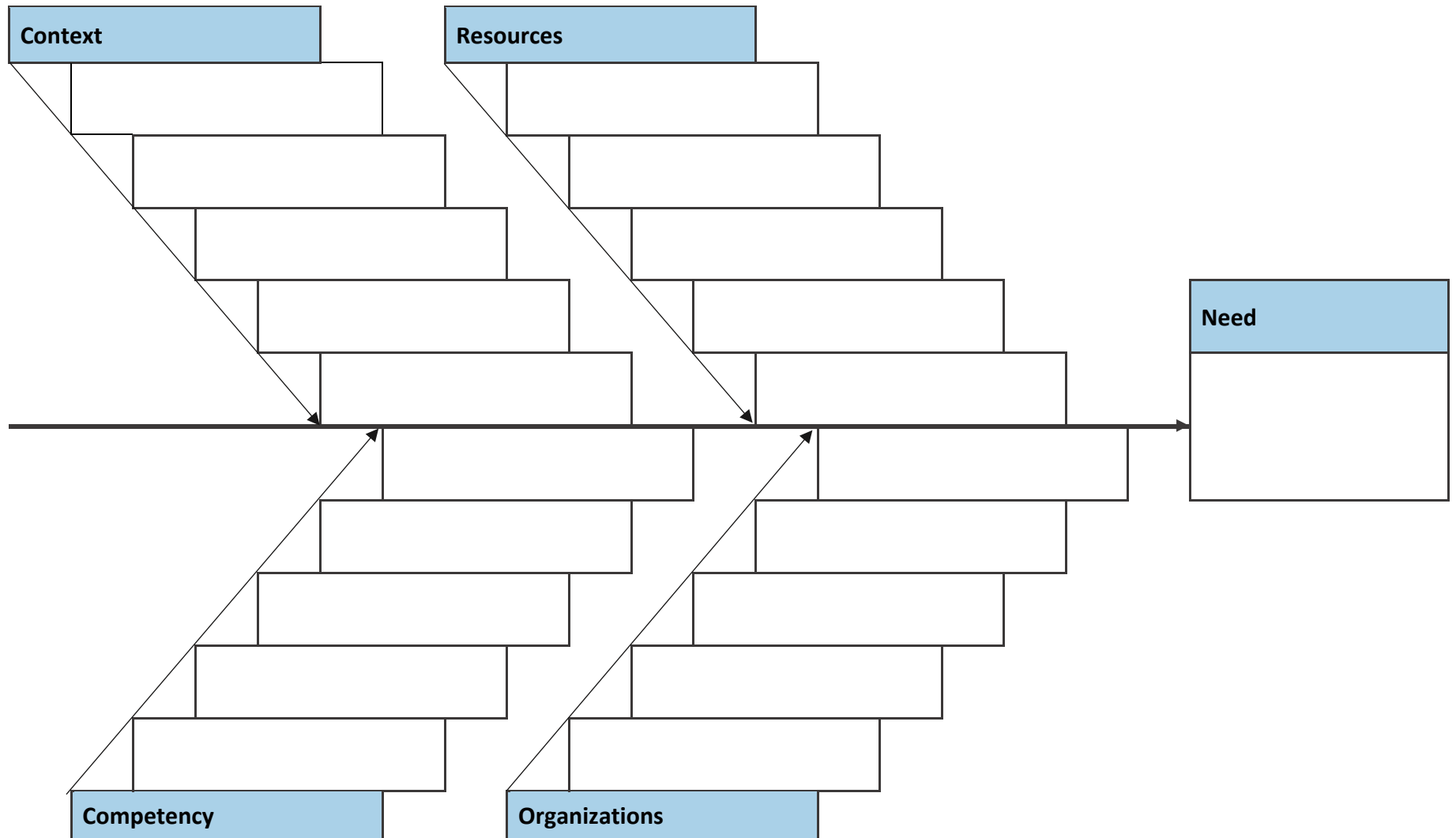
- **Context** includes circumstances in the community that may impact the need or identified challenge. For example, if your community is rural, lack of community partners may make it difficult to address the identified need. Context also includes broader systems factors, such as political climate and existing laws and policies.
- **Resources** include the assets that your community should develop to address the need or challenge. For example, if the team has identified that lack of attendance by young people in a community program as the implementation challenge, transportation is a resource that may require further development.
- **Competency** reflects the capacity of the community to address the need or challenge. Developing essential competencies may require improved training and coaching of staff involved in the solution. For example, if early childhood educators are struggling to implement a new reading initiative with fidelity, additional coaching may be necessary to build their capacity.
- **Organizations** and teams may also need to build their capacity. This can include revising policies and procedures or building critical partnerships with other community organizations to address the identified challenges.

The team should use a brainstorming process, guided by available and disaggregated data, to identify potential reasons or causes for each factor. Data from experience, observation, focus groups and surveys can be used to populate causes. Once the diagram is complete, evaluate the fishbone.

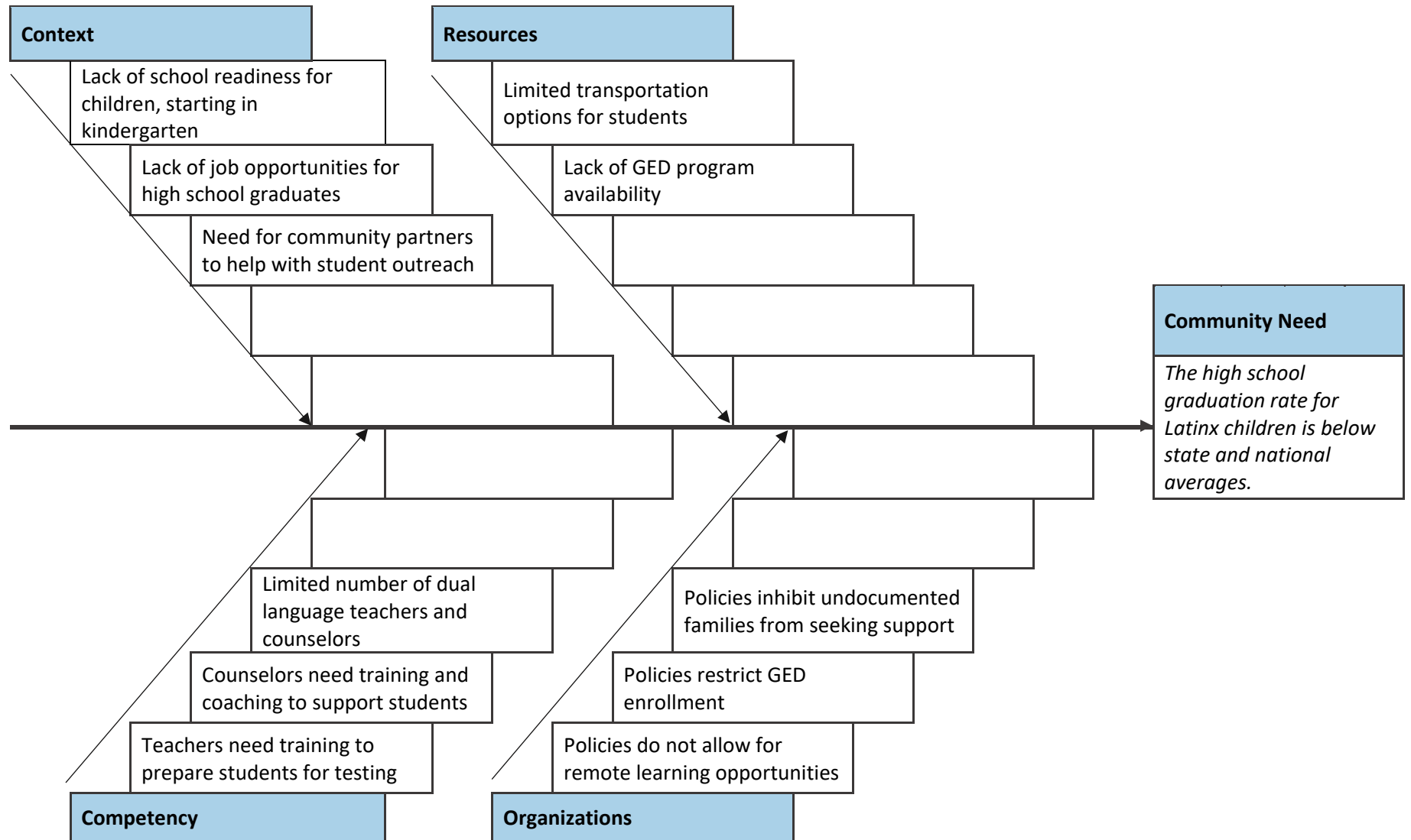
- Look for recurring themes across factors.
- Look at the balance. Which factors have the most causes?

In terms of next steps, the team may consider focusing on factors with the most related causes, or prioritizing causes that may be most likely to impact the identified challenge. In some complex cases, the causes identified in the fishbone may require further examination. Teams may want to use the Five Whys to drill down to find the root cause of one or more of the listed reasons. The sample Fishbone Diagrams on pages 5 and 6 and the related Five Whys examples on pages 9 and 10 illustrate this complexity.

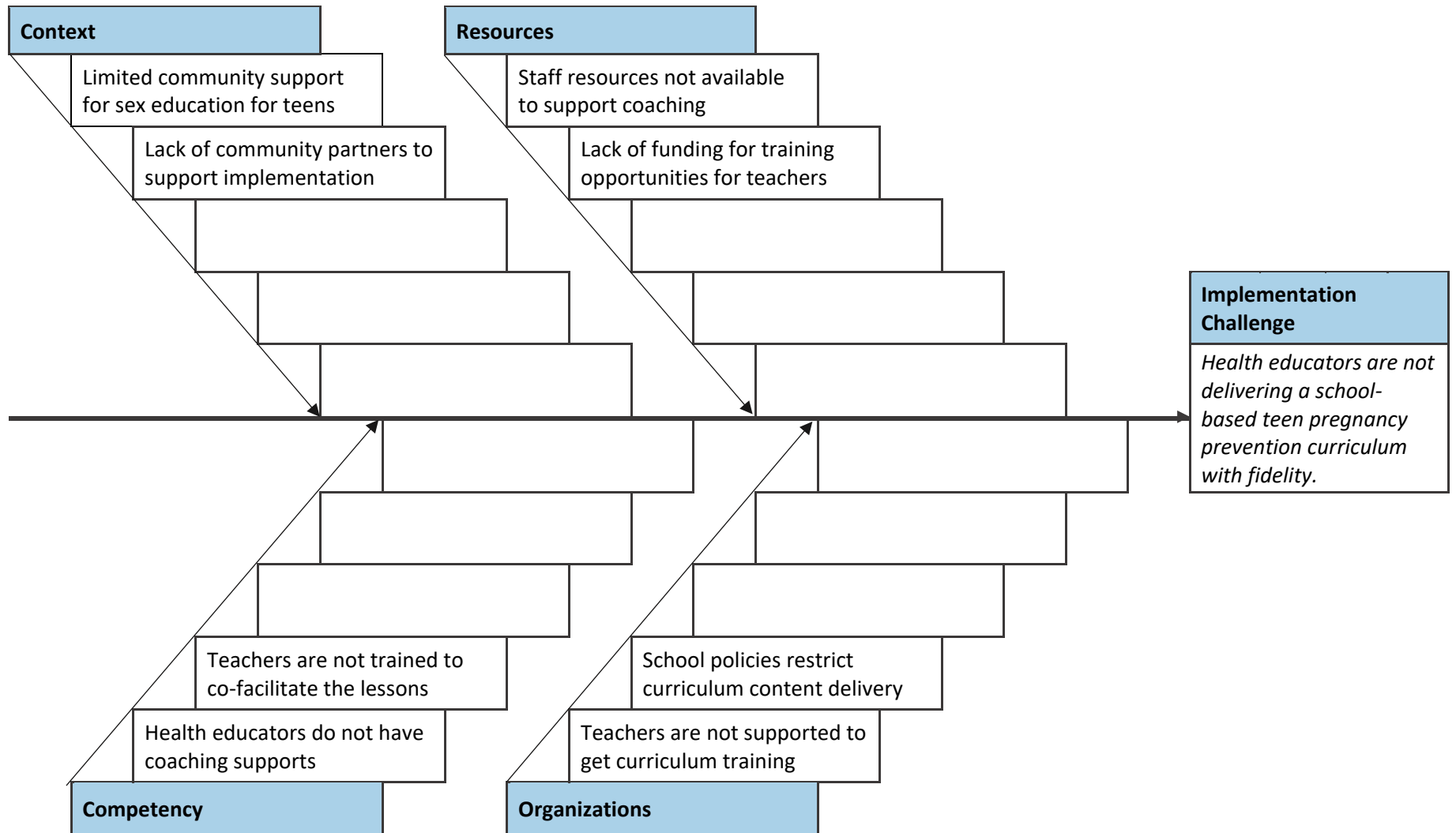
Fishbone Diagram – Template



Fishbone Example – Community Need Exploration



Fishbone Example – Implementation Challenge

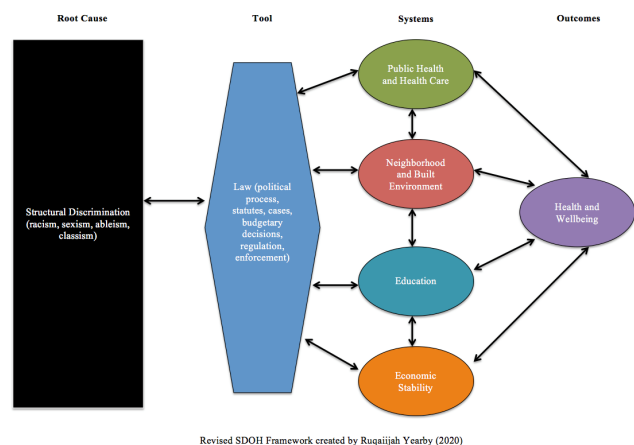


Five Whys – Instructions

The Five Whys begin with a need, challenge or problem. This need, challenge or problem should begin with disaggregated data that can identify root causes for specific populations, as the “why” will be different for different populations and communities. The need, challenge or problem could be something identified by the team during brainstorming, or one of the causes identified in a Fishbone Diagram. The team asks “why” this need or challenge is present and records their responses. The team will continue to ask why, recording responses for each round. By asking “why” at least five times, the team should get at the root cause for the identified need or challenge. In some cases, the team may generate more than one answer when asking, “why?” The team can either prioritize one response to follow or consider following through the Five Whys with multiple responses. For the latter, use a separate worksheet for each new response as needed. For the examples that follow on pages 8 and 9, the identified need and challenge were derived from the related Fishbone Diagram on pages 4 and 5.










One challenge a team may encounter is a root cause related to structural racism or other systems of oppression. For example, in the fishbone example on high school graduation rates, one contextual factor is lack of school readiness for children, starting in kindergarten. The example Five Whys on page 8 uses this factor as a starting point and ends with a root cause tied to the lack of professional development opportunities at the local community college for Spanish-speaking childcare professionals. The team may also acknowledge that this root cause is actually a downstream impact of anti-immigrant bias in the community. Trying to address a resource barrier such as access to professional development may be within the team’s purview; addressing systems of oppression may feel like an impossible challenge to overcome. In the diagram below, structural discrimination is identified as the root cause of dysfunction across systems.⁴ Teams should *both* name structural discrimination when it arises in their RCA *and* consider strategies that the team can feasibly implement. While engaging with community college leaders to create more bilingual learning opportunities will not undo systemic bias, it will provide greater access to professional development for a marginalized group of educators.

To that end, the Five Whys template on page 7 includes an additional box for teams to note any structural contributors, like systemic racism, that may be impacting the root cause. While structural discrimination may not play a role in all Five Whys exercises, teams should take note of the prompt and set aside time to reflect on whether or not larger systemic issues are impacting the needs or challenges they are trying to address.



⁴ Yearby, R. (2020) Structural racism and health disparities: Reconfiguring the social determinants of health framework to include the root cause. *Journal of Law, Medicine and Ethics*, 48:518-526.

Five Whys – Template

Problem Statement		
	<i>Why? (1)</i>	
		
	<i>Why? (2)</i>	
		
	<i>Why? (3)</i>	
		
	<i>Why? (4)</i>	
		
	<i>Why? (5)</i>	
Root Cause		
Structural Contributors		

Five Whys – Community Need Exploration

Problem Statement

The high school graduation rate for Latinx children is below state and national averages.



Children in our community are not ready for school, starting in kindergarten.

Why?

Not all Latinx children in the community are going to high-quality preschool.

Why?

There are not enough high-quality preschools in our community that have bilingual educators.

Why?

Bilingual educators do not have the the skills and competencies to provide high-quality preschool education.

Why?

Professional development opportunities are not available for bilingual preschool staff.

Why?

Root Cause

The community college does not offer training and professional development opportunities for staff who speak Spanish.

Structural Contributors

Anti-immigrant sentiment is pervasive in the community which contributes to a lack of bilingual training, services and resources.

In this example, asking why five times reveals that only limited training and professional development opportunities are available for Spanish-speaking preschool staff, which results in poor kindergarten readiness for Latinx children. The team’s next steps might be to engage the local community college to provide more training in Spanish for preschool staff or consider other community partners who may be able to provide training resources in Spanish.

Five Whys – Implementation Challenge

Problem Statement

Health educators do not have coaching supports.

Why?

There are no existing supervisors who can coach the health educators.

Why?

Existing supervisors do not have the expertise to serve as coaches.

Why?

Existing supervisors have not been through training on the curriculum.

Why?

Budget constraints prevent supervisors from receiving training in the curriculum.

Why?

Root Cause

Leaders and managers have not prioritized curriculum training for supervisors.

Structural Contributors

None identified

In this example, asking why five times reveals that leaders have not prioritized curriculum training for supervisors in the budget. The team’s next steps might be to engage leadership in realigning the organization’s budget to support competency-development for supervisors, and by extension, health education staff. In this example, the team did not identify any structural contributors that may be impacting their implementation challenge.