Introduction

Root cause analysis (RCA) is a process used to investigate and categorize the root cause of community needs. The root cause is the highest-level cause of a problem, or the factor that should be permanently eliminated to see improvement.[2] RCA gives teams the opportunity to look more deeply at identified challenges and investigate precursors that could be addressed to prevent the need from resurfacing. As with a weed, the challenge must be 'rooted out' to prevent it from reappearing in the future. In particular, RCA helps identify systems level factors related to identified needs.

The Fishbone Diagram and Five Whys are two commonly used RCA tools which can be used by organizations as a systematic and formalized approach to considering the root causes of community need. The Fishbone Diagram helps teams explore all potential or real causes that result in the need. 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.[3] Instructions for each are tool are provided in addition to a template for recording data.

Getting Started

1) Before beginning a Root Cause Analysis, it is important convene an interdisciplinary team that includes content experts, practitioners, community members, and potential service beneficiaries.

2) All team members should participate in a brainstorming session prior to completing the Fishbone Diagram and Five Whys. Teams should come to shared agreement on the specific community need they wish to address through the RCA.

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 the Five Whys.

Fishbone Diagram – Instructions

The Fishbone Diagram starts with the community need (e.g., problem statement) identified in the team's brainstorming session. This challenge is placed in the head of the fish. The backbone of the fish lists factors that may impact the need: context, resources, competency and organizations. For each factor, the team should brainstorm possible causes for the need. The examples below provide further detail on the factors and example causes:
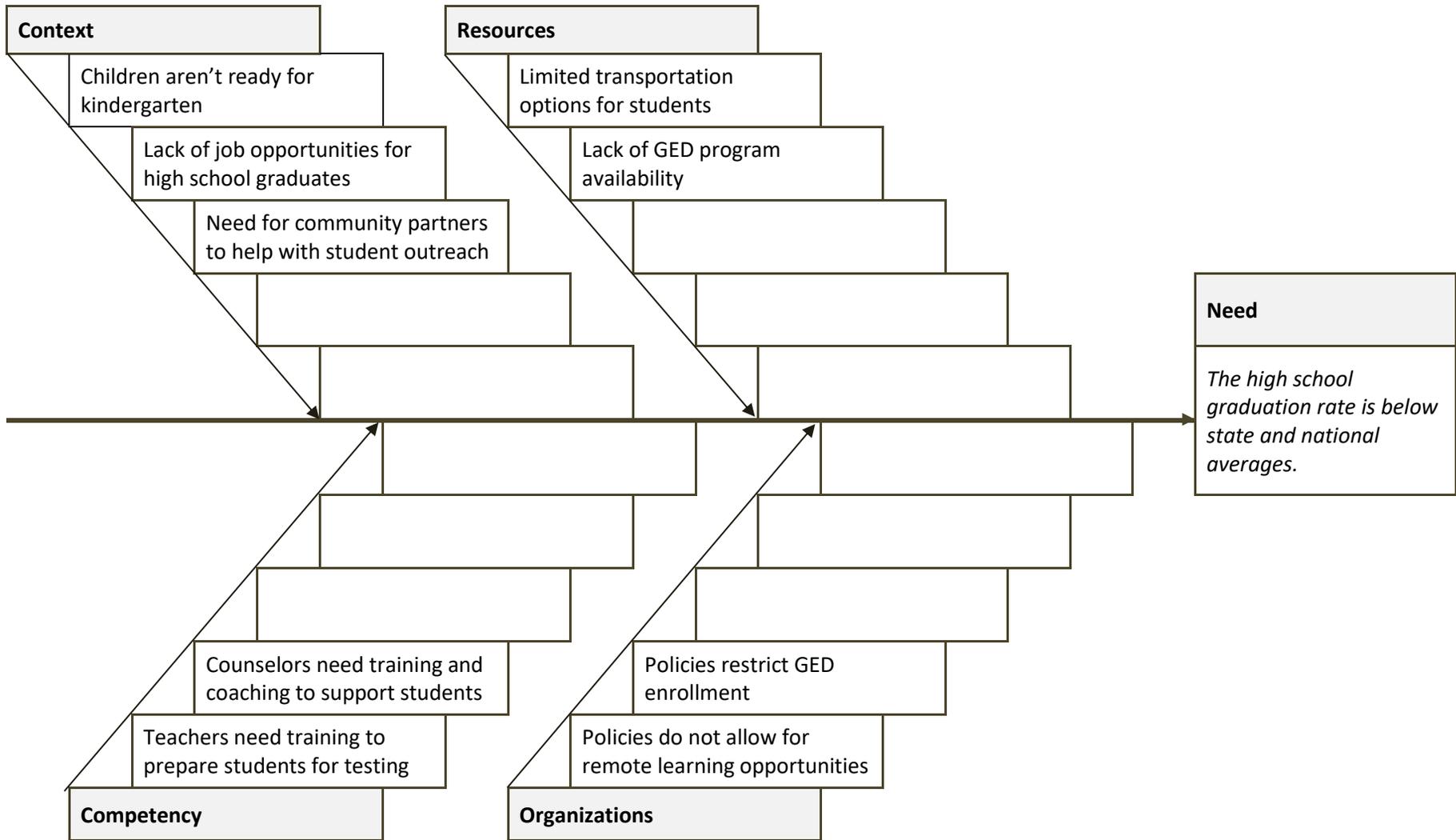
- **Context** includes circumstances in the community that may impact the identified need. For example, if your community is rural, lack of community partners may make it difficult to address the identified need. Context also includes broader systems factors, such as political climate and existing laws and policies.
- **Resources** includes the assets that your community requires to address the need. For example, if the team has identified health care access as the community need, transportation is a resource that impact access and may require further development.
- **Competency** reflects the capacity of the community to address the need. Developing essential competencies may require improved training and coaching of staff involved in the solution. For example, if improving child readiness for school is the identified need, training or other professional development may be necessary to build the capacity of staff working in early childhood education settings.
- **Organizations** may also need to build their capacity. This can include revising policies or procedures to address the identified need, building critical partnerships with other community organizations, and/or fundraising to support expansion of services.

The team should use a brainstorming process to identify potential reasons or causes for each factor. Data from experience, observation, focus groups and surveys can also be used to populate causes. Once the diagram is complete, evaluate the fishbone.
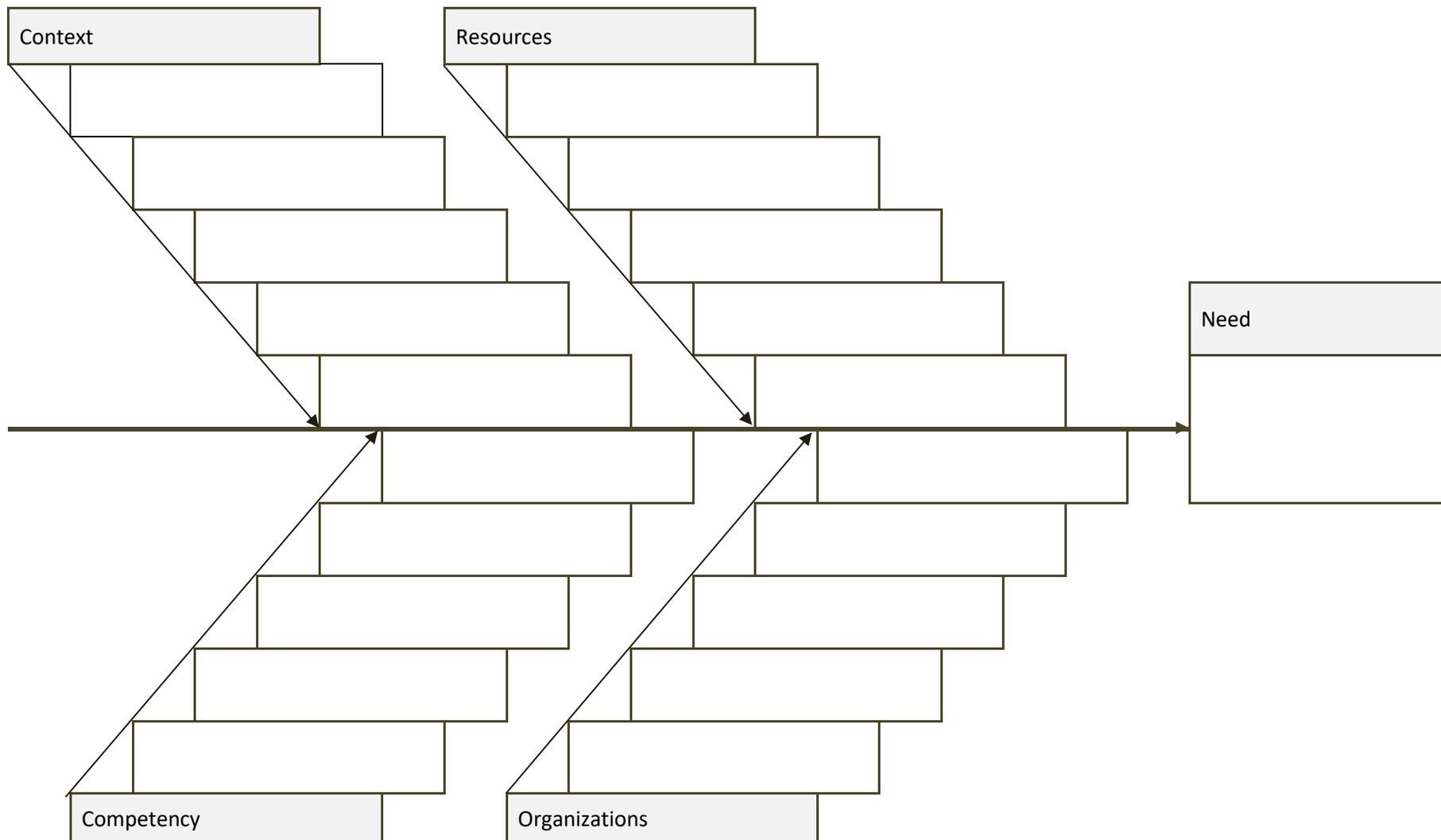- Look for recurring themes across factors.
- Look at the balance. Which factors have the most causes?

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 or provide the greatest Return on Investment (ROI).

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 Diagram on the following page illustrates this complexity.

Context

Children aren't ready for kindergarten

Lack of job opportunities for high school graduates

Need for community partners to help with student outreach

Resources

Limited transportation options for students

Lack of GED program availability

Need

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

Competency

Counselors need training and coaching to support students

Teachers need training to prepare students for testing

Organizations

Policies restrict GED enrollment

Policies do not allow for remote learning opportunities

Fishbone Diagram – Template

Context

Resources

Need

Competency

Organizations

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Five Whys – Instructions

The Five Whys begins with a problem statement. For this example, the problem statement could be the community need your team identified during brainstorming, or one of the causes identified in your Fishbone Diagram. The team will ask "why" this need or cause is present, and record responses. Continue to ask why, recording responses as you go. By asking "why" at least five times, your team should get at the root cause for the identified need. The example below further examines one of the causes from the fishbone example:

Problem Statement

> Children in our community are not ready for kindergarten.

Why?

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

Why?

> There are not enough high-quality preschools in our community.

Why?

> Preschool staff need additional training and education to provide high-quality preschool education.

Why?

> Professional development opportunities are not available for preschool staff.

Why?

Root Cause

> The community college does not offer training and professional development opportunities for staff.

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

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.

Five Whys – Template

Team Name:

Date:

Problem Statement

[ ]

Why? (1)

[ ]

Why? (2)

[ ]

Why? (3)

[ ]

Why? (4)

[ ]

Why? (5)

Root Cause

[ ]

References

[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/.