



# Welcome!



**CAUSAL  
PATHWAYS**

# Strengthening Outcome Harvesting Analysis with AI-assisted Causal Mapping

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Presented by Heather Britt, Steve Powell, and Gabriele Caldas  
Moderated by Carolina De La Rosa Mateo

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## The team



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# Outcome Harvesting

- **What does it do?**
- Captures outcomes (predicted or unpredicted)
- Documents causal pathway from project to change agent, from change agent to social actor for each outcome

**Intervention** → **Change Agent** → **Outcome**

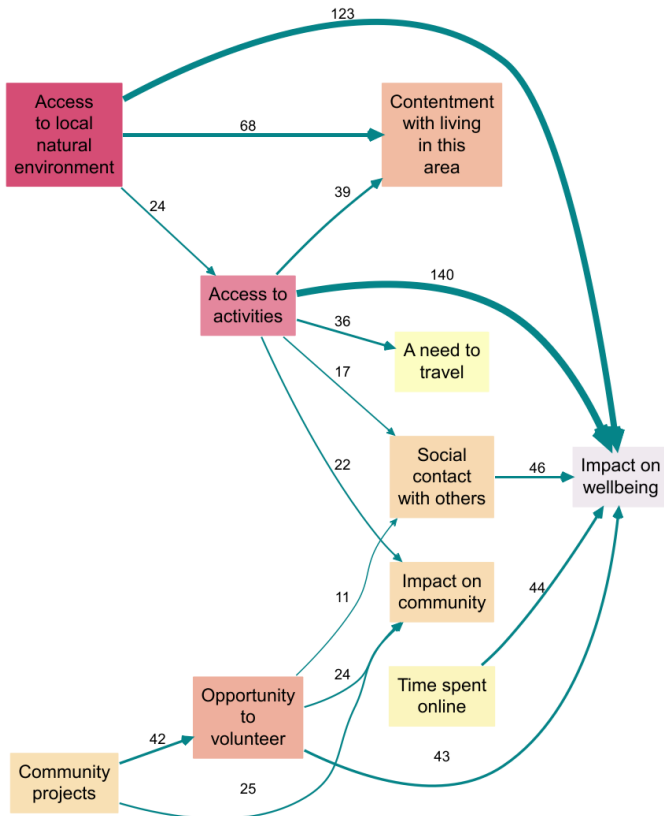
- **Methodological advancement:** Captures outcomes and causal pathways that cannot be predicted or are not visible to implementers
- **Analysis limitations:** Analyzing interrelationships between multiple outcomes and their causal pathways

*Because of time limitations, this coffee break does not provide detailed explanations of the two approaches, rather, we focus on how we used them together.*





# Causal Mapping



## What does it do?

Identify and visually represent causal relationships in qualitative data  
**Causal Map** app: computerizes the technique; manual or AI-assisted.

## Methodological advancement:

Efficiently code, analyze, and visualize many fragments of information from multiple sources (interviews, reports, surveys, or other narrative data).

*Because of time limitations, this coffee break does not provide detailed explanations of the two approaches, rather, we focus on how we used them together.*





# Core Question: Can AI-assisted Causal Mapping address limits of Outcome Harvesting analysis?

## Pilot

- Final (completed) evaluation of a national education project
- Data set represented 2 points in evaluation process
  - Interview transcripts
  - Outcome descriptions drafted by evaluation team

## Principles

1. Prioritize local leadership in evaluation
2. Protect the integrity of the OH method
3. Produce accurate maps to provide actionable answers to harvest questions



# Pilot Analysis Process

- 1 **Draft a principle-led analysis plan early in the harvest design to make thoughtful choices about where and how to use AI-assisted causal mapping.**
- 2 **Segment OH data by outcome domain to seek coherent causal pathways.**  
Decision: whether to analyze the full data set at once or subdivide it by domain?
- 3 **Use principles to decide at what point in the Outcome Harvesting process to apply AI-assisted Causal Mapping.**
- 4 **Analyze OH data with AI-assisted causal mapping**
- 5 **Evaluators and causal mapping experts collaborate to interpret maps**



# What did the Causal Maps show?

## Domain-level outcome: Community supports learning

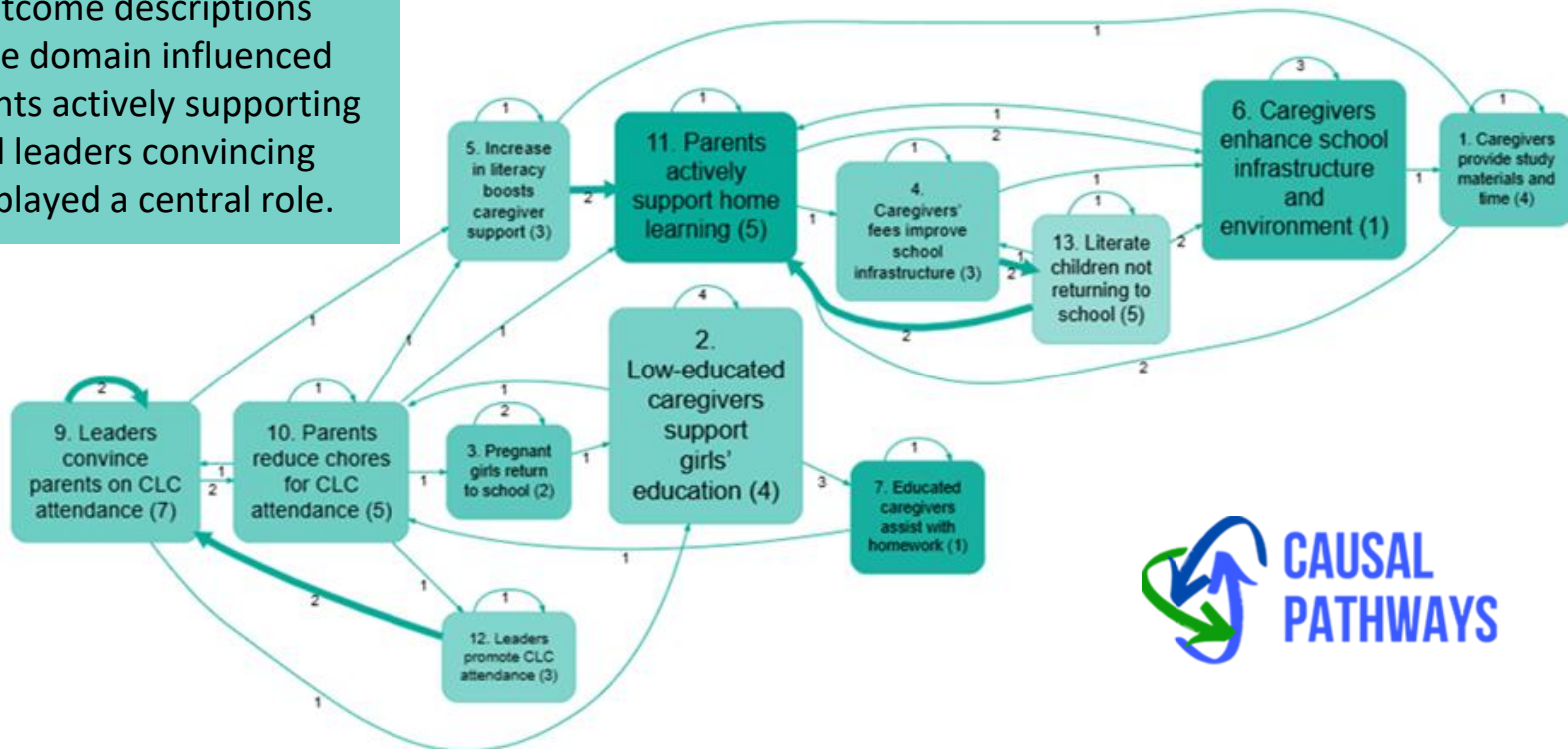
- 13 outcome descriptions were coded and analysed using the AI functionality of Causal Map, telling the AI to identify causal claims (links between “causes” and “effects”) paragraph by paragraph
- Including not only the Title and Description itself but Contribution and Significance texts too, which often contain explicit and implicit causal

| Community leaders encouraged caregivers to send their children to community learning circles (CLCs) during lockdown. |   |
|--|---|
| <b>Description</b>   | Community leaders responded positively to the CLC facilitator and continued to send messages to parents and caregivers encouraging them to enroll their children in the CLCs to maintain learners' education during lockdown.   |
| <b>Contribution</b>  | <i>Project contribution:</i> The Project designed the community learning circles intervention, trained facilitators, and provided study materials and radios.<br><i>Change agent contribution:</i> The CLC facilitator in LOCATION met with community leaders to discuss the benefits of the program during lockdown. |
| <b>Significance</b>  | With the community leader's patronage, more parents and caregivers are likely to encourage their children to participate in community learning circles.   |

# Question 1: What are the relationships between outcomes?

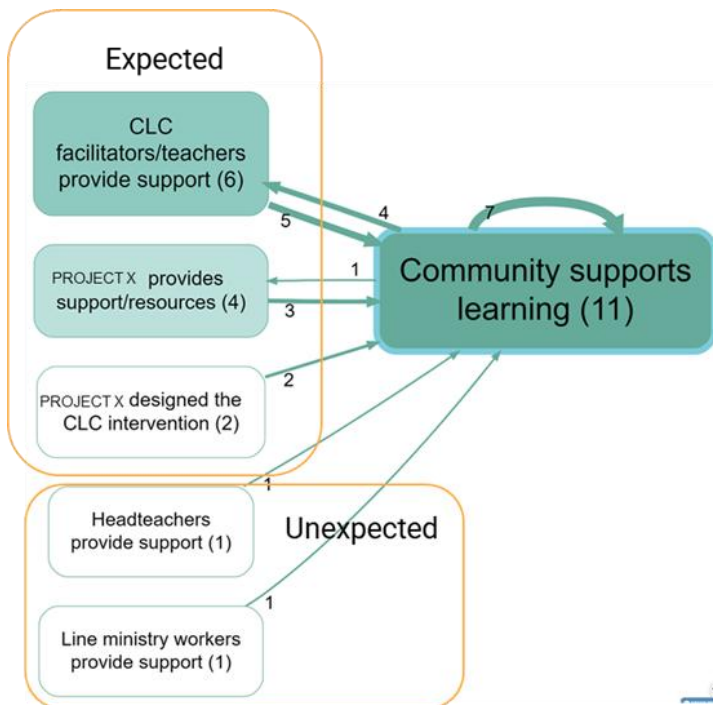
- We asked AI to identify all causal links and to label each cause and effect.
- Map showed how similar ideas often appeared across multiple outcomes.

**Finding:** The 13 outcome descriptions within the outcome domain influenced one another. Parents actively supporting home learning and leaders convincing parents to attend played a central role.



## Question 2: What factors contributed to the domain-level outcome?

- We also explored the overarching, domain-level outcome ‘Community supports learning’, focusing on what contributed to it and which actors were involved.
- We collapsed all 13 outcomes into this higher-level outcome



**Finding:** The maps confirmed known change agents and revealed new ones. As expected, the maps showed how the project activity -- community learning circles -- contributed to community support for education. The maps also revealed the roles played by headteachers and the local Ministry of Education officials. Since these actors were not part of project plans for conducting community learning circles, their contribution represented *new information*

## Pilot conclusion

*“The AI-assisted Causal Map app advanced analysis of Outcome Harvesting data beyond descriptive statistics of multiple outcomes and addressed analysis challenges faced by evaluation teams.”*



# Tips for applying AI-assisted Causal Mapping for Outcome Harvesting analysis

- 1 Draft a principle-led analysis plan early in the harvest design to make thoughtful choices about where and how to use AI-assisted causal mapping.
- 2 Check and clean the data carefully before analysis to ensure accurate results. Identify and clarify concepts that require contextual knowledge for accurate interpretation.
- 3 Segment OH data by outcome domain to seek coherent causal pathways and to facilitate error-checking the maps.
- 4 Use principles to decide at what point in the Outcome Harvesting process to apply AI-assisted Causal Map app in keeping with the OH approach.
- 5 Do not use AI (the causal mapping algorithms) to make evaluative judgements. Task the AI to code causal claims in the text and organize this data graphically. The analysis team should review the resulting maps, confirm or correct the findings, and make the evaluative interpretations and decisions.
- 6 Ensure that the team steering AI-assisted Causal Map application has the right experience, including: 1) AI-supported causal mapping in evaluations and the Causal Mapping software, and 2) evaluation and outcome harvesting, and 3) knowledge of the project and its context.



# Thank you!

Do you have any specific questions or want to learn more about the pilot?

**Get in touch with your questions or keep up with new developments:**

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