

GROUP MODEL BUILDING (GMB)



National **MCH** Workforce
Development Center
Advancing Health Transformation

What is group model building?

Group model building (GMB) is a participatory systems thinking method that can be utilized to develop a response to a challenge, analyze policy options, or design a new program or services(i). It is rooted in the co-creation of a systems map that serves to mobilize a team or community to advocate for and implement changes based on the insights that emerge and build capacity in the use of systems thinking tools. GMB is particularly useful in complex systems where partners seek to collectively develop a shared understanding of why patterns, trends, and outcomes are resistant to change in order to identify potential strategies for improving the system.

Why use GMB?

GMB has been shown to improve a team or community's shared understanding of a problem or system, stimulate systems thinking, increase collaboration, and lead to consensus for action(ii). It has been applied to a wide variety of issues including maternal and child health outcomes, homelessness, early childhood education, racism, mental health and substance use, health care reform, nutrition and healthy weight initiatives, quality improvement, workforce capacity and much more.

GMB allows for a group of key stakeholders, including those with lived experience, to do a deep dive on their system or challenge to:

- Explore the underlying systems structure and individual/organizational mental models
- Visualize the system to communicate underlying root causes and support a shared understanding across partners
- Identify and prioritize impactful opportunities for action



What is a Mental Model?

"Everyone carries ideas and beliefs about how systems are structured and how the problems within them operate. Those ideas and beliefs are called mental models. They guide our actions, inform our conversations, and help us simplify the complex realities in which we live. Systems thinking offers ways to make our mental models explicit, which creates a starting point for discussion and collaborative problem solving."

- *Shifting My Mental Model:
Systems Thinking in Action*(iii)

What does the process look like?

GMB is rooted in the *Iceberg Model of Systems Thinking* (iv), which explores underlying patterns of behavior, systems structures, and mental models that drive outcomes. The GMB experience consists of a series of well-documented, structured group activities(v).

Commonly used GMB activities include:

GMB Activity	Description
Hopes & Fears	Participants share their "hopes" and "fears" for the workshop and improving their system of focus to create shared expectations for their work together.
Behavior Over Time Graphs	Participants graph trend over time that they think are most important to address and share stories they captured in their graph(s) with the group.
Connection Circles	Participants begin to identify and connect the most relevant variables shaping key trends over time.
Causal Loop Diagramming	Facilitators support participants in creating a visualization of the key variables and causal interconnections driving outcomes in the system.
Targets for Action	Using insights from the above activities, participants identify high-priority leverage points and specific action ideas.

How does the National MCH Workforce Development Center utilize GMB?

Example: Perinatal Substance Use Disorder Collaboration Workshop

- The Midwest SUPper club is a multi-disciplinary coalition of perinatal and substance use providers, state public health, and social service organizations to support knowledge sharing and regional collaboration.
- The National MCH Workforce Development Center collaborated with the SUPper club to host a 1.5 day technical assistance workshop to better understand the most pertinent challenges facing women with SUD in the Midwest, identify factors that facilitate or challenge collaboration related to perinatal substance use, build the coalition's credibility, and develop action ideas for strategic planning efforts.
- Twenty participants from four states participated in the workshop representing public health agencies, clinicians, people with lived experience, and community organizations. The workshop led to 20 Behavior Over Time Graphs capturing meaningful trends the group wanted to focus change efforts on, three causal loop diagrams of key aspects of the perinatal substance use system, and four priority areas and accompanying action steps. Participants reported that the workshop increased collaboration across the coalition, supported the development of a shared mental model, led to clear action steps, and increased the coalitions' credibility.

To learn more, visit us at <https://mchwdc.unc.edu/>

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ii. Hovmand, P. (2014). *Community-based System Dynamics*. Springer.

iii. King, K. (2020). *Shifting my mental models: Systems thinking in action*. KnowledgeWorks.

iv. Goodman, M. (2002). *The Iceberg Model*. Adapted from the Iceberg Model. Hopkington, Massachusetts: Innovation Associates Organizational Learning.

v. Hovmand, P., Andersen, D., Rouwette, E., Richardson, G., Rux, K., & Calhoun, A. (2012). Group Model-Building 'Scripts' as a Collaborative Planning Tool. *Systems Research and Behavioral Science*.