

LYNN M. MADDEN, PHD, MPA
ASSISTANT PROFESSOR,
YALE UNIVERSITY
SCHOOL OF MEDICINE
CEO, APT FOUNDATION, INC.

FREDERICK L. ALTICE, M.D.
PROFESSOR OF MEDICINE
AND PUBLIC HEALTH
YALE UNIVERSITY
SCHOOL OF MEDICINE

Pre-Implementation Strategies

+

A Deeper Dive into Nominal Group Technique: Hands-on Experience

Georgian Implementation Science Fogarty Training (GIFT) Program

Summer Bootcamp in Implementation Science and Biostatistics

Ilia State University & Yale University

July 30 – August 2, 2025

Outline of our time today

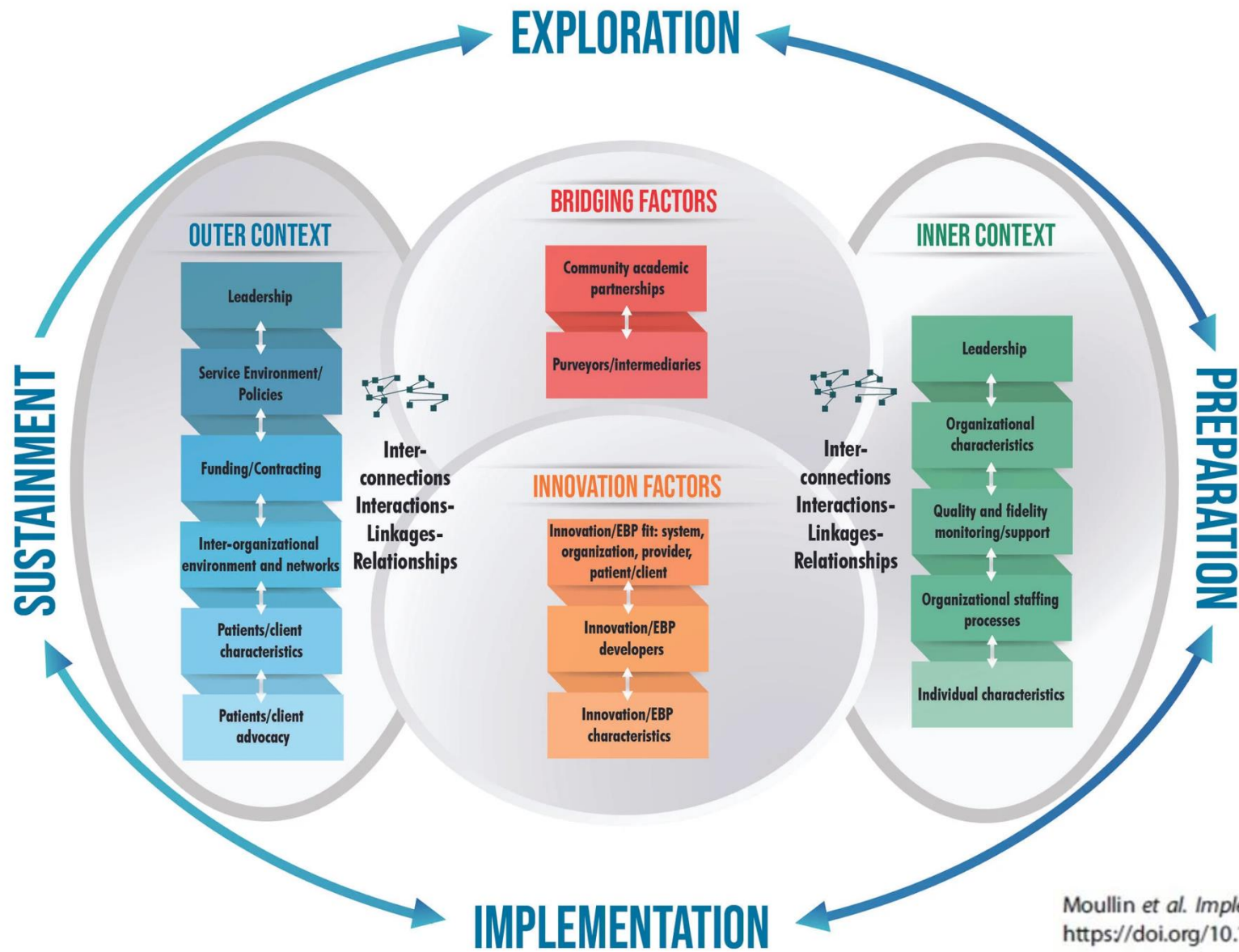
- Defining pre-implementation
- An introduction to several pre-implementation tools
- A deep dive into Nominal Group Technique
 - theory and hands on practice

PRE-IMPLEMENTATION – Exploration and Preparation

“Pre-implementation” refers to the crucial phase of planning and preparation that occurs before the actual execution or rollout of a project, process or research study. It’s focused on setting the foundation for a successful implementation by addressing key aspects like resource allocation, understanding context, choosing implementation strategies, and defining (and re-defining) clear goals.

EPIS FRAMEWORK

The EPIS (Exploration, Preparation, Implementation, Sustainment) Framework highlights key phases that guide and describe the implementation process and enumerates common and unique factors within and across levels of outer context (system) and inner (organizational) context across phases, factors that bridge outer and inner context, and the nature of the innovation or practice being implemented and the role of innovation/practice developers.



In the **Exploration** phase, a service system, organization, research group, or other stakeholder(s) consider the emergent or existing health needs of the patients, clients, or communities and work to identify the best EBP(s) to address those needs and subsequently decides whether to adopt the identified EBP.

In the **Preparation** phase, the primary objectives are to identify potential barriers and facilitators of implementation at the outer and inner contexts ,further assess needs for adaptation, and to develop a detailed plan to address both implementation facilitators and barriers.

HOW will the intervention be introduced and actualized? To whom/where? What **strategies** could be used?

Selected Pre-Implementation TOOLS

- Power Mapping
- Concept Mapping
- Landscape Analysis
- Focus Groups
- In-Depth Interviews
- Nominal Group Technique

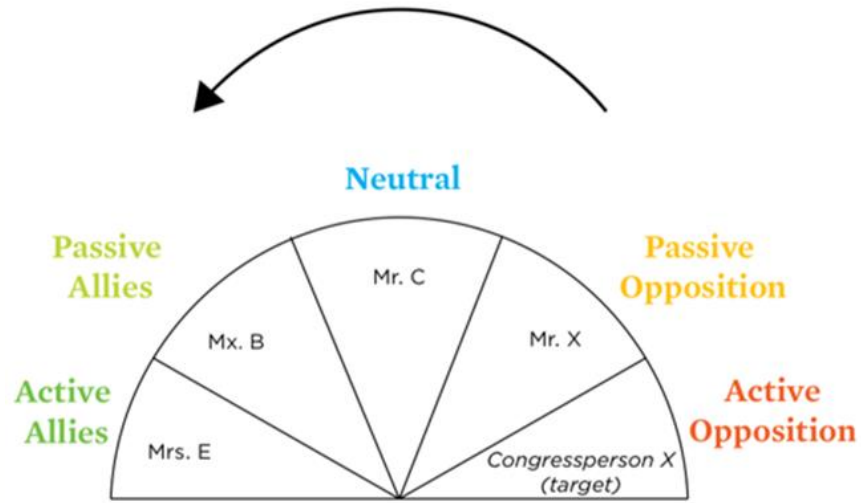
POWER MAPPING

Power mapping is a tool to identify and analyze stakeholders (individuals, groups, organizations) in a particular context, such as a campaign or research study, to understand their influence and relationships. This visualization helps in planning and developing effective **strategies** for engagement and therefore potentially achieving desired outcomes.

FOUR PRACTICAL STEPS IN POWER MAPPING

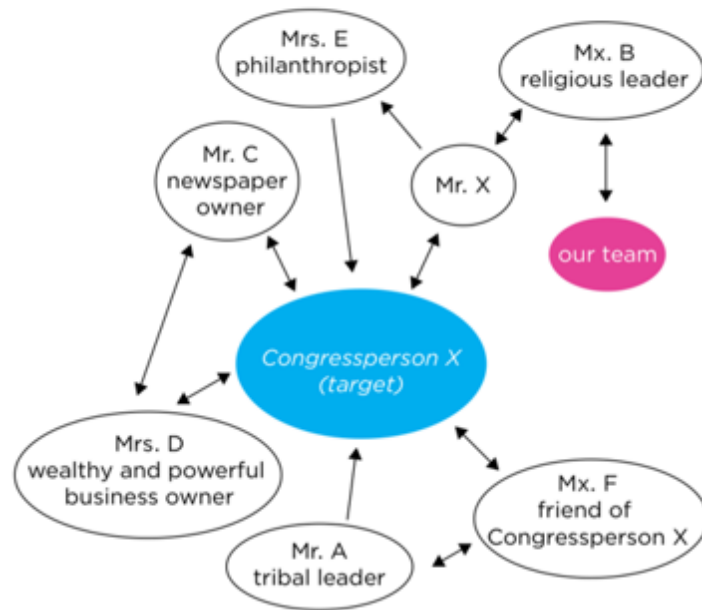
1. List Stakeholders
2. Rate their “influence” and “interest”
3. Plot on matrix
4. Plan strategy

EXAMPLES OF POWER MAPPING

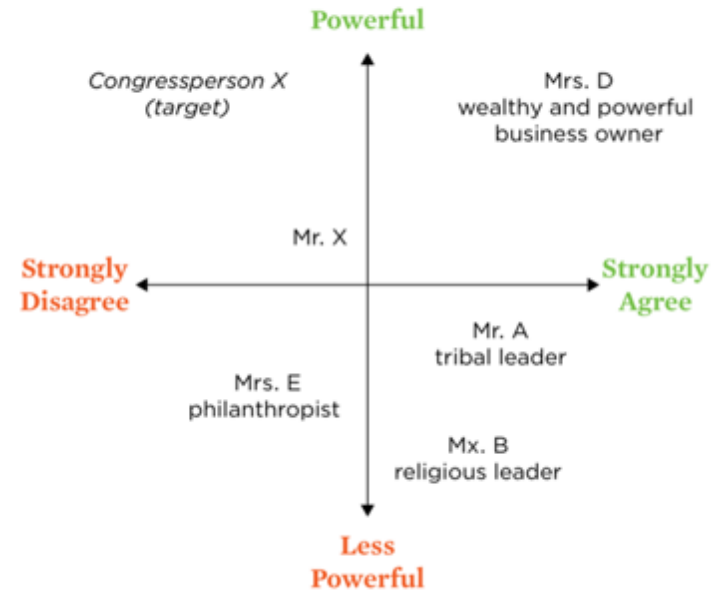


EXAMPLES OF POWER MAPPING

a. Relationship Circles



b. Quadrant Analysis



BENEFITS OF POWER MAPPING

Strategy Planning:

It informs the development of strategies for with working with, building alliances, and achieving desired outcomes.

BENEFITS OF POWER MAPPING

Improved Understanding:

Power mapping provides a clear understanding of the stakeholder landscape and their potential impact on the issue or intervention.

CONCEPT MAPS

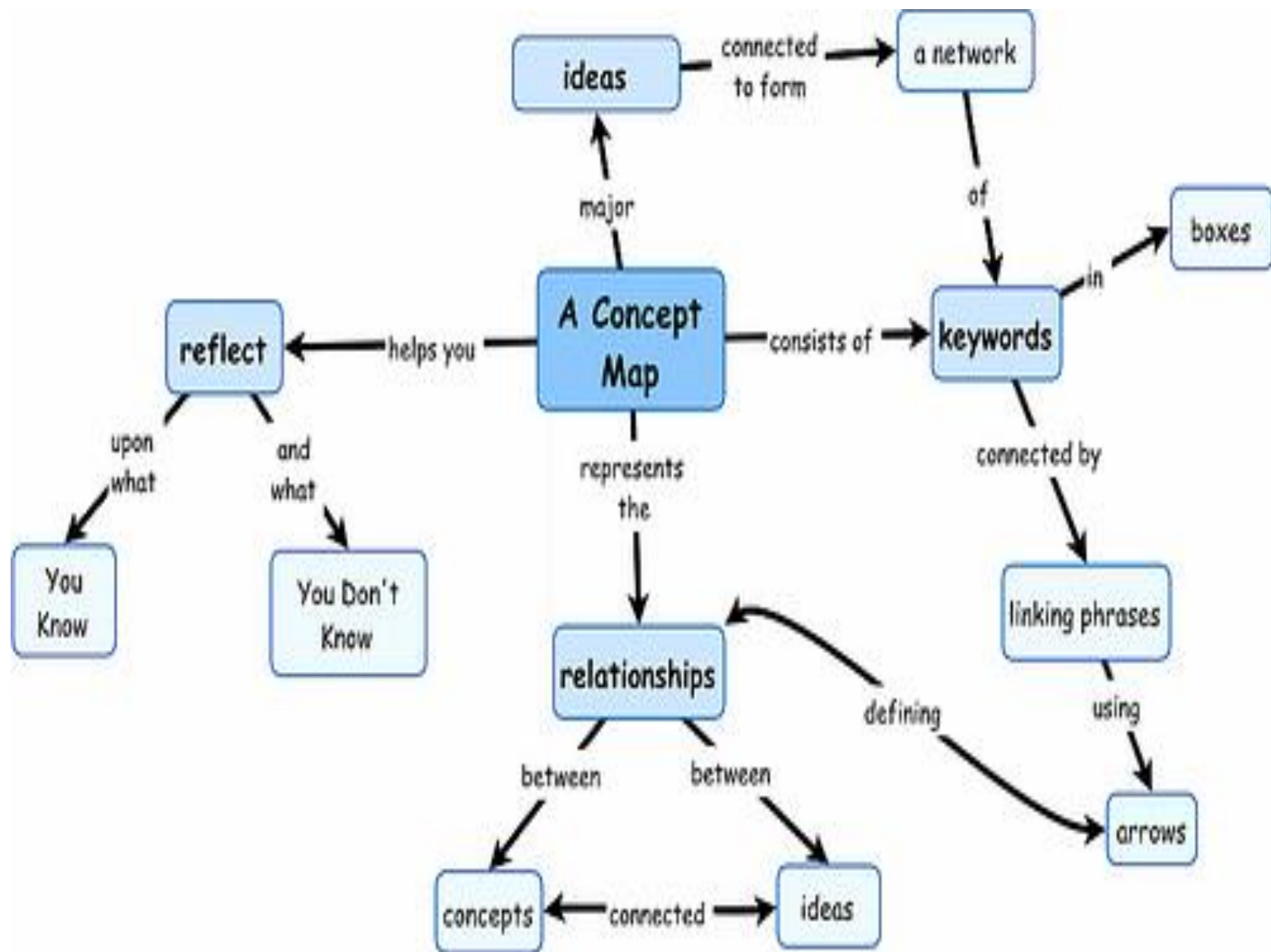
A concept map is a way of representing relationships between ideas, images, or words in the same way that a sentence diagram represents the grammar of a sentence, a road map represents the locations of highways and towns.

In a concept map, each word or phrase connects to another, and links back to the original idea, word, or phrase. Concept maps are a way to develop logical thinking and study skills by revealing connections and helping us see how individual, sometimes seemingly disparate, ideas form a larger whole.

HOW TO CREATE A CONCEPT MAP

1. Identify the main topic or core concept.
2. Brainstorm related concepts and ideas.
3. Organize the concepts from general to specific.
4. Place the concepts on a map, using nodes.
5. Draw lines between concepts and label them with linking words.
6. Review and refine the map, adding or removing concepts as needed.

Cornell University Learning Center



PARTS OF A CONCEPT MAP

Nodes correspond to the concepts or important terms related to your topic(s).

Labeled Link Lines identify the type of relationship. The line between a pair of concepts denotes a relationship, and the label on the line tells how the two concepts are related.

Landscape Analysis

A landscape analysis is a comprehensive study that assesses the current and historic environment of the healthcare issue and/or evidenced practice under consideration to inform strategic planning and decision-making. It essentially provides a holistic view of the context, enabling better understanding and informed responses to opportunities and threats.

Landscape Analysis – informs both Exploration and Preparation in specific/aggregated domains

- Legal (regulations, laws and case law)
- Financial (reimbursement, government financing, grant support)
- Clinical practice (availability, practitioner knowledge, required training)
- Population level health outcomes (data available, gaps?)
- Community and potential recipients (knowledge, desire, preferences)

STEPS FOR CONDUCTING LANDSCAPE ANALYSIS

- *Clearly state research/implementation under study and the scope. Agree on a protocol
- *Collect information -literature or desk review, other techniques
- *Analyze and synthesize information and identify opportunities and challenges

WHO, 2023

American Journal of Law & Medicine (2022), 48: 2-3, 209–222
doi:10.1017/amj.2022.26



ARTICLE

Pregnant Women and Opioid Use Disorder: Examining the Legal Landscape for Controlling Women's Reproductive Health

Lynn M. Madden^{1,2*}, Jenn Oliva³, Anthony Eller¹, Elizabeth DiDomizio¹, Mat Roosa¹,
Lisa Blanchard¹, Natalie Kil¹, Frederick L. Altice^{1,2,4} and Kimberly Johnson⁵

Focus Groups

- A focus group is a qualitative research method where a small, carefully selected group of individuals engage in a guided discussion about a specific topic, product, or service
- This is both exploration and preparation data.

In-Depth Interviews

In-depth interviews (IDIs), also known as key-informant or executive interviews, are a qualitative research method involving one-on-one conversations with individuals to gain detailed, nuanced understanding of their experiences, perspectives, and motivations. They go beyond surface-level responses by using open-ended questions and probing techniques to explore complex topics in depth.



Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcddep



Full length article

Assessment of barrier severity and willingness to enter opioid agonist treatment among people who inject drugs in Ukraine

Alexei Zelenev^{a,*}, Portia Shea^a, Alyona Mazhnaya^{b,c}, Julia Rozanova^a, Lynn Madden^{a,d}, Ruthanne Marcus^a, Frederick L. Altice^{a,e}



One of the benefits of collaborative implementation is - it is a way to involve stakeholders, improve morale, and move toward creating new opportunities. In implementation, change is a regular and ongoing element of our work. How do you determine what to change?

How do you find new ideas? And generate baseline data?

One important way is found in the **Nominal Group Technique**

Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning*

NOMINAL GROUP TECHNIQUE

- Nominal Group Technique (NGT) is a mixed methods strategy designed to promote group participation in the decision-making process.
- The Nominal Group Technique can be used by groups to reach consensus on the identification of key problems or in the development of solutions that can be tested using rapid-change cycles.



STEPS IN CONDUCTING AN NGT

- STEP 1: Silent idea generation
- STEP 2: Round-robin recording of ideas
- STEP 3: Serial discussion of ideas
- STEP 4: Final voting

STEP 1: Silent Idea Generation

- Clearly present the question. It's important to think carefully about how you phrase and frame the question.
- The leader will encourage participants to silently and independently write ideas in brief phrases.

Why Silent?

The benefits of silent generation include:

- Allows adequate time for thinking and reflection through recall
- Promotes social facilitation (e.g., seeing others hard at work)
- Avoids interruptions, undue focus on one idea, and competition, as well as status and conformance pressures or choosing prematurely between ideas
- Promotes focus

Step 2 – Round Robin recording of ideas

- Each person offers ONE thought, comment, or answer.
- The next person offers his or her thought, comment, or answer
- One at a time

Benefits of the round-robin recording:

- Promotes equal participation in the presentation of ideas
- Increases problem-mindedness and the ability to deal with a large number of ideas
- Separates the ideas from the person
- Allows for the tolerance of conflicting ideas
- Encourages hitchhiking on ideas
- Provides written records of the ideas

*** In the NGT process, hitchhiking refers to a process that may stimulate other participants to think of an idea not recorded during silent generation and allows them to record and offer it during their turn.

Step 3 – Serial discussion of ideas

This involves taking each idea, one at a time (serially) and discussing or clarifying the idea prior to the preliminary vote.

The benefits of this step are that it:

- a. Avoids unduly focusing on any one idea or a subset of ideas
- b. Provides an opportunity for clarification and the elimination of any misunderstanding
- c. Allows for merger of two or more like concepts.

Step 4 – Final Voting

There are many options for how to vote on the NGT. The preferred option that we use is this:

1. Give each person three, four, or five votes
2. Have each person give his/her votes to the idea/s they feel is most important or most on target. They can give all of their votes to one idea... or give one vote to each of several ideas.
3. One easy way of doing this is by providing colored dots. One can also use check marks, raised hands or other voting tabulation methods.

Closure

1. Compile vote totals
2. Report out to all participants the final voting tallies

Barriers and Facilitators

After eliciting barriers, the group can choose one of the top ranked barriers and elicit solutions by framing a solution-focused NGT question.

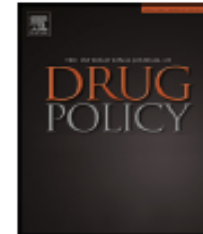


ELSEVIER

Contents lists available at ScienceDirect

International Journal of Drug Policy

journal homepage: www.elsevier.com/locate/drugpo



Research paper

Using nominal group technique among clinical providers to identify barriers and prioritize solutions to scaling up opioid agonist therapies in Ukraine



Lynn Madden^{a,b,*}, Martha J. Bojko^c, Scott Farnum^a, Alyona Mazhnaya^d,
Tatiana Fomenko^d, Ruthanne Marcus^c, Declan Barry^{a,b}, Irina Ivanchuk^e,
Viktor Kolomiets^d, Sergey Filippovych^d, Sergey Dvoryak^f, Frederick L. Altice^{a,c,g,h}



Contents lists available at ScienceDirect

Journal of Substance Use and Addiction Treatment

journal homepage: www.journals.elsevier.com/journal-of-substance-use-and-addiction-treatment



Exploring barriers and potential solutions before implementing a scale-up strategy to expand methadone coverage among people who inject drugs in Tajikistan[☆]

George L. O'Hara^a, Lynn M. Madden^{b,c}, Abror Burkhonov^d, Arash Alaei^{d,e}, Gafur Mohsinzoda^f, Daniel J. Bromberg^g, Jamoliddin Abdullozoda^f, Salomudin J. Yusufi^h, Frederick L. Altice^{b,c,*}



Methods: As part of a **pre-implementation** activity before using the blended NIATx implementation strategy, we focused on the first NIATx principle, to understand and involve the customer by exploring the barriers and facilitators to OAT scale-up (i.e. greater methadone program entry and retention resulting in more people on methadone). From October to December 2023, recipients (i.e., PWID) were assessed across all 14 OAT sites in 12 cities in 28 focus groups, stratified by those on (N = 120) and not on (N = 108) methadone.

Nominal group technique (NGT) was selected as a rapid, inclusive and mixed methods strategy to identify and prioritize the most important barriers and facilitators. Barriers and solutions were categorized to guide implementation targeting **individual** (i.e., patients/providers), **organizational** (i.e., clinic) and **policy** (e.g., laws/regulations) factors.

Results

The **three highest-ranking barriers** nationally to scaling up methadone were similar for both groups: 1) organizational factors like logistical inconvenience and demands on patients (transport, schedule, daily dosing); 2) policy factors like requirements to be listed in the national OAT registry which can restrict access to a driver's license and employment; and 3) individual and societal factors like widespread disinformation about methadone.

The **three highest-ranking solutions** included: 1) changing policies to allow take-home dosing (both groups); 2) expanding the number of sites where methadone could be dispensed and 3) widely disseminating reliable information about methadone to PWID and other stakeholders like governmental organizations and police.

An Example of Mapping NGT Results to SEM Framework

Exploring Multi-Level Barriers and Human-Centered Solutions to Expand Methadone for HIV Prevention among People Who Inject Drugs in Kyrgyzstan

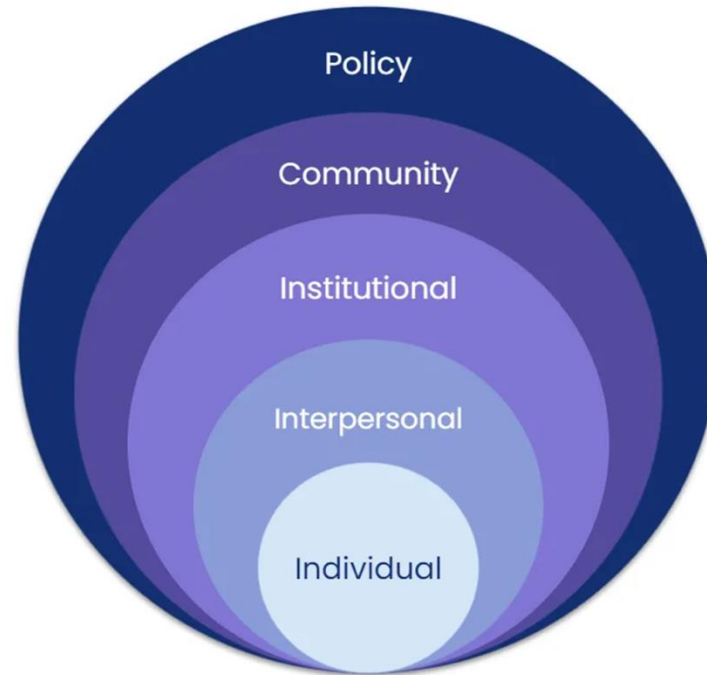
JSAT May 2025 (Under Review)

Authors: Anna A. Ilyasova, Frederick L. Altice, Dinara Madybaeva, Ainura Kurmanalieva, Natalya Shumskaya, Daniel J. Bromberg, Jin Hee Kim, Ruslan Tokubayev, Aizada Usenakunova, Lynn M. Madden.

SOCIO ECOLOGICAL MODEL FOR IMPLEMENTATION

The social ecological model understands healthcare (and other systems) to be affected by the interaction between the individual, the group/community, and the physical, social, and political environments. The model illustrates the importance of networks of people and structures that surround an individual.

SOCIO- ECOLOGICAL MODEL FRAMEWORK



Aggregate participant-generated ideas and voting results, stratified by clients (N=24*) and non-clients (N=26*) of methadone programs, for:

“What gets in the way of the majority of people who use injection drugs in Kyrgyzstan from enrolling in the methadone program?”

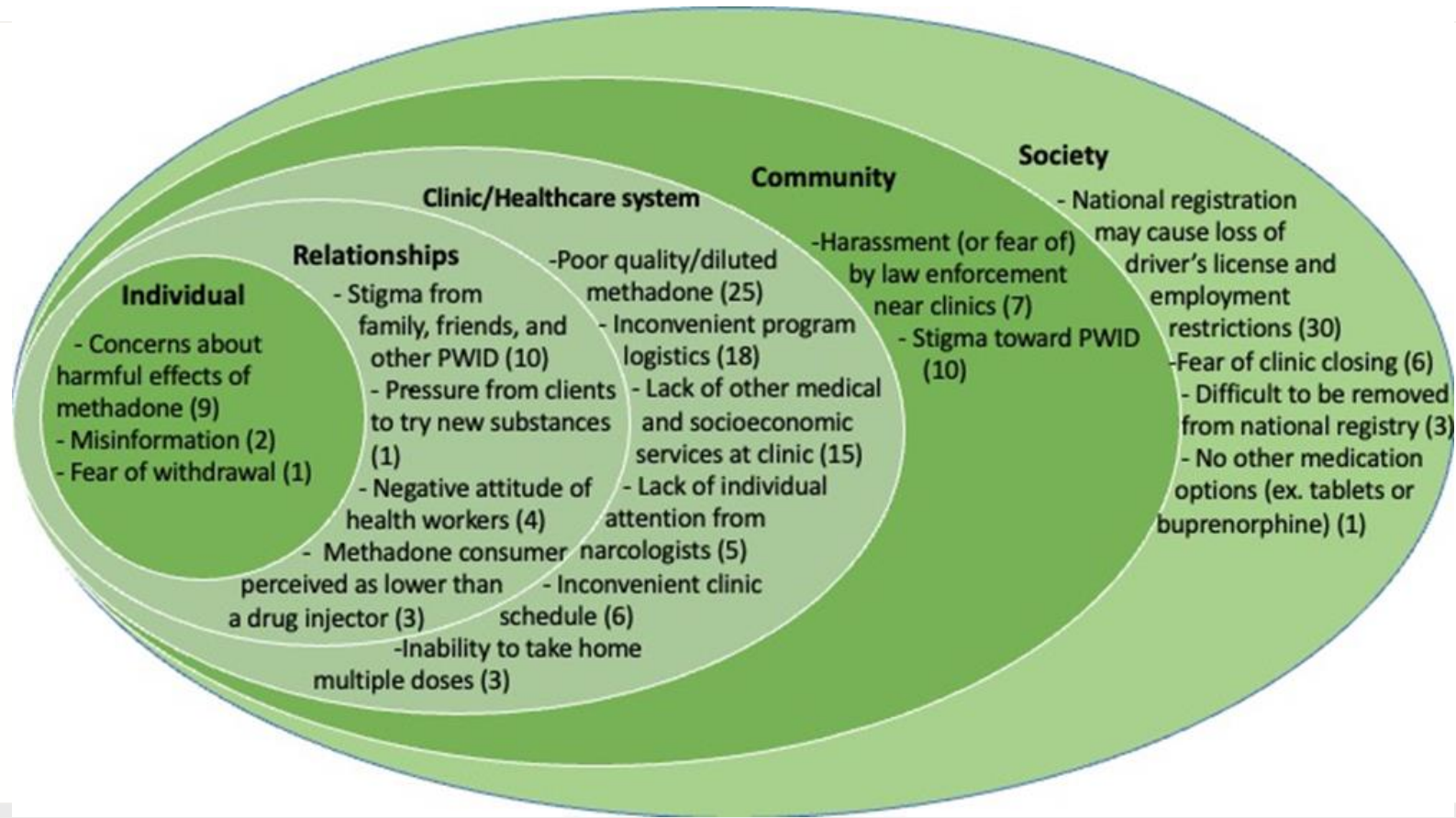
	Bishkek		Chuy		Osh		Aggregate	
	Clients	Non-clients	Clients	Non-clients	Clients	Non-Clients	Clients (N=24)	Non-clients (N=28)
Negative effects of being on the narcology treatment registry (incl. driver's license)	0	12	0	4	8	6	8	22
Poor quality (diluted) methadone	13	1	1	6	4		18	7
Inconveniences of the methadone program (e.g., sites inaccessible, inability to travel or conflicts with work due to restricted take-home dosing)	0	1	9	1	4	3	13	5
Lack of medical and social services at clinics (psychological assistance, social work, money for transportation, employment assistance, etc.)	3	3	3	3	2	1	8	7
Stigma from family, friends, colleagues, PWID	0	2	1	1	4	2	5	5
Fear of harmful effects of methadone on health (teeth, reproductive)	0	1			3	5	3	6
Harassment (or fear of) by law enforcement officers around clinics		1	1	2	3	0	4	3
Inconvenient clinic schedule	1		0	3	0	2	1	5
Fear of clinic closing	4				2		6	
Lack of individual attention from narcologists			0	5				5
Poor attitude of healthcare workers towards methadone clients			0	0		4		4

Legend:

0: barrier was discussed by group but received no votes

Shaded: barrier was not discussed by the respective group

Difficulty to de-registering (from narcology treatment records) when voluntarily leaving treatment		1		2				3
Inability to take home multiple doses at a time					3	0	3	
'Methadone users have a worse reputation than PWID'						3		3
Misinformation about methadone	0			1		1		2
Low levels of responsibility of other clients (ex. concomitant use with other substances)		1						1
'Other clients do not show a level of responsibility during treatment', or constant pressure to try new substances		1		0				1
Fear of strong feelings of withdrawal from methadone ('worse than withdrawal from heroin')				1				1
No availability of other forms of treatment, such as tablet forms, or buprenorphine				1				1
'Doctors are not willing to lower doses		0						
Lack of public education on the benefit of long-term treatment for addiction		0						
'Methadone interferes with heroin'					0			
Negative view of methadone from leaders in prisons (ie. methadone lowers the reputation of an incarcerated person, and this perspective continues outside of prison)					0			
Lack of success stories from peers	0	0	0					
Being 'geographically restricted' due to the location of the site; consequences on being late for work				0				
No psychologist at the clinic				0				
Mistreatment (or fear of) by narcologists				0				
Lack of euphoria from methadone				0				
Clinic in poor condition (no bathrooms, water, etc.)	0							
Lack of education on dose adjustments	0							



Potential Implementation Strategies to Overcome Perceived Barriers

Barrier	Discrete ERIC Strategies	Blended ERIC Strategies
Negative consequences of narcology registration	<ul style="list-style-type: none"> - Change policy and regulations - Develop stakeholder interrelationships - Use data warehousing techniques 	<ul style="list-style-type: none"> - Conduct educational meetings + Revise professional roles + Use coalition-building to advocate for legal reform
Perceived poor methadone quality (dilution, under-dosing)	<ul style="list-style-type: none"> - Standardize treatment protocols - Conduct educational outreach - Develop clinical guidelines 	<ul style="list-style-type: none"> - Use audit and feedback + Create learning collaboratives to support clinic optimization
Inconvenient methadone clinic access (esp. in Chuy)	<ul style="list-style-type: none"> - Tailor strategies to the setting - Revise service delivery (e.g., use telehealth, mobile service delivery) - Revise service sites 	<ul style="list-style-type: none"> - Implement NIATx process improvement with decentralized dosing options - Reorganize clinic workflows + enhance transportation access
Lack of individual attention from narcologists	<ul style="list-style-type: none"> - Train and educate stakeholders - Create new clinical teams - Promote adaptability 	<ul style="list-style-type: none"> - Combine patient-centered communication training + redesign care teams with peer navigators
Community/family stigma and misinformation	<ul style="list-style-type: none"> - Conduct local consensus discussions - Use mass media- Identify and prepare champions 	<ul style="list-style-type: none"> - Share patient stories + launch public awareness campaigns

QUESTIONS?

Thank you!

Please feel free to contact me: lynn.madden@yale.edu