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Abstract

Background

In response to the rise in opioid-related deaths, communities across Ontario have developed opioid or overdose response plans to address issues at the local level. Public Health Ontario (PHO) leads the Community Opioid / Overdose Capacity Building (COM-CAP) project, which aims to reduce overdose-related harms at the community level by working with communities to identify, develop, and evaluate capacity building supports for local needs around overdose planning. The ‘From Design to Action’ co-design workshop used a participatory design approach to engage communities in the requirements for capacity building support.

Methods

A participatory approach (co-design) provided opportunity for collaborative discussion around capacity building needs at the community level. The co-design workshop included three structured collaborative activities (i.e., identifying details of priority challenges, support delivery mechanisms, and evaluation planning), and was conducted with fifty-two participants involved in opioid/overdose-related plans in Ontario. Participatory materials were informed by the results of a situational assessment (SA) data gathering process, including survey, interview, and focus group data. A voting system, including dot stickers and discussion notes, was applied to identify priority supports and delivery mechanisms.

Results

The workshop resulted in identifying key challenges and priority supports to consider for development and implementation. Key findings were summarized into five major priorities, including: 1) stigma & equity; 2) trust-based relationships, consensus building & on-going communication; 3) knowledge development & on-going access to information and data; 4) tailored strategies and plan adaptation to changing structures and local context; and 5) structural enablers and responsive governance.

Conclusion

Using a participatory approach, the workshop provided an opportunity for sharing, generating, and mobilizing the required knowledge to address research-practice gaps at the community level. The application of health design methods such as the ‘From Design to Action’ co-design workshop allows for teams to gain a deeper understanding of issues as well as enhances the foundation and application of participatory approaches in addressing complex public health issues such as the overdose crisis.

Background

Rising drug-related deaths is a global issue with a significant impact on population health and well-being. In 2016, Health Canada identified opioid–related harms as a national public health crisis with devastating consequences for individuals and families across the country [1]. In response, the Government of Canada's first approach was to commit to taking evidence-based opioid response action through public health approaches including the four-pillars of the Canadian Drugs and Substance Strategy (CDSS): Prevention, Harm Reduction, Treatment, and Enforcement [2].

Although the overdose crisis has affected every province, British Columbia and Alberta have experienced the highest rates of opioid toxicity deaths in the country since 2016. The number of fatal and non-fatal opioid/overdose incidents has risen dramatically in Ontario, such that the province had the highest number of apparent opioid-related deaths in 2020 (2,430 deaths) [3]. These tragic numbers underscore the need for ongoing surveillance and comprehensive, multifaceted public health approaches to reduce and prevent overdose-related harms [4]. While opioid-related harms were an initial focus, a broader understanding of drug overdose recognizes that multiple substances are often involved, and as such we generally use the term overdose herein.

Many communities across Canada have developed multi-sector, multi-strategy overdose response plans to address the issue at the local level. Study of current community overdose response plans reveals gaps which need further research including: 1) the role and involvement of marginalized groups (e.g., people with lived/living expertise (PWLE), LGBTQ2SIA community, Indigenous and racialized communities), 2) the role of context (e.g., geographic, sociocultural, economic and political context), and 3) evaluation to understand the implementation of community opioid/overdose response plans [5].

Health Canada has funded Public Health Ontario (PHO) for a four-year project to develop a capacity-building model to support comprehensive community overdose response plans in Ontario employing a participatory approach. Co-design in health has played an increasingly important role in engaging communities in health system change and service delivery planning. The participatory processes and techniques support community-based decision making and shared ownership [6–7], by including:

- co-located and contextually located engagement [8] as a necessary mechanism for uncovering community-based knowledge and factors that might impact successful implementation [9] of change,
- the use of physical manifestations of shared knowledge and understanding [10] in the form of design artifacts and prototypes [11], and,
- the use of structured dialogue and facilitation to support shared decision making and consensus building over time [12] towards solutions that are collectively shaped and owned [13].

These aspects of co-design are intended to support a process of more equitable change by engaging with multiple stakeholders and deliberately including the voice of those with lived experience in decision making, ownership, and the process of innovation [9]. As such this approach is particularly suited to the challenge of developing support for capacity building at the local level.

The Community Opioid /Overdose Capacity Building (COM-CAP) project is a collaboration between various sectors involved in community overdose response plans. The project aims to form partnerships across varied stakeholders in health units, drug strategy agencies, academia, and other sectors to develop, implement and evaluate a community overdose capacity building model to support comprehensive community opioid overdose response plans in Ontario.

Capacity building in this context refers to the ability of individuals, organizations, and also society as a whole to become able to define the issues at the local context by analyzing their environment, collaborating on managing and resolving conflicts, formulate strategies and provide action plans, and also to acquire and mobilize resources [14].

The project consists of four phases: a situational assessment, identification and design of the COM-CAP model, implementation, and evaluation of the model. Overall, the project aims to reduce opioid-related harms at the community level through the following objectives 1) adapting a multi-component, evidence-informed, community development model; 2) examining, implementing and evaluating the proposed COM-CAP model with ongoing facilitation, knowledge brokering, and implementation supports; and 3) using integrated and knowledge translation processes to ensure the sustainability and scale-up of the model.

A co-design workshop (entitled “From Design to Action”) was conducted to provide an opportunity for collaborative discussion around capacity building needs and potential support at the local level as part of the phase two - identification and design of the project tools. The workshop used a participatory process with the intention that all diverse and relevant stakeholders represented on community overdose response plans should be involved throughout the project planning process, design, and development of the project tool (capacity building supports). This paper presents the results of the ‘From Design to Action’ co-design workshop.

Methods

The project employed a co-design participatory approach for a deeper understanding of overdose capacity building needs at the local level and achieving more in-depth information and insight for developing the COM-CAP project tools. This approach also facilitated and supported inclusion of lived/living expertise, community-based decision making, consensus building, and shared ownership in the building capacity at the local level [6–7]. The workshop techniques and materials (see Appendix A) were developed based on results achieved from a prior situational assessment which is reported in detail elsewhere [15]. In summary, the situational assessment identified four main themes in order: a) data and information; b) evidence and practice,; c) implementation factors; and d) partnership, engagement and collaboration. Stigma and equity were noted as overarching areas of need to be addressed across all main themes. The elicitation techniques used to structure the workshop were intended to engage the participants in a collaborative discussion and identification of the issues experienced in leading

community overdose response plans. Ethics review for the project was provided [removed for review] and [removed for review] Research Ethics Board. Informed consent was obtained from all participants.

Workshop participants included 52 representatives from public health, academic, government, and community sectors involved in opioid and overdose-related plans in Ontario. Participants included representatives of public health units and drug strategies in Ontario (n = 22), hospitals (n = 4), provincial government or agencies (n = 3), academia (n = 2), 17 participants from other involved sectors in opioid-related plans including harm reduction efforts, and 10 people with lived/living expertise of drug use.

To provide participants the opportunity to engage in the process and facilitate the discussion, the following co-design techniques and tools were used: scenarios and personas (as subjects of conversation), prompt cards (as tools for conversation), and a community capacity building matrix (as an enabler in generating and forming new ideas on priority supports). Scenarios were the main mechanism used for encouraging communication and collaborative discussion. Personas and scenarios used in a healthcare context enable participants to engage more quickly in topics during participatory workshops since they enable speaking to and through a fictional scenario and character. Personas and scenarios serve as a skeleton framework, enable participants to relate with the specific situation and character, flesh out details from their perspective and discuss the needs and high-level actions for addressing the needs [16]. Personas are a vivid, fictitious representation of a specific character, which has a potential to build and develop empathy with the real character. It enables discussion about a rich and authentic personality with specific needs [17].

The technique of using personas and scenarios is also effective in situations where participants may not have continuous involvement in a change process. It allows the specific needs of participants to be accounted for, ensuring fuller engagement with those who may usually not be invited to contribute and provide input [18].

Four workshop scenarios were developed from themes that emerged from the situational assessment process. The scenarios were designed to illustrate situations that embodied the themes across different phases of the community overdose response planning, including: Plan development, Plan implementation, Plan adaptation, and Plan sustainability & iteration (Fig. 1). (For more details of the scenarios see Appendix A, supplemenatry Figs. 1–4).

Various prompt cards were developed as tools for conversation (see examples in Appendix A, supplementary Figs. 6–8). We used persona cards (see exmaple in Appendix A, supplementary Fig. 5) as a realistic representation of diverse stakeholders involved in opioid/overdose plans, including: local paramedic, local pharmacist, shelter director, drug strategy coordinator, family physicians, PWLE; quote cards and wild cards were developed to represent specific types of ideas and situations, and 40 challenge cards were developed and designed to address the most important identified support areas for the key themes across the workshop scenarios.

Capacity building matrix was developed to enable discussion and ideation on more practical aspects of how challenges could be supported through capacity building ideas. The matrix provided support at the individual and organizational levels (see Appendix, supplementary Fig. 9).

The workshop consisted of two breakout sessions, which aimed to provide a space to collectively discuss and identify COM-CAP priorities, activities and supports, as well as plans to evaluate the COM-CAP project. Figure 2 illustrates the workshop process.

Breakout Session 1: **COM-CAP priorities, activities, and supports**

The main breakout session on identifying COM-CAP priorities, activities, and supports consisted of two activities (Fig. 2):

1. Identifying Top Priority Scenarios and Challenges
    a. Step 1: Prioritization of Scenarios (selection of two scenarios to focus and work on)
    b. Step 2: Prioritization of Challenges for the selected scenarios
2. Identifying Top Priority Supports - Capacity Building Matrix

Activity One: Identifying Top Priority Scenarios and Challenges

Participants were divided into 12 multi-stakeholder groups for facilitated co-design activities. Each group consisted of 5 participants and a facilitator to introduce workshop materials and facilitate collaborative discussion on co-design activities. Each group was provided with four scenarios, and associated challenge cards, personas, quote cards, and wild cards. Participants were asked to:

- Review and prioritize each scenario and choose two to work on;
- Record their rationale for scenario choices;
- Review, select, and prioritize the top challenges for each scenario (participants had the opportunity to add other challenges that were not already represented).

Activity Two: Identifying Top Priority Supports

To delve deeper into the most urgent or priority supports for the COM-CAP project, each group was asked to:

- Collaboratively identify supports/resources/tools that would enable capacity building for top priority needs;
- Use a capacity building matrix to structure a discussion and ideation session considering both individual and organizational level needs under five specific topics: Support for whom? to do what? how to develop? deliver? and sustain?

- Vote on the top three challenge cards and priority supports (using dot stickers on the matrix).

Breakout session 2: Evaluation of COM-CAP

A second breakout session focused on COM-CAP's evaluation and discussion on anticipated impacts. The session began by presenting the "Framework for Evaluation of Complex Drug Strategies", [19] followed by a facilitated group discussion activity. Participants were asked for a collaborative discussion and ideation on two following questions:

1. What would be different in your work, organization, coalition, and community in 1-2 years when COM-CAP has successfully delivered?
2. What changes would COM-CAP need to support in your work, organization, coalition, and community to have a greater impact on your opioid/overdose plan?

The main goal of the activity was to examine outcomes and support needs that would help the project team develop a framework for evaluating COM-CAP.

Figure 2, illustrates the main breakout session process (Identifying COM-CAP priorities activities and supports), including: the session process, employed activities, applied tools, and achieved results.

Analysis

Discussion notes and the 19 capacity building matrices completed by participants (short text-based contributions on sticky notes), were collected and analyzed to identify and prioritize the key support areas (challenges) and detailed components of priority supports. We employed a deductive qualitative approach for text-based contributions [20–21] due to the a priori structuring of the co-design materials and prompts. Analysis was undertaken by the research team at OCAD University including 4 research assistants and 1 senior researcher, this process included the transcription of written notes and sticky notes into Microsoft Excel. The first step was to sort the data into categories by scenario, challenges and support matrix in line with the structuring of the co-design. These initial groupings were then reviewed by the team, revising the sorting of data within each five major groupings as discussion developed around convergent and divergent participant contributions (within a priori structure of the data). This process was undertaken three times before finalizing groupings and identifying priority support areas, and collaboratively describing each support. Participants' votes on the prioritized areas enabled the research team to identify and rank the top support areas (top-ranked challenges), with their associated delivery methods, that were to be considered in the design and development of the main components of the COM-CAP project tool. These priority support areas were then shared with the advisory and scientific team, and then the community collaborators for feedback and review No adjustments to the priority support areas were made at that stage.

Results

An overview of the main findings from co-design activities are discussed below.

Key findings: Identifying COM-CAP priorities, activities and supports

Activity 1: Identifying Top Priority Scenarios and Challenges

Step 1: Identifying top priority scenarios: The first activity began with each group prioritizing 2 top scenarios and recording the rationale for those choices. The results indicate that two scenarios, B followed by A, were consistently prioritized for further work across the groups, indicating a focus on capacity building supports that address partnerships with community partners and providers (Scenario B: Plan Implementation with Community Partners in the Local Context; Scenario A: Plan Development with Lived experiences and Provider Engagement). Scenario C was considered to be more specialized and viewed as a second step after Scenario B and A were underway (Scenario C: Plan Adaptation for Geographic and Cultural Factors). Scenario D was not prioritized for work by any of the groups; however, four groups were invited to work on Scenario D so that information about challenges related to it would be represented as the project moved forward (Scenario D: Plan Sustainability and Iteration).

Step 2: Identifying top priority challenges: Each group was responsible for identifying and prioritizing support areas (challenges) for each selected scenario. Challenges related to partnership, engagement and collaboration, as well as implementation were the main areas of focus that emerged from the co-design workshop. The number of challenges identified within each scenario are color coded based on the four themes from the SA and can be seen in Fig. 3.

A total of 29 challenge cards were selected/created overall (some new challenges were identified by participants on blank cards). Appendix B, supplementary tables 1–4 present the detailed results of this activity. The results of the first activity were organized across the four main scenarios and color-coded based on the main SA themes by the research team. The table below shows the prioritized challenges for each scenario.

The research team grouped these 29 priority support areas (challenges) into five main categories through thematic analysis. Further to the development of the below five categories, the 3 top-ranked challenges were selected for each scenario supported by participants' votes. Table 2 shows the five main identified categories and their challenges. Table 3 shows the top overall ranked challenges within these categories.

Activity Two: Identifying Top Priority Supports

Following the first activity, each group was responsible to discuss and identify priority supports including corresponding delivery methods for the prioritized challenges. The identified priority supports for the top-ranked challenges are presented in Appendix C, supplementary tables 5–16.

The table below highlights the delivery methods to consider for addressing these identified challenges.

The delivery methods were grouped into three main categories, to be considered in development of the project tool(s), including:

1. Resources (online/in-person) for maintaining healthy and active communities (as an essential element to support plan development and implementation)
2. Concrete training materials using different media
3. A suite of templates/tip sheets/guidelines for running meetings/decision making techniques

Development of an alert system and data dissemination methods was identified as an additional category but treated separately as it relates specifically to an alert system for contaminated drug supply at the local level.

Priority Supports

The model (Fig. 4) was developed based on the key findings of the COM-CAP co-design workshop. It presents the main areas to be considered and developed to address local needs around opioid and overdose plans.

The model presents two categories:

- The themes identified throughout the SA process & prioritized in the workshop in a new order as follows: 1) partnerships, engagement and collaboration, 2) implementation factors, 3) data and information, and 4) evidence and practices.
- The major challenge areas prioritized at the workshop for specific support under the main themes, including: 1) stigma & equity, 2) trust-based relationship & consensus building, 3) knowledge development & ongoing access to information & data, 4) tailoring strategies & plan adaptation to changing structures & local context, 5) structural enablers & responsive governance.

Discussion

This paper highlights activities in the planning stage of our project, facilitated by co-design. The initial situational assessment provided an in-depth understanding that resulted in a source of data including challenge areas as they relate to community overdose response plans (strengths, gaps, needs, etc.) in Ontario. The second stage of adaptation and planning (co-design workshop) helped prioritize the challenges and resulted in the identification and development of five major categories and multiple potential delivery methods. The preliminary four categories of support from the situational assessment were refined through this process to develop the model in Table 3 and Fig. 4. Through this process, detailed delivery methods and ideas for specific supports and tools were captured. These prioritizations and delivery methods will be instrumental in guiding the project in the next stage: identification and design of project tool(s) as this framework and information is used to develop capacity building support.

Our findings suggest that the community overdose response plans have several needs that require capacity building to support the development and implementation of plan objectives and goals. Capacity building is defined as the development of knowledge, skills, commitment, structures, and leadership to address challenges and improve health at three levels: the advancement of knowledge and skills, expansion of support, and development of engagement, partnership, and collaboration in communities [22]. Capacity building support can be delivered in various forms, including technical assistance, virtual and in-person training sessions, online learning options, and guidance materials (e.g., knowledge products). However, organizations should carefully consider the desired outcomes and select forms effective to those outcomes [22].

The identified and prioritized delivery methods in the workshop for building capacity included the use of online/in-person resources, social media platforms, a variety of training materials and adaptable guidelines. Addressing stigma and equity is another challenge that needs to be addressed when developing various educational programs and guidelines for providers and should therefore receive additional consideration. For example, understanding and addressing the experiences of PWLE [23] and emphasizing appropriate and non-stigmatizing language [24] can address opioid-related stigma among providers through educational programs and guidelines.

Insights on Co-design Process

A co-design methodology was used to guide the development of this project to support the participation of individuals with varied expertise in a manner that is engaging and easy to understand. The design process endeavored to share, mobilize, generate, and activate knowledge, specifically in complex systems such as community-based health care innovations [6, 7–25].

As co-design methodology has been increasingly utilized in healthcare system approaches, more knowledge is needed on the factors that impact the effectiveness of these methods. The main influential factors in implementation of a co-design approach include: collaboration, practical and organizational factors, process and methods, and skills in facilitating and utilization of outcomes. The co-design approach plays an essential role in sharing and co-creation of knowledge, negotiation of controversies, and generation of new ideas and solutions, which is a necessary mechanism for uncovering community-based knowledge and factors that might impact successful implementation of change [9–26].

The workshop enablers and challenges

The evaluation of the COM-CAP co-design workshop showed some considerations around the enablers and challenges of the workshop. Enabling factors included: high levels of expertise, a great mix of participants to share vulnerable perspectives, the role of facilitators, productive group discussion, having frontline people and people with lived/living expertise of drug use at the table, and workshop materials (pre-made cards) that provided productive discussion around current challenges.

We also identified two areas of challenges, including:

- Participant challenges: burnout as a challenge for solving problems at such a high level; components of the breakout sessions were found to be complex, difficult to understand and process; workshop activities were heavily layered and tasks were noted to be too intensive, specifically for PWLE;
- Facilitator challenges: breakout groups with similar populations, geographic area and size; different group sizes; lack of equal representation of PWLE in all groups (due to COVID-19 many invitees were not able to attend the workshop); and time constraints for networking. They found that allocating more time for networking and informing participants in advance of the specific discussion topics and workshop activity details would have been beneficial.

The evaluation results on the COM-CAP workshop can help identify key barriers in co-design research processes to inform future practices. Insights gathered from this study could enhance the foundation and application of participatory design in the healthcare domain.

Previous research on strategic research partnerships with PWLE and peer organizations, highlights the importance of having meaningful participation of PWLE in research and policy through an environment that enables and values both leadership and contribution [27]. This includes providing visibility and recognition of these partnerships with peer organizations and groups in the broader research, government and health service sector [27]. The continued use and refinement of the co-design techniques used in this study could enhance the engagement of PWLE in the project's upcoming phases and in similar projects and initiatives. Blomkamp (2018) [28], notes that co-design within the public sector can often be used as a more effective, democratic and innovative alternative to community engagement, public participation and policy development. Co-design approaches can provide meaningful and visible participation of relevant and diverse stakeholders which can enhance cross-sectoral collaboration, the integration of local knowledge and experience, power-sharing at the individual and community-level and further support community engagement.

Conclusion

We proposed a community opioid/overdose capacity building model consisting of more specific individual components based on key findings from the “From Design to Action” workshop. The capacity building model emphasizes the importance of partnerships, engagement and collaboration; knowledge development and ongoing access to data and information; leadership; and addressing stigma and equity in overdose response plans in the local communities.

In the following stages of the project, the key findings will be translated into project tool(s) to build capacity with local communities to support issues and needs experienced in community overdose response, and to ultimately address the toxic drug supply and associated harms.

The selection of local community initiatives for support (pilot sites) will occur in the following phase, and these initiatives will be considered in the development process of the project tool(s), and include consideration of, including applicability of project tools when applied to different contexts and

communities. This will ensure that differences in demographics, geography, culture, and other factors are accounted for and reflected in the feasibility and adaptability of project tool(s).

Abbreviations

PHO
Public Health Ontario
COM-CAP
Community Opioid / Overdose Capacity Building
SA
Situational Assessment
CDSS
Canadian Drugs and Substance Strategy
PWLE
People with lived/living expertise

Declarations

Authors' Contributions: KS, MM, CD contributed to the conception and design of our study. PL, TK, CBA, JW, CD, MM, KS supported the acquisition of the data. KS, MM, CD, MM analyzed data, and drafted the manuscript. KS, MM, JW, CD, contributed to the interpretation of the results. All authors inlcuding MH, KC, and BP, participated in reading, revising, and approving the final version of the manuscript to be published.

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Ethics approval and consent to participate: Our study was approved by OCAD University and Public Health Ontario's Ethics Review Boards. All participants in the data gathering process and co-design workshop received an Information Letter and Consent Form and informed consent was obtained from all participaants. All research activites followed were performed in accordance with the relevant guidelines and regulations (Declaration of Helsinki).

Consent for publication: Not applicable.

Availability of data and materials: The data gathered from the data gathering process and workshop will not be made publicly available. This is to ensure the privacy and confidentiality of our study participants

is protected. However, datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interest.

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Tables

Tables 1 to 3 are available in the Supplementary Files section.

Figures

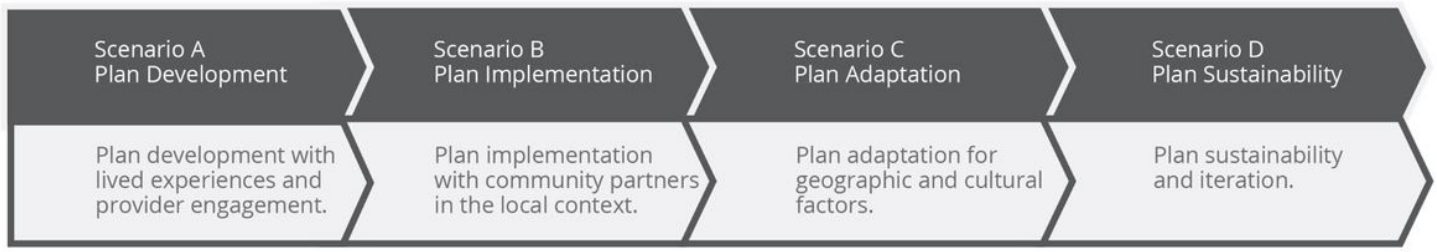

Figure 1

Workshop Scenarios

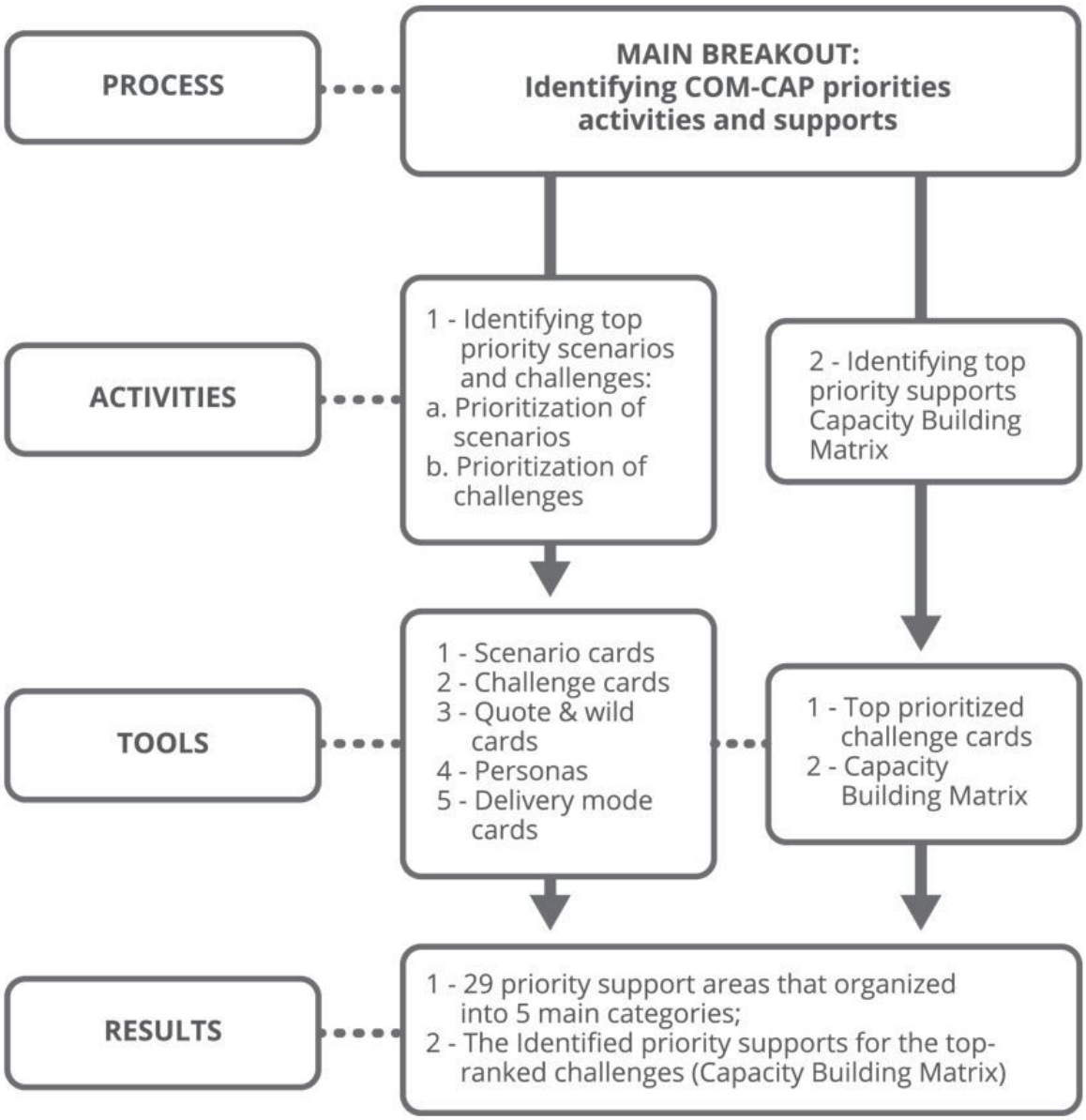

Figure 2

Co-design workshop process

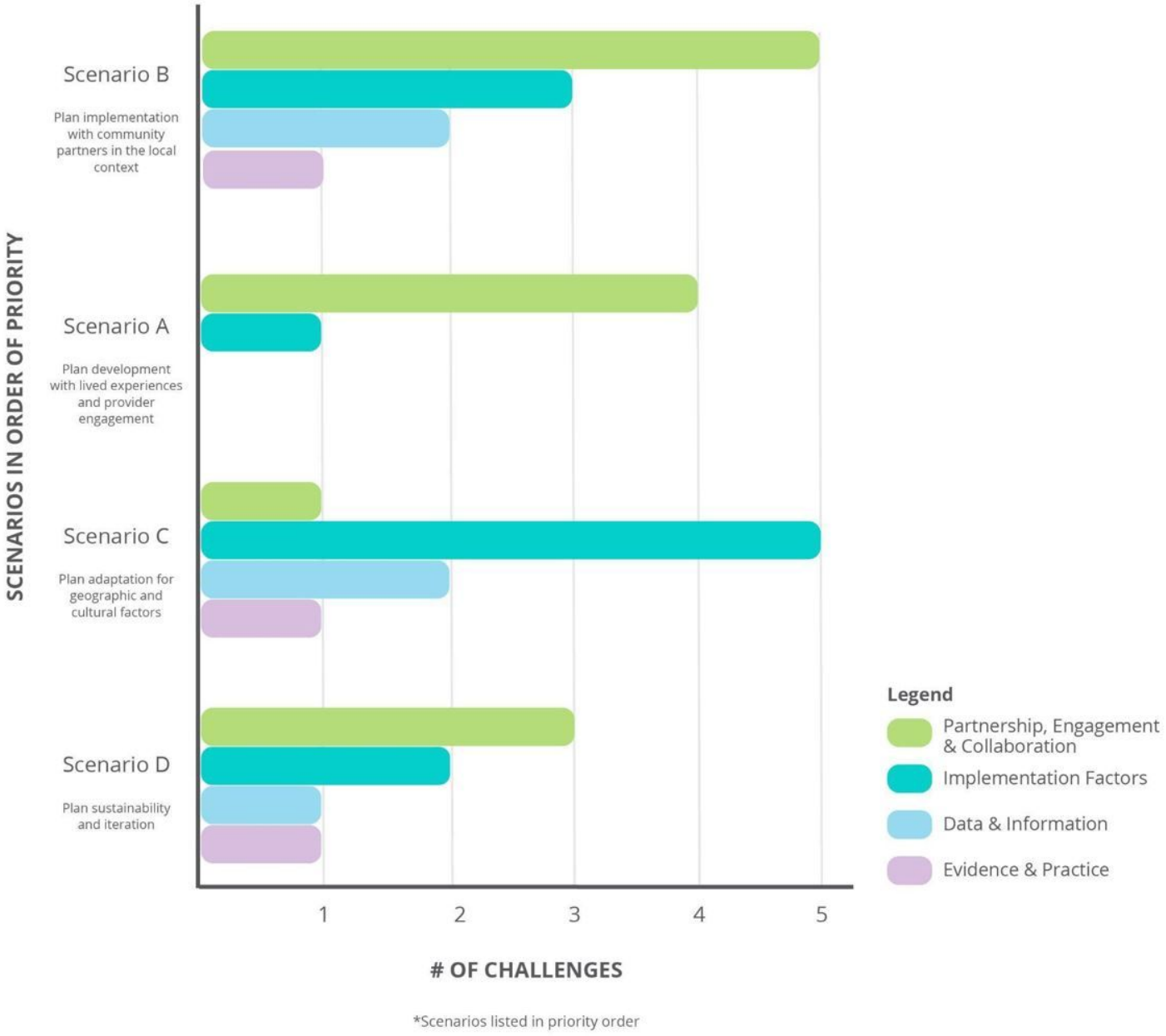

Figure 3

Identifying top priority scenarios and challenges

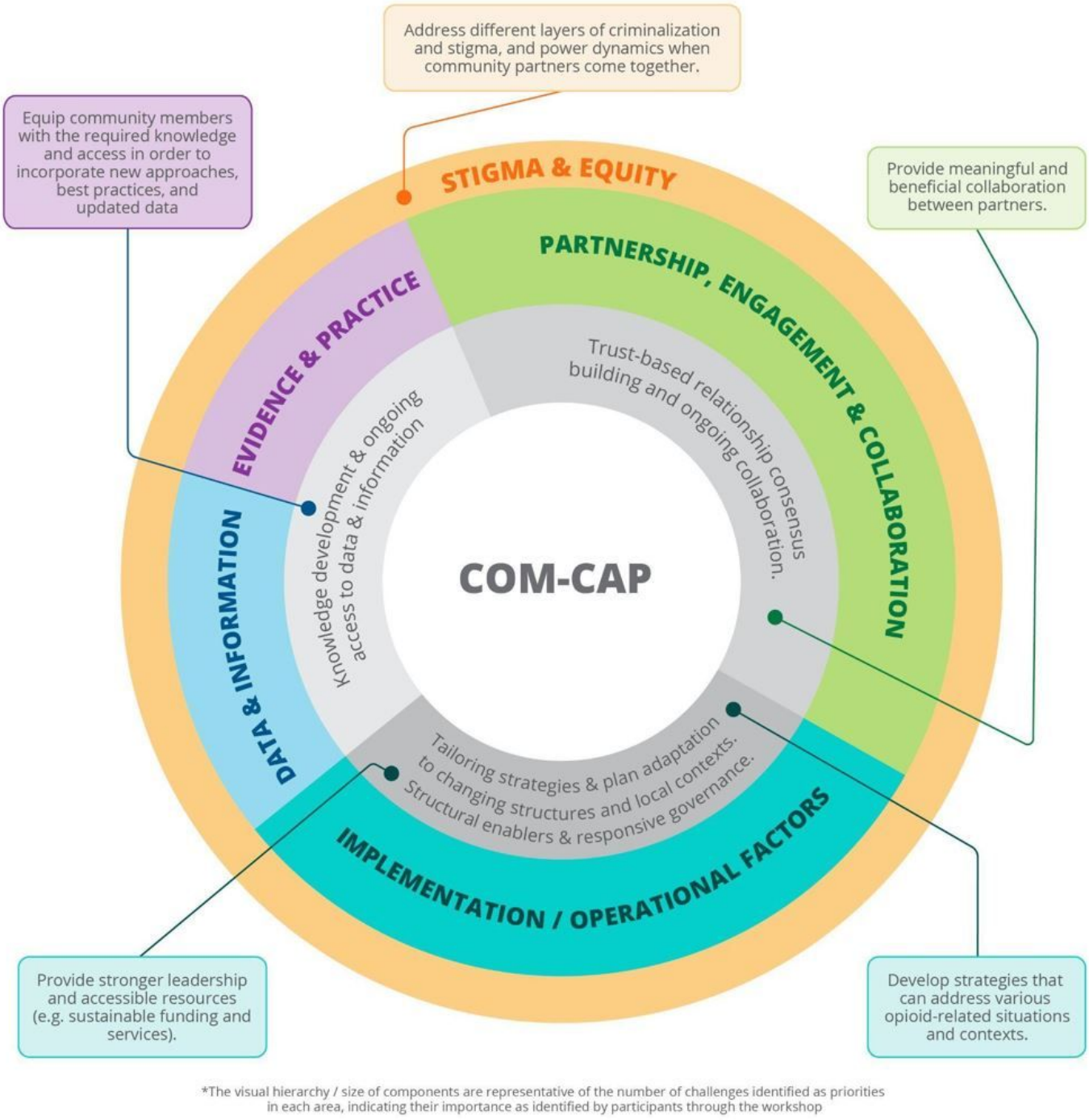

Figure 4

Visualization of project themes and major priority supports identified in the workshop

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- AppendixA.docx

- AppendixB.docx
- AppendixC.docx
- Table1.jpg
- Table2.jpg
- Table3.jpg