OPEN LETTER

Supporting communities of practice – A Journey to effective problem-solving [version 1; peer review: 1 approved with reservations, 1 not approved]

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Abstract
In contexts of scarce resources, varied assets, and diverse communities, engaging local stakeholders in the problem-solving process is critical to develop interventions for HIV prevention and treatment. Communities of practice (CPs) – groups of people organized around a key purpose and a delivery point – can develop expertise in identifying their local community’s key challenges and selecting viable solutions. We propose a framework for systematically understanding the stages a CP may go through as it develops its capacity to identify and solve problems and implement good practices. Our framework is based on the experience of practitioners of the LISTEN model (Local Initiatives Scaled Through Enterprise Networks) in eight local-level CPs in Kenya and Eswatini. LISTEN seeks to help CPs integrate continuous improvement processes, data, and human-centered design into their development and solutioning activities. The four stages in our framework for a CP's problem-solving journey are: 1) Community Identity: Identify and understand the community's purpose and goals, and build rapport with its members and leaders; 2) Quick Win: Use a process of human-centered design to obtain a rapid and clear success in addressing a problem that the local community has identified for itself and which it can tackle with its own resources; 3) Stewardship: Support the CP in addressing more complex or long-term issues, including links to other CPs at the local-community or higher levels to disseminate knowledge and obtain resources and support, where needed; and 4) Evolution: Support the...
CP as it transitions into potentially new structures or functions. For each stage of the framework, we describe the kinds of support that may be provided to the CP in the LISTEN model, and the types of tools that could be developed to assist them in problem-solving and in disseminating sustainable solutions.

Keywords
HIV prevention, communities of practice, Eswatini, Kenya, Human Centered Design, LISTEN
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**Introduction**

Despite significant gains and the potential for new technologies to accelerate progress in the fight against HIV, many countries face substantial challenges in preventing new infections and providing treatment and care to those living with HIV. Alongside questions of resourcing and sustainability, the path to long-term epidemic control requires enabling country ownership and an effective transition to programs that are well integrated with community needs, desires, and innovations. Yet local communities are often not engaged to their full potential, and innovations are not systematically identified, catalyzed, or scaled up. This requires leveraging local knowledge and innovation so that communities are empowered to develop and own programmatic solutions.

Nevertheless, promising new approaches and ideas do emerge at the local level, often incubated by communities of practice (CPs) – groups of people with a common area of interest who share with each other the resources and knowledge that they develop. The LISTEN model (Local Initiatives Scaled Through Enterprise Networks) offers a structured process to encourage and support local ownership of problem-solving initiatives through CPs. It operates from the understanding that well-developed and effective CPs at the community level are the foundation for sustainable approaches that can penetrate the most socially remote and vulnerable members of a country’s population.

LISTEN has been pioneered by local country teams to address HIV prevention in Kenya, Eswatini, and Malawi, supported by a consortium of institutions and organizations, including the Amsterdam Institute for Global Health and Development, the Center for Global Health Practice and Impact at Georgetown University Medical Center, DesireLine, Final Mile Consulting, CooperSmith and PATH.

In this Open Letter we focus on CPs at the local-community level in Kenya and Eswatini, countries with a high prevalence of HIV and significant numbers of new infections annually. Building on Étienne Wenger’s theory of CPs as an expression of social learning, we propose a framework for systematically understanding the stages that a CP may go through as it develops its capacity to identify and solve problems and develop and implement good practices, and the support that the CP may need at each stage.

**Communities of practice and the LISTEN model**

Wenger defines a CP as a group of people who interact regularly (community) around a shared interest (domain) and develop a shared repertoire of knowledge and resources (practice). This practice may be to help each other solve everyday problems and share ideas; to develop, validate, and disseminate specific practices or knowledge; or to foster unexpected ideas and innovations.

A CP may be formed within an already existing group or organization, or it may be created from scratch to address a specific issue. In either case, Wenger identifies several stages in its development:

1. **Potential**: An issue is defined in a way that inspires people already concerned with the issue to come together, realizing that they may accomplish more through improved networking and knowledge-sharing.

2. **Coalescing**: The precise type of knowledge to be shared and the value of doing so is established, and relationships and trust are developed.

3. **Maturing**: The CP defines its boundaries and its relationship to the wider organization or community, and organizes its knowledge.

4. **Stewardship**: The CP works to promote the relevance of its domain of knowledge, keep its members engaged in lively debate and learning, and stay relevant or innovative.

5. **Transformation**: The CP may change its form, for example becoming institutionalized as a “center of excellence”, turning into a social club, splitting or merging, or eventually fading away.

The LISTEN model aims to 1) develop and support CPs at the local-community, health-facility, regional, and national levels to integrate systematic processes for continuous improvement; 2) improve the collection and use of data to ensure that CPs’ approaches to problems and innovations are evidence-based; and 3) use human-centered design to accelerate and scale up both current and new solutions, i.e. an approach which prioritizes the experience, knowledge, perspectives, and values of CP members, rather than imposing solutions from outside. The model slightly modifies the three components in Wenger’s definition: LISTEN conceptualizes a CP as a group of people organized around a key purpose (e.g., health, economic empowerment, public safety, etc.) and a delivery point (any interface between the supply and demand of those services).

In the LISTEN model, trained facilitators work with existing CPs – or with practitioners who wish to form CPs – to help them identify and prioritize problems and develop solutions. The model links CPs, both horizontally (i.e. CPs working at the same level), so that they can learn from one another, and vertically, so that CPs closer to local communities can call upon the support they need from higher levels of the system. LISTEN facilitators also introduce data and information not otherwise available to the CP, e.g. the rate of HIV infection in their community, to stimulate their problem-solving, rather than imposing preconceived solutions that might not be effective in their environment. The process is a two-way street constructed from mutual respect and understanding between the CP and the facilitator.

In contexts of scarce resources, varied assets, and diverse communities, we see the engagement of local stakeholders in the problem-solving process as critical to the development of effective
interventions for HIV prevention and treatment. CPs can develop expertise in identifying their local community’s key challenges and selecting solutions that can be implemented within their community.

The problem-solving journey of a CP
We engaged with several community-level CPs in Kenya and Eswatini that are adopting the LISTEN model. Through observation and in-depth discussions with local-level CP members, we developed a framework to understand the key stages that CPs go through as they develop, and how the LISTEN model can support their problem-solving journey. Since CPs evolve through different stages of development and within different contexts with different needs for support, this framework provides a structure to develop tools appropriate for each CP’s context. The framework is thus an integral part of the human-centered design approach underlying the LISTEN model. By equipping communities with the LISTEN model and helping them develop problem-solving skills to address their own challenges, we hope to create a more sustainable solutioning process.

Our framework for CPs within the LISTEN model incorporates Wenger’s stages of a CP’s development, as well as concepts from theories of social mobilization, collective efficacy, and intrinsic motivation. It is also based on our observation and in-depth discussions with members of four established CPs in Kenya, and four newly formed CPs in Eswatini. The Kenyan CPs were selected with the guidance of the National AIDS Control Council and county health departments, with a view to engaging with communities that were particularly vulnerable to HIV. We drew upon the experiences of a CP working to retain adolescents living with HIV in treatment, at Nazareth Hospital in Kiambu; and a faith-based organization comprised of youth representatives of various churches engaged in HIV prevention work, also in Kiambu. We also studied two organizations of fisherfolk and an organization of boda boda drivers (motorbike delivery and ride providers) in Homa Bay. This is an area where residents are at high risk of HIV, including through the exchange of sex for needed products and services (e.g. fish and transportation). In Eswatini, CPs were formed in three separate locations, as well as a cross-community CP established among a group of “community champions” (members of the three CPs), who were brought together to conceptualize and design some quick and effective solutions to problems they faced, including HIV prevention. From these insights we developed a framework describing the problem-solving journey of a CP, with the four stages described below.

1) Community identity
This stage corresponds approximately to Wenger’s stages of Potential and Coalescing. CPs will be at differing levels of development in different local communities, necessitating a nuanced approach on the part of the LISTEN facilitator to introduce the LISTEN model, establish a supportive relationship with local community leaders or the CP leader, and provide resources to foster the CP.

- Some CPs already exist and thrive independently, and have established their key purpose, group, and delivery point.
- Some groups may have a key purpose but have not yet developed their delivery point.
- Some CPs are “architected”, i.e. they have been brought together with a certain key purpose in mind and need to develop their group and delivery point.

In forming a CP where it does not already exist in a local community, the first step is to understand the current state of the community through conversations with local leaders and other stakeholders. What problems do they face? How are they addressing them? What local organizational structures exist? Are there already any functioning CPs (whether or not they are understood as such)? What would support look like from their point of view? This information may be formalized in a LISTEN CP Charter that outlines the community’s goals and areas of focus.

In identifying CPs, and inviting them to adopt the LISTEN model, the goal is not just to build trust with the local community and its leaders, but to support the community to develop its sense of ownership and empowerment – the belief that the CP has an intrinsic capacity to address the local community’s issues, and that it is in the interest of the CP to accept the support offered by the LISTEN model.

In this stage it is important to:
- Identify and understand the existing purpose and goals of the community
- Build trust with the community and leaders
- Build a sense of efficacy among individual members, and collectively as a group
- Identify sources of intrinsic motivation, and drive a focus on the intrinsic motivation of individual members, which may include:
  - Mastery: Desire among individuals to improve skills/learning
  - Autonomy: Need to direct one’s own life and work
  - Meaning: Connect effort to larger purpose
- Determine the most appropriate group motivators.

Mature CPs are often characterized by a sense of in-group identity, clear organizational and communications structures, and processes for problem-solving and communications. In Homa Bay, for example, we observed that the boda boda drivers wore uniforms, had a hierarchical organizational structure established through elections, communicated via meetings and WhatsApp groups, and documented their meetings through videos, photos, and log books. In Eswatini, we observed that the Community Champions had also elected leadership positions, and they communicated via a WhatsApp group and took part in capacity-building workshops.
2) Quick Win
This stage corresponds approximately to Wenger’s stages of Coalescing and Maturing. It seeks to integrate within the CP structure the LISTEN model of using data and human-centered design, in order to obtain a “quick win” – a rapid and clear success in addressing a problem that the local community has identified for itself, and which it can address in the short term using its own resources. The quick win establishes and demonstrates the value of the CP for the local community when capacitated with the LISTEN model. It thus helps to build trust among the CP members and increase their commitment to work together toward their individual and collective goals.

At this stage it is important to:
• Promote LISTEN as an aspirational opportunity that could help CP members achieve their individual and collective goals
• Share processes and tools for identifying, prioritizing and assessing problems to tackle that will provide short-term, achievable “wins” for the CP
• Support development of indicators and metrics to measure progress on problem solving
• Promote reciprocity and build small commitments, so that members feel that their contribution toward achieving the group’s goal also benefits them at an individual level
• Provide transferable skill-building opportunities and actionable feedback so members feel a sense of progress at an individual and collective level
• Confirm and solidify the sense of efficacy, so members develop a positive belief system
• Leverage coordinated behaviors between participants to enhance social bonds and collective identities.

In Eswatini, the CP of Community Champions used the LISTEN process to generate ideas for the challenge of access to clean water in each of their three communities. In Homa Bay, a quick win was a scheme for boda boda operators and fisherfolk to distribute condoms, after receiving support to address challenges with licensing and police engagement. We have observed that the CPS of boda boda operators and fisherfolk have since developed the ability to identify and address quick wins on their own, such as investment projects and projects to provide alternative sources of revenue, and tree-planting to address deforestation.

3) Stewardship
This stage corresponds approximately to Wenger’s Stewardship stage. The LISTEN facilitator focuses on supporting the CP as it addresses more complex (second-order) challenges. Achieving or making progress on their quick win gives the CP members an experience of reciprocity, and a sense of competence to address more complex or long-term issues.

It is at this stage that the CP may require external technical support, for example for measurement and evaluation, including data creation, collection, and reporting. This may involve structured efforts to seek support from external or higher-level stakeholders. However, the LISTEN model helps the CP members to see that asking for such support is compatible with self-determination when based on its own assessment of its needs, rather than the CP being required to accept assistance imposed from outside.

Likewise, the CP may benefit from being linked to CPs at the horizontal level for mutual sharing of problem-solving processes, or to CPs at a higher level in the system for additional resources and to disseminate solutions by informing policy-makers. In strengthening these horizontal and vertical linkages, the existing systems (governance, coordination, service delivery, and information management) are mapped. The LISTEN model uses the existing governance and coordination structures to make them more effective and efficient. Through the linkages, the CPs are capacitated to access solutions for themselves, both from other CPs through experiential learning and from CPs at a higher vertical level (e.g. district, state, or national).

At this stage it is important to:
• Manage expectations, given that less visible progress may be made during longer problem-solving timespans
• Promote reflection/self-assessment by documenting efforts and providing recognition for efforts
• Assist with horizontal and vertical connections for sharing and adapting solutions
• Identify needs for multi-sector support (e.g. employment, youth funds, education, health) and facilitate explicit commitments from new horizontal and vertical partners
• Update the problem-solving process to include new learnings, and tools such as knowledge management systems.

In Kenya, we observed that the LISTEN model has been used to link the citizen-level CPs to decision-makers in various sectors across the different levels, while ensuring that the citizen-level CPs’ interests and goals, as outlined in their charters, are recognized and addressed at each level of governance. This provides a win-win situation for leadership and communities and aids sustainability. In Eswatini, the Community Champions CP planned to meet with the chiefdom of Luyengo’s Inner Council to address some of their issues and concerns that arose from using the LISTEN process in their problem-solving process.

4) Evolution
This stage corresponds approximately to Wenger’s Transformation stage. The role of the LISTEN facilitator here is to support the CP as it changes and evolves. In this final stage of the journey, the CP may reach a natural milestone where its members find themselves ready to change their domain or group structure.
As Wenger’s model implies, this evolution may involve adopting a new key purpose to address; members transitioning to different levels of participation or leadership, or leaving the CP, and new members joining the group; the CP splitting to form new CPs; or the CP redefining and reorganizing itself as a “center of excellence” for its original key purpose.

At this stage it is important to:

- Support the development of a new sense of identity rooted in shared understanding of the CP’s key purpose and delivery point
- Support the CP as members join or leave, potentially with mentoring and training programs
- Update feedback systems to ensure a sense of progress through changes
- Provide tools/resources that support the potential development of the CP into a Center of Excellence

For example, in Kenya, it has been reported that the boda boda riders have devised a sustainability strategy to provide young people with the opportunity to join the CP. The strategy includes employing younger riders, developing farming, establishing a petrol station and hiring out meeting facilities to generate income.

**Tools for the problem-solving journey**

Our observations of the CPs in Kenya and Eswatini, and the mapping of their problem-solving journeys, suggest types of tools that might support CPs at each stage of the journey. The examples given below are concepts that would be agreed upon, developed, tested, and refined by and with CPs themselves, following the human-centered design approach that underpins the LISTEN model.

**Community Identity: Community asset mapping tool**

Identify and understand existing purpose and goals of the community, and map HIV services and related resources – natural, cultural, human, social, political, financial, built.

- Records community resources and identifies gaps in resources
- Identifies resources needed for capacity-building
- Assists in building empathy of LISTEN leadership/Innovation CPs for citizen-level CPs
- Builds trust with the community and leaders
- Builds sense of efficacy among individual members and as a group

**Quick Win: Quick win problem-solving process**

Identify challenges within the community and define a quick win.

- Identifies root causes of chosen community challenge
- Identifies actionable problems and ideates potential solutions
- Prioritizes quick win based on community resources and time required for implementation

**Stewardship: Guided reflection and analysis tool**

After a CP completes an intervention, this tool would provide a systematic walk-through of the process and the effects of their implemented intervention.

- Identifies successes and opportunities for growth
- Prioritizes case studies to share with horizontally and vertically linked CPs

**Conclusion**

We propose this problem-solving journey framework as a way to apply the theories of learning of Wenger and others within a practical public-health problem-solving space. Our framework is based on the theory and observation that people at the grassroots know what problems they face and are best positioned to identify the best solutions for their context, try them out, and adopt or create metrics to learn from successes and failures. CPs offer them the chance to solve problems together, with a process grounded in human-centered design, consciously evaluating what they are doing and how they are doing it via data and a continuous improvement process, and linking horizontally to learn from each other and vertically to get the support they require. In this way, programs become less top-down, with the higher levels of health services and government services acting as supporters – rather than initiators – of effective solutions.

Given the urgency of problems such as the COVID-19 pandemic, and HIV prevention and treatment in many countries, and the hitherto limited success of CPs in innovating and disseminating promising practices, it is critical to equip communities not only to become CPs, but also to effectively carry out the problem-solving process. The types of tools we have suggested can support CPs at the appropriate stages in their journey, and a goal of the next phase of LISTEN is to develop and apply such tools. By equipping communities with problem-solving skills to address their own challenges, we can create a more sustainable solutioning process.

**Data availability**

Underlying data

No data are associated with this article.

**References**


Open Peer Review

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Julia Samuelson

Global HIV, Hepatitis and STIs Programmes, World Health Organization, Geneva, Switzerland

The purpose of this open letter to focus on community engagement is highly relevant to advancing HIV prevention and useful at this time. It is clearly written and based on the foundational work of Wenger. It would be useful to know the reason to revise the CP (CoP) stages put forward by Wenger, rather than using his stages of development.

Problem solving section. A brief explanation of how the communities were engaged. Also as written it seems they were already using the LISTEN model; if so, how had they been introduced to it.

A few terms could be explained briefly as they are not evident to all readers:
   ○ Enterprise networks.
   ○ Human-centred design and how this concept differs from more widely agreed upon person-and people-centred services recommended by WHO (https://www.who.int/servicedeliverysafety/areas/people-centred-care/en/).

Regarding the last sentence (By equipping communities with problem-solving skills to address their own challenges, we can create a more sustainable solutioning process), the term solutioning process seems like jargon; consider simpler language such as sustainable solutions and do you mean ‘they’ create, rather than we?

A minor point is the use of CP - although this is not my expertise, CoP seems to be the main acronym I have noted in the literature.

Some statements are made but lack references, even if they seem evident. Para 1 Sent 3, Para 3 Sent 1.

Are the references/links to tools available?
Minor edits to consider:
- Two-way process, rather than street
- Another reference for your information:
  https://www.who.int/servicedeliverysafety/areas/qhc/community-engagement/en/

Is the rationale for the Open Letter provided in sufficient detail?
Yes

Does the article adequately reference differing views and opinions?
Partly

Are all factual statements correct, and are statements and arguments made adequately supported by citations?
Partly

Is the Open Letter written in accessible language?
Partly

Where applicable, are recommendations and next steps explained clearly for others to follow?
Partly

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** HIV, VMMC, HIV prevention, nursing,

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

**Carlos Toledo**
Centers for Disease Control and Prevention (CDC), Atlanta, GA, USA

The submission focuses on an important aspect of responding to health concerns—the establishment of communities of practice to address existing and emerging health issues. The authors propose a framework (or adaptation of an existing framework) for approaching the development and function of communities of practice and their application to the HIV response in
two countries. However, the submission lacks the necessary details to make this useful for the reader. More details are needed that better explain “how” these steps are implemented, monitored, and evaluated rather than general descriptions about “what” each step encompasses. Below are specific comments.

Comments to be addressed:

- Reference is needed for the following statement. “Yet local communities are often not engaged to their full potential, and innovations are not systematically identified, catalyzed, or scaled up”.

- There is mention that LISTEN has been pioneered by local country teams to address HIV prevention in Kenya, Eswatini, and Malawi. However, the paper only focuses on the experiences in Kenya and Eswatini and not Malawi. Is there a reason for this omission? Consider stating why the experience in Malawi is not included.

- Descriptions in the problem-solving journey lack details and/or specific examples from the countries where this was piloted. The journey is described in overarching descriptions, rather than more nuanced details that may allow for further application. The examples provided from Kenya and Eswatini seem to only suggest that these steps were followed, but no details about what exactly was done in each step in the process. For example, in “quick wins,” all it says it’s these things were established, rather than what specifically was established. What was the “win”? How was it measured? Etc. Without this level of detail, the paper appears overly general. Country-specific examples with sufficient details to understand “how” the process was followed would enhance the paper.

- The authors seem to suggest that this overall approach can be done for any health concern. However, the application has only been in HIV and although the process appears to not be disease-specific, the tools outlined are specific to HIV. If the intent is for this process to be HIV-specific, consider making that case much more evident including in the title and introduction. Otherwise, state HIV as an example but the process could be used for other diseases. However, the examples presented only focus on HIV so that may be difficult to justify.

- Throughout the paper, there is mention of the use of human-centered design. Some explanation is needed regarding this approach and how exactly it informed the process. Not all readers will know what HCD is, thus how it was used throughout the process would be beneficial.

- The “tools” mentioned in the problem-solving journey section seem like a list of activities or concepts rather than tools. Consider reframing this section to better describe what “tools” were actually used in the process and how to use the tool in the steps proposed.

- The authors do not present or propose any evaluation of this approach. If an evaluation has not been conducted that can identify quantifiable outcomes, perhaps the authors can consider proposing an overall approach to evaluating the impact of the proposed framework.

Is the rationale for the Open Letter provided in sufficient detail?
Does the article adequately reference differing views and opinions?
No

Are all factual statements correct, and are statements and arguments made adequately supported by citations?
Partly

Is the Open Letter written in accessible language?
Yes

Where applicable, are recommendations and next steps explained clearly for others to follow?
Partly

**Competing Interests:** No competing interests were disclosed.

**Reviewer Expertise:** HIV prevention; public health

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.