

Review Article

How Communities of Practice Generate Knowledge Translation Outcomes to Support Public Health Issues: A Realist Synthesis

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Communities of practice in health settings often serve to address contemporary public health issues by sharing knowledge and experiences about accelerating implementations and innovative solutions. Because there are gaps between the practical application of communities of practice and the scientific knowledge about their effectiveness, this realist synthesis aimed to identify how and why members of communities of practice translate the shared knowledge and apply it in their daily practice. In a six-step process, this realist synthesis included a scoping review that led to an initial theory map (Step 1), followed by searches (Step 2), appraisal (Step 3), extracts and organisation (Step 4), and analysis and synthesis (Step 5). These steps organised the literature into context–mechanism–outcome configurations that guided the development of a realist framework that can support research and practice (Step 6). We identified three key ways in which knowledge translation may occur: (1) Members bring (new) knowledge to their parent organisation; (2) members change the (daily) practice in their parent organisation; and (3) members improve health outcomes through systemic changes. We found that an initial outcome of knowledge sharing *within* the community of practice is conditional to achieving outcomes of knowledge translation *outside* the community of practice. This knowledge sharing *within* the community of practice is more likely to occur in a structured and trusted environment where members feel safe, as well as where members recognise individual and organisational benefits from participation. To achieve knowledge translation *outside* the community of practice, support from the parent organisation becomes important, alongside learning and developing confidence to implement the knowledge. The synthesis of the different contexts that potentially trigger mechanisms that lead to desired outcomes provides insight into how best to inform community of practice initiators and facilitators about supporting effective public health responses.

Keywords: community of practice; health literacy; knowledge sharing; knowledge translation; public health issues; realist synthesis

1. Introduction

Complex public health issues benefit from a collaborative response at local and global levels to generate meaningful system-wide improvements in health and equity. Public health issues are often complex, with programmes required to account for many causal determinants, including

education, equity, poverty and unhealthy environments [1]. People across the world contribute to these public health issues concerning individuals, leaders, volunteers and professionals, aiming to improve not only individual lives but also whole communities, organisations and societies. These people are keen to experience and learn more about how to address public health issues best. It would be useful to

identify effective practices, knowledge and experiences and make them accessible to others. This study seeks to improve the effectiveness of ways of working together and accelerating impact and innovation, fostering knowledge sharing and translating knowledge into action [2, 3].

Communities of practice are increasingly used in health settings as a way to support knowledge sharing, innovation and implementation within and between organisations [4–8]. The increased use can partly be explained by a growing interest in online knowledge sharing during the COVID-19 pandemic [9]. Communities of practice are commonly defined as “groups of people who share a concern, a set of problems or a passion about a topic and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” [10]. The term was coined by Lave and Wenger in 1991 [11] and started appearing in health setting publications from 2001 onwards [12].

Communities of practice were initially used as a learning tool, where novices learn from experts, and then elevated to be a formal knowledge management tool [7, 11, 13]. They are frequently used in business settings with three general purposes: (1) a focus on learning and knowledge sharing; (2) a source of innovation; and (3) a means to perpetuate control over expertise domains [13]. In the health setting, the third purpose has not been observed, whereas two purposes can be observed: (1) a focus on developing individual learning and knowledge and (2) the use of communities of practice as an organisational tool to support interventions [7]. Benefits are observed when communities of practice support the implementation of interventions, and research shows promising results in them supporting the response to public health issues. For example, research on communities of practice showed that they contributed to change in antenatal care policies in Central America [14], supported increased access to primary health care in the United States [15] and improved knowledge and practice around trauma-informed care in indigenous communities in Canada [16]. Another benefit of communities of practice is that they are also low-cost, enabling their adoption and use in low- and middle-income countries [14, 17].

While communities of practice contribute to health service improvement, evaluation and synthesis of their value is complex due to their varied purpose, structure, facilitation and organisation [4, 7, 8]. Consequently, it is unclear how communities of practice work and under what circumstances they contribute to public health outcomes. For example, a community of practice that spontaneously arises from a group of passionate professionals to learn more about a topic functions differently from a purposefully established community of practice set up by an organisation to support the response to a specific public health issue. To support a public health issue response, it is necessary to uncover where and how the activities of a community of practice go beyond knowledge-sharing processes and where members act on the newly gained knowledge.

1.1. Knowledge Sharing and Knowledge Translation in Communities of Practice. Communities of practice assume that people share knowledge and learn from each other through interaction [10], noting that knowledge is a broad concept

and includes all types of information, tools and experiences. Knowledge in a community of practice can be both explicit and tacit [18]. Tacit knowledge generation can be revealed through interactions with others. The shared knowledge becomes meaningful and useful, and the sharing can generate new knowledge [18, 19]. Specific environments may need to be generated to encourage productive interactions such as “thinking together” [13, 20].

Knowledge sharing is typically not equally distributed among members. Social exchange is often undertaken with the expectation of reciprocity. This expectation cannot be enforced in a community of practice. Social exchange theory suggests that in virtual communities, some members may experience participation costs, such as loss of knowledge power or sacrificing time and effort, which may negatively affect the intention or motivation to share knowledge. On the other hand, people can be motivated to share by gaining intrinsic benefits, such as the enjoyment of helping others and social affiliation. Status sensitivity may serve as an extrinsic benefit that may also positively affect knowledge-sharing behaviour [21–23]. Social norms, trust and social capital are other background determinants that support knowledge sharing in communities of practice [21, 24, 25].

More is needed to effectively address public health issues than knowledge sharing in communities of practice; the sharing needs to advance towards knowledge translation and further into action. For communities of practice to be effective, its members must do something with their newly gained or updated knowledge. To describe this process, this review adopted the knowledge-to-action framework (KTA framework), first drafted in 2006 by Graham [26] and further expanded in 2016 by Rimmer [27]. The KTA framework integrates elements of knowledge utilisation, adaptation, translation and scale-up. When we look at the flow of knowledge in communities of practice through the lens of the KTA framework, we can see if that knowledge sharing happens within the boundaries of the community of practice and, most importantly, whether action, knowledge translation and their application go beyond the boundaries of the community [28]. In applying and advancing the KTA framework for communities of practice, we assume that community members share knowledge about public health issues within their community of practice, triggering the knowledge synthesis processes within individual members thus generating new or updated knowledge. Outside the community of practice, the individual member can then identify, select and determine if and which knowledge can be used in their organisation. New knowledge can then become adapted to the unique context of their organisation and subsequently implemented and used, for example, in response to public health issues. To close this cyclical process, an individual member can identify, select and determine what part of the new knowledge can then be brought back to the community of practice, and so, the process starts again.

Since knowledge sharing is crucial to germinating and generating action through communities of practice, this review addresses *how* and *when* people share knowledge within communities of practice, and *how* and *why* knowledge sharing generates action outside communities of practice.

2. Method

By applying a realist approach, this study synthesises current knowledge about how different contexts within communities of practice trigger mechanisms in members that lead to knowledge sharing, which then generates knowledge translation outcomes in response to public health issues. A realist approach explores complex social phenomena to uncover what works, for whom, in what circumstances and under what conditions. A realist synthesis also seeks to explain how programmes and interventions, such as communities of practice, work (or not work) and what it is that makes them work. In a realist synthesis, the aim is to study previous programmes and uncover how their underlying mechanisms were triggered by different contexts and how a specific context-mechanism configuration can then lead to specific outcomes [29]. Realist research does not see the intervention, the community of practice, as causing the outcomes; realist research sees rather how outcomes happen through the mechanisms that communities of practice may trigger [30]. In this study, we seek to uncover chains of casual explanations, described as context-mechanism-outcome configurations (CMO configurations), and refrain from describing contexts and mechanisms as separate entities without looking at their causal relationship [29, 31–34].

In this realist synthesis, our focus is on identifying when the context of a community of practice triggers mechanisms that lead to outcomes that support responses to public health issues. The context in realist research is often understood as material or social things, yet a context can also be seen as a “force”—where psychological, organisational, economic, technical and relationships interact and influence each other [35]. In our protocol paper, we distinguished examining contexts in communities of practice that are more fixed and challenging or impossible to influence versus contexts that are more flexible and feasible to influence [7]. These contexts can trigger mechanisms, including resources offered through the community of practice, such as interaction, sharing knowledge or the attitude of the facilitator, and the response, or reasoning, of the members to that response [34, 36]. For example, a community of practice with a context where members know and trust each other can lead to active interaction and sharing of knowledge between members (the resource) which then can trigger motivation in individual members to take action towards a public health issue (reasoning), which then can lead to an outcome where members take action.

This review followed the six-stage realist review protocol previously published [7], aimed to uncover which configurations led to knowledge translation outcomes that contributed to effective communities of practice that address public health issues. The process started with preparation and clarification (Stage 1), the outcomes of which were reported in the protocol paper [7]. In this realist synthesis, we searched for evidence (Stage 2), appraised evidence (Stage 3), extracted and organised results (Stage 4), analysed and synthesised

results (Stage 5) and finally drew conclusions and recommendations (Stage 6). The process was described as linear; however, as is common in realist research, search and appraisal cycles (Stages 2–5) continued until saturation occurred and the final framework was drafted [7]. In this process, CMO configurations were extracted from included papers and subsequently clustered around the identified outcomes. Knowledge sharing within communities of practice is well-researched, so we only included papers that included—in addition to knowledge sharing—also elements of knowledge translation outside communities of practice. References and quotes from these papers were extracted to provide evidence of the origin of the CMO configurations. Programme theories were developed and iteratively refined multiple times per outcome. The draft findings were discussed with experts and informally discussed with some stakeholders, after which iterations were made. The protocol paper described the review process in detail [7].

The reported study is consistent with the published protocol, except for a few necessary amendments. The protocol paper stated that we would focus the review on health literacy. However, in undertaking the review, we found insufficient published studies of health literacy communities of practice. Through consultation with experts and stakeholders, we strengthened the review by incorporating a more comprehensive range of public health issues. We maintained the focus on the initial research scope of improving health and equity through communities of practice, excluding communities of practice in business settings, as these contexts were regarded as too divergent from health settings [37]. A search on alternative terms for communities of practice to possibly include groups akin to communities of practice, such as quality improvement collaboratives or knowledge networks, did not lead to including a wider range of papers, as none of these groups were similar enough to our conceptualisation of communities of practice. To respond to developments in the field, the inclusion criteria of communities of practice were further tightened to communities of practice that were primarily virtual and included elements of synchronous communication [7, 9].

The synthesis (Stage 5 of the process) between the context, mechanisms and outcomes forms the core of realist research, where CMO configurations were described [34, 38]. CMO configurations were synthesised in reverse order to identify the possible use in responding to public health issues: Outcomes that may support the response to public health issues were identified first and subsequently traced back to the context-mechanism configurations that could explain these outcomes. To do this, it was necessary to include an extra analysis step not previously described in the protocol paper and identify outcomes contributing to the response to public health issues first, before focussing on the synthesis. The RAMESES publication standards for realist synthesis were followed in our process [39]. Ethical approval was obtained to include the stakeholders' input in this paper (Swinburne Human Research Ethics Committee: 2020875-5257).

3. Results

In Section 1 of the results section, we present the process results of the realist synthesis. The process is an integral part of the results, as results of the first stages inform and direct subsequent stages [7]. In Section 2, we present the outcome results by describing the identified CMO configurations. To emphasise the synthesis between context (c), mechanism (m) and outcome (o), to increase readability and to not get distracted in the text by c's, m's and o's, we chose not to focus on indicating individual contexts or mechanisms, and rather to focus on describing the whole configuration.

4. Section 1: Process Results of the Realist Synthesis

4.1. Developing an Initial Theory Map. In the first stage, the scope of the review was determined through the execution of a scoping review that comprised 114 papers about communities of practice in health settings. In the next step, 319 configurations of CMO, context-mechanism or mechanism-outcome were extracted from 57 papers. No relevant CMO configurations were identified in the remaining 57 papers, and those papers were excluded (Figure 1). The 319 CMO configurations were inductively coded in multiple rounds into 51 themes, which were next condensed to eighteen higher-order themes. Discussions with experts and initiators of communities of practice further enhanced these themes and refined the scope towards a strong focus on uncovering how and why communities of practice lead to useful outcomes.

The scoping process produced six initial programme theories that supported the review process. They were drafted in an initial theory map (Table 1) [29]: (1) confidence, (2) learning, (3) voice, (4) connections, (5) trust and (6) participation. These six initial key theories were expected to interact with and impact each other. For example, Trust (Theory 1) and Voice (Theory 2) seemed conditional in the early stages to activate Participation (Theory 3) and Connection (Theory 4), which seemed to become active when the community of practice was up and running. Theories 3 and 4 also likely influenced each other. Learning (Theory 5) and Confidence (Theory 6) only became active after Theories 1, 2, 3 and 4 started. Theories 5 and 6 were expected to contribute most directly to the response to the public health issue.

4.2. Focus on Outcomes: Knowledge Translation and Supporting the Response to Public Health Issues. This review aimed to uncover how and why communities of practice lead to outcomes that can support the response to public health issues. Before we could extract context-mechanism configurations that lead to these outcomes, it was necessary to specify the outcomes that could contribute to the response to public health issues in the 57 included papers. We identified four outcomes that may contribute to the response to public health issues: An intermediate outcome (IO) of knowledge sharing happening *within* communities of practice followed by a ripple effect of three outcomes of knowledge translation

outside communities of practice [40]: 1. bring (new) knowledge to the parent organisation, 2. change (daily) practice in the parent organisation and 3. improve health outcomes through systemic changes. These four outcomes create an impact on multiple levels [7] (Figure 2):

- The individual level is impacted primarily through the IO of knowledge sharing and increases the knowledge of an individual member (intermediate outcome).
- The organisational level is impacted by members who bring the knowledge shared in the community of practice to the parent organisation (Outcome 1).
- The organisation system level is impacted when this knowledge shared in the community of practice starts to contribute to changes in the daily practice of organisations (Outcome 2).
- Ultimately, the systems and societal levels are impacted where the knowledge shared in communities of practice leads to increasing knowledge and changing practice, improving the health outcomes of people through implementing systemic changes (Outcome 3).

4.3. Additional Search, Appraisal and Synthesis. The search and appraisal cycles focused on papers that included one or more of the identified outcomes 1, 2 and 3. We included 18 papers from the scoping review. Another six papers were added through focused searches on the key theories, backward searching and rerunning the initial search since the scoping review search was conducted in early 2020. Fourteen relevant organisational and social science papers were included to connect CMO configurations to existing theories [29, 34, 41]. A total of 38 papers were included in this review. The final Prisma flow chart is shown in Figure 1.

Following the study protocol, multilevel interactions were included in the results. We distinguished the following levels: A. Individual level, the context and mechanisms within an individual member; B. CoP level, the context and mechanisms that occur within the group, the community of practice; C. Organisational level, the level of the parent organisation; and D. System level, context and mechanisms within the system or even broader in the society. For example, the context of an individual member influences their input in the community of practice, which can trigger a group-level mechanism in the community of practice, which leads to outcomes in the learning of an individual member or changes in a parent organisation. Table 2 shows the results of multilevel interactions between the CMO configurations. Adhering to our protocol paper framework, it also notes whether these contexts are more fixed (f) or more responsive to the facilitator's influences (r).

5. Section 2: Outcome Results of the Realist Synthesis

In this section, we discuss the synthesis of each outcome of the realist review. The intermediate outcome (IO) of knowledge sharing; Outcome 1 (O1), bring (new) knowledge to the parent organisation; Outcome 2 (O2), change (daily) practice

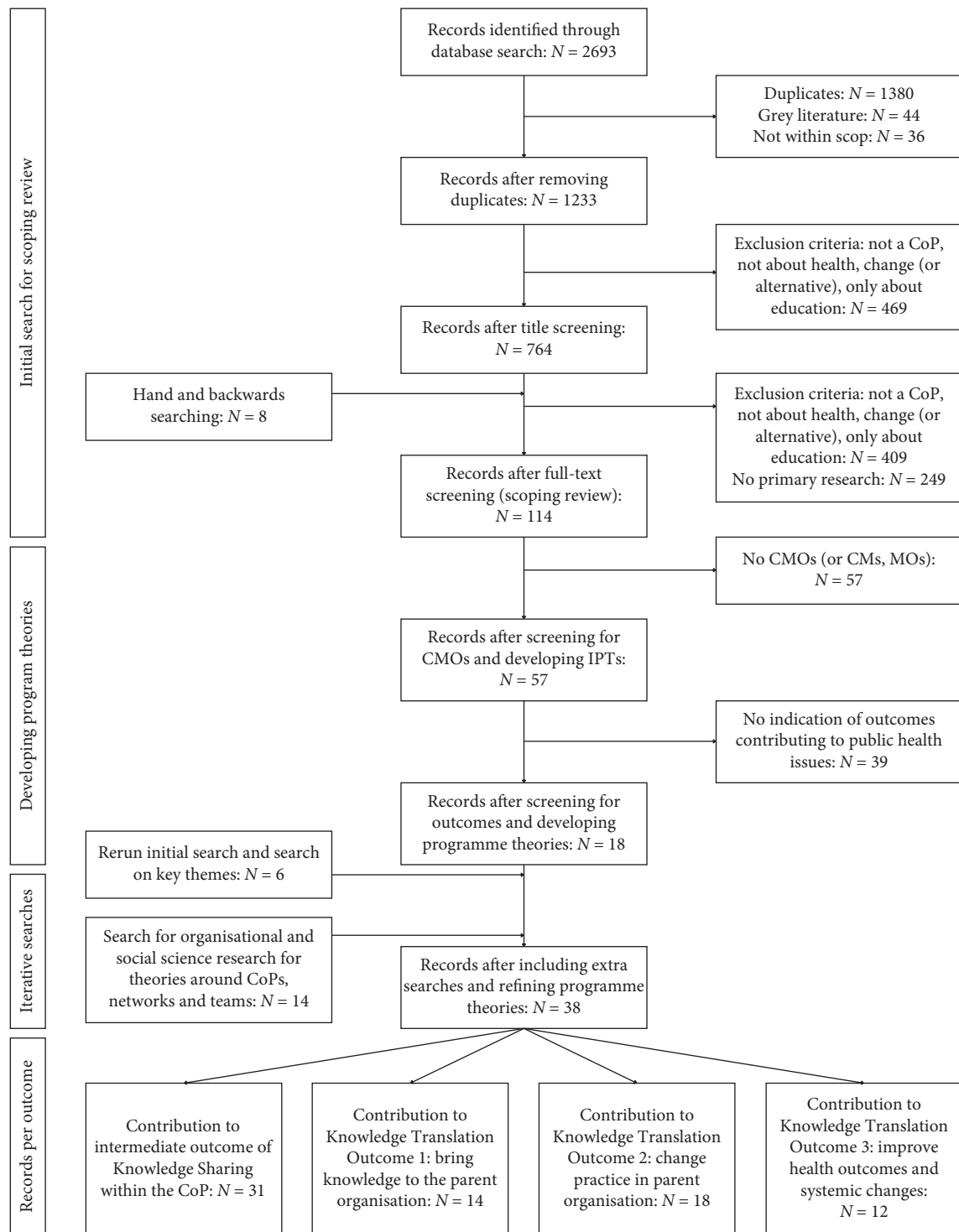


FIGURE 1: Prisma flow chart.

in the parent organisation; and Outcome 3 (O3), improve health outcomes through systemic changes. For each outcome, we discuss the CMO configurations leading to this outcome, illustrate this with quotes from the included papers and refer, where possible, to leading theories in the field that support this CMO configuration. The results per outcome are summarised in a table at the end of each subsection.

5.1. IO: Knowledge Sharing Within Communities of Practice. Our review indicates that knowledge sharing within a community of practice is a necessary condition for knowledge translation outside the community of practice. Knowledge sharing is an outcome in communities of practice that can be referred to as “knowledge sharing,” “interaction,” “(active) participation,” “information

TABLE 1: Initial “theory map” of communities of practice in health settings.

Programme Theory	Explanation	Impact and interaction
1. Trust	Members need to feel safe to be able to share knowledge and experiences	Direct impact on Theories 3 and 4 Indirect impact (via 3 and 4) on Theories 5 and 6
2. Voice	Members need to be able to voice their needs to feel that the CoP is useful to them	Direct impact on Theories 3 and 4 Indirect impact (via 3 and 4) on Theories 5 and 6
3. Participation	A CoP needs members who actively participate to share knowledge within the CoP	Direct impact on Theories 5 and 6 Interacts with Theory 4
4. Connection	A CoP needs members who build connections with each other	Direct impact on Theories 5 and 6 Interacts with Theory 3
5. Learning	Members need to learn something from the CoP to contribute to the public health issue	Direct impact on Theories 3 and 4 Interacts with Theory 6
6. Confidence	Members build confidence through participating in the CoP. This confidence supports the response to public health issues	Direct impact on Theories 3 and 4 Interacts with Theory 5

Abbreviation: CoP, community of practice.

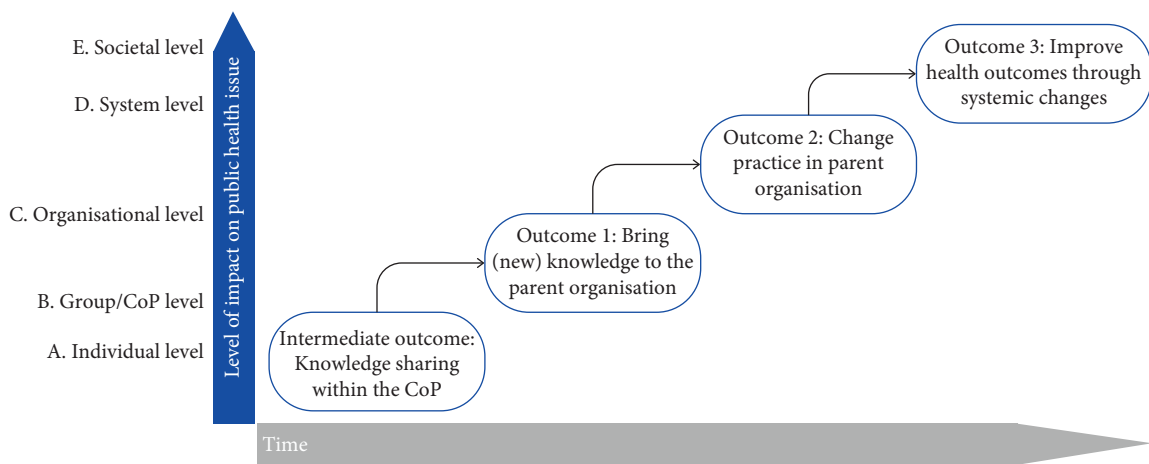


FIGURE 2: Knowledge translation outcomes of communities of practice (CoP) that contribute to addressing public health issues.

TABLE 2: Overview of the multilevel interactions between CMO configurations.

	Contexts	Mechanisms	Outcomes
Intermediate outcome: Knowledge sharing within the community of practice	B. CoP level (r) C. Organisational level (f)	A. Individual level B. CoP level	A. Individual level B. CoP level
Outcome 1: Bring (new) knowledge to the parent organisation	A. Individual level (r) B. CoP level (r) C. Organisational level (f)	A. Individual level B. CoP level	A. Individual level C. Organisational level
Outcome 2: Change (daily) practice in the parent organisation	A. Individual level (r) B. CoP level (r) C. Organisational level (f)	A. Individual level B. CoP level	A. Individual level C. Organisational level
Outcome 3: Improve health outcomes through systemic changes	B. CoP level (r)	A. Individual level B. CoP level	A. Individual level D. System level

Abbreviations: CMO, context–mechanism–outcome configuration; CoP, community of practice; f, contexts that are more fixed; r, contexts that are more variable.

sharing,” etc. It is the process within the community of practice where tacit and explicit knowledge is shared between members, facilitators and external speakers. CMO

configurations discussed in this section lead to CMO configurations for knowledge translation. We discuss three CMO configurations that support this outcome of

knowledge sharing: 1. Trust enables active knowledge sharing between members; 2. Expressing voice can promote social exchange and increase usefulness; and 3. An engaging facilitator serves as a boundary spanner between members. An overview of the CMO configurations and the level where they occur is shown in Table 3.

5.1.1. IO CMO1: Trust Enables Active Knowledge Sharing Between Members. Active knowledge sharing requires trust between members of the community of practice. Research on trust in online settings indicates that a trusted environment or safe space enhances the psychological safety required for individuals to bring in their tacit and explicit knowledge, including communities of practice in health settings [42–45]. Members with prior experience participating in communities of practice in general or in the specific topic area are often more confident about their knowledge level. A context where those experienced members bring in knowledge and especially challenges may trigger a mechanism where less experienced members feel safe to also bring in their knowledge [16, 42, 46–50]. This outcome of knowledge sharing can be amplified within the context of members with a strong shared passion or interest in the topic of the community of practice [46, 47, 49, 50]. Consequently, strong passion may trigger a mechanism of initial presumptive trust, where members feel that other members can be trusted based primarily on their heuristics and shared, mutual passion [20, 51]. The importance of having a safe space and trusted environment in a community of practice is illustrated by the following quote:

“CoP is a safe place to discuss, debrief and explore ideas that are not safe elsewhere. Participants described CoP as a “safe place” that was separate and external to their workplace. This was characterised by deep trust that was built within the group, the safety in shared commitment and understandings of working in Aboriginal health. Participants reported sharing their vulnerability, doubts and troubles and feeling supported by the group at that time” (p.491) [50].

In addition to psychological safety, a community of practice may trigger mechanisms of developing interpersonal trust, where members trust that other members will not harm them if they make themselves vulnerable by sharing their knowledge [51, 52]. This is supported in papers about communities of practice in health settings, where we find that if members feel more relatable to other members, then they feel more comfortable sharing their knowledge and challenges and feel free to ask questions [16, 17, 46–50, 52, 53]. A context within the community of practice where members feel working on a shared aim consolidates the mechanism of interpersonal trust and promotes a mechanism of bonding social capital, where members further strengthen their ties and increase knowledge sharing [21, 53]. If bridging social capital is triggered, then this will strengthen the outcome where members start sharing their knowledge outside their organisational

boundaries. A good balance between bonding social capital—where members support each other based on having shared characteristics or interests—and bridging social capital—where members extend outside their usual social groups and build a bridge towards new social groups—is considered particularly important in funder-initiated or top-down communities of practice [53]. The role of developing interpersonal trust towards an outcome of knowledge sharing is illustrated by the following quote:

“The commonality of positions, people, work experience and age was also acknowledged. The group size was reported to be appropriate because there was an ability to get to know all the members, equal time given and a comfortable space for sharing. The majority of members reported sharing confidential things such as structures and work politics, because they felt trust and inspiration by their peers.” (p.8) [49].

It should be noted that it takes time to build interpersonal trust to a level where members share their challenges freely within a community of practice [16, 46–50] and it may even be inefficient in its infancy stages to focus on this interpersonal trust [18, 47]. This reservation is shown by the quote below:

“The facilitators noticed that during the first meetings, the members tended to “defend” their project; and were trying to highlight the positive points while holding back on the dilemmas and problems they experienced. Gradually the members got to know each other, developed mutual trust and understanding and felt freer to show their concern and doubts about their own projects. This resulted in members asking for advice.” (p.118) [47].

Our review also revealed indications of an alternative programme theory, where trust might be violated when not everyone in a community of practice interacts at the same intensity levels. If the number of active participants is low and there are many so-called “lurkers,” then active members are likely less motivated to bring in their knowledge [47, 54]. The lack of motivation can be explained by a lack of reciprocity leading to a lack of benefit for the active member [23]. This trigger can be suppressed by actively welcoming different participation levels and encouraging active members to act as informal leaders. In that case, active members retrieve other benefits, such as status seeking, social affiliation and enjoyment of helping others [21, 54]. The following quotes illustrate the role of reciprocity in achieving knowledge sharing:

“In particular, CoP members will be inclined to continue sharing online if they encounter reciprocity expected and if they feel they are helping others.” (p.4454) [54].

“Members indicated that there should be a balance between bringing and taking knowledge. Some felt they did not benefit sufficiently from the CoP: “I want to do my bit, but I also want to gain something from participating

TABLE 3: Overview CMO configurations for intermediate outcome (IO): knowledge sharing within communities of practice.

IO: Knowledge sharing within communities of practice	Level	Literature
IO CMO1: A community of practice, with active, experienced members, that cultivates a safe place for members to share their knowledge (incl. experiences and challenges) will enable knowledge sharing between members and facilitators or speakers, because the active, experienced members likely have the confidence to share their knowledge. Their behaviour, expert status and recognition of shared passion enable trust so that other members are triggered to share their knowledge. However, these active, experienced members or facilitators should not dominate the discussion or create hierarchical distance, as trust will not be triggered	<i>Context:</i> B. Group/CoP	[5, 16–18, 20, 21, 23, 42–55]
	<i>Mechanism:</i> A. Individual	
	<i>Outcome:</i> A. Individual B. Group/CoP	
IO CMO2: A community of practice with a clear, aim and activities (incl. room for reflection) that meet the needs of the members, will enable knowledge sharing (incl. experiences) between members and facilitators or speakers, because members know what to expect and which knowledge-sharing behaviour will be beneficial for themselves and others. When members' understanding of the benefits is triggered, which is more likely when members have a supportive parent organisation or work on mutual projects, they are more likely to share their knowledge and are open to receiving knowledge from others	<i>Context:</i> B. Group/CoP C. Organisation	[14, 15, 17, 18, 23, 42, 46, 47, 49, 53, 54, 56–63]
	<i>Mechanism:</i> A. Individual	
	<i>Outcome:</i> A. Individual B. Group/CoP	
IO CMO3: A community of practice with an engaging facilitator makes members feel equal and will enable knowledge sharing (incl. experiences and challenges) between members and facilitators or speakers, when the facilitator functions as a boundary spanner, as their role triggers members to cross over their organisational boundaries and to actively participate in the community of practice. However, when the facilitator is not engaging and dominating the community of practice, this boundary-spanning role will not be triggered.	<i>Context:</i> B. Group/CoP	[17, 43, 46, 49, 51, 54, 55, 60, 64]
	<i>Mechanism:</i> A. Individual	
	<i>Outcome:</i> A. Individual B. Group/CoP	
Abbreviations: CMO, context–mechanism–outcome configuration; CoP, community of practice; IO, Intermediate outcome.		

here". [...] A project member explained in the interview "One of the dangers for such a community can be that some people take the lead, while others are participating pro forma". (p.117) [47].

Trust can also be violated when members perceive strong hierarchical barriers in the group or when some members or facilitators heavily dominate the discussion and leave little room for input from other members [47, 49, 55]. If this happens, then other members can feel too unsafe, oppressed or overwhelmed to bring in their knowledge, as they might feel that bringing in knowledge will harm them [43]. Consequently, people might stop participating, or there may only be knowledge sharing between a limited number of people. The latter brings another risk, as this can lead to groupthink [5]. The quote below illustrates the consequences of trust violation:

"The community of practice did not promote innovation in their work or objectively change their approach and believed the variance in knowledge and small understanding of business constraints by the group members prevented them from sharing openly in their work and regularly participating. They did not see the benefits from the group nor feel the level of trust required to share with their peers to a level that may then have impacted on their work approach." (p.8) [49].

5.1.2. IO CMO2: Expressing Voice Can Promote Social Exchange and Increase Usefulness. When individual members get the opportunity to express their voice and can leverage content, structure and process in a community of practice, then this can support knowledge sharing [15, 17, 42, 46, 49, 53, 54, 56, 57, 63]. If members express their voices, then this can support facilitators in how to best set up and run the community of practice according to the members' needs. At the same time, it may also satisfy members when they feel their input is valuable. This can increase members' commitment to continue their investment and influence towards the community of practice, contributing to the usefulness for individual members [42]. When members feel the community of practice is useful to them and they benefit from participating, then this may increase knowledge sharing [23]. A context consisting of a sense of community and strong bonding social capital in the community of practice enhances opportunities for members to voice their needs. It also leads to trust that their needs will be met [53, 58, 59]. This is even stronger in a context where members get strong support from their parent organisation [53, 56] and when the time spent in the community of practice increases [15, 49]. The quote below illustrates the context of organisational support and time spent on the probable usefulness of the community of practice and meeting the needs of the members:

"The pilot demonstrated that CoPs are effective means of breaking down cultural barriers to sharing between professions and agencies. However, we found that it was

essential to get executive sign up to the principle of the CoP and to recognise that relationships need to be built before members can focus on specific projects." (p.48) [56].

The mechanism of social exchange is further supported by contexts where the community of practice identifies and describes its aim, structure and activities and where it meets the members' needs. Meeting the members' needs is more likely when members are given the opportunity to voice their needs, which can be done by encouraging reflection in meetings. When members experience returns on investment from their participation, this helps members to cross organisational boundaries. Crossing organisational boundaries is further supported in contexts where the parent organisation encourages this or when members work on shared projects. If members cross organisational boundaries, then social exchange within the community of practice increases [15, 46, 49, 54, 60, 61]. See quotes below:

"Participants enjoyed the formality and structure of each session and believed it helped in knowing what to expect every time. Taking time to undertake reflection in the sessions was said to build skills in reflecting regularly in their work outside of the sessions and build confidence in the process." (p.7) [49].

"The amount and frequency of dialogue was often used by facilitators as an informal marker of a CoP's success and the degree to which members valued the CoP. However, facilitators found that asking members directly about the perceived value of a CoP resulted in a more accurate assessment of its meaning and importance." [60].

If communities of practice do not have a clear aim, structure and activities, members will be unsure about what to expect, and they might doubt that their expectations will be met or if and how their voice will be included. This uncertainty is likely to lower participation levels and knowledge sharing. Members can also hold back from participation if they feel it is not beneficial or in the best interest of their parent organisation to share their knowledge [14, 18, 47, 54, 62]. The following quote illustrates what happens when people cannot voice their needs and their needs are not met:

"The other three CoPs showed lack of organization among facilitators and champions. This caused delays in the completion of tasks and gradually discouraged participants. There was random attendance to workshops and CoPs did not work as cohesive groups. Most of the time, the tasks were accomplished by the facilitator and/or a few CoP members and lacked general consensus." (p.6) [14].

5.1.3. IO CMO3: An Engaging Facilitator Serves as a Boundary Spanner Between Members. On the level of the community of practice, we find indications that an engaging facilitator can function as a boundary spanner and that this supports knowledge sharing. Having an engaging, open and

understanding facilitator who encourages people to share knowledge and allows everyone to participate on a level they feel comfortable with, can make members feel like being among equal peers [17, 46, 49, 54]. The feeling of being around peers also creates a lack of hierarchy, which contributes to a safe space and trusted environment. In this safe space, people are more likely to share their knowledge as they feel psychologically safe to do so, while at the same time, they perceive the knowledge shared as trustworthy [43]. When a facilitator is knowledgeable and trusted and acts as a boundary spanner, then this can encourage cognitive trust between people, which is especially useful in the early stages of a community of practice where people trust each other based on their credentials. In a later stage, this trust is more likely to develop into interpersonal or affective trust [43, 51, 55, 64]. However, the role of a facilitator is not conditional, as boundary spanning can also take effect between members [55, 60, 64]. The role of the facilitator is illustrated by the quote below:

“She did not share her personal opinion on the topic, which allowed participants to freely interact, co-construct the meaning of what they were learning and co-create knowledge.” (p.6) [46].

A facilitator regularly plays a critical role in the knowledge-sharing process, so when a facilitator dominates the discussion, pushes their agenda or gives little room for members to voice their input, this can indicate to members that active participation is not needed nor expected. Members are then less likely to share their knowledge, and there is only one-way communication between the facilitators and the group. This is more likely to happen in a context with strong, existing organisational boundaries and hierarchy [55]. The following quote shows this:

“All of these factors resulted in the formation of strong inter-organisational boundaries which significantly limited knowledge sharing between the participating practices and were partially bridged by external facilitators performing a knowledge brokering function.” (p.9) [55].

5.2. Outcome 1 (O1): Bring (New) Knowledge to the Parent Organisation. Members can bring the shared knowledge back to their parent organisation. In order to do this, members need to appraise and translate the shared knowledge into useful knowledge for the parent organisation. A member of the community of practice then becomes a knowledge broker for the parent organisation. We identified two CMO configurations in the literature that indicate how and under which circumstances this might happen: 1. Learning supports the development of confidence in members and 2. interaction in the community of practice inspires and motivates members. An overview of the CMO configurations and the level where they occur is shown in Table 4.

For both configurations, we found indications that a context of support from the parent organisation is more likely to trigger mechanisms that lead to members bringing

knowledge to their parent organisation. When knowledge sharing within the community of practice happens, a member who has support from their parent organisation and has been given time to participate can feel responsible to “report back” to their parent organisation to prove that the time spent in the community of practice has been useful. In a context where the community of practice meets the needs of the member, then it is even more likely that the member reports back to the parent organisation [46, 56]. In contrast, if there is no or little support from the parent organisation, then it is less likely that the member will bring back the knowledge to the parent organisation, and it will be challenging for facilitators to meet people’s needs [60]. The following quote can illustrate this:

“Since participants most keenly experience support or the lack thereof within their own line of reporting, this finding also has implications for facilitators and sponsors in defining expectations and roles associated with establishing and maintaining CoPs.” [60].

5.2.1. O1 CMO1: Learning Supports the Development of Member’s Confidence. At the level of the individual member, we found that when knowledge sharing happens, individual members learn more about the topic. This can trigger mechanisms where members feel more confident about their knowledge levels. This confidence can help members consider whether this knowledge is useful and worthy of translating into their parent organisation [16, 42, 49, 60, 61, 65–67]. Whether this knowledge is beneficial is based on whether members regard that knowledge as trustworthy and of sufficient quality. Members who are determined to grow and make changes are more likely to learn and increase their knowledge (competence), connect with others (connection) and decide how they translate the knowledge towards or into their parent organisation (autonomy) [16, 49, 65, 67, 68]. When the community of practice is a safe space and members feel that there is a sense of community, then this can make those members feel less (professionally) isolated as they feel part of a larger group [25, 49, 59, 61, 65, 66]. The focus on individual and group learning can foster the social learning processes in a community of practice [17]. Feeling part of a community can increase members’ perceived usefulness of the knowledge shared in the community of practice. This can be accelerated in a context where trust is developed over time, where there are few or no hierarchical barriers and where members have an equal voice in the community of practice and can influence the agenda [17, 42]. The following quote illustrates the role of confidence:

“When participants with varied experience and roles (C) share, feedback, support and collaborate in the community of practice, they can see the value of and gain confidence in new perspectives, skills and practices (M), which they take back to their communities, workplaces, colleagues and students, and integrate into their practice (O).” [61].

TABLE 4: Overview of CMO configurations of Outcome 1 (O1): Bring (new) knowledge to the parent organisation.

O1: Bring (new) knowledge to the parent organisation	Level	Literature
O1 CMO1: Knowledge sharing in a community of practice can lead to members taking the (new) knowledge to their parent organisation and sharing it there, because the knowledge sharing in the community of practice makes members learn and increases their confidence about knowledge about the topic. Feeling more confident is more likely to be triggered through contexts of less professional isolation and having a safe space and a sense of community, and it can make it easier for members to appraise the knowledge for their parent organisation. A learning mechanism is more likely to be triggered in a context where members have a voice and can influence the community of practice and when their needs are met. Sharing within the parent organisation is more likely to happen when the parent organisation supports members' participation	<p><i>Context:</i></p> <p>B. Group/CoP</p> <p>C. Organisation</p> <p><i>Mechanism:</i></p> <p>A. Individual</p> <p>B. Group/CoP</p> <p><i>Outcome:</i></p> <p>A. Individual</p> <p>C. Organisation</p>	[16, 17, 25, 42, 49, 54, 59–61, 65–68]
O1 CMO2: Knowledge sharing in a community of practice can lead to members taking the (new) knowledge to their parent organisation and sharing it, because members are inspired and motivated by other members or the facilitator, especially those who are a certain (trusted) authority, and members feel more confident in their knowledge appraisal as this knowledge is likely the correct knowledge to share. A diverse community of practice provides more diverse knowledge and inspiration is then more likely to be triggered, because it will be more likely for members to find common ground. When a parent organisation encourages members to participate, it is more likely that members share the knowledge from the community of practice with their parent organisation	<p><i>Context:</i></p> <p>A. Individual</p> <p>B. Group/CoP</p> <p>C. Organisation</p> <p><i>Mechanism:</i></p> <p>A. Individual</p> <p>B. Group/CoP</p> <p><i>Outcome:</i></p> <p>A. Individual</p> <p>C. Organisation</p>	[14, 16, 18, 42, 53, 56, 65]

Abbreviations: CMO, context–mechanism–outcome configuration; CoP, community of practice; O1, Outcome 1.

An alternative programme theory shows that when members see other members bringing in knowledge and experiences, this can also trigger negative mechanisms where they feel overwhelmed, impressed or lose confidence in their knowledge or skill level. This can make them less confident sharing knowledge and less likely to bring it back to their parent organisation. This is more likely to happen in a context with strong existing hierarchical barriers or when the community of practice is diverse and it is harder for members to identify common grounds. In these cases, a sense of community is less likely to be developed [25, 54]. This CMO is illustrated by the quote below:

“The specific activities that emerged did help foster collaboration and did focus on social participation, as reported by our participants, but they were not exclusively oriented towards research activities. This is likely due to the diversity of participants, many of whom had little experience in research and in this type of collaboration. Given the variety of different backgrounds and settings, it has been challenging to find common projects that touch on everyone’s interest (...). Perhaps with time the CoP will also be able to go a step further in creating new knowledge and facilitating the research process.” (p.4456) [54].

5.2.2. O1 CMO2: Interaction in the Community of Practice Can Inspire and Motivate Members. At the intersection of the individual level and the level of the community of practice, we found that knowledge shared can trigger inspiration or motivation in individual members. An inspired or motivated member can step up as a knowledge broker and bring the (new) knowledge to its parent organisation [14, 16, 18, 42, 56, 65]. Inspiration and motivation through interaction in the community of practice are more likely to eventuate when a community of practice covers a range of diverse perspectives and when there is room for all different perspectives to be heard equally [16, 42, 65]. Inspiration and motivation are also shown more likely in a context where the shared knowledge meets the members’ needs [18, 56]. In addition, if members interact openly and respectfully, then inspiration and motivation are more easily achieved, as the interaction can increase bonding and bridging social capital [53]. An extra advantage is that when members are inspired and motivated, they are more likely to bring new knowledge with passion and commitment to their parent organisation [14, 65]. The quote below illustrates this CMO:

“The CoP helped participants experience being part of a larger, supportive net of service providers and to reflect on ways that this culture of openness could penetrate their own agencies more deeply. Part of this evolving culture was the development among CoP participants of a common, respectful and inclusive language to share experiences, insights and suggestions moving forward.” (p.127) [16].

5.3. Outcome 2 (O2): Change (Daily) Practice in the Parent Organisation. The knowledge gained in the community of practice may not only be brought back to the parent organisation, but it may also be used to support members and their parent organisation to make changes in their daily practice that contribute to the response to public health issues. This is where knowledge gets translated into action [26, 27]. The same CMO configurations as Outcome 1 can play a role. In addition, developing confidence in Outcome 2 was found to have a stronger emphasis on developing skills to make changes, while inspiration and motivation particularly increase when members step out of their organisational boundaries. We identified a third CMO configuration around social exchange and return on investment. An overview of the CMO configurations of this outcome and the level where they create impact is shown in Table 5.

For all three CMO configurations, we found that while organisational support can assist members in bringing knowledge to the parent organisation, it can also enable members to make changes to the daily practice in their parent organisation [46, 56, 60]. In a context of strong organisational support from the parent organisation, members are often allowed to learn and make changes [15]. Members may also have ownership of doing something with the (new) knowledge in practice [14], and this strongly contributes to members taking action and making changes in their daily practice. The following quote illustrates the context of organisational support:

“The integration of the CoP and trust among its members, including the facilitator and champion, were crucial in empowering stakeholders and developing a sense of ownership on the implementation research findings generated.” (p.9) [14].

It is possible, however, that members may feel pressured by their parent organisation to justify the usefulness of their participation by translating the knowledge into action. This means that participation in a community of practice can lead to an outcome of practice change, yet with a negative experience for the member [67]. This negative experience can lead to discontinuation of participation, which breaks the KTA feedback loop; their experience is not brought back to the community of practice [27].

5.3.1. O2 CMO1: Increased Confidence Prompts Changes in (Daily) Practice. Knowledge sharing gives individual members the confidence to translate knowledge and bring the knowledge to their parent organisation (Outcome 1) [16, 42, 49, 60, 61, 65–67]. That confidence can also lead to outcomes where members use that knowledge to initiate, contribute or implement changes in their parent organisation (Outcome 2) [47, 49, 54, 61, 65–67]. This outcome can occur directly through a mechanism of developing confidence, or it can accelerate after Outcome 1 is achieved, where members first bring the knowledge to their parent organisation, after which changes may be implemented. The following quote represents the role of confidence towards change:

TABLE 5: Overview of CMO configurations of Outcome 2 (O2): change (daily) practice in the parent organisation.

O2: Change (daily) practice in the parent organisation	Level	Literature
O2 CMO1: Knowledge sharing in a community of practice can prompt members to change their daily practice, because knowledge sharing in the community of practice causes members to learn, improve skills and increase confidence about their topic knowledge. Members feel more confident that they have the right knowledge and skills, which is more likely to be triggered through contexts of less professional isolation and having a safe space and a sense of community, and it can make it easier for members to appraise the knowledge for their parent organisation. A learning mechanism is more likely to be triggered in a context where members have a voice and can influence the community of practice and when their needs are met, but also to have access to useful tools and resources. Sharing within the parent organisation is more likely to happen when the organisation supports members' participation and when there is a supportive facilitator	<i>Context:</i> B. Group/CoP C. Organisation	[16, 23, 42, 46, 47, 49, 54, 60, 61, 65–67, 69]
	<i>Mechanism:</i> A. Individual B. Group/CoP	
	<i>Outcome:</i> A. Individual C. Organisation	
O2 CMO2: Knowledge sharing in a community of practice can lead to members changing their daily practice, because members are inspired and motivated by other members and the facilitator, especially those with a certain authority, and they feel more confident in their knowledge appraisal as this knowledge is the right knowledge to use to cross over organisational boundaries, which is necessary for implementation. A diverse community of practice provides more diverse knowledge, and inspiration is more likely to be triggered, because it will be more likely to find a common ground or a mutual “hope for change.” When a parent organisation encourages members to participate, it is more likely that members will use the knowledge to change practice	<i>Context:</i> A. Individual B. Group/CoP C. Organisation	[14–16, 18, 42, 46, 47, 49, 56, 57, 60, 61, 65, 69]
	<i>Mechanism:</i> A. Individual B. Group/CoP	
	<i>Outcome:</i> A. Individual C. Organisation	
O2 CMO3: Knowledge sharing in a community of practice can lead to members changing their daily practice, because members perceive benefits through participating, which encourages them to apply this directly in their daily work. This justification of their (time) investment in the community of practice is more likely triggered via a context where members' needs are met. When a parent organisation encourages members to participate, it makes it more likely that members use the knowledge to change practice. However, this encouragement can trigger pressure for members to justify their participation, decreasing participation over time	<i>Context:</i> A. Individual B. Group/CoP C. Organisation	[15, 23, 46, 47, 49, 54, 58, 67, 69]
	<i>Mechanism:</i> A. Individual	
	<i>Outcome:</i> A. Individual C. Organisation	
Abbreviations: CMO, context–mechanism–outcome configuration; CoP, community of practice; O2, Outcome 2.		

“Participants agreed that the most significant change as a result of participating in the Community of Practice was a perceived increase of confidence for working in Aboriginal health and nutrition. [...] This related to feeling more equipped to change their practice and reflection on their own personal values and beliefs related to their practice.” (p.69) [66].

Knowledge sharing in a community of practice can provide members access to new information, tools and other resources, and members can learn how to access and use them. Members can then consider using the new information, tools and other resources to change their daily practice. If members know which skills they need or want to develop and when the community of practice meets their needs, members can focus their learning in the community of practice and learn to use the resources that best fit their needs [69]. When the community of practice meet members’ needs and members can put the new knowledge into practice, then members receive benefits from their participation, which promotes increased participation and seeing the community of practice as useful [23, 46, 47, 49, 60, 61, 65]. This is illustrated by the quote below:

“Seven participants mentioned they were preparing to change an aspect of their clinical practice in line with what had been discussed in the CoP. These probably changes included: using a new participation-based clinical tool.” (p.9) [46].

5.3.2. O2 CMO2: Inspiration and Motivation Can Accelerate Change in (Daily) Practice. Knowledge sharing in a community of practice triggers inspiration and motivation in members to bring the knowledge to their parent organisation (Outcome 1) [14, 16, 18, 42, 56, 65], and this inspiration and motivation can also support members to make changes in their daily practice [15, 16, 46, 47, 49, 57, 60, 61, 65, 69]. However, to be able to make changes, members often need a context where they can cross organisational boundaries, and they need to accept and trust the knowledge of other members or even collaborate with other members outside their parent organisation [15, 46, 47, 60, 69]. A context of a mutual “hope for change” in the community of practice can increase and validate members’ time to participate, as well as it may decrease feelings of professional isolation, which both can trigger members’ motivation to take steps towards a change of practice [16, 49, 57, 61]. The following quotes illustrate this CMO configuration:

“A CoP can bring clinicians and managers together across services, to implement service improvements based on evidence from research and examples of best practice. This can change people, practice and procedures in innovative ways.” (p.25) [69].

5.3.3. O2 CMO3: Return on Investment Encourages Change of (Daily) Practice. While social exchange plays a role in developing confidence and getting inspiration to make

changes, this is also a mechanism in itself whereby members experience the benefits and satisfaction of their investment of time to participate in the community of practice and share their knowledge [15, 46, 49, 67, 69]. A sense of community can also be triggered when members anticipate that their needs will be met [23, 58]. This mechanism of “feeling there is a return on investment” is more likely to be triggered through contexts where members’ needs are met. When needs are met, members are more likely to start making changes in their practice, as there are fewer barriers, which is especially useful when the aim is to create outcomes of sustainable change in practice [69]. This finding is illustrated by the quote below:

“A Community of Practice, using a bottom-up peer-led approach, can become a focus for improving clinical practice. It can effectively overcome barriers such as insufficient time, inadequate resources and a culture unsupportive of change, and it can lead the implementation of evidence-based practice.” (p.25) [69].

At the same time, there is a risk when members focus only on achieving their own benefits, as that may lead to “lurking” in the community of practice. Lurking can negatively influence the interaction in the community of practice and can lead to trust violation, which lowers the possibility of achieving outcomes where members make changes to their practice [23, 47, 49, 54]. The following quote illustrates this:

“The community of practice did not promote innovation in their work or objectively change their approach and believed the variance in knowledge and small understanding of business constraints by the group members prevented them from sharing openly in their work and regularly participating. They did not see the benefits from the group nor feel the level of trust required to share with their peers to a level that may then have impacted on their work approach.” (p.8) [49].

5.4. Outcome 3 (O3): Improve Health Outcomes Through Systemic Changes. The knowledge gained in the community of practice can support members to make changes to their daily practice, as well as taking further steps to create systemic changes in their organisation, leading to, for example, better health care, which can ultimately lead to improved health outcomes for individuals and communities. Most studies describe this as a mediated or indirect effect of practice change. However, a few studies report this outcome as a direct contribution of people participating in communities of practice. This outcome is not as strongly present in the literature as the previously described CMO configurations and lacks detail. However, it was too prominent to exclude from the results. We discuss two CMO configurations that support this outcome: (1) inspiration and validation for members’ work to improve health outcomes and (2) knowing others can support action and systemic changes. An overview of the CMO configurations of this outcome and the level where they occur is presented in Table 6.

TABLE 6: Overview of CMO configurations of Outcome 3 (O3): Improve health outcomes through systemic changes.

O3: Improved health outcomes through systemic changes	Level	Literature
O3 CMO1: A community of practice can contribute to better health outcomes for individuals and communities through knowledge sharing, because other members inspire members of a community of practice and that provides validation for their work, which can support to process of making systemic changes	<i>Context:</i> B. Group/CoP	[18, 49, 57, 60, 65]
	<i>Mechanism:</i> A. Individual B. Group/CoP <i>Outcome:</i> A. Individual D. System	
O3 CMO2: A community of practice can contribute to better health outcomes for individuals and communities through knowledge sharing, because members have access to other members and know others and their networks, which makes it easier to cross over organisational boundaries and to receive support that is needed to make systemic changes	<i>Context:</i> B. Group/CoP	[14, 25, 42, 47, 55–57, 61, 62, 66]
	<i>Mechanism:</i> B. Group/CoP <i>Outcome:</i> A. Individual D. System	

Abbreviations: CMO, context–mechanism–outcome configuration; CoP, community of practice; O3, Outcome 3.

5.4.1. O3 CMO1: Inspiration and Validation for Members' Work to Improve Health Outcomes. If the knowledge gained in the community of practice has a practical focus, then this can inspire members to make systemic changes in their parent organisation that directly benefit consumers or patients and lead to improved health outcomes, for example, through improving the quality of care [18, 49, 57, 60, 65]. Participating in the community of practice and learning about other members' experiences can also validate the topic's importance. Members feel less isolated and more confident if they know that others work on the same topic, making it more likely for people to take action towards making systemic changes [18, 57, 60]. The following quote illustrates this CMO configuration:

"The National CoP facilitated behaviour changes that improved performance in planning abilities and for advocating and accessing services. [...]. People changed their behaviour by increasing involvement of families in leadership and planning processes and adding more holistic supports and services." (p.96) [57].

5.4.2. O3 CMO2: Knowing Others Can Support Action and Systemic Changes. When a community of practice also forms a network, it creates a sense of community [25] and may also provide collaborative opportunities. If members have access and get to know other members and their networks and learn what they are doing, then this lowers barriers to cross over organisational barriers and makes it easier to turn to others for advice, support and future collaborations [14, 42, 47, 55–57, 61, 62, 66]. A community of practice that includes face-to-face meetings is likely to speed up this process, as people tend to approach other people more easily if they have met them "in real life" [61, 66]. The following quote illustrates the role of knowing others:

"Throughout the existences of the CoP, learning expanded outside the CoP, having a broader impact on care practice for frail older people. As CoP members came to know each other, they also learned who to consult for advice outside the meetings." (p.119) [47].

It should be mentioned that these collaborations occasionally can lead to tension or even rivalry between members if the collaboration is concurrent or conflicts with the goals of the parent organisation of members. In that case, this outcome will not be achieved, as represented in the quote below [62]:

"It (red. the CoP) created a neutral space where people from different professional affiliations and personal identities now meet and develop a culture of collaboration. It has achieved significant recognition on the political front and has influenced decision making bodies. (...) In addition, working collaboratively in a context of scarce resources and "silos" is a source of tension. Corporate rivalries emerged when some members believed that their organizations might incur budget cutbacks as

the CoP was gaining prominence. It was important to consistently remind members about their shared passion and beliefs in order to dismantle corporate rivalry and promote group cohesion." (p.3,4) [62].

6. Discussion

Communities of practice can support the development of responses to public health issues when they lead to outcomes beyond knowledge sharing. This impact happens when members translate the knowledge shared in their community of practice and bring that knowledge back to their parent organisation, using it to change their practice and contribute to systemic changes that then lead to improvements in health outcomes. This research contributes to two findings: (1) providing evidence of how and why communities of practice contribute to public health issue responses and (2) offering guidance and support for initiators and facilitators who aim for communities of practice that contribute to knowledge translation. Initiators and facilitators are supported when knowing which contexts can trigger mechanisms that may lead to achieving effective outcomes. Some identified contexts and mechanisms are responsive and can be easily modified by facilitators, such as developing a safe space and providing a clear aim and structure. Others are more fixed and go beyond the facilitator's sphere of influence, such as external events or members' characters. In our results, we focus on those that are—to some extent—responsive and thus influenceable.

Our review presented clearly that to achieve outcomes of knowledge translation *outside* the community of practice, knowledge sharing must happen *within* the community of practice [26, 27]. CMO configurations manifest on different levels. The IO of knowledge sharing is more likely to be achieved in an individual-level context where members can voice their needs and expectations. A combination of CoP-level contexts, such as having a safe space and passionate members, a clear aim and structure, and an engaging facilitator, may also lead to knowledge sharing. These contexts can trigger mechanisms leading to knowledge sharing on the individual and CoP level, for example, creating psychological safety and confidence to share knowledge, developing bonding social capital and establishing social exchange [5, 14–18, 20, 21, 42, 43, 46–64].

The context and mechanisms that were identified leading to the IO were also observed as ripple effects leading to achieving Outcomes 1, 2 and 3 [40]:

- Outcome 1: Bringing knowledge to the parent organisation is an outcome at the individual and organisational levels [14, 16–18, 25, 42, 49, 53, 54, 56, 59–61, 65–68]: Individual members appraise and translate the knowledge towards their parent organisation, which needs to be open to receiving this. This outcome is more likely with a supportive context on the individual level, where members' needs and expectations are met within the community of practice. It is also supported by a CoP-level context of having a safe space for members of different backgrounds to

participate without the existence of hierarchical barriers and an organisational-level context of support from the parent organisation for members to participate and bring back the learnings. These contexts may trigger mechanisms on the individual level, learning new knowledge and inspiration, and mechanisms on the CoP level, such as a sense of community and social capital. The context-mechanism configurations of Outcome 1 may also impact Outcomes 2 and 3.

- Outcome 2: Changing the parent organisation is an outcome on the individual and organisational level [14–16, 18, 23, 42, 46, 47, 49, 54, 56–58, 60, 61, 65–67, 69]: To achieve Outcome 2, it is helpful if there is on the individual level a context of reduced professional isolation within members, a context on the CoP level of mutual hope for change and on the organisational level practical access to tools and resources to support the practice change. All these conditions trigger mechanisms on an individual level where people develop skills to make changes and on a CoP level where members find validation that their work and participation are beneficial to them and others.
- Outcome 3: Improving health outcomes through systemic changes is occurring on the individual and organisational levels [14, 16–18, 25, 42, 49, 53, 54, 56, 59–61, 65–68]: A context on the CoP level, where members know where to go to for support, can trigger mechanisms on the individual and the CoP level, where members cross over organisational boundaries to gather the support they need and possibly collaborate to improve health outcomes. It should be noted that while the community of practice plays an important role in achieving this outcome, it often comes down to the actions of individual members and their behaviour in and outside the community of practice and the support they receive from their parent organisation. External contexts and mechanisms outside the reach of the community of practice are also significant in achieving this outcome, such as having sufficient finances for implementing changes or a supportive policy environment. We omitted these from this review, as they are beyond the control of the initiator or facilitator, and it is impossible to anticipate all the potential external events that might influence the outcomes.

We summarised the findings in a “Realist framework of knowledge translation to action in communities of practice” (Figure 3). An operationalisation of the practical implementation of this framework will be developed as part of a manual for professionals and is available on request by the corresponding author.

The framework elaborates on the scoping review outcomes [7], the initial theory map (Table 1) and the knowledge translation outcomes (Figure 1). The framework incorporates all findings of the realist synthesis and provides insights into why and how knowledge translation happens [29], where knowledge sharing happens *within* communities

of practice as a precondition for knowledge translation *outside* communities of practice [26, 27]. We strengthened our findings by incorporating middle-range theories [41, 70]. Examples of middle-range theories are used to include developing psychological safety [43, 44], having cognitive skills, building interpersonal trust [20, 51], social exchange [23] and developing social capital through having a sense of community [25, 58, 59]. This realist synthesis is an extension of previous reviews of communities of practice. So, it not only updates previous reviews with the current literature, but also extends the current knowledge by addressing how members utilise the shared knowledge outside communities of practice [4–6, 8, 71, 72].

The strength of this realist synthesis is the provision of a framework, which can be used by initiators and facilitators of communities of practice when setting up and running a community of practice. We have spent extensive time on the first stage of the realist review, where clarifying the scope was operationalised through a scoping review [7]. Although this was time-intensive at the start, this process helped clarify the scope. It also saved time in later stages, giving us a head start towards the literature search in the later stages by providing a solid base of literature from which we could start developing programme theories. Through our systematic approach and the reporting of this process in both our protocol paper and in this paper [7], we ensured sufficient rigour and transparency in our process. This was also relevant as our review had a limitation where most of the data collection and analysis was done by one researcher (S.H.E.), and realist syntheses are dependent and limited by the researchers’ interpretations [29]. To further ensure rigour, we included realist research experts, without them being co-authors, to provide feedback in developing programme theories and analysing and synthesising results. This also helped to avoid tunnel vision and supported us to stay open to new theories and papers. The included papers were revisited several times to determine if they kept on supporting the programme theories under development. Condensing the findings in a Framework has some limitations, as the findings are more extensive than a single framework can represent. The RAMESES guidelines for realist reviews were followed, and all steps were included [39]. CMO configurations found in papers with weak methodological or other operationalisations were only included if other papers also supported those configurations [39, 73].

During the process, we had to limit the scope to only include papers about communities of practice in health settings, as we would have ended up with an interminable number of papers. This was strengthened by the decision that business settings or educational communities of practice differ too greatly from communities of practice that aim to address public health issues [37]. This decision might have excluded CMO configuration in papers outside health settings, which may have added useful learnings for communities of practice within health settings. Grey literature was included in the search [39], yet it did not provide additional

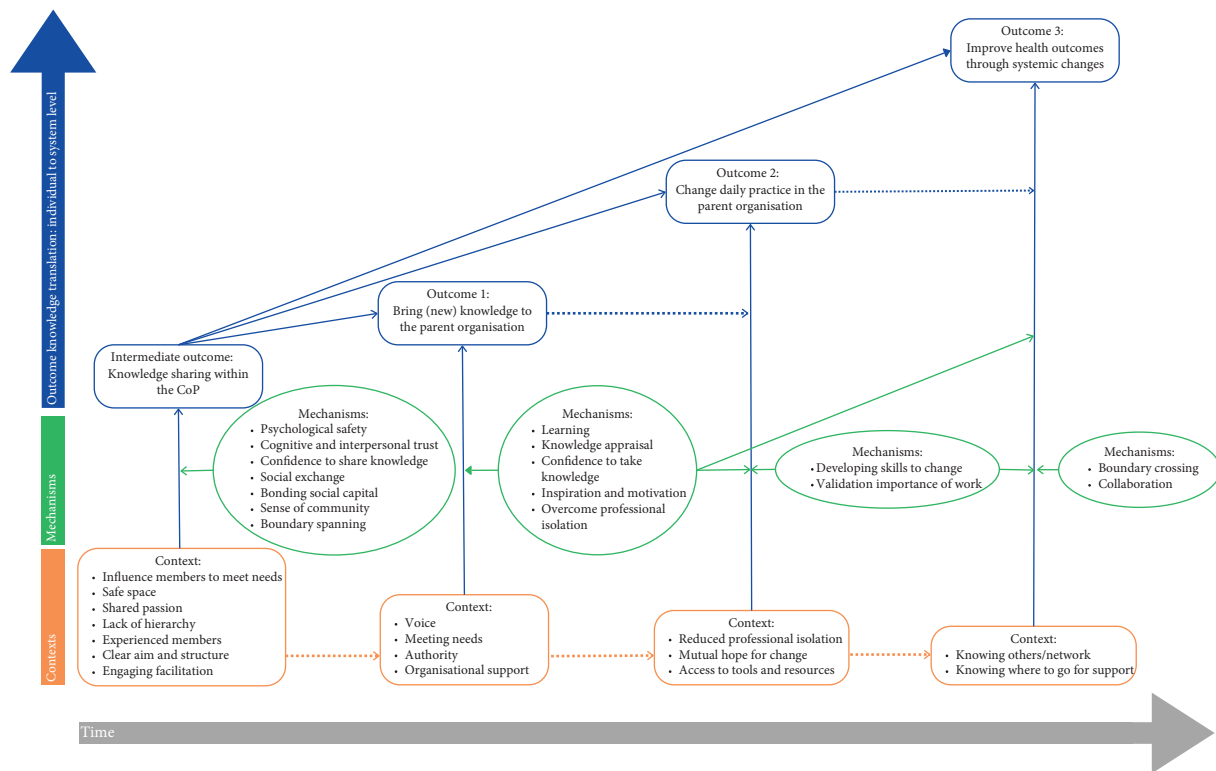


FIGURE 3: Realist framework of knowledge translation to action in communities of practice.

knowledge. Most grey literature was too limited in evaluating communities of practice; additional data collection of practical interventions may provide additional insights that can further strengthen or amend our CMO configurations in the future. We could not include external context-mechanism configurations, such as policy changes, new research outcomes, financial incentives (or budget cuts) and existing relationships between members. Since these external contexts and mechanisms can impact the outcomes of communities of practice, future research should look further into these external factors. Future research can also apply this framework in realist evaluations of communities of practice and in designing new communities of practice.

The limitation of high-quality studies and evaluations in communities of practice, outdated reviews and an increase in the practical use of communities of practice since the COVID-19 pandemic all contribute to making this realist synthesis particularly relevant for organisations who want to set up a useful community of practice that goes beyond knowledge sharing. To ensure practical relevance, preliminary results and draft frameworks were also discussed by the lead researcher when opportunities arose with facilitators of communities of practice. Their informal feedback was discussed with the research team and inductively applied in the synthesis process. Our review validates ideas that intentionally top-down communities of practice can be used to share knowledge and contribute towards knowledge translation in response to public health issues. To further encourage practical uptake, the results are translated into a practical manual, which is available on request by the corresponding author.

7. Conclusion

Communities of practice members in health settings can go beyond knowledge sharing *within* their community of practice and support knowledge translation *outside* that community of practice by bringing knowledge into a parent organisation, triggering changes in daily practice and improving health outcomes through systemic changes. Several contexts and mechanisms can support achieving these outcomes. Initiators and facilitators of communities of practice can benefit by paying attention to these contexts and mechanisms when setting up and fostering effective communities of practice to increase the chances that these communities of practice can live up to their potential and positively contribute to addressing public health issues.

Data Availability Statement

The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request.

Ethics Statement

Ethics approval for the study was obtained through Swinburne's Human Research Ethics Committee (reference number 20222875-9323).

Disclosure

A previous version of this study was published in the PhD thesis of the lead author, Elbrink [74].

Conflicts of Interest

The authors declare no conflicts of interest.

Author Contributions

All authors contributed to the conceptualisation of the research questions and the operationalisation of the process. S.H.E. led the process, the search, analysis and synthesis stages. All authors contributed to the interpretation of the data and the development of the final framework. S.H.E. drafted the initial manuscript and S.L.E. and R.H.O. contributed to manuscript iterations. All authors approved the final manuscript.

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References

- [1] World Health Organization, *Health Literacy Development for the Prevention and Control of Noncommunicable Diseases* (Geneva, Switzerland: World Health Organization, 2022).
- [2] World Health Organization, "Urgent Health Challenges for the Next Decade," (2020), <https://www.who.int/news-room/photo-story/photo-story-detail/urgent-health-challenges-for-the-next-decade.10-11-20202020>.
- [3] United Nations, "Sustainable Development Goals - Decade of Action," (2020), <https://www.un.org/sustainabledevelopment/decade-of-action/10-11-20202020>.
- [4] L. Barbour, R. Armstrong, P. Condon, and C. Palermo, "Communities of Practice to Improve Public Health Outcomes: A Systematic Review," *Journal of Knowledge Management* 22, no. 2 (2018): 326–343, <https://doi.org/10.1108/jkm-03-2017-0111>.
- [5] L. C. Li, J. M. Grimshaw, C. Nielsen, M. Judd, P. C. Coyte, and I. D. Graham, "Use of Communities of Practice in Business and Health Care Sectors: A Systematic Review," *Implementation Science* 4 (2009): 27–29, <https://doi.org/10.1186/1748-5908-4-27>.
- [6] G. Ranmuthugala, F. Cunningham, J. Plumb, et al., "A Realist Evaluation of the Role of Communities of Practice in Changing Healthcare Practice," *Implementation Science* 6, no. 1 (2011): 49, <https://doi.org/10.1186/1748-5908-6-49>.
- [7] S. H. Elbrink, S. L. Elmer, and R. H. Osborne, "Are Communities of Practice a Way to Support Health Literacy: A Study Protocol for a Realist Review," *BMJ Open* 11, no. 8 (2021): e048352, <https://doi.org/10.1136/bmjopen-2020-048352>.
- [8] L. Shaw, D. Jazayeri, D. Kiegaldie, and M. E. Morris, "Implementation of Virtual Communities of Practice in Healthcare to Improve Capability and Capacity: A 10-year Scoping Review," *International Journal of Environmental Research and Public Health* 19, no. 13 (2022): 7994, <https://doi.org/10.3390/ijerph19137994>.
- [9] J. Mills, C. Li, S. Fullerton, et al., "Staying Connected and Informed: Online Resources and Virtual Communities of Practice Supporting Palliative Care during the Novel Coronavirus Pandemic," *Progress in Palliative Care* 28, no. 4 (2020): 251–253, <https://doi.org/10.1080/09699260.2020.1759876>.
- [10] E. Wenger, R. McDermott, and W. M. Snyder, *Cultivating Communities of Practice: A Guide to Managing Knowledge* (Boston, Mass: Harvard Business School Press, 2002).
- [11] J. Lave and E. Wenger, "Learning in Doing: Social, Cognitive, and Computational Perspectives," *Situated Learning: Legitimate Peripheral Participation* (Cambridge, UK: Cambridge University Press, 1991).
- [12] L. C. Li, J. M. Grimshaw, C. Nielsen, M. Judd, P. C. Coyte, and I. D. Graham, "Evolution of Wenger's Concept of Community of Practice," *Implementation Science* 4, no. 1 (2009): 11, <https://doi.org/10.1186/1748-5908-4-11>.
- [13] D. Nicolini, I. Pyrko, O. Omidvar, and A. Spanellis, "Understanding Communities of Practice: Taking Stock and Moving Forward," *The Academy of Management Annals* 16, no. 2 (2022): 680–718, <https://doi.org/10.5465/annals.2020.0330>.
- [14] J. E. Alcalde-Rabanal, V. M. Becerril-Montekio, and E. V. Langlois, "Evaluation of Communities of Practice Performance Developing Implementation Research to Enhance Maternal Health Decision-Making in Mexico and Nicaragua," *Implementation Science* 13, no. 1 (2018): <https://doi.org/10.1186/s13012-018-0735-8>.
- [15] M. Okafor, V. Ede, R. Kinuthia, and D. Satcher, "Explication of a Behavioral Health-Primary Care Integration Learning Collaborative and its Quality Improvement Implications," *Community Mental Health Journal* 54, no. 8 (2018): 1109–1115, <https://doi.org/10.1007/s10597-017-0230-8>.
- [16] N. Poole and J. Bopp, "Using a Community of Practice Model to Create Change for Northern Homeless Women," *First Peoples Child and Family Review* 10, no. 2 (2021): <https://doi.org/10.7202/1077266ar>.
- [17] A. Silverstein, A. Benson, C. Gates, and D. Nguyen, "Global Community of Practice: A Means for Capacity and Community Strengthening for Health Professionals in Low-And Middle-Income Countries," *Journal of Global Health* 12 (2022): <https://doi.org/10.7189/jogh.12.04034>.
- [18] M. Jennings Mabery, L. Gibbs-Scharf, and D. Bara, "Communities of Practice Foster Collaboration across Public Health," *Journal of Knowledge Management* 17, no. 2 (2013): 226–236, <https://doi.org/10.1108/13673271311315187>.
- [19] H. Collins, *Tacit and Explicit Knowledge* (Chicago, IL: University of Chicago Press, 2010).
- [20] I. Pyrko, V. Dorfler, and C. Eden, "Thinking Together: What Makes Communities of Practice Work?" *Human Relations* 70, no. 4 (2017): 389–409, <https://doi.org/10.1177/0018726716661040>.
- [21] L. Zhao and B. Detlor, "Towards a Contingency Model of Knowledge Sharing: Interaction between Social Capital and Social Exchange Theories," *Knowledge Management Research and Practice* 21 (2021): 197–209, <https://doi.org/10.1080/14778238.2020.1866444>.
- [22] N. Todorova and A. M. Mills, "Why Do People Share?: A Study of Intrinsic and Extrinsic Motivation to Share

- Knowledge in Organisations,” *International Journal of Knowledge Management* 14, no. 3 (2018): 1–20, <https://doi.org/10.4018/ijkm.2018070101>.
- [23] R. Cropanzano and M. S. Mitchell, “Social Exchange Theory: An Interdisciplinary Review,” *Journal of Management* 31, no. 6 (2005): 874–900, <https://doi.org/10.1177/0149206305279602>.
- [24] R. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York, NY: Simon & Schuster, 2000).
- [25] B. Wellman, A. Q. Haase, J. Witte, and K. Hampton, “Does the Internet Increase, Decrease, or Supplement Social Capital? Social Networks, Participation, and Community Commitment,” *American Behavioral Scientist* 45, no. 3 (2001): 436–455, <https://doi.org/10.1177/00027640121957286>.
- [26] I. D. Graham, J. Logan, M. B. Harrison, et al., “Lost in Knowledge Translation: Time for a Map?” *Journal of Continuing Education in the Health Professions* 26, no. 1 (2006): 13–24, <https://doi.org/10.1002/chp.47>.
- [27] J. H. Rimmer, K. A. Vanderbom, and I. D. Graham, “A New Framework and Practice Center for Adapting, Translating, and Scaling Evidence-Based Health/wellness Programs for People With Disabilities,” *Journal of Neurologic Physical Therapy* 40, no. 2 (2016): 107–114, <https://doi.org/10.1097/npt.0000000000000124>.
- [28] S. T. Moodie, A. Kothari, M. P. Bagatto, R. Seewald, L. T. Miller, and S. D. Scollie, “Knowledge Translation in Audiology: Promoting the Clinical Application of Best Evidence,” *Trends in Amplification* 15, no. 1 (2011): 5–22, <https://doi.org/10.1177/1084713811420740>.
- [29] R. Pawson, T. Greenhalgh, G. Harvey, and K. Walshe, “Realist Review—a New Method of Systematic Review Designed for Complex Policy Interventions,” *Journal of Health Services Research & Policy* 10, no. 1_suppl (2005): 21–34, <https://doi.org/10.1258/1355819054308530>.
- [30] G. Wong, G. Westhorp, R. Pawson, and T. Greenhalgh, “Realist Review Training Materials,” (2013), https://www.ramesesproject.org/media/Realist_reviews_training_materials.pdf.
- [31] R. Pawson, “Digging for Nuggets: How “bad” Research Can Yield “good” Evidence,” *International Journal of Social Research Methodology* 9, no. 2 (2006): 127–142, <https://doi.org/10.1080/13645570600595314>.
- [32] R. Pawson, *The Science of Evaluation: A Realist Manifesto* (Newcastle upon Tyne, UK: Sage, 2013).
- [33] R. Pawson and E. Tilley, *Realistic Evaluation* (Newcastle upon Tyne, UK: Sage, 1997).
- [34] R. Pawson and N. Tilley, “Realist Evaluation” (2004).
- [35] J. Greenhalgh and A. Manzano, “Understanding “context” in Realist Evaluation and Synthesis,” *International Journal of Social Research Methodology* 25, no. 5 (2021): 583–595, <https://doi.org/10.1080/13645579.2021.1918484>.
- [36] S. M. Dalkin, J. Greenhalgh, D. Jones, B. Cunningham, and M. Lhussier, “What’s in a Mechanism? Development of a Key Concept in Realist Evaluation,” *Implementation Science* 10 (2015): 49–57, <https://doi.org/10.1186/s13012-015-0237-x>.
- [37] A. Titi Amayah, “Determinants of Knowledge Sharing in a Public Sector Organization,” *Journal of Knowledge Management* 17, no. 3 (2013): 454–471, <https://doi.org/10.1108/jkm-11-2012-0369>.
- [38] E. De Weger, N. J. E. Van Vooren, G. Wong, et al., “What’s in a Realist Configuration? Deciding Which Causal Configurations to Use, How, and Why,” *International Journal of Qualitative Methods* 19 (2020): 160940692093857, <https://doi.org/10.1177/1609406920938577>.
- [39] G. Wong, T. Greenhalgh, G. Westhorp, J. Buckingham, and R. Pawson, “Rameses Publication Standards: Realist Syntheses,” *BMC Medicine* 11, no. 1 (2013): 21, <https://doi.org/10.1186/1741-7015-11-21>.
- [40] J. Jagosh, P. L. Bush, J. Salsberg, et al., “A Realist Evaluation of Community-Based Participatory Research: Partnership Synergy, Trust Building and Related Ripple Effects,” *BMC Public Health* 15, no. 1 (2015): 725, <https://doi.org/10.1186/s12889-015-1949-1>.
- [41] R. Pawson, “Middle Range Theory and Program Theory. Evaluation: From Provenance to Practice 1,” in *Mind the Gap* (London, UK: Routledge, 2017), 171–202.
- [42] F. Durand, L. Richard, N. Beaudet, L. Fortin-Pellerin, A. M. Hudon, and M. C. Tremblay, “Healthcare Professionals’ Longitudinal Perceptions of Group Phenomena as Determinants of Self-Assessed Learning in Organizational Communities of Practice,” *BMC Medical Education* 22 (2022): 75–11, <https://doi.org/10.1186/s12909-022-03137-9>.
- [43] A. Edmondson and B. Moingeon, “Learning, Trust and Organizational Change,” in *Organizational Learning and the Learning Organization* (Boston, MA: Harvard Business School, 1999), 157–175.
- [44] C. B. Gibson and J. L. Gibbs, “Unpacking the Concept of Virtuality: The Effects of Geographic Dispersion, Electronic Dependence, Dynamic Structure, and National Diversity on Team Innovation,” *Administrative Science Quarterly* 51, no. 3 (2006): 451–495, <https://doi.org/10.2189/asqu.51.3.451>.
- [45] B. L. Kirkman, J. L. Cordery, J. Mathieu, B. Rosen, and M. Kukenberger, “Global Organizational Communities of Practice: The Effects of Nationality Diversity, Psychological Safety, and Media Richness on Community Performance,” *Human Relations* 66, no. 3 (2013): 333–362, <https://doi.org/10.1177/0018726712464076>.
- [46] C. Alary Gauvreau, G. Le Dorze, D. Kairy, and C. Croteau, “Evaluation of a Community of Practice for Speech-Language Pathologists in Aphasia Rehabilitation: A Logic Analysis,” *BMC Health Services Research* 19, no. 1 (2019): <https://doi.org/10.1186/s12913-019-4338-0>.
- [47] J. Bindels, K. Cox, G. Widdershoven, C. P. Van Schayck, and T. A. Abma, “Stimulating Program Implementation via a Community of Practice: A Responsive Evaluation of Care Programs for Frail Older People in the Netherlands,” *Evaluation and Program Planning* 46 (2014): 115–121, <https://doi.org/10.1016/j.evalprogplan.2014.06.001>.
- [48] W. Fingrut, L. A. Beck, and D. Lo, “Oncology Communities of Practice: Insights from a Qualitative Analysis,” *Current Oncology* 25, no. 6 (2018): 378–383, <https://doi.org/10.3747/co.25.4088>.
- [49] S. Holden, M. Ferguson, J. Brimblecombe, and C. E. Palermo, “Can a Community of Practice Equip Public Health Nutritionists to Work With Remote Retail to Improve the Food Supply?” *Rural and Remote Health* 15, no. 4 (2015): 3464, <https://doi.org/10.22605/rrh3464>.
- [50] A. M. Wilson, R. Delbridge, and C. Palermo, “Supporting Dietitians to Work in Aboriginal Health: Qualitative Evaluation of a Community of Practice Mentoring Circle,” *Nutrition and Dietetics* 74, no. 5 (2017): 488–494, <https://doi.org/10.1111/1747-0080.12309>.
- [51] K. T. Dirks and B. de Jong, “Trust Within the Workplace: A Review of Two Waves of Research and a Glimpse of the Third,” *Annual Review of Organizational Psychology and Organizational Behavior* 9, no. 1 (2022): 247–276, <https://doi.org/10.1146/annurev-orgpsych-012420-083025>.

- [52] J. Delgado, J. de Groot, G. McCaffrey, G. Dimitropoulos, K. C. Sitter, and W. Austin, "Communities of Practice: Acknowledging Vulnerability to Improve Resilience in Healthcare Teams," *Journal of Medical Ethics* 47, no. 7 (2020): 488–493, <https://doi.org/10.1136/medethics-2019-105865>.
- [53] C. Nicklin, T. Chancellor, A. Garcia, et al., "Funder-initiated Communities of Practice as a Means for Sharing and Creating Knowledge in Order to Strengthen the Adaptive Capacity of Systems," *The Foundation Review* 13, no. 1 (2021): <https://doi.org/10.9707/1944-5660.1554>.
- [54] B. Mazer, D. Kairy, A. Guindon, et al., "Rehabilitation Living Lab in the Mall Community of Practice: Learning Together to Improve Rehabilitation, Participation and Social Inclusion for People Living With Disabilities," *International Journal of Environmental Research and Public Health* 12, no. 4 (2015): 4439–4460, <https://doi.org/10.3390/ijerph120404439>.
- [55] R. Kislov, K. Walshe, and G. Harvey, "Managing Boundaries in Primary Care Service Improvement: A Developmental Approach to Communities of Practice," *Implementation Science* 7, no. 1 (2012): 97, <https://doi.org/10.1186/1748-5908-7-97>.
- [56] L. Chandler and A. Fry, "Can Communities of Practice Make a Meaningful Contribution to Sustainable Service Improvement in Health and Social Care?: Managing Community Care," *Journal of Integrated Care* 17, no. 2 (2009): 41–48, <https://doi.org/10.1108/14769018200900015>.
- [57] M. C. Reynolds, D. Caldwell, N. Boonchaisri, K. E. Ragon, and S. B. Palmer, "The Community of Practice for Supporting Families of Persons With Intellectual and Developmental Disabilities," *Intellectual and Developmental Disabilities* 60, no. 2 (2022): 85–100, <https://doi.org/10.1352/1934-9556-60.2.85>.
- [58] D. W. McMillan and D. M. Chavis, "Sense of Community: A Definition and Theory," *Journal of Community Psychology* 14, no. 1 (1986): 6–23.
- [59] C. Talò, T. Mannarini, and A. Rochira, "Sense of Community and Community Participation: A Meta-Analytic Review," *Social Indicators Research* 117 (2014): 1–28, <https://doi.org/10.1007/s11205-013-0347-2>.
- [60] A. M. Auer, P. Hanson, B. Brady-Fryer, J. Alati-It, and A. L. Johnson, "Communities of Practice in Alberta Health Services: Advancing a Learning Organisation," *Health Research Policy and Systems* 18, no. 1 (2020): 86, <https://doi.org/10.1186/s12961-020-00603-y>.
- [61] A. Wilson, M. Cornett, R. Delbridge, T. Mackean, and C. Palermo, "A Realist Evaluation of a Community of Practice for Dietitians and Nutritionists Working in Aboriginal and Torres Strait Islander Health," *Journal of Human Nutrition and Dietetics* 36, no. 1 (2023): 277–287, <https://doi.org/10.1111/jhn.13043>.
- [62] M. Piat, C. Briand, E. Bates, and L. Labonté, "Recovery Communities of Practice: An Innovative Strategy for Mental Health System Transformation," *Psychiatric Services* 67, no. 1 (2016): 10–12, <https://doi.org/10.1176/appi.ps.201500184>.
- [63] A. K. Griffen, K. Risley, M. Petros, and C. R. Welter, "Inclusion Wheel: Tool for Building Capacity and Public Health Leaders to Serve People With Disabilities," *Health Promotion Practice* 21, no. 2 (2020): 209–218, <https://doi.org/10.1177/1524839918788578>.
- [64] A. Long and B. Lock, "Lectures and Large Groups," in *Understanding Medical Education: Evidence, Theory and Practice* (Hoboken, NJ: Wiley, 2013), 137–148.
- [65] S. Bazyk, L. Demirjian, T. LaGuardia, K. Thompson-Repas, C. Conway, and P. Michaud, "Building Capacity of Occupational Therapy Practitioners to Address the Mental Health Needs of Children and Youth: A Mixed-Methods Study of Knowledge Translation," *American Journal of Occupational Therapy* 69, no. 6 (2015): 6906180060p1–6906180060p10, <https://doi.org/10.5014/ajot.2015.019182>.
- [66] R. Delbridge, A. Wilson, and C. Palermo, "Measuring the Impact of a Community of Practice in Aboriginal Health," *Studies in Continuing Education* 40, no. 1 (2018): 62–75, <https://doi.org/10.1080/0158037X.2017.1360268>.
- [67] K. McCreesh, L. Larkin, and J. Lewis, "Shouldering the Burden of Evidence-Based Practice: The Experiences of Physiotherapists Partaking in a Community of Practice," *Rehabilitation Research and Practice* 2016 (2016): 9051378, <https://doi.org/10.1155/2016/9051378>.
- [68] E. L. Deci and R. M. Ryan, "The General Causality Orientations Scale: Self-Determination in Personality," *Journal of Research in Personality* 19, no. 2 (1985): 109–134, [https://doi.org/10.1016/0092-6566\(85\)90023-6](https://doi.org/10.1016/0092-6566(85)90023-6).
- [69] B. McCullough, N. Small, and S. L. Prady, "Improving Smoking Cessation Data Collection via a Health Visitor Community of Practice," *Community Practitioner: The Journal of the Community Practitioners' & Health Visitors' Association* 86, no. 5 (2013): 22–25.
- [70] B. Astbury and F. Leeuw, "Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation," *American Journal of Evaluation* 31, no. 3 (2010): 363–381, <https://doi.org/10.1177/1098214010371972>.
- [71] S. Barnett, S. C. Jones, S. Bennett, D. Iverson, and A. Bonney, "General Practice Training and Virtual Communities of Practice - A Review of the Literature," *BMC Family Practice* 13, no. 1 (2012): 87, <https://doi.org/10.1186/1471-2296-13-87>.
- [72] G. Ranmuthugala, J. J. Plumb, F. C. Cunningham, A. Georgiou, J. I. Westbrook, and J. Braithwaite, "How and Why Are Communities of Practice Established in the Healthcare Sector? A Systematic Review of the Literature," *BMC Health Services Research* 11, no. 1 (2011): 273, <https://doi.org/10.1186/1472-6963-11-273>.
- [73] G. Wong, T. Greenhalgh, G. Westhorp, and R. Pawson, "Development of Methodological Guidance, Publication Standards and Training Materials for Realist and Meta-Narrative Reviews: The Rameses (Realist and Meta-Narrative Evidence Syntheses: Evolving Standards) Project," *Health Services and Delivery Research* 2, no. 30 (2014): 1–252, <https://doi.org/10.3310/hsdr02300>.
- [74] S. Elbrink, "Communities of Practice: A Way to Support Responses to Public Health Issues," (2024), https://figshare.swinburne.edu.au/articles/thesis/Communities_of_practice_A_way_to_support_responses_to_public_health_issues/26278696?file=47641981.