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An intersectoral structural network intervention to expand social care in-and-with community: Key mechanisms of an intersectoral dementia community investment initiative

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ABSTRACT

Background: Social isolation and loneliness and social connection are recognized social determinants of health and modifiable risk factors for dementia, yet network strategies to address them remain scarce.
Objective: To evaluate a structural network intervention designed to expand and redistribute social care through an intersectoral partnership. Specifically, we asked: (1) Can arts/culture institutions and community-based/service organizations (CBOs) be engaged in a cross-sector social care network? (2) Can these organizations be empowered to co-design and implement connectivity activities? (3) Can hosting and co-coordination of activities strengthen and sustain the network?
Methods: Using a participatory approach nested in a mixed-methods ethnography and informed by narrative phenomenology, we administered Partner Network Surveys to engage community-based organizations (CBO) and arts/culture institutions (A/C), envision and co-design activities/events that mattered to them. Network metrics (degree centrality, reciprocity, density) were analyzed using t-tests, Poisson regression, and Stochastic Actor-Oriented Models (SAOM).
Results: Engagement increased significantly: individuals reported more organizational ties and out-degree centrality rose for A/C and CBOs. Empowerment was evident in in-degree gains for A/C and CBOs. Sustainability was supported by increased reciprocity and stable density, indicating a decentralized structure. SAOM confirmed that A/C and CBOs sectors became more central while transitivity increased. Three years post-funding, jointly coordinated activities continued across sectors.
Conclusion: Leveraging social connection at a structural level, by combining network theory with narrative phenomenology, enabled engagement, empowerment, and sustainability of a decentralized social care network. This model offers a scalable, non-medical approach to addressing social determinants of health.

Background

Social isolation and loneliness (SIL) are prioritized global public health challenges, with evidence linking them to poorer physical and mental health, reduced quality of life, and premature mortality among older adults (Courtin and Knapp, 2017; Holt-Lunstad, 2017; World Health Organization, 2021). Recent reports and systematic reviews underscore that SIL is not only widespread but also exacerbated by loneliness stigma (UK-Gov 2023a) and age-related discrimination (UK-Gov Department for Culture, Media and Sport 2023b), which compound its harmful effects. The COVID-19 pandemic intensified these challenges (Donovan and Blazer, 2020; Smith et al., 2020; Wu, 2020), as social distancing measures—while protective—created the conditions for increased SIL, amplifying risks for vulnerable populations.

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Dementia represents another global health priority where SIL plays a critical role as a potentially modifiable risk factor (Livingston et al., 2020; World Health Organization, 2017). For example, meta-analyses indicate that older adults experiencing SIL face up to a 60% higher risk of developing dementia (Lazzari and Rabottini, 2022). Research consistently demonstrates that limited social networks and isolation increase both the risk for and severity of dementia (Arshad et al., 2025; Balouch et al., 2019; Dyer et al., 2021; Luchetti et al., 2020) while dementia can disrupt social ties (Sachdev, 2022; Sommerlad et al., 2023), creating reciprocal cycles of vulnerability. The increasing prevalence of SIL underscore, as Holt-Lunstad (2022, p. 202) reasserted, the need to "advance social connection in health promotion and prevention" in which "individual relationships are an untapped resource—a source of healing hiding in plain sight" (Office of the US Surgeon General, 2023, p. 5).

Yet, individual-level interventions are insufficient when structural determinants—such as socioeconomic deprivation and systemic inequities—constrain opportunities for social participation (Sommerlad et al., 2023). In "*From Loneliness to Social Connection,*" the World Health Organization (2025, p. xv) prioritized social connection as "an important and—until recently—neglected determinant of physical and mental health." Since "communities are ideal sites for addressing social connection and preventing loneliness and social isolation, as these are where people live, work, learn and play" (Ibid., p. 148), strengthening social infrastructure can be a primary lever for increased social connection, especially for "populations disproportionality affected by social disconnection" (Ibid., p. 151). Establishing governance arrangements—such as intersectoral efforts—can maximize impact health equity and enhance health care systems (National Academies of Sciences, Engineering, and Medicine, 2020). Yet, often community-based organizations neither receive recognition nor incentives for the additional human resources, time and/or financing of additional network-related work (Callahan et al., 2024; World Health Organization, 2025). Further, WHO commissioned reports indicate that community-based interventions that operationalize these principles remain scarce with fewer than 5% of existing programs evaluating implementation or process outcomes (Welch et al., 2023, Welch et al., 2024).

Global health policy priorities and the shift from SIL to social connectedness as a determinat of health raise questions about how network theory and methods can be employed at a structural level to promote connectivity at behavioral and interpersonal levels. Connectivity, a key construct in network theory and social network analysis (SNA), is "the measured interactions between partners in a collaborative such as the amount and quality of interactions and how these relationships might change over time" (Varda et al., 2008, p. E1). Over three decades of network interventions have targeted behavioral change at the individual level (e.g., Flodgren et al., 2011; Hunter et al., 2019; Kennedy et al., 2015, 2018; Kim et al., 2015; Lomas et al., 1991; Valente, 2012), while the increased attention to cross-sector and interorganizational network interventions in public health situates SNA as the premier method to characterize and/or assess the structures and dynamics of public health collaboratives (Retrum et al., 2013), cross-sector public health networks (Chapman and Varda, 2017), interorganizational networks for physical activity promotion (Barnes et al., 2010; Timm et al., 2021), and interorganizational child service networks for improved health outcomes (Blanken et al., 2023). Systems-level network studies also include network analyses to evaluate multisectoral governance (Mondal et al., 2022), alliance building (Haapanen et al., 2024), and a learning collaborative (DeBeer et al., 2025), including network analysis to evaluate *and* improve an intersectoral partnership (Hoe et al., 2019). Despite these contributions to public health research, a recent scoping review of biomedical databases found a "gap in the evaluation of intersectoral efforts" (Asirvatham et al., 2024, p. 446).

This article addresses this gap by reporting on the evaluation of an intersectoral network developed to strengthen social care for persons living with Alzheimer's and related conditions (ARC) and their carers (Valente et al., 2023). However, we also add another dimension of SNA to intersectoral action. Social network analyses of intersectoral and coalition networks, such as those referenced above, have largely focused on the *evaluation* of key metrics and longitudinal structural changes of existing networks. In this article we report on how we used social network methodology and methods as *an intervention to develop an intersectoral network* as well as *evaluate its change over time*. The aim of the project, a Dementia Community Investment (DCI) (Public Health Agency of Canada~Agence de la santé publique du Canada, 2019) initiative between 2020 and 2023, was to expand and redistribute social care by establishing a new intersectoral partnership between Alzheimer's related community-based service organizations (CBOs), arts/-culture (A/C) and mental health institutions. Thus, this article presents, what we are calling, a *structural network intervention* in which we recruited partners across sectors to envision together, co-design, and implement a new interorganizational network. Specifically, the research team used an overarching participatory approach that combined a unique mix of narrative-phenomenological resources with SNA to integrate the experiential knowledge of those engaged with the following objectives: 1) Can we engage non-profit organizations and arts/culture institutions (that historically have not joined health networks) in an intersectoral social care network?; 2) Can we empower such non-profit community-based organizations and arts/culture institutions to co-design and implement connectivity activities?; and 3) Can the hosting and co-coordination of connectivity activities cross-sector strengthen and sustain social care networks?

Research design

We used participatory research to engage and empower institutional and organizational partners, which we nested in a mixed methods ethnography that included SNA for formative and summative evaluation of the participatory approach to intersectoral action.

Sampling and recruitment

We used purposive sampling to identify non-profit community-based organizations (CBOs) who worked with persons living with ARC and their carers on the island of Montreal to capture diverse sociodemographic and cultural communities. Based on the CBOs' identified concerns for more resources (e.g., extending activities, linkages to mental health resources), we used purposive sampling to recruit arts/culture institutions and mental health organizations with whom we had worked in the past. To engage additional organizations that were identified by potential partners, we used snowball sampling. We submitted the co-designed project with letters of support representing 14 partner organizations, which we categorized within community-based, arts/culture, mental health and academic sectors. Once funding was received, we conducted formal consent approved by a university ethics board. Forty-nine representatives of 14 organizations completed Time 1 Partner Network Surveys (T1 PNS) by August 2020. There was some attrition of the first 14 organizations due to the impact of the Covid pandemic on our mental health and long-term care partners. However, the shift to virtual meetings and activities supported outreach in unexpected ways to other CBOs, increasing the overall bounded network to 18 organizations, with 34 representatives completing Time 2 Partner Network Surveys (T2 PNS) by April 2023. Representatives included directors/founders, administrators/managers, affiliated educators and therapeutic professionals who facilitated activities. To to integrate the experiential knowledge of those engaged in and on their terms across all phases, we used an overarching narrative-phenomenological theoretical framework (Mattingly, 2010a; 2014).

Theoretical framework

Narrative phenomenology is person-, event-, and discursive-centered

(Mattingly, 2010a), and foregrounds 1st-person and multiple perspectives to attend to significant moments or events (e.g., see also Jackson, 2005). As an experience-near theoretical framework, it is especially useful to understand the impact of structural conditions—such as discursive practices (e.g., ageism, dementia)—on experience from 1st-person perspectives (I/we) as well as how persons create significant experiences to transform them (Mattingly, 2014). Two narrative-phenomenological concepts—willing as *narrative (re)envisioning* (Mattingly, 2006; 2010b) and meaningful engagement in activities as *being socially occupied* (Lawlor, 2003)—informed every step of the project from initial recruitment, participatory development of the project's mission and vision statement (or goal) and co-design of intersectoral activities to the mixed method ethnographic evaluation of the project's impact on the network.

Participatory research

Participatory research is an approach in health promotion programs in which persons who will be impacted by outcomes identify priority concerns and actions steps to redress them (Green et al., 2003). Participatory design or "co-design" integrates the knowledge and concerns of those engaged in contrast to "design by expert" models and is especially relevant to social innovation (Freire et al., 2011). Participatory approaches maximize community engagement (Macaulay et al., 1999), which is integral to building "research partnerships with communities for the goals of incorporating local expertise to identify community issues and develop the evidence and interventions" (Salsberg et al., 2018, p. 304). For example, prior to funding, we met with potential partners to share the mandate of the public health funded DCI to empower engaged partners by using variations of "your [their] project, not mine [ours]" (Salsberg et al., 2017b, p. 339) such that they identified their priority concerns and desired activities. During subsequent meetings throughout the project, we used the participatory approach to empower engaged partners to identify pre/post impact measures, such social isolation and loneliness.

Before requesting letters of support, the project team re-met with each potential partner to share and modify emergent objectives based on the initial meetings. For example, due to the stigma related to the word "dementia" in French and "disorders" in both French and English, we used "Alzheimer's and related conditions" to foreground community versus biomedical terms (Francioni et al., 2021). We also used "carers" instead of "caregivers" to include both personal caregivers and the professional administrators, facilitators and nonmedical staff who provided services for persons living with ARC. After receiving funding, we created a collective mission (*To collaboratively cultivate social and cultural environments worth living in using shared activities and public events*) and vision statement (*An interconnected community for all*) from the intersectoral partnership's objectives to 1) create an enriched web of resources in the local community and 2) decrease stigma at the intersection of dementia, mental illness, and aging by 3) linking arts/-culture, mental health, and academic sectors.

The participatory process was essential to responding to the changing priorities of partners related to contextual demands. For example, the project received funding in March of 2020 as social distancing policies related to Covid-19 began. In response, we re-met with engaged partners to move identified activities on-line (e.g., creative dance, museum visits, laughter yoga and art therapy), significantly reshape (e.g., virtual short film screenings with panel discussions rather one yearly event), and co-develop new ones in response to emergent needs (e.g., virtual resource list, volunteer care contact/calls). Due to the overwhelming pressure and crises in institutional care in the local context (e.g., see Brewster, 2020), our partners in psychiatric in-patient and long-term care residencies were unable to participate. Each amendment was approved by a university ethics board.

Mixed-methods ethnography

Using an overarching narrative phenomenological theoretical framework, we conducted a mixed methods ethnography to describe the process and impact of co-developing an intersectoral partnership on connectivity from both 1st-and 3rd-person perspectives (i.e., see Park and Valente, 2022).

Partner Network Surveys. Initial data collection consisted of demographics (age, gender, position, language) and a Time 1 Partner Network Survey (T1 PNS) that included three network roster questions: 1) organizations they knew about; 2) organizations they had worked with and/or used their services in the past year; and 3) organizations they would like to work with and/or use their services in the future. We used question one (Q1) to determine if organizations had or had not worked with other organizations, even if they knew about them. The structural network intervention hinged on question three (Q3). Informed by narrative-phenomenological resources, Q3 was theory-driven question that asked representatives of organizations to *envision* possibilities that they could bring about through the shared coordination and implementation of activities. For the Time 2 Partner Network Survey (T2 PNS), we modified Q3 to organizations they had formed new and/or strengthened relationships. Thus, our primary analyses focused question 2 (Q2) to construct the existing network at the beginning of the project (T1), and to measure changes in the network; that is, the movement from envisioning who partners "would like to work with" (Q3) to actualizing the envisioned relation by the end (T2). We used a password protected dedicated website to deliver the PNS on-line.

To construct the network, we counted the number of times individuals named other organizations at both T1 and T2 and used a T-test to determine if changes in the number of ties increased significantly. We then combined responses from people in the same organization. The network data were dichotomized by considering any link between two organizations as a tie, regardless of the number of similar responses. For example, we recorded one tie even when two people from *Organization A* reported working with *Organization B*.

To answer objectives 1–2 related to engagement and empowerment, we calculated four network measures at the inter-organizational level for out-degree centrality, in-degree centrality, reciprocity, and density. For in-degree centrality, we counted the number of times an organization was selected. In-degree centrality is a measure that indicates an organization's importance in a network, which we used as an indicator of empowerment. For out-degree centrality, we counted the number of times an organization named other organizations. Out-degree centrality is a measure that indicates how actively an organization is participating in a network, which we used as an indicator of engagement. We used 1) T-tests to compare out-degree and in-degree centrality and reciprocity scores by organization type to all other organization types (e.g., A/C and CBO); 2) Poisson regression of out- and in-degree centrality at T2 on T1 out- and in-degree and dummy indicators for CBOs and A/Cs to determine if they became more central (i.e., had increased degree centrality).

To answer objective 3 related to sustainability, we counted the number of mutual ties between organizations to calculate reciprocity. Reciprocity is a measure that indicates how many times organizations name each other, which we used as an indicator of mutuality that will create more sustainable bonds. To calculate density, we counted the number of ties overall divided by the number of possible ties. We report on one analytic approach Stochastic Actor Oriented Models (SAOM) using the Rsiena library (Snijders et al., 2010) to test whether CBOs and A/Cs were more likely to receive ties at T2, controlling for their network position at T1 and overall density, reciprocity, and transitivity.

Situated Participant Interviews and Observations. We used the overarching narrative-phenomenological framework to focus data collection and analysis on significant moments or key events that emerged during organizational meetings to understand "what really matters" (Kleinman, 2006) to the representatives of CBOs and A/C institutions from multiple perspectives. Significant moments can be

identified by shifts to 1st-person perspective (I/we), citing oneself or another in present tense when recounting past events, metaphors, and heightened emotionality (Park and Rouleau, 2022). After obtaining formal consent, we conducted narrative interviews (Mattingly and Lawlor, 2000) and collective narratives (Mattingly, 2010) with administrators and facilitators of activities and persons living with ARC and carers—both personal and professional—by asking them "what stood out to you?"

We also identified significant experiences via participant observations, which we augmented by recording virtual activities on web-based platforms and filming or audio recording in-person activities/events (e.g., dance, art, film screenings, laughter yoga). Often experienced as a heightening of attention, significant moments are felt, embodied experiences signaled by affective shifts and, often unconscious, mirroring of another's action that can be measured physiologically (Lai Kwan et al., 2019). After the project completion, we used participant observations to identify the six sectors, which we assigned to organizations during the analysis of the Partner Network Surveys: community-based/service organizations for persons living with ARC and their carers (CBO), arts-culture (A/C), communication-related (e.g., design, web platform, simultaneous translation), mental health, and academic. Despite their initial involvement in the pre-funding stage, long-term residential care or health sectors were not able to participate during the project due to the impact of social distancing, which led to our tracking of Covid 19-related events in the local context. We also kept an audit trail of all cross-sector meetings, activities/events, reach and impact. In this article we only report on the structural network intervention, integrating ethnographic details to provide context in the results and discussion.

Results

All organizations changed leadership and/or administration at least one time between T1 and T2 with a total of 13 changes across the 2.5 years. There were 19 individuals who completed both T1 and T2 surveys, providing consistency to the data set. The average age was 36.9 years at T1 and 39.7 years at T2, with the majority being female (88.2% at T1, 84.2% at T2).

Objectives 1–2: engagement (out-degree) and empowerment (in-degree)

Figs. 1 and 2 graph the intersectoral partner network of who worked with whom at T1 and T2. Table 1 reports individual level responses; that is, individuals dis-aggregated from their organizations. The number of organizations with whom individuals reported working with significantly increased from 2.72 to 4.80 (SDs=2.89 and 3.02; $p < 0.01$), while the number of working relationships increased from 2.95 to 4.89 (SDs=3.24 and 3.36; $p < 0.10$) for completing both T1 and T2 surveys.

At the inter-organizational network level, aggregating individual responses to their organizations did not yield a statistically significant increase in ties with in-degree scores of 2.90–3.87 overall. Notably, the A/C institutions (green) and CBOs (tan) moved towards the center with in-degree CBO and A/C scores increasing from 3.63 to 6.63 (SDs=1.60 and 2.97; $p < 0.01$) and indicating that they became more central; that is, empowered. In-degree scores decreased non-significantly from 3.0 to 2.33 for other sectors, indicating that the other partners remained in relatively the same position as T1.

Controlling for longitudinal changes in network structure, CBOs and A/C institutions increased their centrality. Table 2 reports the longitudinal lagged Poisson regression models, which indicate that out- and in-degree scores at T1 were significantly associated with out- and in-degree scores at T2, with incident rate-ratios (IRRs) of 0.08 and 1.13 ($p < 0.05$) respectively. The results show that out-degree scores at T2 increased significantly for both CBOs (IRR 1.09, $p < 0.01$) and A/C (IRR 1.46, $p < 0.01$) and relative to other organizations. In-degree scores at T2 also increased significantly for both CBOs (IRR 2.07, $p < 0.01$) and A/C (IRR 3.27, $p < 0.01$) and relative to other organizations.

Descriptive statistics confirmed that the mechanism of co-coordinating and participating in shared activities (e.g., creative dance, museum visits/art workshops, laughter yoga) and events (e.g., film screenings & panel discussions, Alzheimer walk/symposiums)

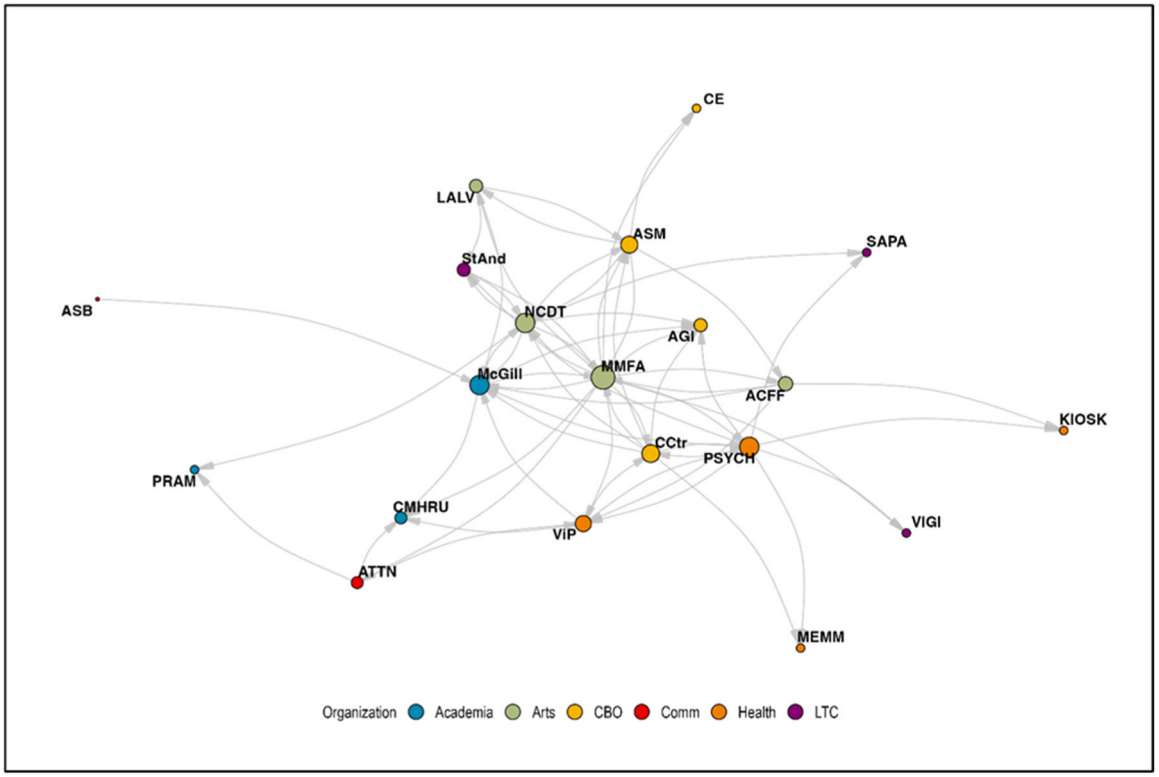

Fig. 1. Network of who worked with whom at baseline Fall 2020.

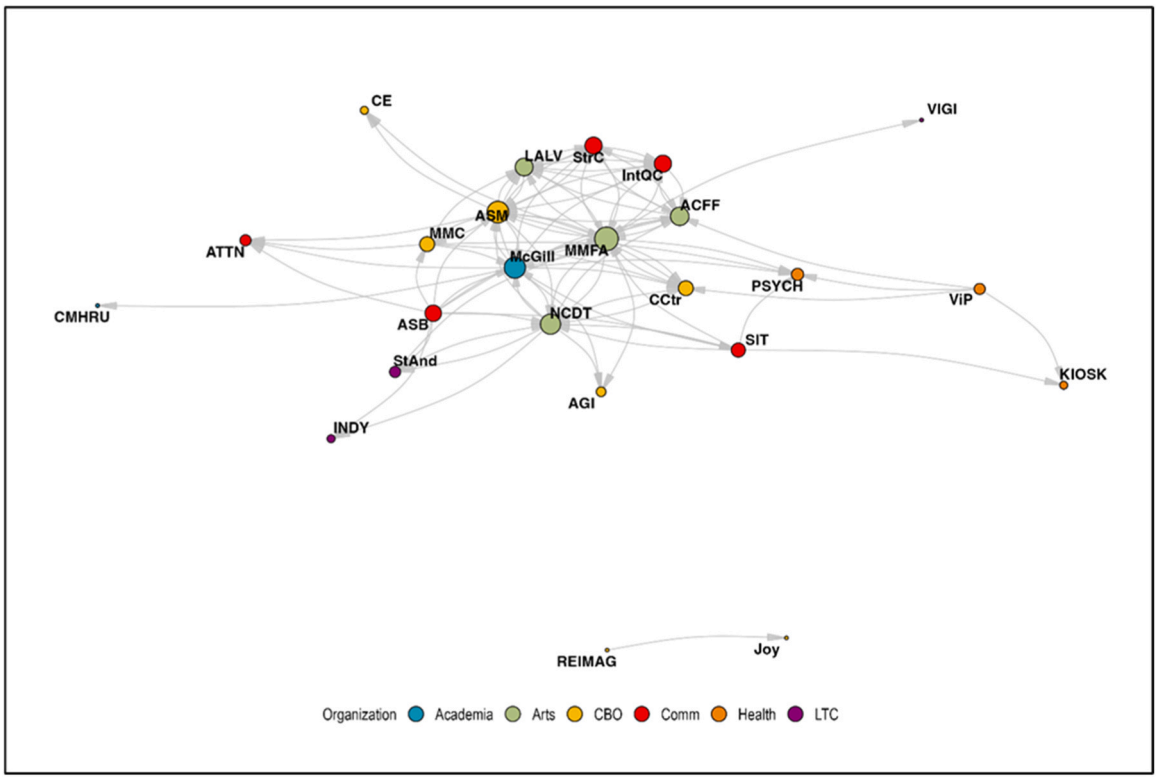

Fig. 2. Network of who worked with whom post project Fall 2023.

Table 1
The Number of Organizations Individual Respondents Reported Working with increased between Time 1 and Time 2.

	Time 1	Time 2	Probability
Individual Respondents (IR)	2.72 (N = 36)	4.80 (N = 25)	> 0.01
Same IR at Both Time Points	2.95 (N = 22)	5.50 (N = 22)	> 0.01
IR Aggregated by Organizations	2.90 (N = 20)	3.87 (N = 24)	0.11
Network-level Reciprocity	0.35 (N = 20)	0.52 (N = 24)	

Table 2
Regression of out- and in-degree at time two on time one and whether the organization is arts/cultural and community-based organization.

	Outdegree Time 2	Indegree Time 2
Outdegree Time 1	0.08*	
Indegree Time 1		1.13*
Arts/Culture	1.46**	3.27**
Community Based Organization	1.09**	2.07*
*p < 0.05; **p < 0.01		

hosted or facilitated by arts/culture institutions (e.g., National Center of Dance Therapy~Les Grands Ballets Canadiens, the Montreal Museum of Fine Arts, Les arts et la ville) and CBOs (Alzheimer Society of Montreal, Alzheimer Groupe Inc., Cummings Center) engaged and empowered partner organizations to cultivate new cross-sector ties. At baseline, there were 31 aspirational relations mentioned by respondents who completed both survey waves and who did not name an organization they were already working with at T1. Of those 31 relationships, 15 or 48.4% were reported as new working partners at T2.

Objective 3: sustainability (reciprocity and density)

The number and density of cross-sector ties increased between T1 and T2. The number of reciprocated ties increased significantly from 1.29 to 2.12 (SDs=1.53 and 2.83; $p < 0.05$). A/C and CBO reciprocity increased from 0.19 to 0.26 (SDs=0.13 and 0.17; $p < 0.05$); whereas reciprocity scores decreased non-significantly from 0.07 to 0.05 (SDs=0.09 and 0.09; $p = 0.28$) for other organizations. Network density was relatively constant with a minor increase from 0.16 to 0.17. Table 3 reports the Stochastic Actor Oriented Model (SAOM) results which control for network structural characteristics of reciprocity, density, and transitivity to confirm whether CBOs and A/C institutions became more central. The rate parameter was significant, indicating considerable

Table 3
Stochastic Actor Oriented Model Results Testing whether Arts/Cultural and Community-based Organizations Receive More Ties at Follow-up Controlling Network Structure.

Effect	Parameter	Std Error	Adjusted Odds Ratios
Rate	6.776	1.305	880.3
outdegree (Density)	-3.163†	1.863	0.04
Reciprocity	1.092	0.795	2.98
GWESP I->K->J	1.782*	0.749	5.95
Indegree Popularity Sqrt.	-1.179	1.025	0.31
Outdegree Popularity Sqrt.	0.105	0.402	1.11
Outdegree Activity Sqrt.	0.551*	0.263	1.74
Arts Alter	2.871**	0.92	17.69
Arts Ego	0.231	0.454	1.26
Arts Same	0.562	0.538	1.75
CBO Alter	1.357*	0.692	3.96
CBO Ego	-0.836	0.552	0.43
CBO Same	-0.131	0.515	0.88
†p < 0.10; *p < 0.05			
all convergence t ratios < 0.04.			
Overall maximum convergence ratio 0.18.			

network change. Density tended to decrease with an Adjusted Odds Ratio (AOR) of 0.04. Transitivity showed a significant statistical increase with a Geometrically Weighted Edgewise Shared Partners (AOR 5.95, $p < 0.01$). The alter terms were statistically significant for both A/C (AOR 2.871, $p < 0.01$) and CBOs (AOR 1.357, $p < 0.01$). Overall network reciprocity did not show a significant increase.

Based on ongoing ethnographic participant observations and administrator reports, three years post funding, A/C institutions had sustained ties with and/or enhanced access activities to CBOs working with persons living with ARC and their carers. For example, one-year post funding, the Montreal Museum of Fine Arts had added Artlink sessions (monthly gallery visit/ art workshop) for the Alzheimer Society of Montreal (ASM) and formalized an application process for new organizations. The National Center of Dance Therapy continued weekly creative dance sessions for persons living with ARC and their carers at the time of this article for ASM and Cummings Center. The short films, curated with the Au Contraire Film Festival to destigmatize "dementia," are now a regular aspect of the festival's yearly digital film festival focused on mental health.

Discussion

Findings contribute knowledge on the impact of a structural network intervention on the engagement and empowerment of cross-sector partners and network sustainability. In the discussion, we consider the proposed disruptive potential of experience-near, narrative phenomenological theories to implement and evaluate network interventions from 1st-person perspectives (e.g., see Park et al., 2021) in relation to lessons learned from interorganizational and intersectoral network-related research.

Structural network interventions as a strategy to expand social care

Engagement was achieved on two levels. At the individual level, respondents significantly increased the number of organizations they worked with (mean 2.72 → 4.80; $p < 0.01$), indicating broader cross-sector activity and new linkages to diverse resources (Table 1). At the organizational level, out-degree centrality rose for A/C and CBOs (IRR: A/C = 1.46; CBO = 1.09; $p < 0.01$) (Table 2), suggesting engagement in actively building intersectoral linkages, while gaining more central and/or powerful positions within the delivery of social care. Visualizations corroborate these changes: A/C (green) and CBO (tan) nodes move toward the center between baseline and follow-up (Figs. 1–2). Notably, these gains persisted despite 13 leadership changes across organizations over 2.5 years, suggesting resilience through distributed coordination rather than reliance on any singular organization or institution (i.e., a hub-and-spoke model).

The participatory approach taken to identify and synthesize partners' concerns—both prior to and after funding was received—into a project specific mission and vision statement in and on their own terms—may have bolstered A/C and CBO engagement. This is supported by early network research on the mission congruence (trust) in cross-sector public health network (Chapman and Varda, 2017), a narrative review of the literature in which mission alignment (vision, goal) "makes intersectoral partnerships for health work" (Corbin et al., 2018), and the association between the perception of a shared philosophy and "increased inter-organizational synergy" in a justice coalition (Haapanen et al., 2024). Likewise, the effort to meet with each potential partner prior to and with all partners during participatory development, functioned much like the pre-intervention "dialogue meetings" that played "an important role in building trust, clarifying responsibilities, and reducing skepticism, thereby laying the groundwork for meaningful inter-sectoral collaboration" in complex pro-motion health interventions (Mejsner et al., 2025).

Communication is also key to partner participation and good relationships, especially in face-to-face interactions (over email or telephone) and in branding (Corbin et al., 2018). Rather than functioning as an auxiliary support to structural change, communication operated as a constitutive force shaping how the network formed, stabilized, and redistributed influence. In our project, we conducted all pre-funding meetings face-to-face, turning to on-line visual communication platforms after funding was received and worked with a designer with extensive experience in branding to create a logo that encapsulated the project's mission, which was used for all project emails, letters, and social media. Using the terms of the engaged CBOs—"Alzheimer's and related conditions" rather than dementia (stigmatizing in French) across all public facing platforms increased trust (e.g., see Francioni et al., 2021) by foregrounding CBO awareness, collective ownership and advocacy for their members over the more experience-distant terms used in medical or academic sectors. Attending to partners' priorities from 1st-person or experience-near and multiple perspectives may have additionally fortified partner engagement beyond initial recruitment during the challenges presented by Covid-19 social distancing, as we discuss next.

Participatory (narrative) envisioning as the engine of empowerment

The project's aim centered 1st- person perspectives in building an intersectoral partnership in response to CBOs primary concerns. As Corbin et al.'s review (2018, p. 23) suggested, "power in partnerships must include the power to define the problems and propose solutions." A meta-review across research domains also underscored the need to consider power to improve the implementation of intersectoral actions, and maximize benefits with advanced theory-building and application in real-world contexts (Mondal et al., 2021). In this project, empowerment began in the participatory process of developing the project's mission. Concretely, the question, "Who would you like to work with?" (Q3, T1 PNS) asked representatives of organizations to *envision possibilities*. Narrative envisioning is a form of willing, in which individuals bring change about by imagining possible and hoped for futures over time (Mattingly, 2006, 2010b). Thus, framing the PNS T1 Q3 as aspirational—"Who would you like to work with?"—encouraged organizations to imagine and enact new partnerships over time. As a driver of change, this aspirational question was a mechanism for, what we have called, *collective envisioning* (Park, Lee and Estein, 2024) that empowered participants to actualize what they desired in later cross-sector meetings. Our findings support this interpretation as in-degree centrality—a network measure indicating a node's importance—increased significantly for the A/C and CBOs (3.63 → 6.63; $p < 0.01$) that, notably, were the partners who co-coordinated activities for persons living with ARC and their carers (Table 1).

In contrast to conceptualization of "will" as a discrete mechanism, narrative envisioning takes place over multiple time points and through the hoped for stories one tells oneself and others. During cross-sector meetings after funding was received, we used narrative prompts during the collective process to understand the ways persons were constructing hoped for futures in the middle of pandemic-driven constraints, as well as to pragmatically adapt chosen activities to an on-line format (e.g., creative dance, museum visits/art workshops) and/or co-design new activities (e.g., film screening and panels) and procedures respectful of each organization's interpretation of social distancing regulations. Narrative and storytelling, as Haapenen et al. (2024, p. 8-9) point out, can guide joint or collective behavior by linking 1st-person experiences to larger societal issues: "Regardless of the specific issue at hand, stories of now often centered the notion that the world could be changed, and that the community could change it," often then providing a "vision of the world as it should be."

Narrative envisioning or (re)envisioning is a moral project in which "will power" is not a discrete choice but the ongoing work of hoping such that power as a "garnering 'strength' to do the 'right thing'" is also communal (Mattingly, 2006, p. 4). Our longitudinal findings, which confirmed the enhanced position of CBO and A/C partners (IRR: CBO =

2.07; A/C = 3.27) (Table 2), support this interpretation and draw out the relationship between positionality and power with SAOM alter effects indicating how A/C (AOR = 2.871) and CBOs (AOR = 1.357) became more attractive network recipients with collective envisioning (Table 3). In other words, the individual T1 *participatory envisioning* question was enacted over time with others during the co-design and adaptation of activities. As a *collective envisioning* process it pragmatically actualized an intersectoral network that enriched resources for persons living with ARC through the ongoing work of activity adaptation/co-design meetings. These meetings additionally brought attention to empowerment such that the valuing of expertise outweighs typical power dynamics based on who or what provides financial resources (Corbin et al., 2018).

The mattering of shared activities/events as a mechanism for network sustainability

The diversity of organizational contributions and their redistribution facilitate network sustainability, suggesting how achieving a balance between actions that maintain the functioning (i.e., coordination, reports, communication) and those that focus on achieving the intersectoral partnership's mission strengthens sustainability (Corbin et al., 2018). Resource-sharing has long been associated with interorganizational success in network research (Chapman and Varda, 2017; Haapanen et al., 2024; Maya-Jariego and Holgado, 2015), which in combination with trust (i.e., strength of relationships) can lead to sustainable structural connections between medical, public health, and social service delivery systems (Heeren et al., 2022). In our network, the joint-coordination of cross-sector shared activities/events was central to sustaining the network beyond the funding period, with the A/C partners providing the format and expert facilitation of key activities and the CBO partners providing outreach, scheduling and key knowledge on the primary concerns of their members to tailor the activities. Our findings add to the importance of resource sharing to the sustainability of network: During the project, the proportion of reciprocated ties increased significantly for A/C and CBO organizations (0.19–0.26; SDs=0.13 and 0.17; $p < 0.05$) compared to the non-significant decrease for other organizations (0.07–0.05; SDs=0.09 and 0.09; $p = 0.28$). The resource-sharing was also generative; that is, led to new cross-sector events organized by the CBO (e.g., vernissage, symposia) and A/C partners (e.g., public film screenings).

Key activity/event organization may have influenced the density scores, which remained stable and/or tended to decrease (SOAM AOR of 0.04). Yet, the reciprocity scores of the sectors tasked with co-designing and co-coordinating activities/events that were sustained post-funding, the considerable network change (SOAM rate parameter), and significant statistical increase of transitivity or emergence of more tightly knit groups (AOR 5.95, $p < 0.01$) suggest the added-benefit of empowering local A/C and CBOs in intersectoral actions rather than more typical hub-and-spoke models, in which a sole organization is responsible for coordinating care services and administering agreements and activities. For example, a "neutral and independent" hub organization was not as successful in linking community to social and long-term services and health care despite its centrality (Leppin et al., 2018). In comparison, our structural network intervention benefited from the A/C and CBOs respective expertise and local knowledge. The movement of the CBOs to more central positions underscores how non-profits have a "demonstrable value" in interorganizational network success (Chapman and Varda, 2017, p. 1055), while the respective movement of A/C sectors alongside CBOs exemplifies the added value of leveraging the arts for health and social change (Kárpáti, 2023, Sajnani and Fietje, 2023). Centering A/C sectors in the development of, what Callahan et al. (2024) call, a "safety net health system" not only parlays the expertise of these sectors on arts-related programming but also expands the benefits of arts for social infrastructure and connection (see also World Health Organization, 2025).

Heeren et al. (2022, p. 15) proposed that while the coordination of services is often considered the "ultimate goal" of health-related networks, such activity is in itself not significant in either stimulating or sustaining collaboration and may, in fact, delay network development. Instead, they suggest that data and resource sharing or tasks requiring "intense collaboration bolsters the collective development of a network and its sustainability post-funding sustain it over time. Indeed, in our project, the historical context of social distancing intensified collaborative efforts, both in terms of adapting activities/events to public health procedures related to Covid-19 and the increased isolation of CBO members. These contextual pressures, however, suggest also an alternative mechanism for network sustainability; that is, network engagement grounded in and cultivated by a form of what occupational scientist Lawlor (2003, p. 432) called being *socially occupied* or "*doing something* with *someone else* that *matters*.". This narrative phenomenological interpretation stresses the experience and meaning of what persons do and with whom, placing emphasis on intersubjectivity (i.e., mutual recognition and respect, shared meaning) as a quality that may drive the intense collaboration associated with connectivity. Foregrounding the "mattering" of "doing something with someone else" as a key mechanism for sustainability accentuates the importance of grounding the mission or goals of an intersectoral partnership in activities in which individual members can experience and enact its values. Indeed many of the ethnographic observations confirm how important it was for the coordinators of events to take part in them: Watching the creative dance sessions for carers and persons living with ARC, attending the vernissage of the art created by carers, accompanying persons living with ARC and their carers to the museum, being a part of the panel to discuss short films on "dementia" were all tangible ways that CBO and A/C administrators and staff could experience the outcomes of their more distal tasks. As Park et al. (2021, 300) suggest, the most effective and fundamental element of activities for social connectivity is meaning itself: "…the meaning of what we do—as mundane as those actions might appear to others—ties us to others."

Heeren et al. (2022) conclude that the momentum and structure of the multi-sector network depreciated without incentive to maintain collaborations beyond the grant period. In contrast, findings from our project suggest that the "mattering" of shared activities/events may have contributed to sustainability more than any governance structure. For example, despite the increased centrality of A/Cs and CBOs, the network-level degree centralization was nearly unchanged (12.2 at T1, 13.6 at T2),[1] suggesting a decentralized intersectoral network. Indeed, Mondal et al.'s (2021) review of intersectoral action initiatives suggests that hybrid or adaptive governance may by more suitable for networks under changing conditions. For example, project team remained peripheral in the co-design and facilitation of activities even if it was essential in integrating the perspectives and values of potential partners into the funding proposal, communication infrastructure (website, mission/vision statement, platform for cross-sector meetings). The participatory and ethnographic design also situated project team members *alongside* partners, further decentering them. As SNA research indicates, community self-determination is facilitated when the primary academic is known to community organizations in terms other than as an academic researcher (Salsberg et al., 2017a). In panel film discussions, for example, the academic project researcher (Lee) was situated as a co-facilitator of the discussion among CBO, A/C and community experts. In all other activities/events, the academic project researchers "hung out" and/or conducted participant observations that included doing needed tasks (dispersing budget to parters, obtaining/distributing needed materials, on-line platform for virtual activities) rather than delegate tasks. In fact, the intense collaboration in the co-design and delivery of activities/events, coupled with distributed governance,

[1] We acknowledge our use of degree centralization did not rely on the many other measures of centrality because we base our results on the "alter" term in SIENA analysis, which is in-degree term.

culminated in partners leveraging their own or locating new sources of funding to continue some of the project's shared activities/events. In contrast to the unclear outcomes of structural interventions designed to extend social care as a "safety net" in health system-led intersectoral actions (Callahan et al., 2024), our intersectoral partnership was significantly less costly financially,[2] while the continuation of shared activity/events provides practical knowledge of what can be gained when what matters most to those engaged is central to network interventions.

Limitations & strengths

A major limitation of this study is the unique configuration of the project team and its philosophical values, including the unique strengths, complementary competencies, and capacities of the partner administrators, staff and activity facilitators who devoted their energies into activities which may limit replicability. The study was also situated in a specific historical context, which limited the sampling strategy. For example, due to the overwhelming pressure and crises in institutional care in the local context (e.g., see Brewster, 2020), our partners in psychiatric in-patient and long-term care residencies were unable to participate. Although there may have been other relevant organizations on the island of Montreal, the primary community-based organizations that provide services in both official languages in Canada for persons living ARC and their carers were engaged in the project. Combining responses of different numbers of people per organization may have skewed the out-degree results towards the organizations that had the most participants. At the same time, the in-degree results confirm that arts/culture and CBO organizations were engaged, suggesting that the research design, itself, holds promise for maximizing the experiential or practical knowledge of engaged partners and what really matters to them in-on-their own terms. Specifically, the results speak to the intersectoral partnership's sustainability post-funding despite the 13 changes across 2.5 years of funding and 3 leadership changes post-funding across all engaged A/C and CBO sectors.

Conclusion

Inspired by public health funding for intersectoral action, network theory and SNA can expand and sustain social care in a local context for persons living with ARC and their carers (personal, professional), offering a scalable non-medical model for cultivating social care in the community through actions that matter. This study reinforces the hypothesis that network theory and SNA can be applied to design and sustain structural social care interventions.

CRediT authorship contribution statement

Melissa Park: Writing – original draft, Supervision, Project administration, Methodology, Funding acquisition, Formal analysis, Conceptualization, Data curation, Investigation, Resources, Validation, Visualization, Writing – review & editing. **Keven Lee:** Funding acquisition, Conceptualization, Investigation, Methodology, Writing – review & editing. **Sarah Piombo:** Visualization, Software, Formal analysis, Validation. **Marie Christine Le Bourdais:** Resources, Conceptualization, Funding acquisition, Writing – review & editing. **Seiyan Yang:** Project administration, Data curation, Investigation, Writing – review & editing. **Arnaud Francioni:** Data curation, Investigation, Project administration, Writing – review & editing. **Thomas W. Valente:** Writing – original draft, Supervision, Software, Project administration, Methodology, Funding acquisition, Formal analysis, Conceptualization, Data curation, Investigation, Resources, Validation, Visualization, Writing – review & editing.

[2] Using case study data, Callahan et al. (2024) calculated costs of $1–3 million/year USD to build and maintain the infrastructure to integrate social and health care. The funding received from the Public Health Agency of Canada for our structural network intervention was approximately $227,000/year between 2020 and 2023 ($939,116 CAD not including in-kind CBO and A/C sectors (space, admin time), and the equivalent time of one faculty member from the academic sector.

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