

A Critical Realist Evaluation of an Integrated Care Project for Vulnerable Families in Sydney, Australia

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Research article

Keywords: Integrated care, critical realism, design, engagement

Posted Date: January 17th, 2020

DOI: <https://doi.org/10.21203/rs.2.21191/v1>

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Version of Record: A version of this preprint was published on October 31st, 2020. See the published version at <https://doi.org/10.1186/s12913-020-05818-x>.

Abstract

Background Healthy Homes and Neighbourhoods (HHAN) Integrated Care Initiative was established to improve the care of families with complex health and social needs who reside in Sydney Local Health District. HHAN seeks to provide long-term multi-disciplinary care coordination as well as enhance capacity building and promotion of integrated care. We describe the qualitative component of a critical realist pilot case study aimed at exploring, explaining and refining emerging HHAN programme theories in relation to care coordination. Methods Semi-structured qualitative interviews with HHAN clients (n=12), HHAN staff and other stakeholders (n=21). Emerging themes informed the development of Context-Mechanism-Outcome configurations aimed at evaluating HHAN's effectiveness and refining the programme theory. Results HHAN's effectiveness was based on two process mechanisms: Engagement of vulnerable clients and integration of services. The relational mechanisms underpinning effective engagement of clients by care coordinators included: building trust, leveraging other family, social and organisational relationships, meeting clients on their own terms, demonstrating staff effectiveness as quickly as possible, and client empowerment. Operational mechanisms for enhancing care integration included knowledge transfer activities and shared learning among collaborators, structural and cultural changes, enhancing mutual respect, co-location of multidisciplinary and/or interagency staff and cultivating faith in positive change among staff. Conclusions Use of a critical realism case study approach served to elucidate the varied influences of contexts and mechanisms on programme outcomes, to highlight what works for whom and in what context. Findings supported the initial programme theory that engagement and trust building with clients, alongside enhanced collaboration and integration of services, improved outcomes for vulnerable families with complex needs. Further research is needed to explore the cost-effectiveness of integrated care initiatives, in view of the long term nature of service provision and the risk of staff burnout.

Background

Social disadvantage is a multi-dimensional concept, reflecting a range of indicators tied to financial resources, social capital, social exclusion, health and education outcomes (1, 2). Disadvantaged families often suffer from the convergence of adverse social, mental and physical health issues that can be overwhelming. Data shows that social disadvantage tends to concentrate geographically (3) and can create intergenerational cycles of trauma and disadvantage.

Unfortunately, disadvantaged families can easily become invisible to health, social services and policy makers. Social welfare programs designed to provide health and social assistance to those in need are subject to an "inverse care law" whereby the most disadvantaged are most likely to miss out on the care they need (4). Australian children and families who are disadvantaged are subject to increased rates of inequities in health and wellbeing (5). This, in part, relates to access to care. Data from the Organisation for Economic Cooperation and Development (OECD) countries shows that the least advantaged members of society are least likely to see a specialist (6) and this is more pronounced in countries that have some

privatisation of the healthcare system (6). Socio-economically disadvantaged Australian women are less likely to access specialist, dental and allied health services compared with other strata in society (7).

Often a multi-agency approach is required to improve health outcomes, given the complex nature of problems (8). There has been increasing recognition that services need to be reoriented to be “fit for purpose” in assisting vulnerable clients by addressing the social determinants of health (9). In addition, access to services should promote equity and be cost effective in preventing the consequences of poor physical and mental health, and adverse social outcomes. An emerging evidence base, both internationally and in Australia, supports the adoption of integrated care initiatives to make services, support and care more accessible for vulnerable families with complex needs (10-12).

The Healthy Homes and Neighbourhoods (HHAN) Integrated Care Initiative, based in Sydney, Australia, is an example of a multi-agency approach. The HHAN initiative aims to break intergenerational cycles of disadvantage and trauma within affected communities in Sydney Local Health District (SLHD). The programme’s family-partnership approach draws on a theory of change model that has been previously reported (13).

HHAN aims to support families to allow carers to parent effectively and participate in their community. A core component of service provision involves long-term cross-agency care coordination for families, conducted by two nurses and two social workers overseen by a Programme Manager. Eligible families must have at least one child under 17 years of age. The care coordinator (CC) is in direct contact with the client and focuses on securing a family medical home (e.g. General Practice), wrap-around multi-agency support for families, and long-term monitoring of health and wellbeing. HHAN also includes several capacity building elements that promote integration between communities and service organisations to support vulnerable families.

This article reports the qualitative findings of a pilot evaluation of HHAN, focusing on the care coordination component of the programme, using a critical realist case study approach. Realist evaluation draws on principles of critical realism and social theory (14-16). This approach can be readily applied to the discipline of translational social epidemiology for the purpose of evaluating complex interventions such as HHAN (17) and developing implementation and programme theories (18).

Critical realism acknowledges that as well as observable phenomena, there are also unobservable forces at play that produce events under certain conditions and create the mechanisms (M) and conditions or contexts (C) that produce outcomes (O). Greenhalgh et al describe mechanisms as “underlying changes in the reasoning and behaviour of participants that are triggered in particular contexts” (19). The manner in which this change manifests within a context results in programme outcomes.

Rather than approaching programme evaluation by simply examining outcomes for those who participated and those who did not, realist evaluation examines Context-Mechanism-Outcome (CMO) configurations to assess what works, for whom and in what context (15). Furthermore, success often

depends on contextual factors and assessment of these is crucial in determining whether translation of an initiative to other settings will work (19).

Methods

As a pilot realist case study, the research aimed to explore emerging HHAN programme theories and propositions in relation to care coordination. Through qualitative data collection, CMO configurations for key HHAN programme components were developed in order to explain and refine the initial programme theories and for future service evaluations. The study forms part of a larger programme of continuous research, design and evaluation (13), informed by the UK Medical Research Council (MRC) Framework for evaluating complex health interventions of 1) development, 2) feasibility/piloting, 3) evaluation and 4) implementation. The framework has been adapted to include: critical realist, theory driven, and continuous improvement approaches (13).

A qualitative approach was used to explore how the theorised HHAN programme mechanisms manifested in concrete situations. Thirty-three semi-structured interviews were conducted with HHAN clients and members of their family networks (n=12), and service providers (n=21). Purposive sampling in a number of HHAN programme sites was used to recruit a sample that reflected a range of perspectives and CMO configurations (15). Given the importance of family networks in providing “wrap-around” care for clients, the sample included some family members of clients enrolled in HHAN. Potential participants were initially contacted by the HHAN staff working with them. If the client or family member consented to be interviewed, the investigators followed up face to face, by phone or email. All client participants gave written consent to be involved in the study and received a \$50 supermarket voucher to thank them for their time. Ethics approval for the study was granted by the SLHD Human Research Ethics Committee.

A questioning framework using a realist CMO approach (20) was developed to guide semi-structured interviews. Interviews were conducted by the lead author (ET) at the participant’s home, a care facility or place of work. While the researcher was unknown to clients, she had a working relationship with HHAN staff who participated in interviews. Questions explored reasons why participants got involved with HHAN, how the service helped, reasons why HHAN did or didn’t work well, how clients’ relationships with their children changed, and how and why their utilisation of other services had changed. Interviews lasted between 30 and 90 minutes and were audio-taped and then professionally transcribed.

Interview transcripts were de-identified and imported into NVivo version 11 for thematic analysis. Line by line coding of each transcript was used to define the underlying meanings. A coding template was developed based on analysis of five interviews. The process was iterative, with further codes being added as necessary with ongoing data review and theory refining. Three reviewers worked independently and then met to discuss findings and merge and collapse categories.

Programme propositions were expressed in realist terms as Context, Mechanism and Outcome (CMO) configurations, including the contextual levels of Self, Situated Activity, Intermediate Level and Macro Level, as proposed by Layder (21). CMO configurations were developed through iteration and by applying

abductive reasoning or an “inference to best explanation” approach (22). Once outcomes were identified in the first instance, mechanisms and contexts linked to outcomes were generated. In the future, these CMO configurations will be used to refine the initial programme theory.

Results

Sample Characteristics

All client participants (n=12) were female caregivers. A quarter were grandmothers who had assumed responsibility for a child under kinship care and the remainder were birth parents. Almost half the client participants (5/12) identified as single parents. Almost all client participants experienced mental health issues (11/12) and significant relationship difficulties (11/12).

Service provider participants (n=21) came from a range of backgrounds, including medicine/nursing (n=7), education (n=2), specialist case workers (n=6) and social work (n=6). Four service providers were HHAN staff. However, the majority (n=17) were stakeholders from HHAN partner organisations, including General Practice (n=4), New South Wales (NSW) Family and Community Services (FACS) (n=4), the NSW Department of Education (n=2) and non-government organisations (NGO) and charities (n=5).

CMO Configurations

Interview data highlighted two process mechanisms operating within HHAN: engagement of vulnerable clients; and integrating care. Relational and operational mechanisms operated within these two process mechanisms and their related CMO configurations were identified. Contextual factors were categorised into Layder’s contextual levels, as described above.

Process Mechanism 1: Engagement of Vulnerable Clients

In order to improve the care of vulnerable clients, one must work in partnership with them. The care coordination aspect of HHAN revolved around the ability of the care-coordinators to engage this group and gain their trust. Five relational mechanisms related to engagement of vulnerable clients were identified.

Relational Mechanism 1: Leveraging other relationships.

The CMO mechanisms of the theme are summarised in Table 1.

Level of context (Layder 1993)	Contextual factors	Relational Mechanisms	Outcomes
Self-identity	Presence of domestic violence Cultural expectations of the role of women Reluctance to engage with services	Leveraging off pre-existing relationships to provide wrap-around care and engage clients with additional services	Clients' improved access to care and engagement with a broader range of services
Situated Activity	Access to supportive family and social networks		
Intermediate Level	Level of trust between: -client and index case worker -client and client's friend/family member -client's friend/family member and case worker -professionals involved Whether client consent to refer to other services can be obtained		Enhancement of a service's reputation within families or communities

Table 1: CMO configurations for Relational Mechanism 1 "Leveraging other relationships"

The concept of "wrap-around care" was a key design element of the programme theory (13) operating at the contextual levels of Self (identity/individual experience), Situated Activity (face-to-face activity) and Intermediate (service organisation) levels. HHAN CCs often tried to engage with the spouse, children and grandparents to provide support to the whole family.

The importance of wrap-around care was particularly evident when care-coordinators were seeking to engage with large kinship networks. Establishment of trust within families had a ripple effect, and could encourage other family and community members to seek out help from the HHAN team or associated services. This leveraging of existing relationships occurred both within family networks and within communities as a relational mechanism underlying effective wrap-around care.

“... the amount of people that walk in here and say such and such told me to come and see you....Because the word of mouth is being positive. So it's reputation and then there's trust”. (Service provider)

Contextual factors at the level of Self, however, also influenced mechanisms and outcomes. The flip-side of leveraging off relationships with others was that an adverse interaction between a client or family and a care-coordinator could have far-reaching effects on trust across a wide social network. There were instances where it was difficult or impossible to engage others within the family and even direct conflict between care-coordinator and contacts. This was a particular issue in families affected by domestic violence or from cultures where women were devalued and the care-coordinator was female.

“I'm doing it to make a difference for those children and maybe to empower her.... To see that it isn't ok for her kids but then you know he [her husband] will totally, totally hate us for that. We certainly don't have his agreement for any [of her care] goals. And he won't even agree to meet”. (HHAN CC)

Wrap-around care could also operate through leveraging collaborations between service providers, at the Intermediate Level. Relationships with one professional could act as a conduit to engaging clients with other services. Sometimes the trusted professional would act as a link between their client and other services, directly referring them on. At other times, they would consult other services, but continue as the sole person working face to face with the client. These leveraging approaches enhanced client outcomes by improving their access to a broader range of services without the need for clients to build trust with new workers.

Several professionals raised concerns about maintaining confidentiality when collaborating with other services, and obtaining consent from clients. This was an important contextual factor with the potential to mediate the impact of leveraging as a relational mechanism. NSW Child Protection Legislation (Section 16A, Children and Young Persons (Care and Protection) Act 1998), allows for information sharing between agencies without client consent, where there are concerns about the welfare of a child. In the current study, however, neither professionals nor clients gave examples of where they had experienced difficulties or complaints related to privacy.

Relational Mechanism 2: Meeting the client on their own terms.

The operation of this relational mechanism was examined at the levels of Self, Situated Activity and Intermediate contextual levels.

Level of context (Layder 1993)	Contextual factors	Relational Mechanisms	Outcomes
Self-identity	Presence of intergenerational trauma	Flexible service delivery by care coordinators	Clients' needs are met
Situated Activity	Extent to which flexible service delivery is built into the programme Level of case worker autonomy in selecting approach Level of case worker willingness, patience and confidence to deviate from standard practice Existence of Occupational Health and Safety concerns	Client priorities are reflected in initial goal setting	Enhanced client engagement Staff stress and burnout prevented
Intermediate Level	Availability of other services that can assist with providing care and support CC's role Level of trust between service providers		

Table 2: CMO configurations for Relational Mechanism 2 "Meeting the client on their own terms"

Attending an appointment in an "institution" could be intimidating for somebody with low literacy or self-confidence, especially if they had had adverse experiences with authorities in the past. This was articulated by one educator working in a deprived social housing estate.

"Their priority is to help their child but they can't actually get them to the Dental Hospital, even though it's close, because they're having a really hard time and they need support... some of them need hand-holding and confidence is a huge problem; we see parents when they first come here, they're quite withdrawn and hollow and it's like an institution..."

Meeting the client on their own terms through flexible service delivery was a crucial relational mechanism promoting engagement (see Table 2) that came up frequently during interviews with service providers and clients. Care-coordinators described adopting various non-standard interventions to promote engagement, operating primarily at the Situated Activity contextual level. Care-coordinators were often required to make themselves available at varied times and places, using the means of communication that was most acceptable to the client.

Genuinely listening to clients' concerns and prioritising them in goal setting, particularly in the initial phase of involvement, was another important mechanism. By focusing on the client's most pressing need, care-coordinators could build trust and create opportunities to subsequently work on other issues that they considered important. The success of this approach, however, hinged on care-coordinators' willingness to be patient and flexible.

The down side of flexible service provision was that it could take its toll on care-coordinators, some of whom displayed evidence of burnout. Staff turnover could have a major impact on client outcomes, particularly continuity of care, trust and engagement.

“One of my patients who’s really difficult was doing great when he had a case worker.... Four months later he just DNAs [does not attend appointments] again, I can’t get hold of him and it’s because the case worker changed... I would have loved them to call me and let me know... then the patient ends up in hospital and then it can take six months to recover from those sorts of setbacks”. (GP)

At times, flexible service delivery was dependent on contextual factors at the Intermediate Level, such as the availability of other suitable services to assist clients.

“There can be services but a lot of them are at capacity... so we are often holding them”. (HHAN CC)

The intended role of HHAN care-coordinators was putting services and clients in touch with one another and arranging care, before gradually reducing intensity of involvement. This model of care proved difficult at times due to tensions between “care coordination” and “case management” roles. Care-coordinators were often required to be a lot more “hands on” than anticipated. Having built a relationship with the client, it could be difficult to step back (practically and emotionally). In several instances there were no services to take over care.

“I don’t see it’s possible to step away. So many of these clients have had no one to trust ... I think it’s very important for these clients to know that there is someone out there who is stable, who isn’t judging them for whatever situation comes up next but simply helps them to navigate whatever challenge has come up next”. (HHAN CC)

Relational Mechanism 3: Building Trust.

CMO configurations for building trust with clients are shown in Table 3.

Level of context (Layder 1993)	Contextual factors	Relational Mechanisms	Outcomes
Self-identity	Whether client had had a child removed from their care Level of distrust of authority Importance of making changes to retain custody to the client	CC likeable and approachable: “a safe person”	Level of client engagement Level of CC burnout
Situated Activity	Presence of child protection concerns		
Intermediate Level	Relationship between CC and Family and Community Services		

Table 3: CMO configurations for Relational Mechanism 3, “Building Trust”

Many clients indicated that care-coordinators needed to be likeable, approachable and a “safe person”. Without these qualities, a relationship of trust would not be achieved. Care-coordinators wore casual clothing, used informal language and avoided jargon to erode the notion of a power base and maintain approachability.

A key challenge to building trust was that several clients had previous or ongoing involvement with child protection services. Although not directly involved, care-coordinators remained bound by mandatory reporting obligations. In Australia, all health staff are required by law to report suspected cases of child abuse or neglect to the relevant government authority. In NSW, mandatory reporting is regulated by the [Children and Young Persons \(Care and Protection\) Act 1998](#) (the Care Act) (23) and mandatory reporters are guided by the [NSW Mandatory Reporter Guide](#). Care-coordinators had to juggle their interactions with child welfare workers and the client and, at times, this resulted in conflict. One client disengaged as a result of child protection concerns reported by a care-coordinator.

Relational Mechanism 4: Engaging by demonstrating effectiveness of the partnership.

CMO configurations related to care-coordinators demonstrating effectiveness to clients are shown in Table 4.

Level of context (Layder 1993)	Contextual factors	Relational Mechanisms	Outcomes
Self-identity	Clients’ past experiences with services and willingness to give CC a chance Complexity of client problems	CCs demonstrate effectiveness of partnership	Client engagement in HHAN Enhanced outcomes for client and family Prevention of CC burnout
Situated Activity	Level of CC knowledge, experience and persistence in effecting positive change for client		
Intermediate Level	CC’s reliance on other services to provide care, and their capacity to meet the client’s needs		

Table 4: CMO configurations for Relational Mechanism 4, “Engaging by demonstrating effectiveness of the partnership”

Clients frequently reported that trust in their care-coordinator was primarily based on the practical benefits that stemmed from engaging with the worker, such as being successfully rehoused, or accessing

financial support. A number of Situated Activity level contextual factors impacted, however, on whether or not care-coordinators could demonstrate their effectiveness. For example, clients frequently spoke of the importance of confidence in their care-coordinator’s skills and experience. All four HHAN care-coordinators were highly experienced nurses and social workers. Data suggested that clients may have been less likely to give a care-coordinator a chance to prove their worth if they were younger or less experienced.

Self-level contexts interacted with those operating at the Situated Activity level. In many cases the client’s problems were complex and unpredictable. In this context, care-coordinators needed to have realistic expectations of outcomes, and be adept at navigating which problems could be solved.

“Literally every week it’s a major crisis...who’s broken into the house, who’s lost what, who’s hit who this week... it’s just like a horror movie for some of these people”. (Stakeholder)

As discussed previously, Intermediate level factors such as the availability of other services, shaped the operation of relational mechanisms and outcomes. In addition, when care-coordinators were dependent on other services to assist the client, and the intervention was unsuccessful, the relationship with the client and care-coordinator could be jeopardised.

Relational Mechanism 5: Making clients feel valued and empowered.

Making clients feel valued and empowered was a strong theme that emerged as another relational mechanism associated with HHAN’s effectiveness (see Table 5), operating at the level of Self and Situated Activity.

Level of context (Layder 1993)	Contextual factors	Relational Mechanisms	Outcomes
Self-identity	Level of client confidence given history and current social situation Level of client motivation Client’s view of authority figures	CC demonstrates valuing of client by advocacy and “going beyond the call of duty” Promoting client independence	Client empowerment Enhancement of client outcomes Prevention of CC burnout
Situated Activity	Level of responsibility CC gives to client		

Table 5: CMO configurations for Relational Mechanism 5, “Making the client feel valued and empowered”

Promoting client independence was a key relational mechanism integral to client empowerment.

“The aim is hopefully that we’re not babysitting families... we’re trying to promote independence so they feel comfortable, connected with community and health”. (HHAN CC)

All care-coordinators described taking active measures to avoid creating dependency in their clients such as intentionally making clients call to make appointments for themselves. Wherever possible, they took on a ‘guiding’ rather than a ‘doing’ role.

“She’s given me some guidance, I’m familiar with where I should go now and what needs to happen ... I’m comfortable doing so”. (Client)

Client dependency could result in care-coordinators feeling isolated. In the case of more challenging clients, dependency could also lead to staff burn out.

“For most of my clients it’s taken so long to find someone who fits their needs because there’s such a broad spectrum that somebody requires, the clients don’t let go. I’m still in there, they’re still ringing me, they’re still having this relationship with me where they will tell me about the ongoing problems. I think that’s a good thing because they’re still opening boxes for me and I’m finding other things that are still layer upon layer... but it’s also really challenging because you don’t kind of get a break with these clients. You don’t have the easy clients which offset the more challenging clients; they’re all challenging”. (HHAN CC)

Although no adverse effects of burnout were reported by clients, it was anticipated that care-coordinator burnout and stress might threaten the relationship with the client and the longevity of the programme.

“I really struggled within this job for quite a period of time because it was nothing like I thought it would be and I felt quite unsupported in the transition as I actually developed my own sense of what my role within the team was”. (HHAN CC)

Process Mechanism 2: Integrating care

The second process mechanism behind the success of the HHAN programme was integrating care. Four operational mechanisms were identified, based on themes arising in the interview data.

Operational mechanism 1: Knowledge Transfer Activities

As discussed, the HHAN intervention was designed to build capacity for interagency collaboration. Interview data highlighted that key operational mechanisms for enhancing staff collaboration related to knowledge transfer activities (see Table 6), functioning at the contextual levels of Situated Activity and Intermediate Level service organisation.

Level of context (Layder 1993)	Contextual factors	Operational Mechanisms	Outcomes
Situated Activity	Physical proximity of collaborating staff Willingness of CC to work with others	Knowledge transfer between staff working together Shared goals, language and professional learning activities among collaborating interagency staff.	Faster and more appropriate resolution of client problems Enhanced CC decision-making and work satisfaction
Intermediate Level	Existing relationship between CC and other staff in interdisciplinary and inter-agency teams Links between CC and other services Willingness of staff to share knowledge	Co-location of service providers	Reduced conflict between agencies Capacity to enhance outcomes Relationship building among workers

Table 6: CMO configurations for Operational Mechanism 1, “Knowledge Transfer Activities”

HHAN adopted a model of staff collaboration and inclusivity in which professional learning pathways and training opportunities were created and shared across different disciplines and organisations. Knowledge transfer activities and shared learning were both formal and informal, including multidisciplinary meetings, clinics and training sessions. Professional partners focused on shared goals and language in order to further their projects and avoid conflict.

“We are certainly taking this global approach. This brings global problems and knowing how to support both clients and the staff through this process has been challenging”. (HHAN CC)

“We’ve all grown as a result of it and I think we’ve become less protective or defensive of our roles as a nurse or a social worker, you know, I feel more comfortable with being part social worker now despite the fact I’ve had no formal training in it”. (HHAN CC)

Service providers almost universally described co-location with other services as extremely helpful for integrating care. Co-location promoted regular informal knowledge transfer and offered opportunities for enhanced collaboration.

“Instead of doing it by myself and having to make calls, I have access to learned professionals in different areas such as legal, drug health, youth services, health and family services, paediatrics, all surrounding and supporting me.... you could have a genuine real time collaboration within minutes of engaging with a client and you could also wrap- supports around a client in real time, that's the biggest

difference. I have found that better outcomes for the client and the actual timing is just so much quicker ... Now that I have access to my own advice, my decisions are far better". (Stakeholder)

Operational mechanism 2: Implementing structural change

CMO configurations related to implementing structural change are shown in Table 7.

Level of context (Layder 1993)	Contextual factors	Operational Mechanisms	Outcomes
Situated activity	<p>Level of insight or awareness of difficulties faced by other service providers</p> <p>Service provider resistance to collaboration</p>	<p>"Systems thinking" among professionals</p> <p>The desire to bring about positive change</p> <p>Creative problem solving</p>	<p>Strengthening and simplifying of referral processes</p> <p>Enhanced staff knowledge of other services' roles</p>
Intermediate Level	<p>Acknowledgement by professionals of systemic barriers to care</p> <p>Extent of buy-in from managers regarding integrated care</p> <p>Siloing of funding sources</p>	<p>Actively seeking to connect with unknown service providers</p>	<p>Shared training opportunities for staff from different agencies</p>

Table 7: CMO configurations for Operational Mechanism 2, "Implementing structural change"

HHAN challenged traditional welfare provision to disadvantaged families. Siloed funding and management structures, and resistance to collaboration among service providers, were key contextual factors influencing the mechanisms related to integrated care.

Simplifying referral processes resulted in increased outcomes and satisfaction for both clients and stakeholders. The HHAN programme director and manager required support from partners and stakeholders for this to occur. In some instances, there was a lack of understanding of the roles of other professionals and an inability to see benefits of collaboration.

"There has been a lot of shakeup...I think even the importance of highlighting those silos has been really important and those conversations but...I know how difficult that change can be, culture change and how people are quite fearful of those changes... that pushback can be quite strong". (Stakeholder)

In order to promote care integration and structural change, traditional power bases had to be challenged, in a respectful and constructive manner, ensuring all professional opinions were respected.

"I really do believe...it's bringing all the agencies together to brainstorm how we're going to and, and listening to people's expertise around the table". (Stakeholder)

Operational Mechanism 3: Fostering Mutual Respect and Trust.

Fostering mutual respect and trust between staff was key to achieving HHAN’s objectives (see Table 8) and related to Self, Situated Activity and Intermediate Levels contextual factors.

Level of context (Layder 1993)	Contextual factors	Operational Mechanisms	Outcomes
Self	Attitudes towards collaboration among staff Service provider knowledge of other services’ roles	Challenging of traditional power bases Guidelines and formal agreements to build consensus Advocacy for, and validation of, other professionals or agencies	Enhancement of inter-agency relationships Potential for shifting staff attitudes towards collaboration through positive experiences Increased likelihood of working together in the future
Situated Activity	Differing world views and personality clashes Physical proximity of staff working together Extent to which HHAN were likeable, available and persistent		
Intermediate Level	Management support for collaboration		

Table 9: Operational Mechanism 3, “Fostering mutual respect and trust”

Inter-agency guidelines and agreements were sometimes used to build consensus between staff and agencies. HHAN was also able to empower some services by validating them in the eyes of others.

“I’ve been knocking on one organisation’s door for a very long time... a great thing about HHAN is that if there’s been an introduction there so they’ve helped me link to that organisation.... Because health [HHAN] is there standing beside us saying we want you there to help”. (Stakeholder)

HHAN staff made themselves approachable and available, and were persistent in attempting to develop and strengthen relationships, even in the face of inevitable conflicts. The process of shared learning and team troubleshooting in relation to difficult clients, served as opportunities to foster trust and respect between service providers.

“The HHAN director is always available ... I think that willingness, that relationship and the respect for the services I think is what pushes this project along in my view”. (Stakeholder)

The HHAN team and stakeholders described many contextual factors influencing the extent to which respect and trust could be fostered among service providers. Different organisations and individuals often had opposing worldviews. In some instances, personality clashes between individuals could have a particularly destructive flow-on effect.

“I know she has felt that I shouldn’t be at the meetings... I heard that an email was sent saying it had been decided that I should not attend those meetings. [it] really disrespects me as a person and as a professional”. (HHAN CC)

Operational Mechanism 4: Cultivating a culture of faith in positive change

A crucial operational mechanism operating in the HHAN initiative was a shared believe among staff that the programme *could* work (see Table 10).

Level of context (Layder 1993)	Contextual factors	Operational Mechanisms	Outcomes
Self-identity	Staff burnout and jadedness	Cultivating faith in positive change related to integrated care	Enhanced buy-in by staff and agencies
Situated Activity	Visibility of benefits of collaboration Realistic expectations of time frames of change	Role modelling collaboration “Selling” the benefits of HHAN through advocacy Experiential learning	Enhanced resources for implementation Quality of staff involved Level of staff turnover
Intermediate	Presence of inspiring transformational leadership	Creative problem solving	

Table 10: CMO configurations for Operational Mechanism 4, “Cultivating a culture of faith in positive change”

In order to create sustainable positive change in relation to integrating care, HHAN staff had to change cultures both within and between organisations. Service providers had to role model collaboration and become advocates for the HHAN programme in the hope that they would win over other hearts and minds. There was evidence of transformational leadership at all levels.

Service providers sometimes reported that “selling” HHAN to other services could be challenging unless they could demonstrate the positive benefits of the initiative.

“It seems that it wasn’t a very easy exercise to get people to agree to what you are doing... there was an awful lot of explanation of who we are”. (HHAN CC)

In the case of complex interventions like HHAN, it could be difficult to clearly demonstrate benefits and change occurs over a long period of time. As one care-coordinator noted:

“We’re learning as we go. I do think we’re making a difference in people’s lives. Sometimes the case studies show you that much more”.

The risk of workers becoming burnt out and jaded posed a threat to the project. The provision of ongoing practical and moral support to all staff was therefore crucial.

Moreover, the project was large and ambitious. Different parties seemed to have different expectations of what HHAN would be able to achieve and over what time frame. In some instances this mismatch of expectations resulted in disappointment and conflict.

“I just had a hope that this time it would move a bit quicker. I don’t think you can actually judge it yet. I think to try and judge it now is too soon. Honest to goodness it needs more funding and it needs a longer period of time... I don’t know what people were expecting from HHAN either. If they think you’re going to get dramatic change in an instant then you know it never it works like that”. (Stakeholder from NGO)

Discussion

Previous studies suggest integrating care has particular benefits for clients with complex health and social needs but more research is needed to identify specifically how and why (10). This study’s findings contribute to an emerging literature highlighting the key components of an effective integrated care initiative targeting this group, through the use of a realist approach.

Engagement of vulnerable clients in care and integrating care across agencies were the two process mechanisms underpinning the effectiveness of HHAN. Achieving engagement of vulnerable families, who often distrusted service providers and resisted engagement, was fundamental to enhancing family outcomes and increasing their access to a broader range of support services. The study highlighted the crucial importance of care-coordinators having sufficient time, autonomy, skills and experience, flexibility and patience to build trust and credibility as a valuable resource for this group of clients. Contextual factors added further complexity to service provision. Client motivation and readiness to make changes, access to supportive family and social networks, as well as the presence of trauma, substance use issues, child protection concerns, domestic violence and cultural norms where women are devalued, influenced mechanisms and outcomes. These findings suggest the long-term nature of effective service provision may prove resource intensive and reinforces the need for further research into the cost benefits of integrated care initiatives (10, 11).

Integrated care was found to be optimised by trust among service providers, willingness to collaborate, knowledge of other services’ roles, shared interagency learning opportunities, co-location of collaborating staff, management support of collaboration, and the presence of transformational leadership. Care-coordinators having realistic expectations for change and levels of stress and burnout, were also directly aligned with the potential for mechanisms to lead to positive outcomes. Service providers could be exposed to high workload, vicarious trauma, dis-spiriting pushback or conflict with other agencies and the need to work outside their comfort zones. Burnout and staff turnover could jeopardise the project as a

whole, reinforcing the need to examine the resource demands of this approach and how to institute sustainable work and staff support staff practices.

Strengths and weaknesses

The study triangulates the perspectives of clients and service providers and adopts a realist approach to explore contexts, mechanisms and outcomes associated with the effectiveness of HHAN. The research also highlights the need to change organisational cultures, challenge traditional power bases and integrate funding sources to reduce siloing and improve access to care for vulnerable families. Facilitating organisational change and the adoption of new funding and governance arrangements that support integrated care, has rarely been the focus of research (10). However, the study also had limitations. Obtaining consent for interviews for clients was challenging and affected sampling and recruitment. It is likely that those participants who were interviewed were the most confident and articulate clients, and those with a positive attitude towards HHAN. Access to the most vulnerable clients might have given a different and extremely valuable perspective. In addition, analytic processes adopted for development of CMO configurations were inherently vulnerable to subjectivity and may have resulted in misattributions regarding causality.

Conclusions

This paper adds to an emerging evidence base for the use of critical realist approaches in translational social epidemiology. The research confirmed and further refined HHAN's programme theory, that the way the service engages with clients and seeks to integrate care provision serves to enhance outcomes for families with complex needs. Breaking the intergenerational cycle of disadvantage requires innovative and more nuanced approaches to designing and evaluating complex interventions, such as those targeting vulnerable populations with a plethora of health and social needs. Findings from this pilot of the HHAN Integrated Care Initiative reinforce the multi-dimensional nature of factors implicated in an intervention's impact and the potential constraints they pose for translation into practice in different settings. This research highlights that programme outcomes remain contingent on enabling contexts that set in motion the mechanisms that will lead to success.

Declarations

Ethics approval and consent to participate

All client participants gave written consent to be involved in the study and received a \$50 voucher for participation. Ethics approval for the study was granted by the SLHD Human Research Ethics Committee.

Consent for publication

Not applicable

Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available due the risk this poses to the confidentiality of participants. However, de-identified data may be available from the corresponding author on reasonable request.

Competing interests

No competing financial or non-financial interests

Funding

Sydney Local Health District, Community Health

Authors' contributions

All authors satisfy the criteria for authorship, as per the BMC journal guidelines.

Acknowledgements

We would like to acknowledge the contributions of Katherine Todd, Bronwyn Smith, Deslyn Raymond, Helen Golightly and Suzanne Ratcliffe.

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