An Australian doula program for socially disadvantaged women: Developing realist evaluation theories

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A B S T R A C T

Problem: Volunteer doula support has achieved favourable outcomes for socially disadvantaged women around the world. There is limited explanatory understanding of *how, why and when* doula support programs improve outcomes.
Background: A community organisation is providing free doula support for women experiencing socioeconomic disadvantage in Melbourne, Australia. The program aims to complement the mainstream maternity care system, to promote equity in women's care, and experiences of pregnancy, birth and early parenting. This program is the first of its kind in Australia and has not previously been evaluated.
Aim: To develop hypothesised program theories for the realist evaluation of an Australian doula program.
Methods: As the first stage of a realist evaluation, three key informant interviews and rapid realist review of literature were conducted in December 2017 - January 2019.
Findings: Seven theories were developed in four categories: critical elements of implementation (*Attracting and activating the right doulas*, and *Good matching*); outcomes for women (*Being by her side*, and *Facilitating social connection*), outcomes in maternity care system (*Complementing or enhancing maternity care*, and *Doula as a witness — demanding accountability in others*), and outcomes for doulas (*Doulas as beneficiaries*). These theories were framed in accordance with a realist understanding of causation, as Context – Mechanism – Outcome (CMO) configurations.
Discussion and conclusion: The development of theories from multiple sources of evidence provides a strong theoretical base for program evaluation. The theories hypothesise how, why, for whom and when the doula program works. Subsequent stages of the evaluation will test and refine the theories.

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Statement of significance

Problem or issue

There is limited understanding of how and why volunteer doula support programs work, or the mechanisms and contexts that lead to women's health and experience outcomes.

What is already known

Internationally, community volunteer doula support programs have achieved a range of positive outcomes for socially disadvantaged women, including reduced rates of caesarean sections and instrumental births, and increased rates of shorter labours and positive reports of care experiences.

What this paper adds

New evidence-based hypotheses are generated about how, why, when and for whom an Australian doula support program works. These realist hypotheses identify various ways doula support programs directly support socioeconomically disadvantaged women, and indirectly by changing care provided by the mainstream maternity system. A further hypothesis is that doula wellbeing can be promoted.

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1. Introduction

It is well established that health outcomes follow a social gradient, and that health inequity mirrors social inequity [1]. Women's maternal health (and their children's early development) outcomes are particularly sensitive to disempowering social conditions such as poverty, family violence, discrimination and social isolation [1,2]. Maternity care that is accessible and takes account of the social contexts of women's lives, and supports and empowers them, has great potential to offset or counter the disempowerment that comes with being socially disadvantaged. Such care promotes health equity for women and their families [3].

Women want maternity care that is positive and dignifying, is focused on their individual needs, and is provided with continuity, kindness and respect, by unrushed caregivers who communicate effectively and involve them in decisions about their care [4,5]. Yet this is not what women can rely on receiving, and those that need it most are least likely to receive it [6]. Women who are socioeconomically disadvantaged more often experience their maternity care as poor, distressing or traumatic due to factors such as insufficient information, lack of kindness and respect, insensitivity to individual or cultural preferences, and experiences of discrimination [4,7–13]. In response to this evidence, there have been calls for the evaluation of innovative models that complement mainstream maternity care, go beyond a focus on biomedical clinical care and are recognised as likely to improve women's experiences [14]. One approach that has a growing evidence base is the provision of volunteer doula support programs (in addition to mainstream care) for women experiencing social complexity [15–19].

A doula is a trained, non-medical support person who provides continuous emotional, physical and practical support to women during pregnancy, childbirth and the postnatal period [20]. There is good evidence of doula support improving women's experiences of care (in addition to a range of significant clinical outcomes including reduced rates of caesarean sections and instrumental births, as well as decrease in length of labour) for women from diverse backgrounds [21]. Evaluations of doula support programs have found positive experiences reported by refugee and migrant women [18], young women [22,23], and incarcerated women [24]. An evidence review that included measures of differential effects across a range of social groups found greater benefit for women who were socially disadvantaged, on low income, unmarried, primiparous, giving birth in a hospital without a companion, or had experienced language or cultural barriers [25].

While there is good evidence of doula support leading to favourable outcomes, and for socioeconomically disadvantaged women in particular, there is limited explanatory understanding — of **how, why and when** volunteer doula support programs lead to these outcomes. Are outcomes influenced by the context of specific programs? What makes programs work? Do they work in various ways for different women? Who do they work best for? Who misses out? These questions form the basis of the evaluation of a community-based volunteer doula support program in Melbourne, Australia. The program, delivered by Birth for Humankind provides free antenatal, birth and postnatal doula support to women experiencing financial hardship and one or more indicators of social disadvantage. These indicators include high risk of perinatal mental health issues, age under 25 years, homelessness, asylum seeker or refugee background, newly arrived migrant, history of mental health issues, current or historical substance misuse, experience of trauma, abuse or family violence, Aboriginal and/or Torres Strait Islander identity, or lacking a birth support person. Women can self-refer but are typically referred by other health or social service providers online or by phone. Doulas typically provide two to three antenatal visits, continuous labour and birth support, and two postnatal visits. Postnatal support can be extended to 12 h over six weeks if women identify that they need it [26]. Volunteer doulas come from a range of backgrounds including private doula training and practice, sponsored doula training for bicultural women, midwifery practice, and concurrent student midwifery training. Birth for Humankind provides training and development for volunteer doulas and routinely seeks client feedback on doula support. This independent evaluation will incorporate different stakeholders' views and experiences of the doula role in the program. Funded predominantly by philanthropic grants and operating since 2014, the program is the first and only of its kind in Australia, and has not previously been evaluated. The purpose of the evaluation is to inform program refinement, scalability and sustainability.

Realist evaluation methodology is adopted as a well suited and robust approach to evaluate the Birth for Humankind program, which can be considered a complex intervention [27]. The realist evaluation will seek to determine how and why the program works, not merely whether it works or not [28]. This is intended to be useful for refining and sustaining key elements of the program, tailoring the program to particular groups, and scaling it to new contexts. It will also build on existing evidence of how doulas work with women, and outcomes attributable to doula support programs.

Realist evaluation is a theory driven logic of inquiry, that assumes programs 'work' (have successful outcomes) only insofar as they introduce the appropriate resources and prompt responses (mechanisms) in groups of people in the appropriate social and cultural conditions (contexts). The evaluation research questions include **what works, for whom, how, and in what circumstances?** There are four stages in a realist evaluation (Fig. 1) [28]. The objective of this paper is to report on stage 1, the development of hypothesised program theories.

2. Methods

Realist evaluation starts with the development of hypothesised program theories that reflect the realist understanding of causation. The theories are laid out in the form of Context-Mechanism-Outcome configurations, and then tested and refined in subsequent and iterative stages of the evaluation. Refined theories provide plausible explanations of why, how, under what circumstances, and for whom, the evaluated program works [28,29]. Two methods were employed to develop the theories — interviews with key informants and a rapid realist review of the literature.

2.1. Data collection

2.1.1. Key informant interviews

Key informants were consulted using realist interview [30]. Three key informants were purposefully selected and invited to participate given their management and governance roles in Birth for Humankind, as they could provide an overview of the design, purpose and workings of the program from an organisational perspective, both strategically and operationally. The interview schedule was based on Westhorp and Manzano's 'starter set' of questions for realist interviewing [31] — to elicit intentions of the program, the reality of how the program works, for whom, and its limitations. Key informants were invited to participate by email from their Chief Executive Officer (CEO) on behalf of the research team. They were asked to contact the lead researcher (KO) directly if interested in participating in an interview. A reminder email from the CEO was also sent two weeks later. Ethics approval for the key informant interviews was provided by the La Trobe University Ethics Committee. Interviews were conducted face to face by KO between December 2017 and February 2018, and were digitally recorded.
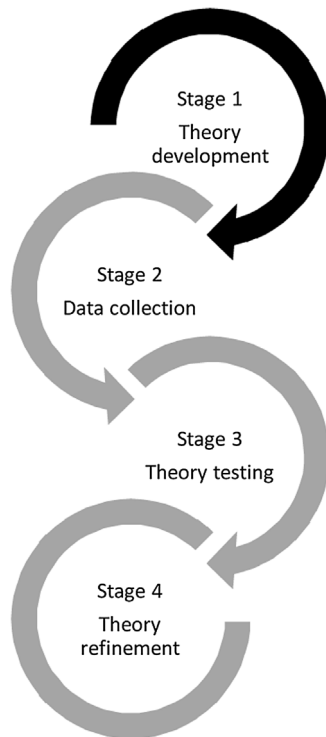
Fig. 1. The four stages of realist evaluation, highlighting the stage reported in this paper.

2.1.2. Rapid realist review of the literature

A realist review systematically reviews literature, looking for program mechanisms and features of context that explain key outcomes [32]. A *rapid* realist review expedites the search and review process with supplementary input from a reference group and expert panel - to keep the review relevant to its working context and to ensure content expertise, respectively [33]. Reference group members included senior staff from Birth for Humankind and were consulted by email in March 2018. The role of expert panel was fulfilled by co-authors who bring research knowledge of perinatal health inequities and socioeconomic disadvantage and the context of maternity care.

The literature search for the rapid realist review was conducted between March 2018 and January 2019. The search was iterative and purposive, and divergent rather than linear [34]. Evaluation research questions and early draft program theories from the interviews were used to direct searching. Electronic searching included Medline, CINAHL, EMBASE, PsychInfo, Informit and Cochrane databases. Search terms were Doula, Birth support, Birth attendant, Birth companion, Pregnancy support, Socioeconomic factors, Poverty, Disadvantaged women, Young mother/women, Teen, Refugee, Asylum, Migrant, Indigenous, Aboriginal, Homeless, Drug, Mental illness, Violence and Trauma. Manual searching used the CLUSTER framework [34] and sources recommended by the review reference group. Original research papers, reviews, position statements, and editorial/commentary papers/blog posts from high income countries, published in English, in any year, were included. While the review focused on studies of women from low socioeconomic status or social position, studies of the general population were also included if they addressed contexts, mechanisms or outcomes thought possibly relevant to all women receiving doula support. Papers were excluded if they were about support provided by a person from the woman's own social network.

2.2. Analysis

2.2.1. Key informant interviews

Interviews were transcribed verbatim by KO using Express Scribe Transcription software [35] and de-identified before being imported into NVivo [36]. First and second cycle coding of the transcripts was conducted inductively by KO in NVivo. The first cycle entailed assigning data provisional descriptive codes based on which data were alike. The second cycle entailed organising codes into categories. Some codes were subsumed or split, and others were dropped altogether [37]. Categories were then summarised and synthesised into draft theories. Authors JY and TS reviewed and verified interview transcripts and coding. The draft theories were more conceptual and abstract than their preceding categories, and were laid out in the form of partial or complete Context – Mechanism - Outcome (CMO) configurations. Mechanisms were disaggregated into ***resources*** provided by the program, and ***reasoning*** of stakeholders (such as clients) in response [28,38].

2.2.2. Rapid realist review of the literature

Literature was assessed for relevance and rigor [39]. Papers were considered relevant when they helped develop, corroborate, refute or refine aspects of program theory, and sufficiently rigorous if their methods were fit for purpose and coherent [32].

The names of the draft program theories elicited from key informant interviews were each entered as nodes in a new NVivo file. All papers were coded deductively to these theories, or prompted the inductive creation of additional theories [37]. A data extraction template was also completed. The template included author/s, country, study/paper type, objectives, participants, results, and which program theories the paper contributed to. Iterations of searching and reviewing continued until additional sources were no longer adding to or contradicting the program theories [32]. The theories were checked for internal coherence by intensive group discussion [37] with co-authors as the expert panel, and considered ready for testing in the next stage of the evaluation [28].

3. Results

Each of the three key informants invited to participate voluntarily agreed and consented to an interview. Interviews lasted for approximately 60 min.

A total of 41 papers were included in the rapid realist review. Some papers were revealing about underlying mechanisms of doula support programs, some focused more on outcomes, and others provided informative descriptions of contextual factors. Such data were typically found in background, results and conclusion/discussion sections of research papers, and explanatory commentary in other types of documents.

Table 1 summarises the theory development process, from 12 codes to three categories, from which four initial draft theories (from the interviews) emerged. These were developed further by the literature review into six theories. Two new theories also emerged from the literature only. Further development resulted in two being combined, resulting in seven hypothesised program theories.

The seven theories were laid out as Context-Mechanism-Outcome (CMO) configurations, including resources and reasoning for mechanisms. Some CMOs are incomplete and indicated as such with 'to find out' (in the next stage of the evaluation). The theories were then grouped according to level of outcome.

3.1. Program implementation level theories

Hypothesised program theories 1 and 2 have outcomes at the program implementation level.

Table 1
Summary of development from codes to categories, to seven program theories.

Codes from interviews	Categories	Initial draft theories	Further developed (*or generated) from rapid realist review	Names of hypothesised program theories
Doula availability	Implementation challenges	Mobilising the right doulas	Attracting and activating doulas	Attracting and activating the right doulas
Need to diversify doulas			Need to diversify for matching	
Client eligibility and needs		Matching woman and doula	Matching woman and doula	Good matching
Administrative systems				
Streamlining effort				
Meeting demand				
Matching				
Referral contexts				
Program adaptability				
Birth hospital contexts				
What and how of support	The 1:1 support	Doula by her side	Being by her side	Being by her side
–	–	–	*Facilitating social connection	Facilitating social connection
System level effects	System level	Complementing and influencing the system	Complementing the system	Complementing or enhancing maternity care
			Influencing the system	Doula as a witness, demanding accountability in others
–	–	–	*Doula development	Doulas as beneficiaries

*Generated from rapid realist review.

3.1.1. Theory 1: Attracting and activating the right doulas

Attracting and activating the right doulas hypothesises that having the right kinds of doulas or doula mix is important to program implementation and is critical for program success. This theory was generated from key informant data as well as literature. Some select quotations follow, and the theory's CMO configuration is described in Table 2.

Key informant 1: One of our most sought-after doulas is someone from a non-English speaking background who went through all the same things a lot of these women are going through now, 25 years ago. So even though she doesn't speak their language she can relate to them and they can relate to her on that level, and I think it's really important that we create that sort of dynamic ... rather than perpetuate the one in

which ... affluent white women who can afford to become doulas and make a career out of it, are the ones who have all the knowledge, and then they bestow it upon the women we work with.

McLeish & Redshaw 2017: Supporting women with complex needs is emotionally challenging and volunteers need to be carefully selected, realistically trained and robustly supervised and supported during their volunteering [40,p36].

3.1.2. Theory 2: Good matching

Good matching of doula and woman (client) is the second of two implementation level theories and is contingent on the first (having the right doulas), represented as one necessary context.

Table 2
Hypothesised program theory 1, Attracting and activating the right doulas, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Doulas normally work in private practice[KI1]	Opportunity to work with women from diverse backgrounds[KI1,KI3]	Value/reward in the work, and gaining new experiences[KI1,KI2,KI3]	Doulas join the program in a volunteer capacity
Doulas normally small business providers without formal networks[KI3]	Colleagiality, supervision, and growth opportunities[KI1,KI2,KI3]	Value in peer support, networking and professional development[KI3]	
Maternity care and training systems inhibit women-centred care[KI2,KI3] [47]	Opportunity for student/qualified midwives to provide the care they want to[KI1,KI2]	Value/reward in volunteering	Student/qualified midwives volunteer in doula capacity
To find out	Opportunity for doulas to 'give,' balanced with clear expectations	Value/reward in altruism balanced with understanding what it takes to volunteer[KI2]	Ideological alignment; doulas join the program for right reasons[KI1]
Organisation values and commits to culturally competency[KI1,KI2]	Clear focus on having doulas with like cultural backgrounds, [15,48],[KI1,KI2] language,[KI3] [47,49] and lived experiences [15],[KI1] as clients, including motherhood [17]	Doulas and clients can relate to each other	The right doulas and doula mix
To find out	Balance of flexibility, support, clear expectations and boundaries, but not pressure, for doulas[KI1,KI3] [50,17,51]	Doulas feel respected, enabled, motivated, can volunteer on their terms, and commit to program expectations[KI1] [40,52]	Doulas are available, reliable and active

Table 3
Hypothesised program theory 2, Good matching, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Referrals meet eligibility criteria, and referrers ascertain client need and desire for doula support before referring[KI1,KI2] [40]	Skilful coordination of clients and doulas	Women (clients), doulas and program staff agree on need and value of support[KI1,KI2]	Clients and doulas are well matched
Time of referral allows relationship establishment before birth [15,18]		Women (clients) and doulas feel matching is timely	
Doula Supervisor-Coordinator has right skill mix[KI1,KI2] [53]		Women (clients) and doulas feel their needs and preferences are respected	
The right doulas are available (theory 1)		*To find out*	
Administrative systems support matching[KI1]		*To find out*	

This theory was generated from key informant data and literature. Some select quotations from interview data and literature follow, and the theory's CMO configuration is described in Table 3.

Key informant 1: There's definitely the ability to triage, to sort, and to say ok, this client's due sooner, or this one has greater need, or . . . even just the location, you're sort of triaging the need of the women, and you're also working around the location of where she's birthing, the date, the availability of the doula, how far that doula's willing to travel, how motivated that doula is . . .

Darwin et al 2017: Women felt that the relationship would have been better for meeting sooner; either to . . . establish the relationship sooner, ensuring the opportunity to develop 'trust', get to know each other and 'bond' [15,p473].

3.2. Theories with outcomes for women

Theories 3 and 4 have outcomes for women (clients).

3.2.1. Theory 3: Being by her side

Being by her side hypothesises that the program works (for women clients) through the mechanism/s of 'being with' them, enabled by a range of contexts including the outcome of the second theory (good matching). This theory was developed from key informant data as well as a significant volume of literature. Some select quotations from interview data and literature follow, and the theory's CMO configuration is described in Table 4.

Key informant 2: It recognises her value. If there's – you matter to me and you're not alone but actually, it's not just the service, you're not alone. It's actually delivering on . . . it recognises their value as a person, their place in – as a mother that someone cares about them and respects them and respects them enough to not just say it but do it.

McLeish & Redshaw 2017: It's a huge relief for the women to feel that at that this moment in their lives when things are terrible . . . they don't know what's going to happen in the future, where their home's going to be, and everything's disrupted and every stress you can imagine, that they have somebody who's just being really gentle with them and giving them lots of praise as well [40, p41].

3.2.2. Theory 4: Facilitating social connection

Facilitating social connection hypothesises that the program could potentially facilitate social connection between women clients and their local communities, and that this may reduce women's dependence or distress at the cessation of doula support. The theory is contingent on Being by her side (theory 3). Not currently an aim of the program, this theory was generated from literature only. A select quotation from literature follows, and the theory's CMO configuration is described in Table 5.

Granville & Sugarman 2012: [Doulas] helped to reduce parents' isolation by introducing them to different group activities during pregnancy, encouraging them to try different opportunities and to make friends with other parents. The peer

Table 4
Hypothesised program theory 3, Being by her side, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Woman (client) is financially disadvantaged and socially isolated, marginalised, 'normally invisible', traumatised, and/or new to Australia, English language, and maternity care system[KI1,KI2] [15]	Doula is by woman's (client's) side, is like her or 'gets' her, [17,51,54] is reliable,[KI2] gives time, attention and respect [45] has unconditional positive regard,[KI3] [42,55,56] and believes in her [17]	Woman (client) sees her own strength and value[KI2] [16,17,56]	Woman (client) feels dignified and confident[KI1,KI2,KI3] [17,57]
Good matching (theory 2)			
Doula is kind and non-judgmental [40,p39]	Doula notices small wins, praises woman (client) as a mother [58]	Woman (client) feels validated as a mother [58]	
Doula is independent of maternity care system [21,59], has primacy of interest in woman [15,59]	Doula buffers women (client) from disempowering clinical system; softens the environment [60]	Woman (client) feels safe	
Doula role boundaries and expectations are clear and respected by doula and woman (client)[KI1] [17]			

Table 5
Hypothesised program theory 4, Facilitating social connection, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Doula is a local mother and well networked [17]	Doula is trustworthy and shares connections [17,45]	Woman (client) trusts doula and feels confident to connect [45]	Woman (client) becomes socially connected [17] copes well with cessation of doula support [45]
Client (woman) feels confident (theory 3)			

supporters often accompanied the parent initially to a new event. One mother who had two previous children explained that in the past, if she went out she had always stayed on her own and not joined in activities with other parents: "Since I have been going with [doula], it's like I'm encouraged to talk to them and make conversation with them (other mothers). She always says if the person's face looks ok make a conversation, you might strike a friendship, you never know" (parent) [17,p29].

3.3. Theories with outcomes in the maternity care system

Hypothesised theories 5 and 6 have outcomes in the maternity care system.

3.3.1. Theory 5: Complementing or enhancing maternity care

Complementing or enhancing maternity care hypothesises that doula support complements or even enhances the care provided by other maternity care providers. This theory is contingent on good matching (theory 2), and results in a system level outcome. This theory was developed from key informant data and literature. Some select quotations from interview data and literature review follow, and the theory's CMO configuration is described in Table 6.

Key informant 3: The best outcomes would be where the midwife sees that it's a team and the midwife is also grateful for the additional support and has an understanding of what the role of the doula is and knows also that the doula is there as a volunteer support person.

Gruber et al 2013: The involvement of a doula seems to magnify the impact of [other health care] resulting in even better birth outcomes and birth experiences [16,p56].

3.3.2. Theory 6: Doula as a witness — demanding accountability in others

This theory hypothesises that a doula's watchful presence demands or increases accountability in other maternity care providers; also a system level outcome. This theory was generated from key informant data as well as literature. Some select

quotations from interview data and literature review follow, and the theory's CMO configuration is described in Table 7.

Key informant 2: We provide a space where other people realise they should respect her.

WHO 2016: An important aspect of the role is the prevention of mistreatment of the woman during childbirth, as the companion can act as an advocate for the woman, to witness and safeguard against mistreatment and neglect by health-care providers [41,p2].

3.4. Theory with outcomes for doulas

Hypothesised program theory 7 has outcomes for doulas.

3.4.1. Theory 7: Doulas as beneficiaries

This theory hypothesises that the program has the potential to also promote the health of its volunteer workforce, by purposefully recruiting women from socioeconomically disadvantaged communities and training them as doulas. The theory was generated from literature only, and a select quotation follows. The theory's CMO configuration is detailed in Table 8.

Kazik 2016: [It's] not merely about providing pregnant families with support, rather it can also be regarded as a workforce and community development . . . offer[ing] foreign-born women an entryway to the workforce . . . many women who have trained as Birth Sisters have gone on to become nursing assistants, interpreters, nurses, midwives and public health professionals [42,p23–30].

4. Discussion

The five program theories generated from both key informant data and literature review hypothesise the current workings of the Birth for Humankind doula program - that having the right doulas and good matching of doulas and women (clients) are critical elements of program implementation; that women are more confident as a result of having doulas by their sides; and that doulas complement and/or positively influence the quality of care provided

Table 6
Hypothesised program theory 5, Complementing or enhancing maternity care, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Maternity care providers acknowledge systemic shortfall in woman centred care [47]	Doula brings transcultural understanding, lessens power differential between the woman (client) and professionals, enables and enhances care from professional maternity care providers [16,17,47,51].	Professionals and doulas value each other's roles and work together [57,61]	Equitable, culturally competent care
Doula and woman (client) well matched (theory 2)			
Doula works 'with', not against system [KI1,KI3] [57]			
Clear role delineation between doulas and professionals[KI1] [47]		Woman (client) feels safe at centre of a cohesive team [17,47,49,62,63]	

Table 7
Hypothesised program theory 6, Doula as a witness – demanding accountability in others, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Routine care is not respectful[KI1,KI2,KI3]	Doula's presence signals problem with care [60]	Professional care providers reflect on problems with care; are motivated to change practice	An increase in respectful, culturally competent care[KI1,KI2,KI3]
	Doula as a witness demands accountability[KI1]		

Table 8
Hypothesised program theory 7, Doulas as beneficiaries, CMO configuration.

Context	Mechanism (resources)	Mechanism (reasoning)	Outcome
Prospective doulas are recruited from socioeconomically disadvantaged communities [42,52]	Opportunities for personal and community development [17,42,52]	*To find out*	Increased health and wellbeing, and career prospects of doulas [17,64]

to women by others in the maternity care system. The two theories generated from literature only — about facilitating social connection for women, and doulas being beneficiaries, hypothesise that the program has potential to also work in these ways, so offer potential new lines of inquiry to inform strategic growth.

Theory 1, Attracting and activating the right doulas, hypothesises how the program attracts and activates the right doulas and doula mix. The program provides doulas with the opportunity to work with socioeconomically disadvantaged women, receive training, and have a network of peers (resources). These are valuable to prospective volunteers (reasoning), and are not normally or easily accessed in private practice or in the broader maternity care system (contexts). The 'right' doulas (outcome) are hypothesised as those that volunteer for the right reasons, knowing and having what it takes to do the work well (reasoning) in response to the volunteering opportunity and expectations made clear by the program (resources). An increased diversity of doulas for the right doula mix (outcome) is hypothesised to result from an organisational commitment to cultural competency (context), enabling a strategic focus (resources) on the recruitment and support of prospective doulas from social groups targeted by the program. And finally, a careful balance of support, remuneration, flexibility and clear expectations were hypothesised as resource mechanisms for doulas to feel respected, enabled, appreciated and motivated to volunteer (reasoning mechanisms), resulting in increased doula availability and activation (outcomes).

Theory 2, Good matching, is hypothesised to occur by resourcing the efficient and skilful intake and coordination of clients and doulas (mechanisms) made possible by having the right doulas (outcome of theory 1), appropriate client referrals, recruiting the right doula supervisor/coordinator, and supportive information systems (all contexts). All key informants spoke at length about the importance of getting these contexts right for good matching. This theory was seen as critical for program success.

The implementation level Context-Mechanism-Outcome (CMO) configurations (theories 1 and 2) are relatively dense with detail when compared with subsequent program theories. This is likely to reflect the key informants' roles and experiences — being responsible for the establishment and implementation of the program. Testing and refining these theories with women (clients), referrers, doulas and program staff would enable a more complete understanding of (missing) contexts and mechanisms, and then be important for informing decisions about doula mix, targeted recruitment of doulas, their different support needs, their motivations, how to incentivise, enable and activate doulas at the time of need, for best quality and most efficient matching with women (clients).

Theory 3, Being by her side, is about the core business of the doula support program — the one-to-one support provided to and experienced by women. This theory hypothesises that when women (clients) are socially vulnerable, and doulas can primarily focus on and set clear expectations and boundaries with the women (contexts), the *doulas' ways of being with* the women (resources) can lead women to feel safer, validated, dignified, seeing their own strength and value (reasoning). The outcome of this is increased confidence or self-esteem in women (clients) during pregnancy, birth and/or early parenting - a powerful outcome for its known lasting and protective impact on future health and wellbeing [43]. Testing and refining this theory with women (clients) and doulas would provide the program with firsthand accounts of support it provides, and potentially inform improvements to the contexts that enable the best support. While some implied mechanisms of doula support is well documented in the published literature (and included in the rapid realist review), testing and refining this theory would contribute a realist understanding of doula support mechanisms and contexts that make them work (and not work).

Theory 4, Facilitating social connection, emerged from literature as a potential new way of promoting the health and wellbeing of women (clients) in the program. Outside the traditional sphere of maternity care, social connection, the opposite of social isolation, is well understood in the public health and health promotion fields, as a critical social determinant of health equity [44]. Social connection is about connecting with other women in the community, providing mutual support, reciprocity and friendship, and differs from social support provided to women by doulas or other services [43]. This theory hypothesises that if women (clients) are supported by doulas from their own or like communities (context) and feel increased confidence or self-esteem with doula support (outcome of theory 3) (context), the doulas could facilitate social connection for women through modelling, encouraging and sharing local connections (resources) [45]. The theory also hypothesises that social connection could reduce clients' feeling of loss or distress at the cessation of doula support. Testing and refining this theory with women (clients), doulas, program staff and other stakeholders would seek to understand whether the program currently increases social connection, should it, could it, what would need to change for it to happen, and would it reduce women's dependency on doulas, and increase the sustainability of the health impact of doula support? This work could inform a new program focus to promote social connection.

Theory 5, Complementing or enhancing maternity care, hypothesises that if mainstream maternity care professionals acknowledge

the limitations of their system and roles, and doulas are open to working *with* rather than in spite of or against the system, and are well matched to women (outcome of theory 2) (contexts), doulas can bring transcultural understanding, reduce misunderstandings and lessen the power differential between women and professionals (resources). Professionals feel enabled, their care enhanced or magnified, and women feel at the centre of a cohesive team (reasoning). Equitable and 'women-centred care' increases (outcome). Testing and refining this theory with women (clients), doulas and maternity care professional stakeholders would increase program understanding and contribute to the evidence base about mechanisms and contexts that foster collaboration between doulas and professional maternity care providers, and what this means to women at the centre of the care.

Theory 6, Doula as a witness - demanding accountability in others, hypothesises that a doula's presence signals a problem with routine care, that she is a witness demanding accountability in others (resources). In response, professional care providers notice and reflect on the problems with routine care and are motivated to change the system or their own practice (reasoning). The outcome is an increase in respectful, equitable care. The testing and refinement of this theory with women (clients), doulas and professional stakeholders would provide new evidence about this hypothesised mechanism of doula support, and the contexts in which it does and does not operate. One hypothesised context is an acknowledgement from maternity care providers that they, themselves have limited capacity to provide equitable, continuous, woman centred care. Without this context, a doula signalling a problem with care may have negative implications, by provoking resistance and hindering collaboration.

Theory 7, Doulas as beneficiaries, was generated from literature only, and hypothesises that the doula support program could also promote the health and wellbeing of its volunteer workforce (outcome) by purposefully recruiting prospective doulas from socioeconomically disadvantaged communities and providing personal, career and community development opportunities through training and volunteering (resources). Like for theory 4 (also outside the scope of the current program), the testing and refinement of this theory would involve asking doulas - does the program currently benefit the health and wellbeing of doulas, should and could it, and what would need to change in the program? The result could inform a new strategic direction.

The doula support program provided by Birth for Humankind is unique in Australia for its mission to promote health equity through complementarily enhancing women's experiences of pregnancy, birth and early parenting. The hypothesised program theories generated in this study suggest that the support could indeed provide a very valuable contribution to health equity in this space. Positive, empowering experiences at this life stage are strong determinants of future positive maternal health and wellbeing, and their flow on to positive parenting and early child development [1,2].

The theories developed in this first stage of the evaluation have been derived from multiple sources of evidence, providing a strong theoretical base for the program evaluation. The theories do not offer an exhaustive or comprehensive explanation of the doula support program, but are aligned with realist understanding by representing, as Pawson says, "a small slice of a complex pie." [46,p11]. The rigour applied to the collection of data within the boundaries of interview and rapid realist review is a further strength of the study. A potential limitation of the research is the commissioning (and its potential influence) of the research by Birth for Humankind. To minimise this influence, key informants and review reference group members were not otherwise involved in data collection, interpretation of the data or reporting of the research.

Theory testing and refinement (stages 2–4 of the evaluation) will involve selection of the most critical theories to focus on, and

iteratively testing and refining the theories until they provide plausible explanations of why, how and in what contexts, program mechanisms lead to particular outcomes. Data will be collected from program clients, volunteer doulas, Birth for Humankind staff and board, and professional stakeholders using a mix of research methods to gain different insights into the program theories [28]. Relevant literature published since the rapid realist review will also be reviewed for theory refinement.

5. Conclusion

The resulting refined theories will potentially inform strategies to strengthen and sustain key elements of implementation, better tailor and adapt the program to particular target groups, and scale the program to new contexts. In addition to potential future local program application, the current program theories also, for the first time, contribute evidence beyond individual level mechanisms, to that of contexts and system level outcomes. These theories provide the international maternity and public health fields with valuable (realist) hypotheses about the multiple ways that volunteer doula support promotes, or could promote health equity.

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