# The influence of social networks on self-management support: a metasynthesis

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## Abstract

### Background

There is increasing recognition that chronic illness management (CIM) is not just an individual but a collective process where social networks can potentially make a considerable contribution to improving health outcomes for people with chronic illness. However, the mechanisms (processes, activities) taking place within social networks are insufficiently understood. The aim of this review was to focus on identifying the mechanisms linking social networks with CIM. Here we consider network mechanisms as located within a broader social context that shapes practices, behaviours, and the multiplicity of functions and roles that network members fulfil.

### Methods

A systematic search of qualitative studies was undertaken on Medline, Embase, and Web for papers published between 1st January 2002 and 1st December 2013. Eligible for inclusion were studies dealing with diabetes, and with conditions or health behaviours relevant for diabetes management; and studies exploring the relationship between social networks, self-management, and deprivation. 25 papers met the inclusion criteria. A qualitative metasynthesis was undertaken and the review followed a line of argument synthesis.

**Results**

The main themes identified were: 1) sharing knowledge and experiences in a personal community; 2) accessing and mediation of resources; 3) self-management support requires awareness of and ability to deal with network relationships. These translated into line of argument synthesis in which three network mechanisms were identified. These were *network navigation* (identifying and connecting with relevant existing resources in a network), *negotiation within networks* (re-shaping relationships, roles, expectations, means of engagement and communication between network members), and *collective efficacy* (developing a shared perception and capacity to successfully perform behaviour through shared effort, beliefs, influence, perseverance, and objectives). These network mechanisms bring to the fore the close interdependence between social and psychological processes in CIM, and the intertwining of practical and moral dilemmas in identifying, offering, accepting, and rejecting support.

**Conclusions**

CIM policy and interventions could be extended towards: raising awareness about the structure and organisation of personal communities; building individual and network capacity for navigating and negotiating relationships and CIM environments; maximising the possibilities for social engagement as a way of increasing the effectiveness of individual and network efforts for CIM.

# Keywords

Social network, Self-management, Chronic illness, Network mechanisms, Metasynthesis

# Background

Whilst approaches to long-term condition self-management support tend to emphasise changing individual behaviour and improving self-efficacy there is also increasing recognition that self-management (SM) is a collective process, undertaken within social networks and personal communities that requires the mobilisation social resources [1-3]. The literature on the experience of chronic illness consistently points to how people may withdraw from broader social activities and commitments in order to boost or maintain the viability of key domestic relationships. This necessitates shifts overtime in the manner in which people interact with others, leads to changes in contexts, and to renegotiating roles and identities in relations with significant others [4-6]. Other people's personal experiences have also been shown to help in a number of ways with decisions about chronic illness management [7]. There is evidence too that health behaviours and lifestyle change spread through networks [8,9] and that social networks contribute to long term condition management through the actions, practical, and emotional activities and support work that members of peoples' personal networks undertake [10,11]. Extending SM to incorporate social network involvement holds out considerable promise for improving outcomes for people with long-term conditions (LTCs). For example there are some suggestions that large, dispersed networks provide access to wider resources [12] and thus potentially act in a positive way for health outcomes through providing access to information [13-15]. Smaller, closed networks may bring benefits through higher frequency interactions and a strong sense

of interpersonal obligation. However, evidence for the relationship between social networks and SM remains underspecified as do the practices, mechanisms and resources through which social networks may work in providing support [3,10,16].

The aim of this review was to focus on identifying the mechanisms linking social networks with chronic illness management (CIM). Mechanisms here are understood as the processes and activities taking place within social networks that shape the multiplicity of functions and roles related to CIM that network members fulfil. Here we consider the internal social network mechanisms as located within the broader context of individual and collective chronic illness related practices and behaviours, and with a view to informing the development of policy and interventions.

In this review we included studies dealing with type 2 diabetes SM and/or related health behaviours, risks or associated conditions (multi- morbidity). Type 2 diabetes is an exemplar chronic condition of high incidence and growing prevalence, often co-existing with other multi-morbidities necessitating the adopting and continuation of SM practices. Type 2 diabetes SM is recognised as involving personal behavioural input and support from others (which differs in some respect from type 1 diabetes [17]). Thus, diabetes SMS constitutes a critical case in terms of what might be relevant with to other long term conditions.

# Methods

We used meta-synthesis in order to identify concepts and mechanisms linking social networks and SMS as a technique for the systematic interpretation and re-interpretation of qualitative studies [18,19]. Meta-synthesis is an inductive process through which empirical descriptions and conceptual elaborations across studies are examined permitting novel insights and understandings to emerge from a process of the re-conceptulaisation of themes on three levels. First order constructs constitute the direct feedback of respondents based on their own experiences and interpretations. Second order constructs are interpretations by the authors of the original studies. Third order constructs constitute the final interpretive stage of the synthesis, which is a process of identifying the constructs that best summarise and illuminate the relationship between the research question and the second order constructs. As a method of qualitative synthesis meta-synthesis allows for a deep understanding of the phenomenon under investigation by exploring how it operates within a variety of contexts and in relation to a range of perceptions and influences.

## Search strategy

Papers for review were identified from searches in Medline, Embase and the Web of science in order to capture a wide range of studies using four key concepts: social networks, chronic illness, self-management, and deprivation (e.g. social class, inequalities). To achieve cultural and contextual consistency across studies we included studies if they reported health outcomes, practices or behaviours, if the respondents were over 19 years old, if they described the relationship between social networks and the ability to manage chronic illness, if they were conducted in EU, Norway, Australia or US[a]. Due to the large number of papers on these topics and the existence of reviews on the earlier literature we included papers that were published between 1st January 2002 and 1st December 2013. The set of search terms that we used are widely used metaphors and were therefore likely to appear in the main text of studies that were not relevant for this review. We excluded papers that did not mention

"social network", "networks", "relationships", "ties" or similar concept in the title or abstract; if the studies were not about diabetes, other chronic disease, or health behaviours related to diabetes; if they were not about self-management or ability to manage disease. For the purposes of this study social networks were understood as personal communities - the set of active and significant ties which are most important to people, with chronic illness in their everyday lives. This included family members, friends, neighbours, colleagues, acquaintances, hobby and other group memberships. Studies about the role of health professionals and user-provider relationships were excluded. 869 papers were reviewed by AK, IV, AR, JK at abstract level (see Figure 1).

**Figure 1 Literature search strategy.**

All selected papers were discussed by the team with a view of the objectives of the review to illuminate network mechanisms and the content of interactions between social network members (SNMs), and the quality of the research. In assessing the quality of the research we used a quality assessment tool developed by the British Sociological Association [20], which ranks papers as being of high, medium or low quality. Only high quality papers were included for review based on 15 dimensions for quality appraisal summarised as:

- appropriateness of research design to research question;
- relationship of aims and methods to subject and methodological literature;
- systematic, well-considered and documented data collection procedures;
- adequacy of presentation of primary data and its relationship to analysis;
- appropriateness and rigour in analysis.

The results summarised and informed the final selection of articles for inclusion. 25 qualitative papers were chosen for review (see Table 1 below). 14 of the included studies were from US and 12 focused on ethnic minority groups.17 of the papers discussed a broad set of practices, interaction s and behaviour related to type 2 diabetes management, and 8 were focused on lifestyle and disclosure. The studies defined networks in different ways: as family members, 4, relationships with partners, 2, relationships with children, 2, belonging to groups, 2, personal communities, 15.

## Table 1 Characteristics of papers included in the review

| Study | Country | Method | Sample | SM focus | Network | | | | Study details |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Partner | Children | Family | Group Personal community | |
| Miller and Davis (2005) [21] | US | Focus groups; thematic analysis | Adults 21-65 with type 2 diabetes; White Americans<br>High level of education | General | | | | * | To examine the social support received by people with diabetes and its role in managing diabetes. |
| Sparud-Lundin et al. (2010) [22] | Sweden | Individual interviews, constant comparative analysis | 13 young adults, and 13 parents, internet communication between young people on diabetes website also included in analysis | General | | | | * | To explore the meaning of interactions and support from parents and other significant others for young adults with type 1 diabetes. |
| White et al. (2007) [23] | Ireland | Focus groups, thematic content analysis | 4 patients with good HbA1C control) and 4 family members, median age 75; and 5 patients with poor HbA1C control) and 6 family members, median age 67; Older adults, type 2 diabetes | General | | | * | | To explore the beliefs, attitudes and perceptions of adults with type 2 diabetes and their family members. |
| Beverly et al (2008) [24] | US | Focus groups; thematic analysis | 30 couples (person with diabetes and spouse); Middle-aged and older adults | Dietary changes | * | | | | To determine how aspects of the spousal relationship translate into behaviour changes, especially adherence to a healthy diet. |
| Stone et al. (2005) [25] | UK | Semi-structured interviews; framework analysis | 20 respondents with diabetes; South Asians<br>White British | General | | | | * | To explore the experience and attitudes of primary care patients with diabetes living in a UK community with a high proportion of South Asian patients of Indian origin, with particular reference to patient empowerment. |
| Gorawara-Bhat et al. (2008) [26] | US | Open ended semi-structured interviews; thematic analysis | 28 people with diabetes (66-87 years); African A<br>Women<br>(predominantly) | General | | | | * | To explore the role of social comparison with peers/family members in the self-management practices of older diabetes patients. |
| Chesla and Chun (2005) [27] | US | Group interviews, narrative and thematic analysis | 20 participants (person with diabetes and spouses) representing 16 families; Chinese Americans | General | | | * | | To describe family responses to type 2 diabetes in Chinese Americans as reported by people with diabetes and spouses. |
| Beverly and Wray (2010) [28] | US | Focus groups; thematic analysis | 30 couples (persons with diabetes and spouses); Middle-aged and older adults | Exercise adherence | * | | | | To illuminate the potentially key role of collective efficacy in exercise adherence in order to develop and test interventions that provides more effective support for adults with diabetes. |

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| Laroche et al. (2009) [29] | US | Semi-structured interviews; thematic analysis | 24 adults (19 parents and 5 grandparents) with diabetes and child (10-17 years), and 24 children (12 male and 12 female); African A Latinos (inner city) | General | * | | | To examine the role of children in their parents' diabetes self-management, diet and exercise. |
| Gallant et al. (2007) [30] | US | Focus groups; thematic analysis | 13 focus groups with 84 (65 years or older) with arthritis, diabetes, and/or heart disease; African A White A | General | | | * | To contribute to knowledge about older adults with chronic illness by identifying positive and negative influences of family and friends on self-management. |
| Carter-Edwards et al. (2004) [31] | US | Focus groups; thematic analysis | 3 focus groups, 12 African American women with diabetes (average age 49.3); African A Women | General | | * | | To evaluate the relationship between perceived social support among African American women with type 2 diabetes and self-management. |
| Ruston et al. (2013) [32] | UK | Semi-structured interviews; constant comparative method | 43 respondents (23 female and 20 male); Work environment, employees | General | | | * | To explore the perceptions and experiences of employees with diabetes. |
| Jones et al. (2008) [33] | US | Focus groups; thematic analysis | 21 people with diabetes 6 and family members/friends (27-85 years); African Americans | General | | | * | To examine the impact of family and friends on the management of persons with diabetes. |
| Sarkadi and Rosenqvist (2002) [34] | Sweden | Individual interviews and focus groups, thematic analysis | 5 interviews and 5 focus groups with 38 women, 44-80; Women | General | | | * | To systematically investigate the conflicting demands of social network involvement with illness management on women's type 2 diabetes. |
| Essue et al. (2010) [35] | Australia | Semi-structured interviews; qualitative content analysis | 14 carers (45-85 years) of people with chronic heart failure, COPD, and diabetes | General | | * | | To describe the family careers' contribution to the self-management partnership and To identify policy and practice implications that are relevant to improving the support available for informal care in Australia. |
| Laroche et al. (2008) [36] | US | Semi-structured interviews; thematic analysis | 29 interviews (14 adult-child pairs and one child); African A Latinos (inner city) | Diet | * | | | To explore how adults with diabetes attempting to change their own diets approached providing food for their children and how their children reacted to dietary changes in the household. |
| Kohinor et al. (2011) [37] | Netherlands | Semi-structured interviews; grounded theory | 32 diabetes patients (36-70 years); Surinamese | Disclosure | | | * | To explore why diabetes patients from ethnic minority populations either share or do not share their condition with people in their wider social network. |
| Kokanovic and Manderson (2006) [38] | Australia | In-depth interviews; thematic analysis | 16 immigrant women with type 2 diabetes; Immigrant women Greek, Chinese, Tongan, Indian | General | | | * | To elucidate the social meanings and interpretations that immigrant women attach to the diagnosis of type 2 diabetes, and the social support and professional advice they receive following this diagnosis. |

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| Atkinson et al. (2009) [39] | US | Focus groups, grounded theory | 4 focus groups in churches in south-eastern US, 3 with church leaders and one with programme participants; African Americans Church members | Healthy lifestyle; diabetes prevention | * | | To explore church members' perspectives of implementation of church-based diabetes prevention programme with African American churches. |
| Chlebowy et al. (2010) [40] | US | Focus groups; content analysis, thematic analysis | 38 adults (27 women, 11 men), 44-87 years, 7 focus groups; African Americans | General | | * | To identify facilitators and barriers to self-management of type 2 diabetes mellitus among urban African American adults. |
| Jepson et al. (2012) [41] | UK | In-depth interviews and focus groups; thematic analysis using both inductive and deductive coding | 59 purposefully selected Bangladeshi, Indian, and Pakistani; and 10 key informants; South Asians | Physical activity | | * | To explore the motivating and facilitating factors likely to increase physical activity for South Asian adults and their families. |
| Pistulka et al. (2012) [42] | US | Qualitative interviews; constant comparative method | 12 participants (8 women and 4 men), 40-65 years, 12 face to face interviews and 6 follow up follow up interviews; Korean American Immigrants | General | | * | To examine the illness experience of Korean American immigrants with diabetes and hypertension. |
| Shaw et al. (2013) [43] | US | Focus groups and interviews; thematic analysis | 3 focus groups and 5 interviews with 13 adults with type 2 diabetes; American Indian/Alaska Native Adults | Diabetes | | * | To explore perceived psychosocial needs and barriers to management of diabetes among AI/AN adults with type 2 diabetes. |
| Thompson et al. (2013) [44] | Australia | Ethnographic and participatory action research; unstructured and semi-structured interviews; thematic analysis | 23 purposefully selected community members over 16 years; Indigenous people | Physical activity | | * | To explore and describe local perspectives, experiences and meanings of physical activity in two remote indigenous communities. |
| Ward et al. (2011) [45] | Australia | Semi-structured interviews; content thematic analysis | Participants with diabetes (17), COPD (3) and/or CHF (11), and family carers (3); Aboriginal and Torres Strait Islander people | General | | * | To explore the lived experiences and to uncover the ways in which Aboriginal and Torres Strait Islander people with chronic illness experience informal unsolicited support from peers and family members. |

*Main focus of network discussion in the paper.

The review follows a line of argument synthesis where concepts across studies are translated into one other in order to map and interpret them [18,19]. Extraction forms were used for analysing and systematising the data. This included background of the studies, quotes from respondents, interpretations and analysis by authors, references to social networks, key findings, and interpretations and comments by reviewers. The review process included an initial stage where three papers were analysed by all authors AR, AK, IV, JK. The remaining papers were then split between the authors and analysed individually (and by at least two people). All authors subsequently discussed the findings. Different visualisations on whiteboards and on paper were used in order to experiment with different groupings and links between concepts. This process went through a number of iterations before the final conceptualisation of second order constructs was agreed, and the structure and organising principles of the third order synthesis finalised.

We kept a record of and revisited decisions taken earlier and discussed conceptualisation and interpretations of the data at project meetings with colleagues involved with the EU-WISE project of which this metasynthesis was a part.

# Results

## Network involvement in illness management: second order synthesis of concepts

Three themes were identified and illuminated how engagement with network members shaped people's experiences, expectations, and processes of managing a long term condition.

### *Sharing knowledge and experiences in a personal community*

Sharing knowledge and experiences within a personal community can provide people with a sense of not being alone and offers a valued opportunity to exchange gain and reinforce existing knowledge relevant to a condition [21,22,42,43,45]. The process of sharing also feeds into people's internal capacity to cope with stress and, though not always explicitly acknowledged, can act to motivate lifestyle changes or involvement by adding new activities with which to self-manage [21-23]. The motivation to undertake activities such as regular exercise, program attendance, and dietary change is linked to a sense of shared accountability for doing things together with people who are both familiar and trusted [24,41,44]. In some circumstances, this is reversed and the sharing experiences can provoke anxiety which can also become a shared network phenomenon if for example they get a sense that other network members are failing where they fail in understanding available information [23,25].

People with LTCs make changes and adaptations by observing what others do, social comparison, and modelling on others with similar conditions [21,24,26,27,41]. These can have both positive and negative impact [26,45]. When poor outcomes are observed in other network members this can lead to the seeking of support from elsewhere in order to prevent similar outcomes [21,24]. However, it is also the case that comparison with non-ill network members can impact negatively on one's sense of well-being and their efforts to improve their health [26]. The presence of family or network histories and experience of diabetes enhances awareness of diabetes making it more likely that there will be an accumulated stock of relevant illness knowledge within the group. However, the latter in some circumstances

may lead to resignation about being diagnosed to taking action or being motivated to change [25].

Network members can shape the behaviour of people with LTCs through providing cues to action, indirect coaching, or using covert ways to influence behaviour. This might involve a third party mediator to encourage change [27] or reference to examples and stories of health relevant practices in communicating and discussions with the individuals. A more direct means of influence is through providing advice on how to improve outcomes [21,24,28,39,40]. The nature of the relationship is relevant in determining influence. Paradoxically, the influence that strong "bonding" ties (of partners and close family), which are intimate emotional, frequent and intense, could have limited impact because their concerns and advice might not be taken seriously by the person with a LTC [28]. Network members' influence is seemingly limited whenever formal medical knowledge associated with professionals is perceived as superior to experiential and network based knowledge [25]. Given that contact time with professionals tends to be short and infrequent this limits the possibilities to integrate or link professional advice with pre-existing illness network knowledge, experience and capacity.

Network influences can be both positive and negative [29,43]. However, overall in the literature there tends to be more positive network influences noted than negative ones, and more negative influences from family members than from friends [30]. This might be related to the inherently more problematic potential for making changes in one's family than non-family networks. Network structure tends to evolve, with negative influences in particular, being dropped over time, so re-shaping one's network is far more difficult to do with family members than it is with friends, neighbours, colleagues, or other 'weak ties' [30,39].

Collective efforts make it easier for people to make changes [40,41,44], and influences run in both directions in networks. Thus, network members sometimes adopt changes themselves not only deliberately and strategically, but also unreflexively through incremental change in their own routines. However, there are limitations to the possibility of collective effort and change as network members are obviously limited by their physical abilities or lack of knowledge [28,29,43]. Access to diverse network members is more likely to have a positive effect as it increases the likelihood that a network member with a similar level of physical capacity, interest, and willingness to make specific changes would be accessible.

## *Accessing and mediation of resources*

Network members provide overt forms of support to illness management activities such as monitoring, medication management, checking blood sugar, reminders, shopping and meal preparation, physical activities, health care appointments, decision-making about the illness, psychosocial coping and emotional support [21,25,29,30,40,43-45]. This is dependent on network members having the relevant knowledge and ability to do this competently [22,31]. As the existing knowledge available from network members can be rudimentary and insufficient to address illness management needs [25]. Additionally accepting support from network members can be experienced as more challenging and difficult when this lies in work settings where there maybe concerns about being stigmatised or treated inappropriately [32].

Limited access to formal healthcare resources can lead to higher dependence on personal network members for material help and psychosocial support [33] and the use of network

support is potentially burdensome as it is accompanied by expectations and obligations as well as an awareness of the restrictions (such as time and obligation to provide help on an ongoing based) which may be imposed on network members as a result of providing support. In this respect, the extent of network support is sometimes invisible and under-acknowledged by people with LTCs, possibly as a way to reduce stress levels related to perceptions of unfulfilled responsibilities to others [23].

Some papers point to how network members can create obstacles to obtaining resources for illness management due to lack of understanding about the specific regimen associated with the illness, food choices and diet or by creating an environment that creates barriers to the needs of people with LTCs (e.g. the raising of unrealistic expectations requiring physical activity) [23,33,45].

### *Self-management support requires awareness of and ability to deal with network relationships*

Living with a chronic condition shapes relations with network members at home, work in social situations and the quality of life of oneself and other network members [24,27,31,33,34,42,44]. The alignment of individual and group objectives and priorities involves balancing the objectives of illness management with other valued social roles, such as being a partner, parent, child, friend, colleague [24,27,45]. It involves managing the concerns, demands, and expectations of network members, around food and medication, and around adapting to existing and new roles that network members perform, including being a home help, lifestyle coach, advocate, technical care manager and health information interpreter [21,24,35]. Negotiations about these roles and functions can take different forms, for example, parents with a LTC might demand lifestyle changes from their children through concern over them developing the condition in the future [36].

Network members relate in a variety of ways to a person's illness ranging from considering diabetes as being 'not a real illness', through accepting the illness, to over-concern and over-control. This can create challenges for the management of relationships within networks where there is blame and stigma concerning personal responsibility and body image [22,23,26,31,34,37,42]. However, it is concern by and for others rather than lack of concern that is forefronted by people with LTCs [29,42,44,45]. Maintaining a sense of autonomy and control over one's life and a sense of equal and reciprocal relationships is highly valued but often threatened due to diminished capabilities and/or over-concern and vigilance, and heightened perception of illness severity by other people [21,22]. Over-concern can also be a threat in the work environment if the illness is interpreted as a barrier to fulfilling one's work responsibilities [34].

Managing the responses of other network members is motivated by reciprocal concerns over the well-being of colleagues and not wanting to be a cause of unnecessary worry. Accepting assistance is also a balancing act requiring considerations of the demands on other people's time, resources, and other roles they might have to fulfil [22,27,29,31]. Increased demands and concerns might also lead to carer self-neglect [35]. Given these factors, relationships with others cannot easily be taken for granted and maintaining them is an active process requiring careful vigilance when managing disclosure to different network members or deciding who to seek help and advice from. Existing network resources are also not necessarily cumulative as accessing one type of support may restrict access to other network members.

Styles of engagement between someone who has type 2 diabetes [4] and their network members range: from avoidance and concealment to openness and direct engagement. For example, people with LTCs might avoid conflict or discomfort by avoiding disclosure [21,27,34,42]. Open and direct engagement with social network members is more likely in the presence of a shared sense of confidence, expectation and social cohesion [21,28,30,38]. Direct engagement opens up possibilities for [22,24] building collective understandings and support as a team effort, which in turn creates a supportive health environment [24,31,33]. For example, this could be in terms of adherence to dietary regimen, joint shopping and consideration of what food is cooked and how [30].

The expression of a broad concern for a person's well-being and acknowledgement of achievement may encourage beneficial changes to existing practices [21,22,24] whilst over-vigilance on needing to manage an illness could have a negative impact on a persons' sense of well-being [21,27] and relationships with network members [22]. The possibility of individual change is closely dependent on changes within the environment within which one operates with others. For example, people with LTCs find it easier to make changes when network members eat the same meals and make changes to the routines of their own daily lives adhere to similar decisions sustaining behavioural changes, and through accepting a change in their own roles [21,22,29].

## Illuminating network mechanisms in chronic illness management: third order synthesis

Three concepts emerged from the process of interpretation and further synthesis of the second order constructs which illuminate the mechanisms linking social networks and health relevant outcomes. These are *network navigation*, *negotiating relationships*, and *collective efficacy*. Table 2 shows the relationship between second and the third order concepts. *Network navigation* refers to identifying and connecting with relevant existing resources in a network. It involves, making decisions about when and who to contact, identifying and utilising resources that were previously underused, concealing the selection of some ties over others, and building justifications that successfully preserve existing relations.

## Table 2 Examples of 2nd and 3rd order themes

| Example concepts from second order extraction | Quotes from papers | Translated themes (second order synthesis) | Line of argument (third order synthesis) |
|---|---|---|---|
| 1) Sharing knowledge and experiences in a personal community | | | |
| Personal awareness of diabetes risk seen as an initial impetus to involvement in the program and individuals' willingness to make lifestyle changes. Awareness promoted through testimonials from others, endorsement from church leadership, consideration of positive screening results, and educational materials [24] | "I'm very fortunate there's a co-worker that is type 2 diabetic and we're talking to each other all the time about hey, how's your blood sugar doing? How's the last doctor visit?"<br>"One of the guys at work is going through the same thing…it's kind of like a little support group that we encourage each other to keep going" [21] | Sharing similar knowledge and experiences | |
| Contradictory interchange of diabetes experiences –confirms shared reality of diabetes experience which is valued when sought, but young people do not like forced group encounters [22] | | | |
| Felt 'understood' by other people with diabetes [38] | | | |
| Respondents wanted family members to change their behaviour as a means of supporting them e.g. eating habits which make it easier for them to comply [40] | Black male: "I have a bad example in my household. My 98-year-old mother in-law eats everything in sight and is not happy unless she's had three meals a day so we have three meals a day at our house, big meals, and I can't stand to see food around and not eat it. That influences me negatively." [30] | | |
| An external downward comparison, which is empowering and sustains good eating control by the patient… caution needed not to use comparisons to the extent that they lead to stress and making patients feeling they are outperformed…Barriers to health outcomes are when comparisons are made to normal (i.e. non-diabetic) network members and behaviours are geared towards maintaining sense of well-being [26] | "My diabetes is under such excellent control because I know my friends; they eat such horrible things" [26] | Upward and downward | |
| Poor outcomes in network members lead to seeking of informational support to prevent similar outcomes [21] | | | |
| Indirect coaching of behaviour in the person with diabetes hidden or oblique ways of influencing behaviour. Using personal modelling as form of persuasion, using indirect communication through significant others, highlighting roles and responsibilities to stay healthy [27] | "…my aunt never drank,…never smoked,…never kept hours…ate well…and it's paying off for her…she's in excellent health for her age…and I mostly want to be independent like her…" [26] | Modelling on/learning from others | |
| The diabetes prevention group provided a network of newly formed relationships that provided opportunities to exercise together, share nutritional information, and provided a sense of shared accountability with respect to regular exercise, program attendance, and dietary change [24] | 'Even close family or close friends do not understand what has happened to me in so short a time. Because they are used to the old me still, you know. I think that only people who experience it (diabetes) can understand' (Sarika, Indian). | | |

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|---|---|---|---|
| | "I have learned about life and I feel different because when I came here [diabetes support group], I talk to people and learn things. I know other people with diabetes. We talk [about] what tablets one [person] takes, what tablets the other takes. It is helpful because we get each other's opinion". (Evania, Greek) [38] | | |
| Support from family, peers, and health care providers positively influenced adherence behaviours by providing cues to action, direct assistance, reinforcement, and knowledge [40] | | | |
| Health professionals provide appraisal for self-management practices and informational support on how to improve outcomes [21] | | | |
| Personal awareness of diabetes risk seen as an initial impetus to involvement in the program and individuals' willingness to make lifestyle changes. Awareness promoted through testimonials from others, endorsement from church leadership, consideration of positive screening results, and educational materials [39] | | | |
| 2) Accessing and mediation of resources | | | |
| Providing meals that were appropriate for the care recipients' dietary needs meant that carers develop an understanding of what was required in the new diet and an ability to provide the diet at the required times [35] | 'I didn't know everything has salt . . . I mean, it was incredible, I must have spent an hour in every aisle . . .reading the labels for potassium and sodium.' | Network members taking over aspects of illness work | *Network navigation* |
| | '[I] do all her tablets for her . . . she can't manage the shopping any more . . . I'll take her there and carry the stuff, she wouldn't be able to go down to the shops [unassisted].' [35] | | People with LTCs and network members make judgments of when and who to contact and which relationships require strengthening or adopting and which ones need to be abandoned |
| Spouses frequently the key provider of social support, helps to provide constant vigilance [21] | White male: "My wife takes care of my pills for me."<br>Black female: "And she [daughter-in-law] does my medicine. She got these different things to put my medicine in for an entire week . . . because I can't do it. If I do it, she checks it."<br>White male: "My wife keeps asking me, did I take my medicine?"<br>White male: "When we go out or travel anyplace, the first thing my wife will ask me, 'Do you have your vampire kit?' which is my glucose meter, and 'Do you have your insulin?' because a couple of times we've gone out to dinner and I forgot to take the insulin." [30] | | *Negotiation of relationships*<br>network members engage in a process of rebalancing relations and negotiating roles and objectives through narratives of responsibility and through negotiating levels and types of involvement |
| Parent becoming guiding agent, contributing knowledge and competent, trusted advice – | | | *Collective efficacy* |

| | | | |
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| reminder of social capital issues and their supporting role shifts [22] | | | a group's shared perception and actual capacity to successfully perform behaviour through a shared effort, beliefs, influence, perseverance, and objectives |
| Importance of understanding the management of diabetes as a collaborative team effort, for rural African Americans, who often have limited access to health care resources and count on family and friends for material help and psychosocial support [33] | | Network support as a safety net | |
| The need to be persistent in seeking support is hard to maintain [21] | | Work involved in getting and sustaining support | |
| Lack of understanding – from family members about type 2 and therefore unable to be of help when they wanted this…general stress of life as multiple non health care givers makes it difficult physically and emotionally to maintain effective diabetes management [31] | | Limits to network support | |
| 3) Self-management support requires awareness of and ability to deal with network relationships | | | |
| Accommodation in family encompassed via a balancing act between disease management and quality of life and between attention given to ill person and other familial demands social roles and obligations…. Maintained ease of social relations with family despite diabetes symptoms and care requirements [27] | | Maintaining normality, roles, expectations | |
| Partners can take over parental role, potentially causing conflict and challenging identity as couple [22] | 'So I think that this conflict can be the result of more, this anxiety you have, for diabetes is actually a devil disease' | Conflicts in roles and relationships | |
| | 'Think if you'd got it in the car and crashed. She's right in what she says but I can't handle her. She also says 'you have to eat right away after training, before you get in the car, a banana and juice isn't enough'. | | |
| | I think it's enough with what I eat until I get home and dinner is ready. Yeah, then the fuss has started. Both of us want to be right and refuse to give in. Yeah, Yeah but it's beginning to settle now. Just needed to talk about it!! Was so damn angry now tonight!' [22] | | |
| | '…rather that than he doesn't bother about it, that would feel like he doesn't care about me as a person…'. [22] | | |
| For family networks – women see their health as contingent on the wellbeing of the entire family – her health-related behaviours secondary to this. Women non-compliant with treatment that does not fit day to day way of life preceding diagnosis. This leads to stress and anxiety. Role demands interfere/conflict with self-care regimens [34] | | Interdependences between changes within networks | |
| Spousal control over food led five people with diabetes to stash food in the house and caused considerable conflict with the majority of couples [24] | | | |

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| Barriers extended beyond the immediate program participants to include others in their social networks. Initially participants struggled with family and social expectations and resistance to changes in role-related tasks (e.g. food preparation) [24] | ‘It could be a barrier to my leadership. For the beginner Christian, it could be a question that, as a good Christian like me, how come she could be suffering with DM, although she always prays and she looks to have a special relationship with the Lord . . . . I cannot say that this [DM] was given to me by the Lord.’ [42] | |
| Diabetes not always perceived as real illness [34] | ‘Would people come to exercise in a pool? | Illness perception, meaning of illness |
| | Alice: Well I think I don’t like (doing this) … It’s different like, other people might think “oh these black people don’t usually do that swimming around and exercising, running or jogging … (Bininj woman, 36–45)’ [44] | Self-identity, body image and stigma |
| Patients had a sense of control over diabetes – relaxed attitude …Family members had heightened perception of severity of diabetes, increasing their concerns [23] | | |
| For both patients and family members a perceived lack of information and an inability to understand the information they get – leading to patients stopping asking questions [23] | | |
| There is a gender bias and prejudice in the way women and men are dealt with by health professionals – women’s symptoms judged negatively as being psychological this leads them to feeling helpless in medical encounters. Often a gender-role game going on – women need to assert themselves more particularly with female practice nurses [34] | | Encounters with healthcare professional |
| no disclosure to people outside immediate family due to taboo and shame [37] | | Avoidance and concealment |
| measuring blood glucose and undertaking disease-related regimes at work troublesome – done secretly (or not at all) and diabetes concealed because of threats to losing job or being viewed as unclean or unsuccessful woman (because of dealing with blood and urine)…Do not want to share information about diabetes with co-workers, elements of diabetes regime are troublesome and concealed [34] | | Openness and direct engagement |
| no disclosure to close family not to worry them [27] | ‘Maybe I was afraid. Once I revealed my problems, I would appear weaker, so maybe I had to keep it under wraps and make it look like everything’s under control . . . . I didn’t want them to see me ill.’ [42] | |
| Women not wanting to be a burden on loved ones [31] | | Care and concern for others |
| | | Selective engagement |
| using indirect communication through significant others, highlighting roles and responsibilities to stay healthy [27] | | Indirect engagement |
| Conflict in disclosing diabetes at work may compromise disease management [34] | | |
| Aspects of concealment and revelation to others. Practices hidden from family members selecting foods discretely [27] | | |
| Some young people neglect support, others actively seek positive support and not moralising [22] | | |

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| Most effective strategy for support was asking for it directly… Constant vigilance of eating happens frequently. May be a negative aspect of social networks and depress wellbeing feelings [21] | | | |
| Participants needed to develop strategies for obtaining support that led to better control [21] | | | |
| Managing friends' involvement – a spectrum – empathy for wellbeing and practical help for emergencies are valued, but some value independence over supportive actions [22] | | | |
| Women not wanting to be a burden on loved ones [31] | | | |
| Family members notice changes and all have to adapt to the impact on day to day life [23] | | | |
| maintenance of personal change was dependent on complementary and supportive changes in the participants' family and church community support from the church and their immediate friends and families was important in sustaining their healthy behavioural changes [24] | | Interdependences between individual and collective change | |
| **Example concepts from second order extraction** | **Quotes from papers** | **Translated themes (second order synthesis)** | **Line of argument (third order synthesis)** |
| 1) Sharing knowledge and experiences in a personal community | | | |
| Personal awareness of diabetes risk seen as an initial impetus to involvement in the program and individuals' willingness to make lifestyle changes. Awareness promoted through testimonials from others, endorsement from church leadership, consideration of positive screening results, and educational materials [24] | "I'm very fortunate there's a co-worker that is type 2 diabetic and we're talking to each other all the time about hey, how's your blood sugar doing? How's the last doctor visit?" | Sharing similar knowledge and experiences | |
| Contradictory interchange of diabetes experiences –confirms shared reality of diabetes experience which is valued when sought, but young people do not like forced group encounters [22] | "One of the guys at work is going through the same thing…it's kind of like a little support group that we encourage each other to keep going" [21] | | |
| Felt 'understood' by other people with diabetes [38] | | | |
| Respondents wanted family members to change their behaviour as a means of supporting them e.g. eating habits which make it easier for them to comply [40] | | Upward and downward | |
| An external downward comparison, which is empowering and sustains good eating control by the patient… caution needed not to use comparisons to the extent that they lead to stress and making patients feeling they are outperformed…Barriers to health outcomes are when comparisons are made to normal (i.e. non-diabetic) network members and behaviours are geared towards maintaining sense of well-being [26] | "My diabetes is under such excellent control because I know my friends; they eat such horrible things" [26] | | |
| Poor outcomes in network members lead to seeking of informational support to prevent similar outcomes [21] | "…my aunt never drank,…never smoked,…never kept hours…ate well…and it's paying off for her…she's in excellent health for her age…and I mostly want to be independent like her…" [26] | Modelling on/learning from others | *Network navigation* |
| Indirect coaching of behaviour in the person with diabetes hidden or oblique ways of influencing behaviour. Using personal modelling as form of persuasion, using indirect communication through significant others, highlighting roles and responsibilities to stay healthy [27] | | | |

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| The diabetes prevention group provided a network of newly formed relationships that provided opportunities to exercise together, share nutritional information, and provided a sense of shared accountability with respect to regular exercise, program attendance, and dietary change [24] | Black male: "I have a bad example in my household. My 98-year-old mother in-law eats everything in sight and is not happy unless she's had three meals a day so we have three meals a day at our house, big meals, and I can't stand to see food around and not eat it. That influences me negatively." [30] | | People with LTCs and network members make judgements of when and who to contact and which relationships require strengthening or adopting and which ones need to be abandoned |
| Support from family, peers, and health care providers positively influenced adherence behaviours by providing cues to action, direct assistance, reinforcement, and knowledge [40] | | | *Negotiation of relationships* |
| Health professionals provide appraisal for self-management practices and informational support on how to improve outcomes [21] | | | |
| Personal awareness of diabetes risk seen as an initial impetus to involvement in the program and individuals' willingness to make lifestyle changes. Awareness promoted through testimonials from others, endorsement from church leadership, consideration of positive screening results, and educational materials [39] | 'Even close family or close friends do not understand what has happened to me in so short a time. Because they are used to the old me still, you know. I think that only people who experience it (diabetes) can understand' (Sarika, Indian). | | network members engage in a process of rebalancing relations and negotiating roles and objectives through narratives of responsibility and through negotiating levels and types of involvement |
| | "I have learned about life and I feel different because when I came here [diabetes support group], I talk to people and learn things. I know other people with diabetes. We talk [about] what tablets one [person] takes, what tablets the other takes. It is helpful because we get each other's opinion". (Evania, Greek) [38] | | |
| 2) Accessing and mediation of resources | | | |
| Providing meals that were appropriate for the care recipients' dietary needs meant that carers develop an understanding of what was required in the new diet and an ability to provide the diet at the required times [35] | 'I didn't know everything has salt . . . I mean, it was incredible, I must have spent an hour in every aisle . . .reading the labels for potassium and sodium.' | Network members taking over aspects of illness work | |
| Spouses frequently the key provider of social support, helps to provide constant vigilance [21] | '[I] do all her tablets for her . . . she can't manage the shopping any more . . . I'll take her there and carry the stuff, she wouldn't be able to go down to the shops [unassisted].' [35] | | *Collective efficacy* |
| Parent becoming guiding agent, contributing knowledge and competent, trusted advice – reminder of social capital issues and their supporting role shifts [22] | White male: "My wife takes care of my pills for me." | | |
| Importance of understanding the management of diabetes as a collaborative team effort, for rural African Americans, who often have limited access to health care resources and count on family and friends for material help and psychosocial support [33] | Black female: "And she [daughter-in-law] does my medicine. She got these different things to put my medicine in for an entire week . . . because I can't do it. If I do it, she checks it." | | |

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| The need to be persistent in seeking support is hard to maintain [21] | White male: “My wife keeps asking me, did I take my medicine?” | Network support as a safety net | a group’s shared perception and actual capacity to successfully perform behaviour through a shared effort, beliefs, influence, perseverance, and objectives |
| Lack of understanding – from family members about type 2 and therefore unable to be of help when they wanted this…general stress of life as multiple non health care givers makes it difficult physically and emotionally to maintain effective diabetes management [31] | White male: “When we go out or travel anyplace, the first thing my wife will ask me, ‘Do you have your vampire kit?’ which is my glucose meter, and ‘Do you have your insulin?’ because a couple of times we’ve gone out to dinner and I forgot to take the insulin.” [30] | Work involved in getting and sustaining support<br>Limits to network support | |
| 3) Self-management support requires awareness of and ability to deal with network relationships | | | |
| Accommodation in family encompassed via a balancing act between disease management and quality of life and between attention given to ill person and other familial demands social roles and obligations…. Maintained ease of social relations with family despite diabetes symptoms and care requirements [27] | ‘So I think that this conflict can be the result of more, this anxiety you have, for diabetes is actually a devil disease’ | Maintaining normality, roles, expectations | |
| Partners can take over parental role, potentially causing conflict and challenging identity as couple [22] | ‘Think if you’d got it in the car and crashed. She’s right in what she says but I can’t handle her. She also says ‘you have to eat right away after training, before you get in the car, a banana and juice isn’t enough’. | Conflicts in roles and relationships | |
| For family networks – women see their health as contingent on the wellbeing of the entire family – her health-related behaviours secondary to this. Women non-compliant with treatment that does not fit day to day way of life preceding diagnosis. This leads to stress and anxiety. Role demands interfere/conflict with self-care regimens [34] | I think it’s enough with what I eat until I get home and dinner is ready. Yeah, then the fuss has started. Both of us want to be right and refuse to give in. Yeah, Yeah but it’s beginning to settle now. Just needed to talk about it!! Was so damn angry now tonight!’ [22] | Interdependences between changes within networks | |
| Spousal control over food led five people with diabetes to stash food in the house and caused considerable conflict with the majority of couples [24] | ‘It could be a barrier to my leadership. For the beginner Christian, it could be a question that, as a good Christian like me, how come she could be suffering with DM, although she always prays and she looks to have a special relationship with the Lord . . . . I cannot say that this [DM] was given to me by the Lord.’ [42] | Illness perception, meaning of illness | |
| Barriers extended beyond the immediate program participants to include others in their social networks. Initially participants struggled with family and social expectations and resistance to changes in role-related tasks (e.g. food preparation) [24] | | Encounters with healthcare professional | |
| Diabetes not always perceived as real illness [34] | | Self-identity, body image and stigma | |
| Patients had a sense of control over diabetes – relaxed attitude …Family members had heightened perception of severity of diabetes, increasing their concerns [23] | | | |
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| There is a gender bias and prejudice in the way women and men are dealt with by health professionals – women's symptoms judged negatively as being psychological this leads them to feeling helpless in medical encounters. Often a gender-role game going on – women need to assert themselves more particularly with female practice nurses [34] | Alice: Well I think I don't like (doing this) … It's different like, other people might think "oh these black people don't usually do that swimming around and exercising, running or jogging … (Bininj woman, 36–45)' [44] | Care and concern for others |
| no disclosure to people outside immediate family due to taboo and shame [37] | | Avoidance and concealment |
| measuring blood glucose and undertaking disease-related regimes at work troublesome – done secretly (or not at all) and diabetes concealed because of threats to losing job or being viewed as unclean or unsuccessful woman (because of dealing with blood and urine)…Do not want to share information about diabetes with co-workers, elements of diabetes regime are troublesome and concealed [34] | '…rather that than he doesn't bother about it, that would feel like he doesn't care about me as a person…'. [22] | Openness and direct engagement |
| no disclosure to close family not to worry them [27] | 'Maybe I was afraid. Once I revealed my problems, I would appear weaker, so maybe I had to keep it under wraps and make it look like everything's under | Indirect engagement |
| Women not wanting to be a burden on loved ones [31] | | Selective engagement |
| using indirect communication through significant others, highlighting roles and responsibilities to stay healthy [27] | control . . . . I didn't want them to see me ill.' [42] | Interdependences between individual and collective change |
| Conflict in disclosing diabetes at work may compromise disease management [34] | | |
| Aspects of concealment and revelation to others. Practices hidden from family members selecting foods discretely [27] | | |
| Some young people neglect support, others actively seek positive support and not moralising [22] | | |
| Most effective strategy for support was asking for it directly… Constant vigilance of eating happens frequently. May be a negative aspect of social networks and depress wellbeing feelings [21] | | |
| Participants needed to develop strategies for obtaining support that led to better control [21] | | |
| Managing friends' involvement – a spectrum – empathy for wellbeing and practical help for emergencies are valued, but some value independence over supportive actions [22] | | |
| Women not wanting to be a burden on loved ones [31] | | |
| Family members notice changes and all have to adapt to the impact on day to day life [23] | | |
| maintenance of personal change was dependent on complementary and supportive changes in the participants' family and church community support from the church and their immediate friends and families was important in sustaining their healthy behavioural changes [24] | | |

Our metasynthesis captures the requirement over and above navigation to *negotiate* and re-negotiate existing relationships, roles, expectations, means of engagement and communication between network members. This involves judgments about which relationships require reshaping, strengthening, abandonment, and new ones developed. The process of *negotiating relationships* within networks requires building justifications of responsibility, and level and type of involvement. *Network navigation* and *negotiating relationships* bring to the fore the need for the fulfilment of expectations of reciprocity, complexities of availability and acceptability of support. It is clear from this review that approaching network members for help is not exclusively based on their knowledge and capacity but is an aspect of the relationship and moral identity work that take place within the network. For example, the desire for independence and autonomy may take precedence over needs for assistance, and may be a reason for not activating support networks even when they are available [16,46].

The involvement of network members in illness management forms an aspect of a collective network process, effort and change placing emphasis on collective agency rather than individual *self-efficacy. Collective efficacy* can be understood here as a shared perception and capacity to successfully perform and behave through shared effort, beliefs, influence, perseverance, and objectives (Figure 2). *Collective efficacy* can be limited to one or two network members, or be spread across an entire personal community and the wider set of groups that individuals belong to (e.g. place of work, locality).

**Figure 2 Summary of 2nd and 3rd order concepts.**

Identifying the significance of collective efficacy brings with it a set of continuities and tensions with the current normative and policy emphasis on self-efficacy as a way of improving illness management (Figure 3). Four broad scenarios for illness management can be identified: low self-efficacy/low collective efficacy, high self-efficacy/low collective efficacy, high collective efficacy/low self-efficacy, and high self-efficacy and high collective efficacy.

**Figure 3 Self-efficacy and collective efficacy.**

The four possible scenarios modelled above illustrate that making a choice about illness management policy and interventions involves nuanced political and value choices, and affects differently the interests of stakeholders. For example, interventions focussed on improving motivation and individual knowledge tend to work best for people who are already motivated and knowledgeable, and to be less effective in deprived populations.

# Discussion

Previous research on social networks has been instrumental in implicating the importance of network effects for different health related outcomes including self-management [11,12]. The meta-synthesis undertaken here clarified aspects and mechanisms which are relevant to personal support for the management of a LTC (type 2 diabetes). Our findings indicate that social network involvement with CIM is related to the distribution of illness work that SNMs take over or share the burden of. Network members influence things via a number of means-through sharing knowledge and experience, observing, making comparisons with, and modelling on what network members do. In this respect SN members can be conceptualised

as an active extension of the person with a LTC complementing and adding to their efforts and capacities in completing illness management tasks. However, network processes are rarely one-directional. The work that network members do for a person tends to be reciprocated with network influences running in both directions.

In common with other studies [3,47] the involvement of social network members is not unambiguously related to positive influences [8,16]. Engagement with one's network implies the necessity of carrying out relationship and identity work. Whilst engagement with social networks can lead to change, it can also create obstacles to change and positive as well as a negative impact on people's health and CIM or highly selective impacts. For example, providing help with practical everyday tasks reduces the amount of work that people with LTCs need to do themselves, thus opening more time and leaving more energy to completing other activities. These could include illness monitoring tasks, medication taking, doing physical activities, and keeping social involvement. However, accepting support may also lead to a sense of losing control of one's life and autonomy or if network members provide more support than the person wants or needs this may prevent the use of their full physical and mental capacity to develop sustainable illness management strategies. These complexities in network dynamics offer an insight as to why network support cannot simply be reduced to a cumulative process (i.e. more network members more network support) even where a degree of substitutability between network member support might exist [11]. Access to different types of network members offers access to a wider range of information sources and support [13,14], opening possibilities for adaptions to be made in relation to individual identities, concerns preferences [6] and context.

The network mechanisms that we identified are broadly related to individual and network members' capacity of *network navigation* and *negotiation* and *collective efficacy* created by network members. Our review suggests a janus face of the role of networks which are characterised by contradictions irreconcilable objectives, outcomes, roles, identities, values inherent which can vary across the contexts within which CIM takes place. Nonetheless, network navigation can improve access to relevant knowledge and resources, while allowing people with LTCs to avoid potential conflicts and preserving valued roles and identities. How network mechanisms relate to CIM is shaped by the environments in which they take place which can be enabling or disabling depending on the capacities they offer for carrying out illness management work and supporting behaviours beneficial for people's health. In this respect illness management environments are organised around a variety of logics: evolution of domestic relationships in the home and the needs of the household, the objectives of employers, the need of private sector companies to make profit. These are potentially open to external intervention and can be orientated towards making illness management and people's health needs a higher priority [48,49].

# Conclusions

This qualitative meta-synthesis examined the mechanisms linking social networks and illness management which has brought into view the way in which illness management (more usually construed as an individual behavioural phenomenon) is a collective process and takes place in a context of multiple objectives and values that are interrelated. We identified three key social network mechanisms which have utility in considering the nature of future chronic illness management strategies. Network processes of importance might include more active navigation of some network involvement and the changing priorities within specific environments, including the avoidance of places and relationships that can trigger undesirable

situations and enhancing those that have more positive influences. Drawing on the notions of collective efficacy and enabling environments we identified set of continuities and tensions within the currently dominant normative and policy emphasis on self-efficacy as a way of improving illness management (see Figure 3 above).

Our findings are likely to have implications for policy development as they indicate that the current focus on self-efficacy could be extended towards raising awareness about the structure and organisation of personal communities, building individual and network capacity for navigating and negotiating relationships and SM environments. In this respect interventions could be more productively designed to maximise the possibilities for social engagement, particularly through extending people's access to weak ties and the building of enabling environments that have relevance for illness management.

### Study limitations and future research

This metasynthesis only included qualitative studies. This approach has advantages as qualitative studies offer access to understanding the underlying mechanisms through which social networks operate and fills a gap left by quantitative systematic reviews. The limitations of this review are that the concluding picture presented of network involvement (of the three mechanisms) are limited to a set of propositions which require testing out in empirical studies. Additionally, whilst this metasynthesis was primarily focused on understanding the mechanisms through which social networks are understood as relationships outside formal healthcare operate this necessarily excludes the impact of professionals and the structure and extent of network involvement in illness management which is shaped by the organisation and funding of formal healthcare provision and the ethos of professional-user relations. Future research would need to illuminate illness management at the interface of personal communities, healthcare system support, broader social and physical environment, and individual self-management.

### Ethics statement

The paper is a metasynthesis of published studies all of which had ethical approval.

## Endnote

[a]The latter was because this review was a part of an international project including six European partner countries and in order to include the countries where most of the research on SM has been carried out.

## Competing interests

The authors declare that they have no competing interests.

## Author's contributions

AR designed the study, IV and JK carried out the literature searches, AR, AK, IV, JK selected the papers for review and reviewed the final papers, IV wrote the first draft of the

paper, AR, AK, JK, IV revised and finalised the paper. All authors read and approved the final manuscript.

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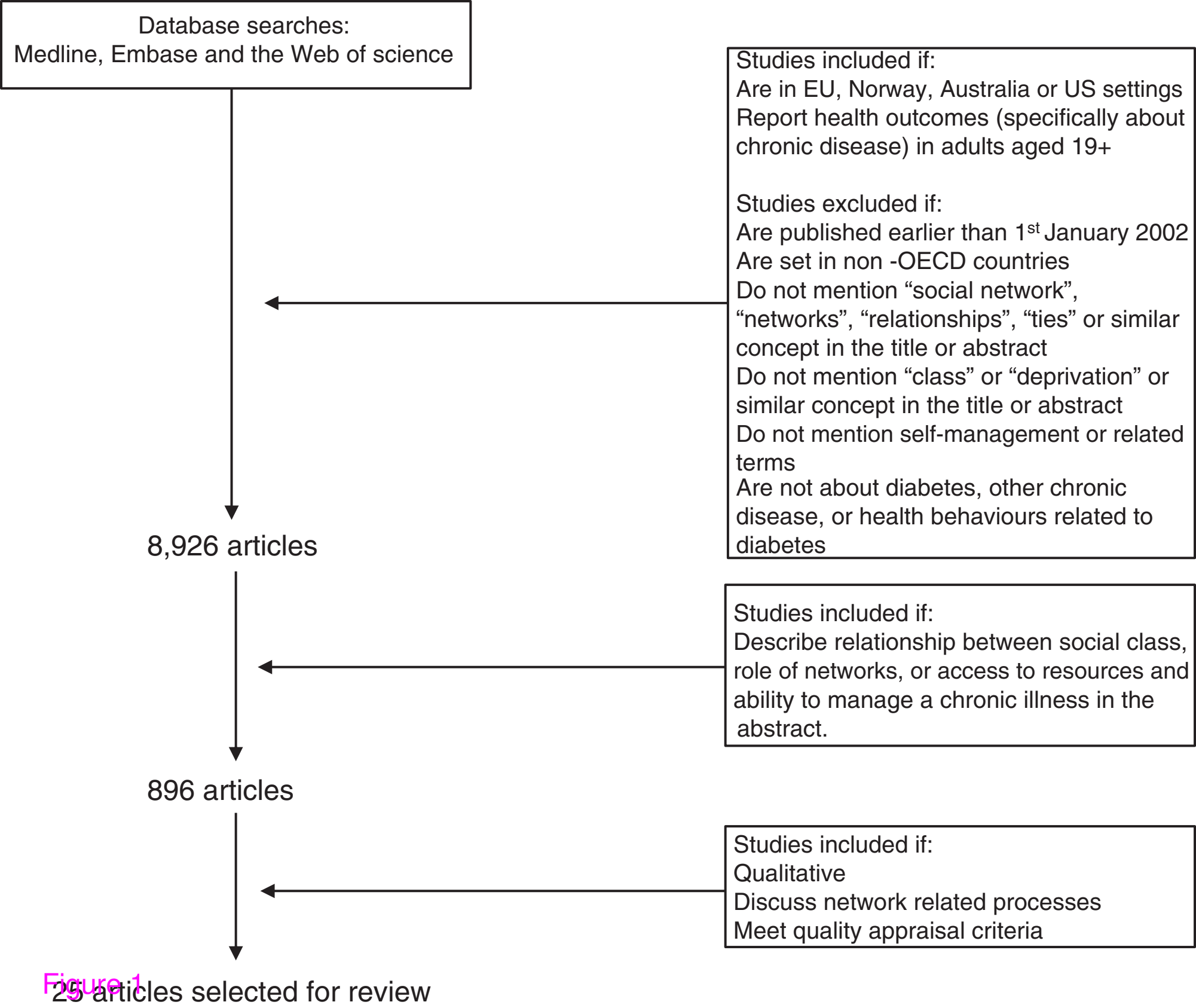
Database searches:
Medline, Embase and the Web of science
Studies included if:
Are in EU, Norway, Australia or US settings
Report health outcomes (specifically about chronic disease) in adults aged 19+
Studies excluded if:
Are published earlier than 1st January 2002
Are set in non -OECD countries
Do not mention “social network”, “networks”, “relationships”, “ties” or similar concept in the title or abstract
Do not mention “class” or “deprivation” or similar concept in the title or abstract
Do not mention self-management or related terms
Are not about diabetes, other chronic disease, or health behaviours related to diabetes
8,926 articles
Studies included if:
Describe relationship between social class, role of networks, or access to resources and ability to manage a chronic illness in the abstract.
896 articles
Studies included if:
Qualitative
Discuss network related processes
Meet quality appraisal criteria
25 articles selected for review

Figure 1

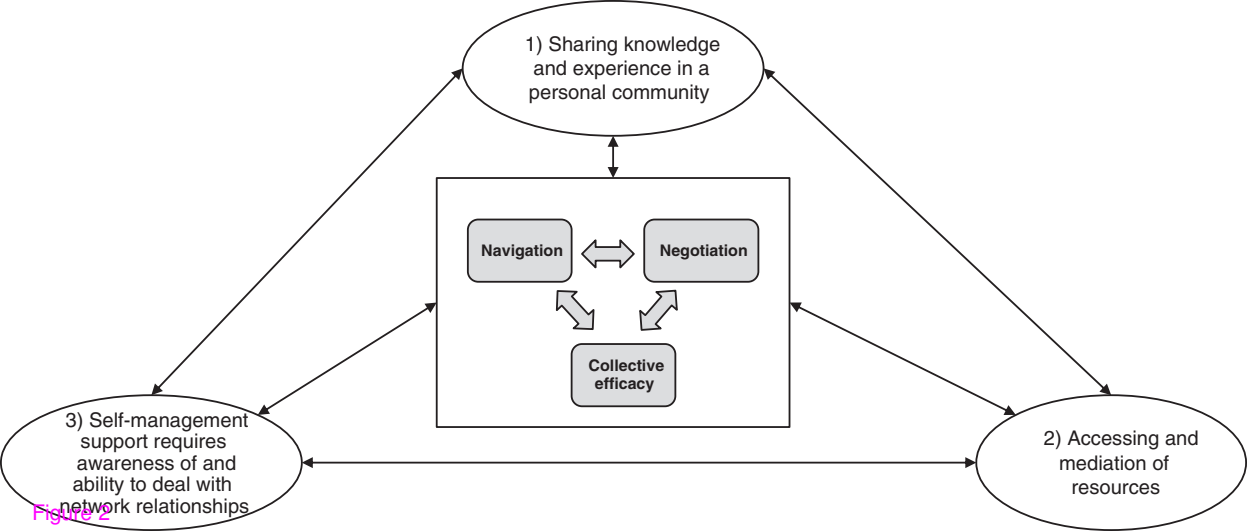
1) Sharing knowledge and experience in a personal community
Navigation
Negotiation
Collective efficacy
3) Self-management support requires awareness of and ability to deal with network relationships
2) Accessing and mediation of resources

Figure 2

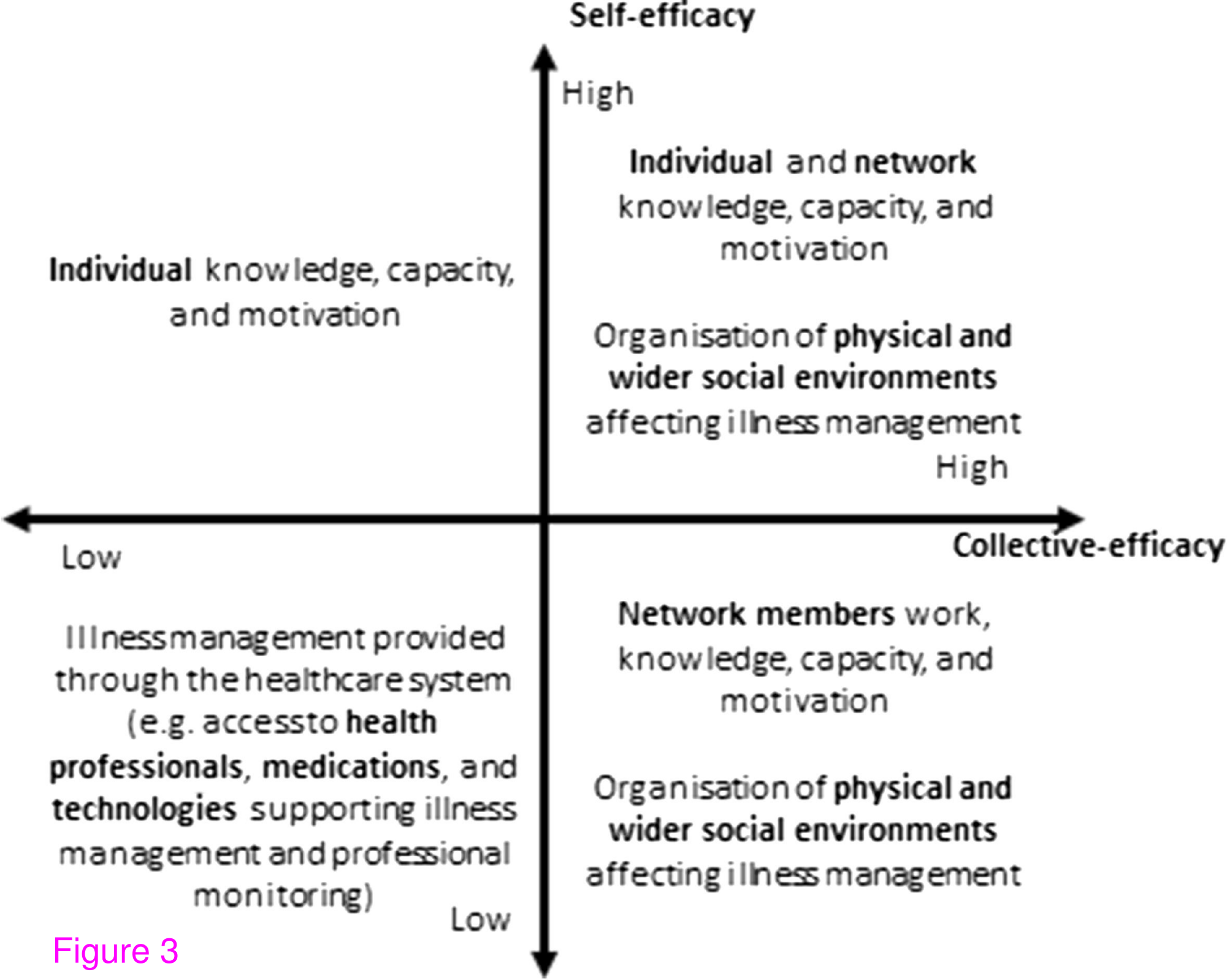
Self-efficacy
High
Individual and network knowledge, capacity, and motivation
Individual knowledge, capacity, and motivation
Organisation of physical and wider social environments affecting illness management
High
Low
Collective-efficacy
Illness management provided through the healthcare system (e.g. access to health professionals, medications, and technologies supporting illness management and professional monitoring)
Network members work, knowledge, capacity, and motivation
Organisation of physical and wider social environments affecting illness management
Low

Figure 3