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# Failure or success of self-organizing teams in long-term care organizations: an integrative systematic literature review on the role of the organization structure

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## Abstract

**Background** The number of self-organizing teams is increasing in long-term care organizations. These teams have been implemented for various reasons among which improving the quality of care and the quality of working life. However, self-organizing teams are not always delivering these favorable outcomes. To evaluate the success of self-organizing teams, it is important to understand the reasons for their varying levels of success in long-term care organizations. In the long-term care context, little is known about the role of the organization structure in self-organizing team success, while organization theory indicates that this factor strongly affects their outcomes.

**Methods** An integrative systematic review was conducted across four electronic databases: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Business Source Complete, and Web of Science, from inception until May 2023. Reference lists of the included studies were screened to identify other relevant studies. Quality appraisal was undertaken using MMAT for empirical studies and JBI checklists for systematic reviews, and text and opinion. Thematic analysis was conducted to synthesize the findings.

**Results** Forty-one articles were included. Findings were categorized based on structure characteristics that we extracted from organization theory: centralization, specialization, formalization, and functional concentration. We found different forms of each structure characteristic and their influence on self-organizing teams. A higher degree of these structure characteristics generally hinders self-organizing team success, meaning lower quality of care and lower quality of working life. Conversely, a lower degree of these characteristics generally facilitates self-organizing team success, meaning higher quality of care and higher quality of working life. However, the findings also highlight that structure characteristics can reach detrimentally low degrees when too many tasks and responsibilities are allocated to the teams, diminishing self-organizing team success.

**Conclusions** While self-organizing teams hold promise for enhancing the quality of care and improving the quality of working life, they are not always successful in practice. This integrative systematic review highlights the importance of organization structure characteristics for self-organizing team success in long-term care organizations.

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**Keywords** Self-organizing teams, Organization structure, Quality of care, Quality of working life, Long-term care, Integrative review

## Introduction

Many long-term care organizations have implemented self-organizing teams [1–3]. A self-organizing team is: "*a group of individuals with diverse skills and knowledge with the collective autonomy and responsibility to plan, manage, and execute tasks interdependently to attain a common goal*" [4]. In the context of long-term care organizations, self-organizing teams often consist of registered nurses, registered vocationally trained nurses, certified nursing assistants, nurse assistants, and/or nurse aides [5]. These operational care teams are responsible for most of the care tasks required to perform the complete care process of a particular client group [6, 7]. The tasks of these teams are broad, encompassing both care tasks as well as supportive and preparatory tasks. Care tasks can range "from bathing to the provision of medications and treatments to simple meal preparation" [8]. Additionally, these teams are often responsible for other tasks required to perform the complete care process: supportive and preparatory tasks, including scheduling and assigning tasks among team members [9, 10]. To attain their common goal, these teams also need to be able to deal with team-level problems that arise during the performance of these care, supportive, and preparatory tasks, such as managing absences or delays in attending to clients' needs [9, 11, 12]. In this context, self-organizing teams primarily differ from more traditional teams in their responsibility to perform the complete care process for a particular client group, their autonomy to carry out the broad range of tasks necessary to perform the complete care process, and their ability to deal with problems that arise within them– with minimal external interference [13].

In light of a growing demand for care, staff shortages, and increasing workloads, such teams have been introduced for various reasons – among which improving the quality of care [14, 15] and the quality of working life [15, 16]. However, self-organizing teams do not consistently deliver these favorable outcomes and have even been abandoned in some long-term care organizations [17–19]. To evaluate the success of self-organizing teams, it is important to understand the reasons for their varying levels of success in long-term care organizations. One important, and often neglected, factor in self-organizing teams' success is the 'organization structure' (the way tasks and responsibilities are defined and allocated to individuals and units, such as teams and departments) of the long-term care organization in which these teams operate [1, 4, 20, 21]. That is, self-organizing teams have their own tasks and responsibilities, but they also depend on tasks and responsibilities of individuals and units outside of the teams, such as support staff and specialists who are not part of the self-organizing team (like physicians, psychologists, or physiotherapists), or the organization's management. Given the definition of self-organizing teams provided in this review, self-organizing teams inherently possess a certain degree of autonomy in delivering care processes and dealing with problems that arise within them. While the degree of autonomy may vary among self-organizing teams, it is important to acknowledge that these teams can never be completely autonomous as they are still part of the wider organization [22].

According to organization theory, the degree to which self-organizing teams can operate autonomously varies based on choices made regarding the organization structure [11, 23]. For instance, if many tasks and responsibilities that are required by a self-organizing team for delivering its output are allocated *outside* of the team, then the self-organizing team depends on other individuals or units and has less freedom to autonomously deliver care processes or deal with problems therein. This has been argued to impede the success of self-organizing teams in terms of the quality of care and the quality of working life [11, 23]. At the same time, allocating too many tasks and responsibilities to the self-organizing teams comes at a cost. For example, when self-organizing teams are responsible for tasks such as self-scheduling, hiring new team members, and managing finances, team members may have less time to deliver care and experience frustration [24].

The organization structure can be described by characteristics such as (de)centralization, specialization, formalization, and functional concentration [11, 21, 25]. In the current context, decentralization relates to the degree to which decision-making authority with respect to the self-organizing teams is defined and allocated inside the self-organizing teams - if decentralization is high, decision-making authority is part of the teams' tasks and responsibilities; if it is low, many decisions concerning the self-organizing teams are made outside of the teams [26]. Specialization (or division of work) relates to the degree to which a self-organizing team is seeing clients for all related care. If it is high, self-organizing teams are only delivering a small part of the complete array of care activities; if it is low, self-organizing teams are

responsible for many, or even all care activities [11, 21][1]. Formalization has to do with the degree to which work in the long-term care organization is governed by rules and procedures [21]. Here, high and low values have been discussed abundantly in care literature [27, 28]. Finally, functional concentration refers to the degree to which tasks in the long-term care organization (including the tasks of the self-organizing teams or team members) are related to a subset of clients or services (low value) or to potentially all clients or services (high value). If functional concentration is low, care tasks such as bathing, provision of medications, treatment, and meal preparation are performed for a specific group of clients with similar care needs (e.g., residents in a dementia care unit) or clients within a particular geographical area. If functional concentration is high, the same tasks are not tied to one client group but are performed for potentially all clients in the organization. In this case, tasks are distributed across function-based departments such as nursing, physiotherapy, and meal preparation, each of which potentially serves the entire client base. This means that each department carries out its specific task (e.g., medication provision, rehabilitation, or nutrition) for clients with different care needs across the organization, rather than focusing on a subset of clients or services [11, 23].

Although organization theory suggests that choices made regarding the organization structure can strongly affect the success of self-organizing teams [11, 21], the role of the organization structure has received limited attention within the context of long-term care organizations. Moreover, there is a fragmented understanding of how the organization structure facilitates or hinders self-organizing team success in long-term care organizations, with prior research mostly discussing only one or a few structure characteristic(s) [29, 30]. Therefore, this study sets out to systematically review existing literature to synthesize findings on various structure characteristics. The aim is to provide an understanding of the role of the organization structure in self-organizing team success in long-term care organizations. The insights derived from this literature review will have practical implications for organizational leaders and policymakers in the long-term care sector. By understanding the theoretical underpinnings, organizations can potentially optimize their structures to enhance the success of self-organizing teams. Additionally, the nurses working in these teams and the clients receiving care services from these teams benefit from these insights as enhanced team success entails a higher quality of working life and a higher quality of care [14, 16].

[1] Please note that decentralization and lower specialization lead to the more commonly used terms job empowerment and (horizontal) job enlargement respectively.

## Methods

### Study design

An integrative systematic review was conducted to gain a comprehensive understanding of the role of the organization structure in team success in long-term care organizations, incorporating a variety of study methodologies [31]. The review was guided by the five-step process as delineated by Whittemore and Knafl [31], reported in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA) [32], and registered in the International Prospective Register of Systematic Reviews (PROSPERO).

### Search methods

Multiple electronic databases were selected covering both health sciences and organization studies: PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Business Source Complete, along with a general database, Web of Science. These databases were systematically searched from inception until May 2023. The search strategy was developed in consultation with a medical librarian and in collaboration with the research team. Search strings were developed in accordance with the Population, Concept, and Context (PCC) framework, which resulted in a combination of three search strings: search terms related to self-organizing teams (e.g., "teamwork" OR "self-organization" OR "work group"), search terms related to organization structure (e.g., "division of work" OR "centralization" OR "formalization"), and search terms related to long-term care organizations (e.g., "geriatric care" OR "home care" OR "nursing home").

A systematic search was conducted by using Boolean operators 'AND/OR' to combine search strings, keywords, and index terms such as Medical Subject Headings (MeSH) in PubMed. The index terms, spelling variations, and truncations were adapted to each database. Search terms were derived from literature [4, 33, 34]. Only articles published in English were eligible. The search strategy was finalized after the approval of a business administration librarian. The search strings are presented in more detail in Supplementary file A.

Ultimately, reference lists of the included studies were screened to identify other relevant studies.

### Inclusion and exclusion criteria

Articles were included if they (1) adhered to the definition of self-organizing teams by Magpili and Pazos [4]; (2) discussed one or more characteristic(s) of the organization structure of long-term care organizations and the (facilitating or hindering) role of this/these characteristic(s) on self-organizing team success; (3) were empirical (qualitative, quantitative, or mixed-method), theoretical, review, or text and opinion studies; and (4) were written in English.

In this study, self-organizing team success entails two overarching concepts: quality of working life and quality of care, each encompassing various elements [11]. We applied these concepts broadly, in line with previous research [35, 36]. This allows for interpretation and provides a more comprehensive understanding of their various elements. Articles were included if they mentioned at least one outcome related to quality of working life (e.g., job satisfaction) or quality of care (e.g., quality of life of clients), whether positive (higher quality) or negative (lower quality).

Publications were excluded if they: (1) only addressed other factors than the organization structure, such as factors on the micro-level (within self-organizing teams) or factors on inter-organizational level (between two or more organizations) (2) discussed teams that deviated from the concept of self-organizing teams, such as project teams or hierarchical teams, (3) were a dissertation, study protocol, poster abstract or conference abstract.

### Study selection

The results from the databases ($n = 5392$) were exported to Endnote 20 by the first author to remove duplication ($n = 2179$). The same author assessed the eligibility of the remaining articles ($n = 3213$) by screening titles and abstracts against inclusion and exclusion criteria. In case of queries or doubts, the individual articles were discussed with two authors. If it remained unclear if a team was self-organizing, paper authors were contacted (papers for which we didn't get a reaction or for which the authors stated that they didn't study self-organizing teams were excluded). Full texts were retrieved ($n = 204$) and independently assessed by two authors. Disagreements were discussed with a third author to reach a consensus. In total, 29 studies met the inclusion criteria and were included in this review. Subsequently, 12 additional studies were included by scanning the reference lists of the included articles. A total of 41 studies were included, as presented in the PRISMA flow diagram (Fig. 1).

### Quality appraisal

Three quality appraisal tools were selected to assess the various study methodologies: the Mixed Methods Appraisal Tool (MMAT) for empirical studies [37], Joanna Briggs Institute (JBI) checklist for systematic reviews [38], and the JBI checklist for text and opinion [39]. Two authors critically appraised the articles independently of each other. Differences were discussed to

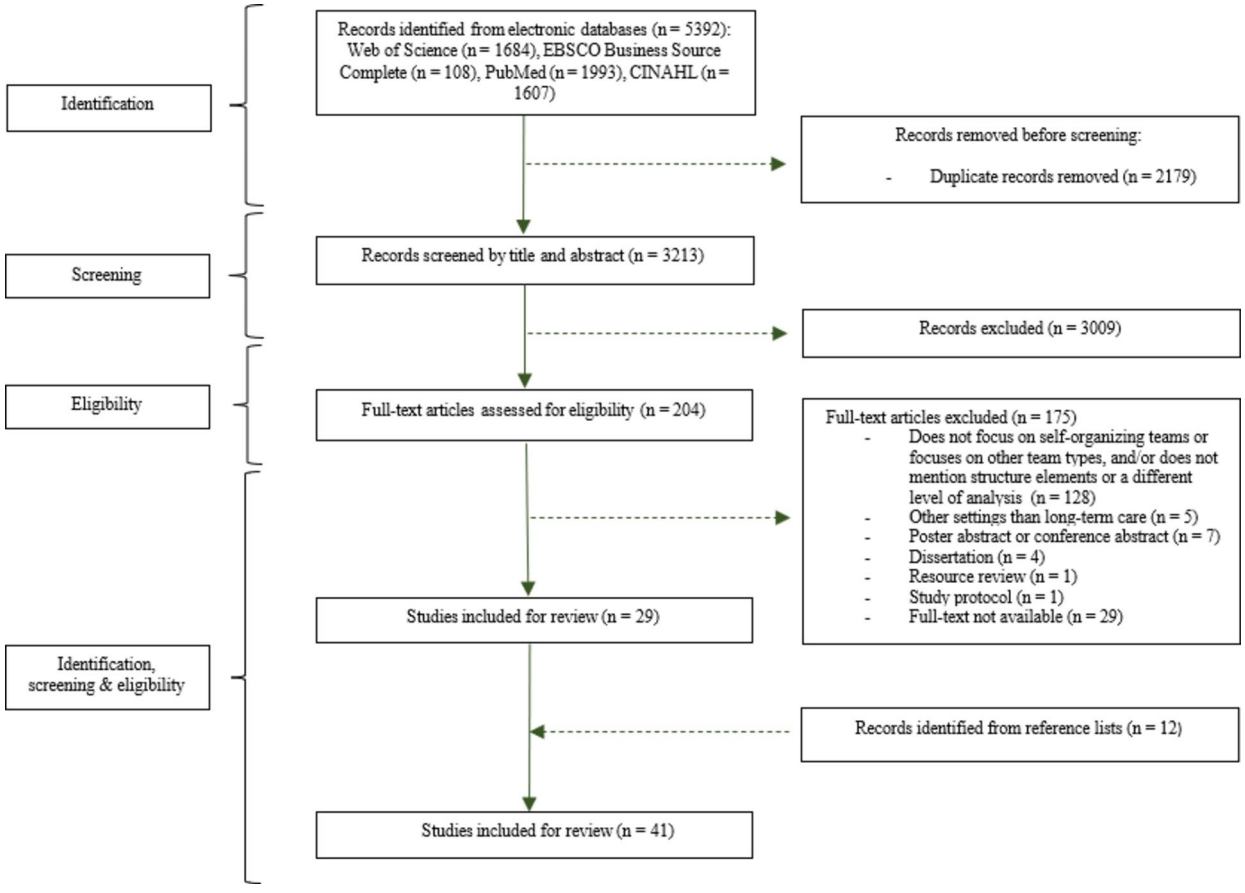


**Fig. 1** PRISMA flow diagram

reach a consensus. None of the studies were eliminated based on their quality appraisal scores, but we considered the quality scores when conducting the analysis, giving publications with lower rigor less emphasis. Details of the quality appraisal are presented in Supplementary file B.

### Data extraction and synthesis

The first author extracted data from the included studies on author, year, country, methodology, study setting, participants, and key findings regarding the structure of the long-term care organization in which self-organizing teams are embedded. Subsequently, a second author checked the extracted data for accuracy.

Data was analyzed using a deductive thematic analysis. Thematic analysis is an appropriate method for synthesizing studies with methodological heterogeneity [40]. We extracted the aforementioned four characteristics -(de) centralization, specialization, formalization, and functional concentration – as they are frequently employed to depict organization structure [11, 21, 25, 26]. These four characteristics are broad categories that encompass various specifications (e.g., liaison as specification of (de)centralization). Additionally, as mentioned earlier, self-organizing team success entails two overarching concepts: the quality of care and the quality of working life [11]. The four characteristics and the two overarching concepts were used to categorize the text from the included articles. Subsequently, the patterns within each theme were examined. A codebook representing the patterns found in the included articles is presented in Supplementary file C.

## Results

Of the 41 articles included in this integrative systematic review (Fig. 1), most articles were from the United States of America ($n = 24$) [41–64], followed by Canada ($n = 6$) [65–70], and the Netherlands ($n = 5$) [71–75]. The other articles were from the United Kingdom ($n = 3$) [76–78], Belgium ($n = 1$) [79], Denmark ($n = 1$) [29], and Norway ($n = 1$) [30]. The methods of the included studies involve qualitative ($n = 13$) [42, 47, 56, 58, 61–63, 69–71, 76, 77, 79], quantitative ($n = 5$) [41, 49, 57, 65, 66], and mixed-method ($n = 9$) [29, 30, 46, 48, 52, 60, 67, 68, 78] research, alongside a scoping review ($n = 1$) [74], a systematic literature review ($n = 1$) [64], and articles labeled as 'text and opinion' ($n = 12$) [43–45, 50, 51, 53–55, 59, 72, 73, 75]. The latter category includes expert opinions and narratives/ discussion papers about (personal) experiences with self-organizing teams in long-term care, from authors with standing in the field of expertise.

Table 1 summarizes study information, including study author, year, country, methodology, data collection method, study setting/ participants, structure characteristics, and outcome indicators. In the next section, we report on how the included studies discuss the positive or negative influence of structure characteristics on self-organizing team success (in terms of quality of care and quality of working life). Each sub-section is devoted to one particular structure characteristic.

### (De)centralization

Thirty-two studies elaborated on how the allocation of decision-making authority either to the teams (decentralization) or outside of the teams (centralization) facilitates and hinders teams. These studies refer to four forms of (de)centralization: horizontal decision-making, involvement in tactical and strategic decisions, the number of hierarchical management layers, and a liaison.

#### *Horizontal decision-making*

Horizontal decision-making is a form of decentralization, allowing teams to discuss and co-decide on operational, clinical day-to-day issues with other care providers involved in the same care process such as members of other teams, physicians, and nurses [58, 77]. Bowers et al. [62], Bowers and Nolet [47], and Cólon-Emeric et al. [42] indicate that collaboratively observing changes in conditions and assessing the situation can improve clinical problem-solving and shorten the time to treatment, thereby enhancing the quality of care. In a similar vein, Anderson et al. [57] discussed decreased aggressive/disruptive behavior among clients when teams were provided with horizontal decision-making authority. According to Bowers and Nolet [47] and Rabig et al. [43], horizontal decision-making improved the quality of working life by promoting greater learning opportunities and improved skills through horizontal collaboration with clinical specialists resulting in high job satisfaction. Moreover, being empowered to take part in collaborative decisions gives "a sense of satisfaction and well-being" [75].

#### *Involvement in tactical and strategic decisions*

Another form of decentralization is to involve teams in tactical and strategic decision-making [52, 71], which results in implemented changes to be better accepted by teams and more in line with their needs [71]. Forbes-Thompson et al. [58] corroborate this by indicating that high-performing nursing homes effectively employ teams to 'make decisions and design future projects for the nursing home' [58]. When such decisions and projects extend the team level, for example, improvement of care processes, members of interdisciplinary teams should be representatives from groups that are affected by the process [45, 58].

The quality of care of teams can be hindered when management does not involve team members in tactical and strategic decision-making [42, 58, 61]. Teams

**Table 1** Characteristics and results of included studies

| Authors (Year) | Country of study | Methodology | Data collection method | Study setting / participants | Structure characteristics | | | | Studied outcomes of SOT success | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (de) Centralization | Specialization | Formalization | Functional concentration | Quality of Care | Quality of Working Life |
| Cott (1997) [65] | Canada | Quantitative | Surveys | Wards at a highly specialized, multilevel care facility for older persons (*n*=5). Participants (*n*=153): RNAs, CAs, RNs, and non-nursing professionals such as doctors and social workers. | X | X | | | X | |
| McClimens et al. (2010) [76] | United Kingdom | Qualitative | Focus group interviews and telephone interviews | Interdisciplinary teams in intermediate care (*n*=11). Participants (*n*=158): physiotherapists, occupational therapists, nurses, administrators, and support workers. Managers (*n*= 4). | | X | | | X | X |
| Sikorska-Simmons (2008) [41] | United States | Quantitative | Surveys, observations, and (critical incident) interviews | Assisted living facilities (*n*=52). Participants (*n*=294): CNAs, administrative staff, activity staff, dietary service, RNs or LPNs, DONs, housekeeping, and social workers. | | X | | | | X |
| Heyer et al. (2023) [66] | Canada | Quantitative | Surveys | A large organization of multiple long-term care homes (*n*=6). Participants: residents (*n*=232). | | | | X | X | |
| Colón-Emeric et al. (2006) [42] | United States | Qualitative | Observations, shadowing, informal interviews, in-depth interviews, focus group interviews, written reports, and documents | Nursing homes (*n*=2). Participants (*n*=126): Nursing staff including CNAs, LPNs, nurse managers (*n*=119), and medical staff including physicians, and nurse practitioners (*n*=7).<br>MDs (*n*=2), NPs (*n*=2) DONs (*n*=2), ADON (*n*=1), and nurse supervisors (*n*=2). Managers, department heads, and informal leaders. | X | X | | | X | X |
| Scheuer et al. (2023) [67] | Canada | Mixed-Method | Surveys and interviews | Continuing care facility (*n*=1), with 'houses' (*n*=10). Participants (*n*=60): administrative staff, managers, direct care providers (RNs and LPNs), support staff (CCAs), and auxiliary service providers (kitchen and dietary staff, laundry staff, recreation staff, facilities management, and other support services). | X | | | | X | X |
| Wynendaele et al. (2023) [79] | Belgium | Qualitative | Semi-structured interviews, observation, and documents | Nursing homes (*n*=4). Participants (*n*=39): management, administrative staff, head nurses, RNs, and NAs. | | X | X | | X | X |
| Van den Berg et al. (2022) [71] | The Netherlands | Qualitative | In-depth interviews, observations, and documents | Home care organizations (*n*=1) Participants (*n*=13): employees, planners (*n*=2), team managers (*n*=2), home care manager (*n*=1), and managing directors. | X | | | | | X |
| Monsen and de Blok (2013) [72] | The Netherlands | Text and opinion: reflection/ discussion | - | Neighborhood care organization (*n*=1). | X | X | | X | X | X |
| Rabig et al. (2006) [43] | United States | Text and opinion: reflection/ discussion | - | GH organizations (*n*=4). | X | X | | | X | X |
| Klaassen et al. (2016) [68] | Canada | Mixed-Method | Surveys, interviews, and focus groups | Home care organization (*n*=1). Participants (*n*=37): RNs, LPNs, nursing managers, case coordinators, NRCs, and scheduling clerks. | | X | | X | X | X |
| Brune (2011) [44] | United States | Text and opinion: reflection/ discussion | - | Culture change initiatives in long-term care | X | X | | X | X | X |

**Table 1** (continued)

| Authors (Year) | Country of study | Methodology | Data collection method | Study setting / participants | Structure characteristics | | | | Studied outcomes of SOT success | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (de) Centralization | Specialization | Formalization | Functional concentration | Quality of Care | Quality of Working Life |
| Roberts (2016) [69] | Canada | Qualitative | Interviews and participant observations | Long-term care organization (*n*=1). Participants (*n*=12): Director of care (*n*=1), the activity director (*n*=1), front-line Continuing Care Assistants (CCAs) (*n*=8), and community Registered Nurses (RNs) (*n*=2). | X | X | | X | | X |
| Green (2014) [45] | United States | Text and opinion: reflection/ discussion | - | Household/Neighborhood Model skilled nursing facility (*n*= 1) | X | X | | X | X | X |
| Cohen et al (2016) [46] | United States | Mixed-Method | Surveys, semi-structured interviews, and secondary data (existing datasets). | GH organizations (*n*=12). Participants (*n*=250): direct care staff (nursing assistants and Shahbazim), DONs, other licensed nurses, therapy staff, administrators (guides), other department heads (social work, dietary, environmental services, human resources, medical director), and nurse practitioners. | | X | | X | X | X |
| Bowers and Nolet (2014) [47] | United States | Qualitative | Telephone interviews, interviews, and observations | GH organizations (*n*=11). Participants (*n*=124): DoNs (*n*=8), nurses (*n*=37), shahbazim (*n*=68), guides (11), other (e.g. human resources, dietary) (*n*=3). | X | X | | X | X | X |
| Solimeo et al. (2014) [48] | United States | Mixed-Method | Surveys, discussion groups | Patient Aligned Care Teams (PACT) (*n*=22) in the Patient Centered Medical Home (PCMH) model. Participants (*n*=96): care providers, nurse care managers, clinical associates, clerical associates, PCPs, RNs, LPNs. | X | X | | X | | X |
| Lalani et al. (2019) [77] | United Kingdom | Qualitative | Participant observation and semi-structured interviews | Neighborhood Care Team (*n*=1). Participants (*n*=23): NCT team, some of the steering group members, the enabler, the coach, two senior managers, two GPS, two community nurses (external to the NCT), a physiotherapist from the locality integrated care team, two social workers, a reablement team manager, and patients and carers. | X | X | | X | X | X |
| Lemke et al. (2017) [49] | United States | Quantitative | Surveys (with closed and open-ended items) | Veterans Health Administration (VHA) nursing homes called Community Living Centers (CLCs) (*n*=109). Participants (*n* = 185): staff schedulers. | | X | | X | X | X |
| Zinn et al. (1995) [50] | United States | Text and opinion: reflection/ discussion | - | Nursing homes | X | X | X | X | X | X |
| De Blok & Reimer (2021) [73] | The Netherlands | Text and opinion: reflection/ discussion | - | Home care organization (*n*=1) | X | X | | | X | X |
| Koren (2010) [51] | United States | Text and opinion: reflection/ discussion | - | Nursing homes | X | X | | X | X | X |
| Nielsen et al. (2010) [29] | Denmark | Longitudinal intervention study (mixed-methods) | Questionnaires and semi-structured interviews | Elderly care centres (*n*=2). Participants (*n*=188): healthcare assistants, nurses, and managers. | X | X | | X | X | X |

**Table 1** (continued)

| Authors (Year) | Country of study | Methodology | Data collection method | Study setting / participants | Structure characteristics | | | | Studied outcomes of SOT success | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (de) Centralization | Specialization | Formalization | Functional concentration | Quality of Care | Quality of Working Life |
| Eide et al. (2022) [30] | Norway | Longitudinal mixed methods case study | Questionnaires, document analysis, participatory, observations, process interviews and in-depth interviews | The first iteration included city districts (*n*=3), multidisciplinary self-managed teams (*n*=6), and patients (*n*=80). The second included city districts (*n*=4), teams (*n*=8), and patients (*n*=160). Participants: RNs, nurse/health workers, executive officers, physiotherapists, occupational therapists, practical assistance providers, and others. | X | X | | X | X | X |
| Yeatts & Cready (2007) [52] | United States | Multimethod pretest-post-test | Questionnaires, observations, and documents | Nursing homes (experimental group) (*n*=4), and nursing homes (control group) (*n*=4). Empowered teams (*n*=21). Participants: CNA's, nurses, and residents' family members. | X | X | | | X | X |
| Yeatts et al. (2004) [53] | United States | Text and opinion: reflection/ discussion | - | Nursing homes | X | X | | | | X |
| Michaels (1994) [54] | United States | Text and opinion: reflection/ discussion | - | Home care (*n*=1) | X | X | | X | X | X |
| De Bruin et al. (2022) [74] | The Netherlands | Scoping review | - | Home care | X | X | | X | X | X |
| Gould (2001) [55] | United States | Text and opinion: reflection/ discussion | - | Nursing home (*n*=1) | X | X | | X | X | X |
| Eaton (2000) [56] | United States | Qualitative | Interviews and observations | Nursing homes (*n*=20). Participants (*n*=107): workers, managers, corporate officials, advocates, union stewards and representatives, academic experts and policy makers. | X | X | | X | X | X |
| Anderson et al. (2003) [57] | United States | Quantitative | Surveys and reports | Nursing homes (*n*=164). Participants: DONs, RNs, residents | X | | X | | X | |
| Forbes-Thompson et al. (2007) [58] | United States | Qualitative | Formal and informal interviews, participant observations, and document review. | Nursing homes (*n*=4). Participants (*n*=74): NHA, DON, care planning coordinator, and department heads; the direct care staff such as RNs, LPNs, CNAs, therapists and therapy aides, and activities personnel; and the ancillary staff such as dietary, housekeeping, and maintenance personnel. Collaborative decision making between administrative and direct care staff | X | | X | X | X | X |
| Andersen and Spiers (2015) [70] | Canada | Qualitative | Interviews | Nursing homes working with the Eden Alternative model (*n*=5). Participants (*n*=22): CAs. | | X | | X | X | X |
| Rabig (2009) [59] | United States | Text and opinion: reflection/ discussion | - | Small houses for individuals with cognitive impairment (nursing facilities and assisted living facilities) | X | X | X | X | X | X |
| Sharkey et al. (2011) [60] | United States | Mixed-method | Interviews, observations, and surveys | Traditional skilled nursing facilities (*n*=6) and skilled nursing facilities with GH homes (*n*=7). Participants (240): CNAs, RNs, CNAs, Shahbazim, department managers, administrators, DONS, | | X | | X | X | |

**Table 1** (continued)

| Authors (Year) | Country of study | Methodology | Data collection method | Study setting / participants | Structure characteristics | | | | Studied outcomes of SOT success | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (de) Centralization | Specialization | Formalization | Functional concentration | Quality of Care | Quality of Working Life |
| Bowers et al. (2016) [61] | United States | Qualitative | Semi-structured interviews and observations | Skilled nursing Green Houses (*n*=11). Participants (*n*=166): Shahbazim (*n*=54), nurses (*n*=*n*=30), and other staff (*n*=82) including therapy providers, administrators, Guides, and department heads. | X | X | | | | X |
| Bowers et al. (2016) [62] | United States | Qualitative | Semi-structured interviews | GH organizations (*n*=6). Participants (*n*=84): Shahbazim (*n*=25), nurses (LPN and RN) (*n*=18) department directors from speech therapy, physical therapy, and dietary (*n*=22), individuals with responsibility for quality improvement if not one of the above (*n*=3), administrators (*n*=3), directors of nursing (*n*=6), and attending PCPs (either a physician or nurse practitioner) (*n*=2). | X | X | | X | X | X |
| Gray et al. (2015) [63] | United States | Qualitative | Documents, Telephone, and in-person interviews | Home care organization (*n*=1). Participants: CEO, colleagues, and members of a nursing team, Dutch government officials and insurers, the nation's leading patient advocacy organization, a competing home-care provider, the Dutch primary care physician association and home-care trade association, the principal investigator at KPMG, and people involved in the early effort to implement a Buurtzorg program in Minnesota. | X | X | | X | X | X |
| Kreitzer et al. (2015) [75] | The Netherlands | Text and opinion: reflection/ discussion | - | Home care (*n*=1) | X | X | | X | X | X |
| Drennan et al. (2018) [78] | United Kingdom | Mixed-method | Semi-structured interviews, group interviews, observations, and documents. | Buurtzorg model of district nursing in the English National Health Services (NHS) setting (*n*=1). Participants (*n*=24): neighborhood nursing team, patients, carers, general practitioners, health professionals, and managers and conventional district nurses. | X | X | | X | X | X |
| Zimmerman & Cohen (2010) [64] | United States | Literature review | - | Green house and similar models of nursing home care. | X | X | | X | X | X |

not actively engaged in client care planning experienced a decline in both the quality of care and the quality of working life. By failing to involve team members closest to the clients, there was a perception of being undervalued along with concerns about delayed assessment of client conditions [58].

#### *The number of hierarchical layers*

Several studies discuss how assigning decision-making authority outside of the teams may compromise the success of self-organizing teams [42, 58, 62, 78]. When an organization has multiple hierarchical layers, managers sometimes feel compelled to meddle in teams' decision-making processes, compromising the autonomy of teams [78].

The interference of multiple hierarchical management layers in decision-making was found to diminish the quality of care because of the reduced quality of the available information for decision-making by teams [42]. Moreover, when information is moved up and down in the chain of command this often causes delays in diagnosis and treatment [42, 62]. Interference of multiple hierarchical management layers in decision-making has also hindered the ability of teams to deliver quality care by equipping them with inadequate resources [58].

Green [45], Kreitzer et al. [75], and Roberts [69] argued that reducing the number of hierarchical management layers enhances the decision-making capacity of teams. A flattened organization structure encourages direct horizontal communication among multiple care providers within teams and between management officials and teams, as demonstrated by Cólon-Emeric et al. [42] and Forbes-Thompson et al. [58]. By distributing the maximum decision-making authority possible to the teams, problems can be solved at the level they arise rather than moving them up in a chain of command [42, 44]. Forbes-Thompson et al. [58] found that a flattened organization structure enabled teams to employ discretionary decision-making authority to flexibly solve client problems, improving the quality of care.

A negative consequence of a flattened structure is found to be a lack of career opportunities. Even though team members can develop themselves in various roles and tasks [47, 76], there are few hierarchical career opportunities.

#### *A liaison*

A last form of (de)centralization is the installation of someone with specific decision-making authority acting as a 'buffer' or liaison between the team and the wider organization, sometimes referred to as 'coach', 'facilitator', or 'decentralized leader' [45, 67, 77]. Roberts [69] suggests that a liaison may be installed to bridge the gap between management and teams. The liaison can include informing management about the progress of projects, getting answers from management on questions of the team [45], and enhancing knowledge sharing by receiving and re-disseminating information to enhance access to information for decision-making purposes [67]. This liaison is preferably organized in close proximity to the teams or in the teams themselves [67], but is also found in the form of a 'distant, administrative role' [30].

The support of a liaison can improve the quality of care in long-term care organizations [67]. Scheuer et al. [67] found that assigning a decentralized leader to teams can enhance task-related knowledge-sharing behavior, which results in access to relevant client information for those who have to make decisions and act upon this information. At the same time, the quality of working life may decrease when the coach or facilitator approaches team members of teams in a traditional, hierarchical manner, rather than empowering the team to be self-organizing [47, 67].

### Specialization

Thirty-five studies discussed how allocating operational tasks either to the teams (decreased specialization) or outside of the teams (increased specialization) facilitates or hinders the success of teams. These studies make a difference between so-called care tasks and non-care-related tasks such as supportive and preparatory tasks. Care tasks refer to a set of activities such as bathing and toileting, changing clothes, administering medication, serving meals, meal preparation, personal care, taking blood pressure, weighing, and organizing activities [46, 75]. Non-care-related tasks refer to a set of activities such as scheduling, budgeting, administration, and equipment procurement [46, 61, 77]. Three forms of specialization are identified: (1) broad team tasks, (2) allocating specific care tasks outside of the teams, and (3) allocating specific non-care-related tasks outside of the teams.

#### *Broad team tasks*

The integration of a broad range of care and non-care-related activities into the duties of a team has been reported to have several positive consequences [72, 75]. Drennan et al. [78] and Kreitzer [75] found that the integration of all essential care activities within teams enables them to execute the entire care process and to increase the focus on comprehensive client care. Drennan et al. [78], Lalani et al. [77], and Bowers and Nolet [47] all observed that teams with less specialization had a higher quality of care than traditional teams. Clients were satisfied with the continuity of care, length of time spent with them, and familiarity with the team members because of their in-depth understanding of the client's needs [47, 77, 78]. Bowers and Nolet [47] observed a higher quality of working life as a result of broad team tasks.

One of the less desirable consequences of broad tasks is that teams faced challenges in task completion and experienced stress, because of the many tasks and responsibilities they were assigned to – both declining quality of care and quality of working life [47]. Although teams are capable of carrying out a wide range of care and non-care-related tasks, Cohen et al. [46] and Wynendaele et al. [79] propose that the optimal distribution of operational tasks, inside or outside of these teams, varies among different cases.

#### *Allocating care tasks outside of teams*

Specialized care activities are often distributed outside of the teams, as illustrated by the concept of a 'clinical support team' [43, 46, 47], overseeing clients across multiple teams [62]. The clinical support team can include clinical specialists such as physicians, therapists, dieticians, and social workers [47] with nurses occasionally included as well [43]. In the study by Rabig et al. [43], the clinical support team was responsible for care planning, completing the Minimum Data Set (MDS), providing clinical care, and serving as a resource for the self-organizing teams and the clients. Given this specialization, Cólon-Emeric et al. [42] and Rabig [59] stress the importance of effective coordination and communication between teams and a clinical support team, both during routine collaboration [47, 62] and in nonroutine situations such as emergencies [45]. To improve the collaboration between teams and clinical support teams, Bowers and Nolet [47] and Rabig [59] mention that providing them with shared tasks and responsibilities, such as planning, providing care, and contacting families, was helpful. Relatedly, Cott [65] discerned that parallel tasks, as opposed to shared tasks, foster independence in task performance, which reduces the need for coordination and collaboration.

Bowers and Nolet [47] and Bowers et al. [62] discuss that the quality of care is compromised when there is insufficient communication and collaboration between teams and clinical specialists. Without effective collaboration, clinical specialists may miss out on vital information, resulting in unnoticed clinical issues that could lead to delayed or insufficient responses [47, 62]. Inadequate communication and collaboration between teams and clinical specialists can also have adverse effects on the quality of working life. For example, Cólon-Emeric et al. [42] observed that teams tended to have restricted responsibility for clients and limited autonomy in participating in clinical problem-solving. Effective communication and collaboration between teams and clinical specialists resulted in the timely detection of client condition changes, thereby enhancing the quality of care [42, 47]. The quality of working life improved as well because team members were more satisfied with their jobs and experienced more learning opportunities through collaboration with clinical specialists [47].

#### *Allocating non-care-related tasks outside of teams*

Several studies address the allocation of non-care-related tasks to teams. Monsen and de Blok [72], Lalani et al. [77], and Green [45] all discuss cases in which the majority of non-care-related tasks are distributed to teams, including scheduling, administration, team finances, and equipment procurement. A substantial reduction in administrative staff can be established by (re)distributing non-care-related tasks to teams, as described by Monsen and de Blok [72] and Green [45]. Even so, studies also discuss the role of a 'back-office' (taking care of some of the non-care-related tasks) and studies devote specific attention to the question whether 'scheduling' should be allocated to a team or not.

In some studied long-term care organizations, a small back office still exists that offers administrative support [45, 72]. In other long-term care organizations, the back office performs a greater number of non-care-related tasks such as scheduling, supply procurement, billing, and accounting [43, 46]. The back-office support was described by some teams as lacking consistency and adequacy [46]. As a consequence of inadequate back office support, tasks such as equipment procurement were perceived as a burden by the teams in the study of Lalani et al. [77]. Klaassen et al. [68] suggest that the quality of care could be compromised if teams are not properly supported by the back office.

Fourteen studies explicitly addressed the non-care-related task 'scheduling'. In most cases, scheduling was distributed to the teams or a dedicated planner within a team [77, 79]. According to Wynendaele et al. [79], allocating scheduling to teams reduces their reliance on others and encourages them to assess how care is organized, provided that a decentralized way of working is in place. This increased autonomy is associated with improvements in ownership and accountability, contributing to a higher quality of working life. Lalani et al. [77] similarly found that teams experience greater satisfaction from managing their own schedules. Klaassen et al. [68] found that teams with a lack of influence over scheduling encountered hindrances such as insufficient time allocated for client visits, allowing little time for non-care-related activities.

However, scheduling was also described as the most undesirable task [46]. Lalani et al. [77] argued that there is a risk that only a few team members feel confident to perform these non-care-related tasks placing a disproportionate burden on them. In addition, Cohen et al. [46] noted that teams felt overburdened by the scheduling responsibility, resulting in a lower quality of working life.

### Formalization

Five studies [50, 57, 58, 61, 79] address how 'formalization' influences self-organizing team success. In particular, these studies identified different degrees of formalization in terms of the number of existing rules, policies, and procedures and in terms of the flexibility of these rules, policies, and procedures.

#### *Low number of rules, policies, and procedures, and high flexibility*

Forbes-Thompson et al. [58] discuss that applying existing policies and procedures flexibly enabled staff to find the best solutions to fulfill the unique needs of clients while recognizing the importance of systematic care delivery. Additionally, Bowers et al. [61] noted that allowing experimentation with new concepts that deviated from existing policies and procedures contributed to easier problem-solving. Having fewer and more flexible rules can foster increased creativity in fulfilling the needs of clients, thereby improving the quality of care [57, 58]. The psychosocial well-being of clients may benefit from less explicit protocols and guidelines, as argued by Zinn et al. [50], because tasks related to psychosocial well-being are often 'nonroutine' tasks, meaning that there are numerous exceptions, and the tasks cannot be simplified into a series of well-understood steps. Furthermore, Forbes-Thompson et al. [58] showed that the quality of working life improved as a result of fewer and more flexible rules that increase teams' autonomy.

#### *High number of rules, policies, and procedures, and low flexibility*

Forbes-Thompson et al. [58] revealed that a higher number of policies, audits, and other methods to formalize ways of working amplified the potential for errors and compromised the quality of care. Anderson et al. [57] discovered a higher level of formalization in long-term care organizations where immobility-related complications were more prevalent. However, according to Zinn et al. [50], explicit protocols and guidelines can result in a lower prevalence of negative physiological outcomes such as pressure ulcers because these relate to more 'routine' tasks. This means that there are few exceptions, and the tasks can be simplified into a set of well-understood steps. Imposing top-down regulations on teams without input from the teams impedes problem-solving, resulting in issues such as the development of new forms, additional procedures, and exacerbation of the problems [58]. For instance, a solution implemented without team input, necessitated the team to document bowel movements across three different systems. This approach led to additional work, further perpetuating and worsening the problem. Additionally, Wynendaele et al. [79] observed that rigid rules obstructed a team from effectively creating schedules.

### Functional concentration

Twenty-seven of the included studies addressed how 'functional concentration' facilitates or hinders team success. Three forms of functional concentration are distinguished: the number and type of clients, allocated to (1) a team, (2) individual team members, and (3) being involved in several teams.

#### *Number and type of clients allocated to teams*

Nine studies described that units in small-scale models are grouped based on client characteristics such as geographical area or type of condition [30, 78]. In small-scale residential care homes, teams are commonly assigned to a minimum of 7 and a maximum of 12 clients who are grouped in a home or 'household' [43, 56], while in large traditional models, a home encompasses 24 to 50 clients [46]. The teams in small-scale care models are generally smaller than traditional teams; often consisting of 12 or fewer care professionals [72].

Several studies, including Drennan et al. [78] and Cohen et al. [46], showed that smaller teams assigned to fewer clients resulted in an improved overview of clients' whereabouts and more focus on the complete care process of clients. In contrast, Roberts [69] and Lalani et al. [77] describe a possible pitfall of small teams assigned to a subset of clients: the workload might exceed the capacity of the available team members. In emergencies, such as clients falling or passing away, the limited number of team members may hinder their ability to provide care for all the clients they are assigned to [69].

Bowers et al. [62] observed that by being assigned to fewer clients, teams were able to gain greater familiarity with the clients, as opposed to traditional models where teams lacked a stable assignment to clients. Moreover, Lemke et al. [49] found that greater familiarity contributes to reduced anxiety in clients and more predictable care routines. Team members in the study of Cohen et al. [46] highlighted the benefits of the small-scale model, particularly in terms of staff responsiveness and efficiency.

#### *Number and type of clients allocated to team members*

Several studies address the issue of consistent and rotating assignment of team members to clients. Whereas consistent assignment involves the daily or near-daily allocation of team members to the same or a fixed set of clients to minimize the number of team members related to clients, rotating assignment entails that team members do not have a dedicated set of clients and can be assigned to different clients at different moments in time [49].

According to Andersen and Spiers [70] the type of assignment, consistent or rotating, determines how closely related team members are to clients and each other. Assigning team members consistently to specific clients was found to create a division among team members [70], which is due to the exclusive focus on their designated clients. This led to a reduced need for information sharing about clients and cooperation among team members. Consequently, team members were less capable and willing to collaborate in delivering care services [49, 70]. Lemke et al. [49] discovered that attaining consistent assignment was particularly difficult for teams assigned to clients with higher care needs. These clients, who have challenging physical and/or psychological needs, may necessitate the involvement of two team members or continuous one-on-one supervision from multiple team members. However, this is complicated by the limited collaboration among team members as they are dedicated to their own assigned clients [49].

Moreover, Andersen and Spiers [70] demonstrated that too much division between team members, as a result of extensive consistent assignment, decreased the quality of care. Their research indicated that feelings of loneliness, isolation, and uncertainty compromised the quality of care because team members exhibited reduced concern for their clients, diminished tolerance, and increased exhaustion. Furthermore, the division among team members eroded their familiarity with clients they were not assigned to [70]. Consequently, clients may suffer as they have to wait until their team member provides care because often other team members are reluctant to assist [70].

Yet, consistent assignment also enhanced team members' ability to understand clients' preferences and needs, which contributed to an enhanced quality of care, as evidenced by increased client engagement in activities, extended time spent outside of bed, and a reduced likelihood of missing appointments by clients [49]. Koren [51] and Heyer et al. [66] similarly suggest that consistent assignment contributes to improved familiarity between teams and clients, creating conditions for enhanced quality of care. Heyer et al. [66] also emphasize that consistent assignment enhances the continuity of care.

Andersen and Spiers [70] and Lemke et al. [49] revealed increased responsibility and autonomy for teams in monitoring and reporting changes in clients' conditions, enhancing the quality of working life as a result of consistent assignment. However, Andersen and Spiers [70] show that too much responsibility and autonomy can be perceived as added pressure, lowering the quality of working life. Additionally, Lalani et al. [77] show that a substantial caseload can overwhelm teams and thereby reduce the quality of working life. Lemke et al. [49] discovered that consistent assignment combined with a heavy or complicated workload can cause burnout among team members.

#### *Being involved in several teams*

A specific form of non-consistent assignment is when clinical specialists and nurses are not members of self-organizing teams but are related to several teams – and may hence see more and/or different types of clients. Eide et al. [30] found that ideally, executive officers, occupational therapists, and physiotherapists are stable members of multidisciplinary teams, alongside members of self-organizing teams, potentially splitting their time between two teams. In practice, clinical specialists and care professionals commonly oversee multiple teams [46, 64]. Nurses typically oversee two or three teams during the day and often more at night [64, 69]. Bowers and Nolet [47] revealed that nurses encountered difficulties in completing their tasks when they were responsible for more than one team and were often called to another team for client assessment or to address inquiries from families or physicians, which has negative consequences for the quality of care [69].

### Interrelatedness and reciprocal outcomes

Several studies [44, 50, 62, 66] discuss the organization structure characteristics in conjunction. Bowers et al. [62], Brune [44], and Heyer et al. [66] describe initiatives such as Eden Alternative and Green House that integrated multiple structure characteristics: consistent assignment (low functional concentration), empowering frontline care teams (decentralization), and universal and broad tasks of frontline care teams (low specialization). The combination of these structure characteristics resulted in a heightened quality of care in the study of Heyer et al. [66], because self-organizing teams were more responsive and personal relationships improved. Figure 2 presents an overview of our results.

## Discussion

To our knowledge, this is the first review to identify and synthesize the role of the organization structure on self-organizing team success in long-term care organizations. Four characteristics commonly used to describe organization structure were employed to synthesize the findings: centralization, specialization, formalization, and functional concentration. The findings indicate that a higher degree of these characteristics generally hinders team success, meaning lower quality of care and lower quality of working life. Conversely, a lower degree of these characteristics facilitates self-organizing team success, meaning higher quality of care and higher quality of working life.

Nevertheless, the findings also highlight that structure characteristics can reach detrimentally low degrees

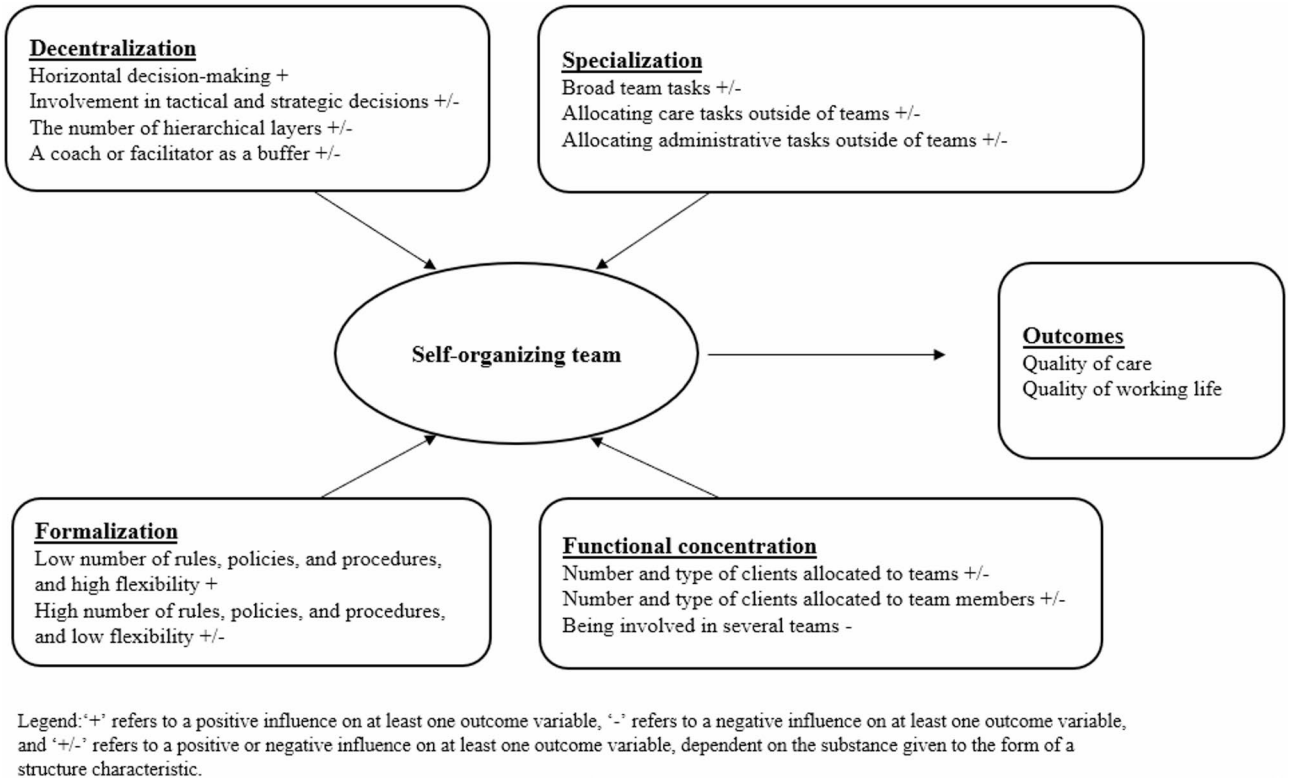


**Fig. 2** Overview of results

when too many tasks and responsibilities are allocated to the teams, diminishing self-organizing team success. In accordance with organization theory [11], studies in this review [46, 78] suggest that assigning smaller teams to fewer clients is beneficial. However, consistently assigning team members within a team to specific clients, especially in combination with a heavy or complicated workload, can foster division among team members leading to feelings of loneliness and isolation [49, 70]. Another example is that allocating non-care-related tasks to teams is desirable, but the number of additional tasks can impede task completion [47], or overburden the team [46, 77].

Although it is difficult to prespecify which tasks and responsibilities can be allocated to self-organizing teams, there are two potential solutions to prevent or deal with issues arising from task and responsibility allocation to the teams. First, it is recommended to consider the team's maturity. Self-organizing teams develop at different paces; whereas some teams may swiftly adjust to take on decision-making authority, others may progress more gradually [24]. Second, the use of a supportive infrastructure, including the necessary knowledge and skills of team members and ICT systems, is important [23]. For instance, part of the reason for the success of self-organizing teams at Buurtzorg is attributed to the supportive ICT systems. These ICT systems enable self-organizing teams to efficiently plan and document care, thereby reducing the time needed for these tasks [72].

Another interesting finding is the nuanced approach to the level of formalization, which should vary depending on the nature of the task [50]. Zinn et al. [50] suggest that non-routine tasks may benefit from less rigid protocols due to their inherent complexity and variability. Conversely, routine tasks with fewer exceptions can be standardized more easily and may benefit from explicit protocols and guidelines. Even though this has been known since 1995, more recently published studies addressing the role of formalization on self-organizing teams [58, 79] still found practices that did not adhere to this rule of thumb.

Based on organization and configuration theory [11, 21, 26, 80], we expected to find two elements in the included studies, but these were not addressed: (1) formalization, and (2) the interrelation between the four structure characteristics. Firstly, organization theory [11, 26] highlights formalization as a fundamental characteristic of the organization structure. Notably, only five studies included in the review mentioned formalization. Given that the administrative burden is a major challenge for self-organizing teams in long-term care settings, we would have expected more studies to examine the role of formalization in this context. Secondly, configuration theory [21, 80] proposes that the combination of structure

characteristics matter. Rather than looking at structure characteristics in isolation, it is important to consider how these characteristics interact with each other and thereby contribute positively or negatively to self-organizing team success. Even though several included studies [44, 66] discuss well-known initiatives such as Eden Alternative and Green Houses, that consistently treat a combination of structure characteristics: consistent assignment (low functional concentration), empowering frontline care teams (decentralization), and universal and broad tasks of frontline care teams (low specialization), they do not explicitly address the interrelation between these structure characteristics. Future research might examine these elements from a structure perspective.

### Strengths and limitations

A strength of this review is the thorough search strategy, which facilitated the synthesis of fragmented research on different structure characteristics in long-term care organizations and their role in team success. There are also several limitations to consider. First, our study did not differentiate between home and residential care settings. We considered it appropriate to include both settings, as the nature of the tasks and the way tasks and responsibilities are defined and allocated to individuals and units appear to be relatively similar—especially in comparison to other settings such as hospitals. In home care settings, such as Buurtzorg, care tasks are typically performed independently, but team members rely on each other for various team tasks, such as discussing difficult situations, distributing the workload, developing care plans, and handling administrative duties such as scheduling [8]. This is similar to residential care settings [29]. However, it is important to note that these settings can differ, particularly in the degree of team presence during daily care activities. For example, in residential care, the team is in close proximity at all times, even when tasks are performed individually, whereas in home care, the team is less present as team members are often more dispersed. Future research should explore these differences to better understand how organizational structure choices can support or hinder the unique requirements of self-organizing team success in each setting. Second, we did not explicitly distinguish between the evidence from qualitative, quantitative, mixed-method, review, and text and opinion studies. Our intention was to synthesize insights across various methodologies to offer a comprehensive perspective on the role of structure characteristics in self-organizing team success in long-term care organizations. Nevertheless, we recognize that the nature of the evidence could influence the interpretation of our findings. We recommend that future research investigate how different study designs influence the understanding of how structure characteristics influence self-organizing team success in long-term care. Third, the deliberate selection of the four structure characteristics provided a structured framework for analysis, capturing key structure characteristics alongside various specifications of these broader categories. However, this deductive approach may have limited the exploration of other possible specifications of the structure characteristics. Future research could benefit from a more comprehensive, inductive methodology, which would allow for a wider exploration of potential specifications that might emerge from the data. Ultimately, by only including articles published in English and despite utilizing an extensive array of keywords and index terms (such as MeSH terms) and collaborating with a specialized librarian, some studies might have been missed. Notwithstanding the limitations of this study, the results provide strong evidence for the critical role of various structure characteristics in team success within long-term care organizations, as many included studies are high-quality empirical studies – complemented by expert opinions and personal experiences.

## Conclusion

While self-organizing teams hold promise for enhancing the quality of care and improving the quality of working life, they are not always successful in practice. This integrative systematic review highlights the importance of organization structure characteristics for self-organizing team success in long-term care organizations. In general, lower degrees of structure characteristics are more conducive to self-organizing team success whereas higher degrees can be obstructive. However, it is possible to have 'too much of a good thing', underscoring the need for a nuanced approach to the allocation of tasks and responsibilities within and outside of self-organizing teams.

## Supplementary Information

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Supplementary Material 1. Search Strategy.

Supplementary Material 2. Quality Appraisal.

Supplementary Material 3. Codebook.

Supplementary Material 4. PRISMA 2020 checklist.

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**Authors' contributions**

LH: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing, Visualization, Project administration. DV: Conceptualization, Methodology, Writing – original draft Writing – Review & Editing, Project administration. LV: Conceptualization, Methodology, Writing – Review & Editing, Project administration. DG: Conceptualization, Writing – Review & Editing, Supervision. PV: Conceptualization, Writing – Review & Editing, Supervision. All authors read and approved the final manuscript.

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The authors declare no competing interests.

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