

The Care of Older Adults Experiencing Cognitive Challenges: How Interprofessional Teams Collaborate*

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ABSTRACT

We conducted a scoping study to examine how interprofessional health care teams improve the outcomes of older adults experiencing cognitive challenges. We searched Ovid, Medline 1946, and MEDLINE In-Process and other non-indexed citations, using the concepts multi or interdisciplinary care teams, confusion or cognitive impairment, and elderly adults. Of 4,554 articles the review yielded, 34 relevant to our inquiry, using Arksey and O'Malley's methodological framework. Twenty-nine per cent of authors reported on the processes interprofessional teams use to achieve positive outcomes for older adults. They highlighted the importance of communication, staff strategies, and education interventions in achieving outcomes with older adults and in supporting interprofessional collaboration. The review revealed knowledge gaps about the processes teams use to collaborate in caring for older adults experiencing cognitive challenges, and how to best incorporate older adults and their families' perspectives in team decisions. More research to understand processes interprofessional teams use is needed.

RÉSUMÉ

Nous avons réalisé un examen de portée pour évaluer comment les équipes interprofessionnelles en santé permettent d'améliorer l'état de santé de personnes âgées affectées par des défis cognitifs. Nous avons effectué notre recherche dans les bases Ovid, Medline 1946 et MEDLINE *In-Process & other non-indexed citations*, en utilisant trois principaux concepts : équipes de soins multidisciplinaires ou interdisciplinaires, confusion ou trouble cognitif, personnes âgées. L'examen de portée a rassemblé 4554 articles. Le cadre méthodologique d'Arksey et O'Malley's a été utilisé pour examiner 34 articles jugés pertinents pour le sujet à l'étude. Bien que 71 % des auteurs n'ont pas rapporté les processus utilisés par les équipes interprofessionnelles pour atteindre des résultats positifs chez les personnes âgées affectées par des défis cognitifs, cela a été réalisé par 29 % des auteurs, qui ont souligné l'importance de la communication, des stratégies d'implication du personnel et des formations pour appuyer la réussite des soins sur le plan des résultats escomptés chez les personnes âgées et pour fournir un soutien adéquat pour la collaboration interprofessionnelle. L'examen de portée a mis en évidence des lacunes dans les connaissances actuelles concernant les processus utilisés par les équipes interprofessionnelles pour collaborer en vue de la prestation de soins aux personnes âgées affectées par des défis cognitifs, et les défis de l'incorporation optimale des perspectives des personnes âgées et de leur famille dans les décisions d'équipe. Davantage d'études sont nécessaires pour comprendre les processus utilisés par les équipes interprofessionnelles dans le cadre de la communication entre les membres de l'équipe, mais aussi pour celle liée aux autres cliniciens, aux personnes âgées et à leur famille.

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Older adults are the majority of health care recipients in a wide range of health care contexts (Denton & Spencer, 2010). Caring for the older population is complex as a result of atypical presentations of acute illness, underlying chronic diseases associated with reduced physical and cognitive function, and precarious health conditions subject to rapid deterioration (Arbaje et al., 2010; Fedarko, 2011; Hartgerink et al., 2014). These factors often present as an acute confusion – known as delirium (Holroyd-Leduc, Khandwala, & Sink, 2010). Delirium (a symptom of an acute illness), depression, and dementia (a chronic condition) can all present in older adults as confusion, complicating assessment of their needs and their care (Arbaje et al., 2010; Holroyd-Leduc, Khandwala, & Sink, 2010). Evidence suggests that the expertise of multiple disciplines is particularly important when health needs and social circumstances are complicated, as is the case with an aging population (Arbaje et al., 2010; Hartgerink et al., 2014; Johansson, Eklund, & Gosman-Hedstrom, 2010). However, older adults who are experiencing confusion (from delirium, dementia, or depression) are at risk of becoming confused and challenged in answering questions posed by multiple professionals. Although there are potential benefits to interprofessional team involvement in older adult care, it is not well understood how teams collaborate with one another (Reeves, Lewin, Espin, & Zwarenstein, 2010) and how this collaboration affects the care of older adults experiencing cognitive challenges.

Background

Interprofessional teams have gained widespread acceptance as important to the provision of quality care, safety, and efficiencies within health care settings (Health Canada, 2007; World Health Organization, 2010; Reeves et al., 2009b). Teams consisting of more than one discipline have been called a variety of names, with the term interprofessional being used more consistently since the 2000s (Paradis & Reeves, 2013). *Collaboration* has also been used to describe a variety of processes among more than one discipline, from parallel practice with consultation to full team integration (Perreault & Careau, 2012). In this study, we have used the term interprofessional and define *interprofessional collaboration* as two or more disciplines communicating with one another about older adults' care (Fox & Reeves, 2015).

Interprofessional collaboration has been identified as an important factor in preventing adverse effects within health care institutions (Martin, Ummenhofer, Manser, & Spirig, 2010). Effective interprofessional collaboration is believed to reduce duplication and clinical errors, as well as to enhance the quality of care (Morey et al., 2002; Schmitt, 2001; Schmitt, 2006). After reviewing the literature about patient safety and teamwork, Manser (2009) concluded that although effective teamwork plays an important role in preventing adverse effects, teams require patterns of communication, coordination, and leadership to support their effectiveness. Other scholars suggest that effective team members require social competence and the willingness to share information, negotiate, and solve problems (Mickan & Rodger, 2005).

Professionals are working within complex social, political, and economic health care environments (Essen, Freshwater, & Cahill, 2015; Fox & Reeves, 2015), so it is not surprising that there are challenges associated with interprofessional collaboration. For example, professionals' patterns of behaviour (or routines) differ from one another, which makes effectively collaborating with one another a formidable effort (Duner, 2013; Elissen, van Raak, & Paulus, 2011). Other challenges include professional hierarchies, insufficient time to effectively collaborate (Reeves et al., 2009a), and team members having different professional knowledge and identity (Baxter & Brumfit, 2008). Consequently, a common language to effectively communicate is lacking (Mickan & Rodger, 2005), which explains why there are reported challenges with communication and collaboration among interprofessional team members (Reeves, 2012; Rowlands & Callen, 2013).

Scholars have developed a theoretical framework to reflect that relational, processual, organizational, and contextual issues all influence interprofessional teamwork (Reeves et al., 2010). Reeves et al. (2010) suggested that relational issues include professions' use of power, team roles, processes, and/or composition. Processual issues include the time and space to meet, routines, urgency of the patient/client needs, and/or tasks being shifted to less educated health care workers. Organizational issues include the support within the institution for teamwork and professional representation. Contextual issues include gender, the diversity of

the team, and/or the organizational or unit culture. These complex issues underpinning interprofessional collaboration could explain why, despite four decades of research, an understanding of the processes by which professionals collaborate (the how) is missing from the literature (Jones & Jones, 2011; Lemieux-Charles & McGuire, 2006; Paradis et al., 2014; Reeves et al., 2010). Also missing is the impact of interprofessional collaboration on outcomes of older adults with cognitive challenges – those experiencing delirium, dementia, depression, or any combination of these conditions.

The aim of this study was to conduct a scoping review of the literature to examine how interprofessional teams are able to improve outcomes for older adults experiencing cognitive challenges. In other words, we were interested in the processes that interprofessional teams use to collaborate with one another to achieve positive outcomes with these older adults in community, long-term care, and acute care settings.

Methods

We conducted a scoping review of the literature to map out and identify the extent, range, and nature of research activity by interprofessional health care teams in their reported successes caring for older adults experiencing cognitive challenges, as well as to identify research gaps in the existing literature (Levac, Colquhoun, & O'Brien, 2010). The review followed Arksey and O'Malley's (2005) methodological framework for scoping reviews. The stages in this framework included (1) identifying the research aim and questions; (2) identifying relevant studies; (3) selecting the studies; (4) charting the data; and (5) collating, summarizing and reporting the results. In stage one, our broad research aim was "how do interprofessional health care teams improve the outcomes of older adults experiencing cognitive challenges?" (Levac et al., 2010). To help us identify the elements that could influence interprofessional teams' success, we identified the following questions to guide our data collection and analysis:

- 1) What team composition(s) influences positive outcomes?
- 2) What did the teams consider as positive outcomes?
- 3) What fostered teams' success?
- 4) What constrained teams' success?
- 5) How were older adults and their families' perspectives included?

In stage two, we applied three main concepts to search: multidisciplinary or interdisciplinary care teams, confusion or cognitive impairment, and older adults. The databases we searched were Ovid, Medline 1946, and MEDLINE In-Process & other non-indexed citations, Ovid Embase 1974, Ovid PsycINFO 1806, Ovid EMB Reviews, Cochrane Central Register for Controlled

Trials, EBSCOhost CINAHL, Conference Proceedings Citation Index – Science 1990, Conference Proceedings Citation Index – Social Science & Humanities 1990 SocINDEX, Academic Search Complete and Web of Science. In retrieving literature from our searches, we used appropriate subject headings and keywords. Table 1 lists our search strategies and terms.

Inclusion and Exclusion Criteria

Inclusion criteria included research studies related to interprofessional health care teams and older adults with cognitive challenges – those with delirium, dementia, or depression. Articles in the English language and published between the years 1966 and 2015 were included. Articles that were protocols of a proposed study, or reported on educational interventions with health care teams, or opinion papers were excluded.

Applying the Criteria

Two researchers (SD and MS) independently reviewed the titles and abstracts of all the articles. Full text review and hand searches of references were then performed by the first two authors. In systematic review articles and Cochrane reviews, primary studies were examined for appropriateness using the inclusion criteria (Figure 1).

Data Extraction

Data were charted using a tailored data extraction form, identifying the purpose of the article, method, results, and comments about the processes that the interprofessional teams used to ascribe success in working with older adults experiencing cognitive challenges (Table 2).

Table 1: Search terms

| |
|--|
| Patient Care Team |
| Interprofessional relations |
| Interdisciplinary communication |
| Physician-nurse relations |
| Professional-family relations |
| Intercollaborative or inter-collaborat* |
| Inter-professional or interprofessional |
| Healthcare team or health care team |
| Interprofessional or inter-professional |
| Multidisciplin* or multi-disciplin* or integrated care |
| Intercollaborative or inter-collaborat* |
| Inter-professional or interprofessional |
| Healthcare team or health care team |
| Family or families or caregiver |
| Dementia or Cognition Disorders or Hydrocephalus, Normal Pressure or Korsakoff Syndrome or Parkinson Disease |
| Alzheimer or cognitive impairment or Lewy bodies or Creutzfeldt-Jakob |
| Confusion or delirium, or dementia |
| 65 and over, senior, elder, or geriatric |

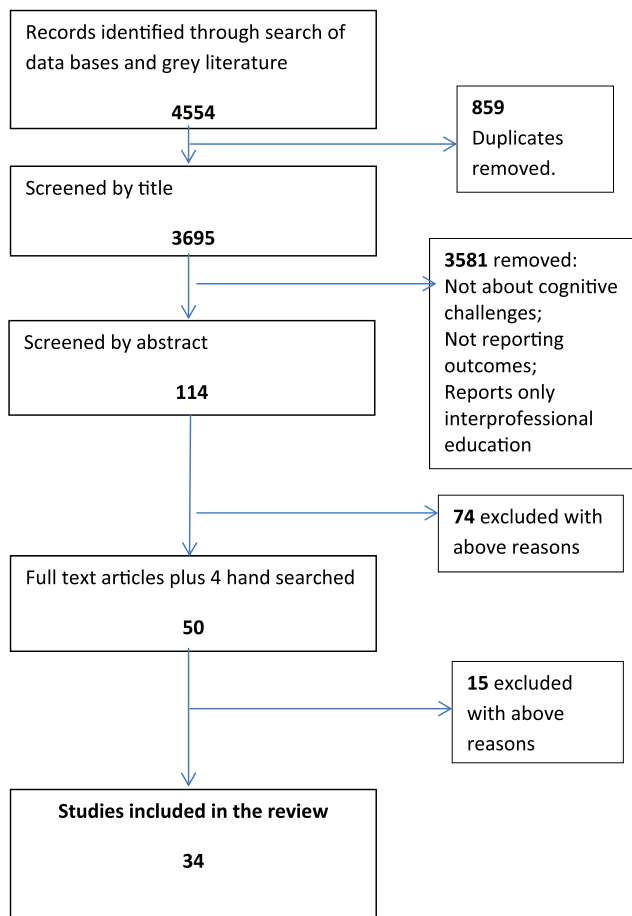


Figure 1: Process of Scoping Review

Data Analysis

We then collated data to determine settings, countries, and what types of studies were represented. The research team met to discuss and critically analyse how the data could be used to understand the processes interprofessional teams used, as well as to answer our questions about team composition, what were considered positive outcomes, what fostered teams' success, what constrained their success, and whether older adults and their families' perspectives were included, and if so, how.

Results

We conducted the search on November 10, 2014 and updated it in August of 2015. In total, we retrieved 4,554 articles. Of these, 859 were duplicates. Following exclusions (Figure 1), a total of 34 articles were included. Of these, 27 were randomized/controlled trials, five evaluations, and two quasi-experimental studies. Four articles reported data from two studies (Deschodt et al., 2011; Deschodt et al., 2012; Shyu et al., 2012; Shyu et al., 2013). The articles represented studies conducted in different countries. We obtained 11 from the United

States (Allen et al., 1986; Bellantonio et al., 2008; Callahan et al., 2006; Campion, Jette, & Berkman, 1983; Chapman & Toseland, 2007; Dellasega, Salerno, Lacko, & Wasser, 2001; Inouye et al., 1999; Kratz, 2008; Sandhaus et al., 2010; Saltz, McVey, Becker, Feussner, & Cohen, 1988; Winograd, Gerety, & Lai, 1993); four from Australia (Crotty et al., 2004; Llewellyn-Jones et al., 1999; Mudge, Mauseen, Duncan, & Denaro, 2012; Opie, Doyle, & O'Connor, 2002); one from Brazil (Christofoletti et al., 2008); one from Taiwan (Shyu et al., 2012; Shyu et al., 2013); one from Canada (Cole et al., 2002) and 14 from European countries. The European countries' studies were represented by three from the Netherlands (Boorsma et al., 2011; van der Marck et al., 2013; Leontjevas et al., 2013); three from England (Banerjee et al., 2007; Lloyd-Williams & Payne, 2002; O'Connor et al., 1991); two from Sweden (Schmidt et al., 1998; Stenvall et al., 2012); one from Finland (Huusko et al., 2000); two from Belgium (Deschodt et al., 2011; Deschodt et al., 2012; Milisen et al., 2001); one from Germany (Kircher et al., 2007); one from France (Villars et al., 2013); and one from Italy (Sindaco et al., 2012).

The study breakdown developed as follows: (1) Five studies were related to community-dwelling older adults, (Banerjee et al., 2007; Callahan et al., 2006; van der Marck et al., 2013; O'Connor, Pollitt, Brook, Reiss, & Roth, 1991; Sindaco et al., 2012); (2) 23 studies concerned hospitalized older adults (Allen et al., 1986; Campion et al., 1983; Cole et al., 2002; Dellasega et al., 2001; Deschodt et al., 2011; Deschodt et al., 2012; Huusko, Karppi, Avikainen, Kautiainen, & Sulkava, 2000; Inouye et al., 1999; Kircher et al., 2007; Kratz, 2008; Milisen et al., 2001; Mudge et al., 2012; Saltz et al., 1988; Sandhaus et al., 2010; Shyu et al., 2012; Shyu et al., 2013; Stenvall, Berggren, Lundstrom, Gustafson, & Olofsson, 2012; Villars et al., 2013; Lloyd-Williams & Payne, 2002; Winograd et al., 1993); and (3) eight studies related to long-term care or assisted living (Bellantonio et al., 2008; Boorsma et al., 2011; Chapman & Toseland, 2007; Christofoletti et al., 2008; Crotty et al., 2004; Leontjevas et al., 2013; Llewellyn-Jones et al., 1999; Opie et al., 2002; Schmidt, Claesson, Westerholm, Nilsson, & Svarstad, 1998).

The results reflect our inquiry into interprofessional team composition, successes and challenges identified by teams, team processes (how they collaborated), and how older adults and their families' perspectives were taken into account.

Team Composition(s)

Team composition varied, with 10 studies (31%) describing geriatric consultation teams and 19 (59%) describing programs or approaches to care that had been developed by an interprofessional team. Three of

Table 2: How interprofessional teams collaborate in the care of older adults experiencing cognitive challenges: A scoping review

| Author, Year, Title | Methodology | Results | Comments |
|--|--|--|---|
| Van Der Marck et al., 2013 Effectiveness of multidisciplinary care for Parkinson's disease: A randomized, controlled trial | RCT to determine if a team approach offered better care than care by one general neurologist. | Quality of life, improved psychosocial functioning, and decreased depression in the Parkinson patients who received the team approach. | Indicated that the team came up with the plan and nurses and social workers implemented the plan. Does not provide information about team processes. |
| Shyu et al., 2012 Two-year effects of an interdisciplinary intervention on recovery following hip fracture in older Taiwanese with cognitive impairment | RCT post hoc analysis to evaluate the effects of a team approach on recovery of cognitively impaired older adults following hip fracture. | Cognitively impaired older adults improved their walking and physical function when they received the team approach. | Many disciplines working parallel at the same goal. No information about the process disciplines used to collaborate. |
| Villars et al., 2013 A follow-up intervention in severely demented patients after discharge from a special Alzheimer acute care unit: Impact on early emergency room re-hospitalization rate | Quasi-experimental design to identify the emergency room re-admission rate following a multidimensional geriatric intervention for older adults with severe dementia. | A non-significant decrease in early emergency room readmission rates. | The team provided individualized care plans after discharge and made follow-up phone calls and visits. A resource person (caregiver, or nurse) was a contact person to ensure that the care plan was followed. |
| Leontjevas et al., 2013 A structural multidisciplinary approach to depression management in nursing-home residents: A multicentre, stepped-wedge cluster-randomised trial | A stepped wedge cluster randomized trial was used to explore the effects of a structural approach to managing depression in dementia patients. | Patients experienced an increase in quality of life and decrease in depression when the approach was adhered to by the care team. | Many disciplines worked in parallel to one another. No information to indicate how the team collaborated with one another or the care team. |
| Christofolletti et al., 2008 A controlled clinical trial on the effects of motor intervention on balance and cognition in institutionalized elderly patients with dementia | A longitudinal study, randomized trial, to analyse the effects of two motor interventions on the cognitive functions and on the balance of institutionalized elderly people with mixed dementia. | Patients' balance was improved by multidisciplinary or physiotherapeutic intervention. However, cognitive function was not improved on any of the group. | Team consisted of a physical therapist and an occupational therapist. No details on how they collaborated. |
| Stenvall et al., 2012 A multidisciplinary intervention program improved the outcome after hip fracture for people with dementia subgroup analyses of a randomized controlled trial | RCT to investigate whether a multidisciplinary postoperative intervention program could reduce postoperative complications and improve functional recovery among people with dementia. | Fewer complications such as UTI, nutritional problems and post-op delirium in intervention group. | Staff worked in "teams" to apply care planning and rehabilitation. Teams included PT, OT, nurse, and physician. No information about team processes or how they collaborated. |
| Llewellyn-Jones et al., 1999 Multifaceted shared care intervention for late life depression in residential care: Randomised controlled trial | RCT to evaluate the effectiveness of a population-based, multifaceted shared care intervention for late life depression by comparing it with routine care. | Improved cognition and treatment of depression in nursing home in the intervention group. | The multidisciplinary team consulted and collaborated with carers; however, no discussion about how this happened. The team also trained GP and carers in detecting depression and held education programs for residents. |
| Cole et al., 2002 Systematic detection and multidisciplinary care of delirium in older medical inpatients: A randomized trial | RCT to determine whether systematic detection and multidisciplinary care of delirium in older patients admitted to a general medical unit could reduce time to improvement in cognitive status. | The study did not find any benefits of the intervention in terms of reducing the time to improvement in cognitive status. Results were modest and not statistically significant than usual care for older patients | Consultation and follow-up by geriatric internist or psychiatrist and follow up in hospital by study nurse. Intervention team met after every 8-10 patients were enrolled in intervention group to discuss management plan. No information about how they collaborated. |

Continued

Table 2: Continued

| Author, Year, Title | Methodology | Results | Comments |
|--|---|---|---|
| Bellantonio et al., 2008 Efficacy of a geriatrics team intervention for residents in dementia-specific assisted living facilities: Effect on unanticipated transitions | RTC to determine whether a geriatric team intervention minimizes unanticipated transitions from assisted living for persons with dementia. | The team intervention did not significantly reduce the risk of transitions for patients with dementia. | The entire team and the staff nurse met bimonthly to discuss the most recent assessment and provide recommendations to the primary care physician, facility director, and families. |
| Sindaco et al., 2012 Role of a multidisciplinary program in improving outcomes in cognitively impaired heart failure in older patients | RTC to investigate the influence of cognitive impairment on outcome of older HF patients and the effectiveness of an integrated hospital-based multidisciplinary program in patients with cognitive impairment. | Multidisciplinary programs improve outcomes in heart failure patients through reduction of hospital admission related to heart failure. | Multidisciplinary team consisting of cardiologist, specialized nurse, and primary care physician implemented this program. Does not indicate team processes or how they implement the program. |
| Inouye et al., 1999 A multicomponent intervention to prevent delirium in hospitalized older patients | A controlled clinical trial to compare the effectiveness of a multicomponent strategy for reducing the risk of delirium with that of a usual plan of care for hospitalized older patients. To determine the level of adherence to the intervention protocol, and measure the effect of the intervention on the targeted risk factors. | The strategy led to decreased incidence of delirium and decreased severity of delirium. | The team was used to develop the intervention. No information about how it was developed or team processes that may have contributed to the success of the program. |
| Deschodt et al., 2012 Preventing delirium in older adults with recent hip fracture through multidisciplinary geriatric consultation | Controlled trial to evaluate the effect of inpatient geriatric consultation team (IGCT) on delirium and overall cognitive functioning in older adults with hip fracture. | Geriatric consultation resulted in a 30% lower incidence of postoperative delirium. | Assessment and recommendations were made in a detailed report. Only 2/3 of recommendations were followed. The process by which the consultation team interacted with the care team was not discussed. |
| Deschodt et al., 2011 Effects of an inpatient geriatric consultation team on functional outcome, mortality, institutionalization, and readmission rate in older adults with hip fracture: A controlled trial | Controlled trial to evaluate the effect of an inpatient geriatric consultation team (IGCT) on the length of stay, functional status, mortality, new nursing home admission, and hospital readmission on older adults with hip fractures. | No functional benefits, no impact on length of stay, mortality, hospital readmission, or the need for institutional care. Lack of adherence to the IGCT is likely to have contributed to the negative findings. Approximately one third of recommendations were not adhered to and 10% only partially. | The team communicated through a detailed written report and IGCT discussed the recommended course in weekly meeting. The process by which the consultation team interacted with the care team was not discussed. |
| Chapman & Toseland, 2007 Effectiveness of advanced illness care teams for nursing home residents with dementia | Randomized partial crossover design to test if nursing home residents assigned to the advanced illness care teams (AICT) intervention would experience statistically significant decreases in pain, depression, and agitation compared to usual care. | AICT were effective in reducing agitated behaviour and pain but not depression. | Teams had 5 meetings over an 8-week period. Residents and families were incorporated in the planning process. |
| Shyu et al., 2013 Interdisciplinary intervention decreases cognitive impairment for older Taiwanese with hip fracture 2-year follow up | RTC to explore the 2-year postoperative trajectory for cognitive function of older hip fracture patients and cognitive effects of an interdisciplinary intervention. | Intervention group were 75% less likely to be cognitively impaired 6 months post-discharge. | Interdisciplinary team was involved in assessment, rehab, and discharge planning. Does not indicate team processes. |

Continued

Table 2: Continued

| Author, Year, Title | Methodology | Results | Comments |
|--|---|---|--|
| Dellasega et al., 2001 The impact of a geriatric assessment team on patient problems and outcomes | ANOVA was used to evaluate the impact of the interventions of a Geriatric Assessment Team (GAT). Targeted interventions include: fall risk; incontinence; nutritional problems; social problems; cognitive impairment; depression; functional decline; and medication problems. | Implementation rates of the GAT's suggestions were between 44% to 100% depending on the area. The greatest improvements occurred for social problems. Depression interventions led to significant patient improvement over time. Length of stay was not impacted. | The team met weekly to discuss new patients and make recommendations and also evaluate the status of those already enrolled. Authors indicated that frequent team meetings helped to build confidence and motivation to implement recommendation by physician, but did not indicate how. |
| Callahan et al., 2006 Effectiveness of collaborative care for older adults with Alzheimer disease in primary care | Controlled trial to test the effectiveness of a collaborative care model to improve the quality of care for patients with Alzheimer disease. | Intervention patients were more likely to receive cholinesterase inhibitors and antidepressants. They had significantly fewer behavioural and psychological symptoms of dementia as measured by the NPI. Intervention caregivers reported significant improvements in their distress. | The team monitored and made recommendations. Physician and nurse home visits with carers (collaborative care management). Does not indicate how carers interacted with the team only that carers complied with more frequent doctor and nurse visits (intervention group). |
| Schmidt et al., 1998 The impact of regular multidisciplinary team interventions on psychotropic prescribing in Swedish nursing homes | RCT to examine the impact of the use of minimal use of antipsychotics, benzodiazepines, and tricyclic antidepressants with anticholinergic properties. | After 12 months of team meetings there was a significant decrease in the prescribing of antipsychotics, benzodiazepine hypnotics, and antidepressants. Findings suggest that face-to face communication is more effective than interventions focused on physicians. | Team dynamics were not explored. Discussion about how encouragement to participate in the team meeting occurred but does not indicate what that encouragement was. |
| Opie et al., 2002 Challenging behaviours in nursing home residents with dementia: A randomized controlled trial of multidisciplinary interventions | RCT to test the premise that individually tailored psychosocial, nursing, and medical interventions to nursing home residents with dementia will reduce the frequency and severity of behavioural symptoms. | Modest but statistically significant improvements in quality of life. | Consult with MDT (consult took 4 weeks) who provided care plans to staff. Weekly meetings: no further discussion about process. |
| Banerjee et al., 2007 Improving the quality of care for mild to moderate dementia: An evaluation of the Croydon Memory Service model | Service evaluation of the CMS aimed at detection and interventions with dementia. | Those receiving CCM appeared to be experiencing improved quality of life, as well as behavioural and psychological symptoms of the disease. | No information about the team, how they worked, the processes they employed, or anything about the rigor of the evaluation. |
| O'Connor et al., 1991 Does early intervention reduce the number of elderly people with dementia admitted to institutions for long-term care? | Controlled trial to detect early diagnosis and practical help to reduce the number of elderly people with dementia admitted to institutions. | Early intervention did not affect admission rates in subjects who lived with carers. Most relatives of those with early dementia saw this as a normal part of aging and were puzzled by the team's interest. Those individuals who lived alone would not have been known by the authorities had it not been for the intervention. | The team (that seemed to vary in composition over time) made recommendations through personal contact with families. Details about how the team worked with families is not given. The authors indicate that families often refused the intervention, but reasons are not provided. |

Continued

Table 2: Continued

| Author, Year, Title | Methodology | Results | Comments |
|---|--|---|---|
| Boorsma et al., 2011 Effects of multidisciplinary integrated care on quality of care in residential care facilities for elder people: A cluster randomized trial | Cluster RCT to determine the effects of multidisciplinary integrated care on quality of care and quality of life for elderly people in residential care facilities. | The intervention facilities had a significantly higher sum score of the 32 quality-of-care indicators. They also had significantly higher scores for 11 of the 32 indicators of good care in the areas of communication, delirium, behaviour, continence, pain, and use of antipsychotic agents. | 40 meetings during the study period. No report on the process used or how collaboration occurred. |
| Crotty et al., 2004 An outreach geriatric medication advisory service in residential aged care: A randomized controlled trial of case conferencing | Cluster RCT to evaluate the impact of multidisciplinary case conferences on the appropriateness of medications and on patient behaviours in high-level residential aged care facilities. | There was a significant reduction in the medication appropriateness index in the intervention group. Resident behaviours were unchanged. | The only information about the processes used to collaborate was that they held two multidisciplinary care conferences. |
| Huusko et al., 2000 Randomised clinically controlled trial of intensive geriatric rehabilitation in patients with hip fracture: Subgroup analysis of patients with dementia | RCT to determine the effect of intensive geriatric rehabilitation after surgery for hip fracture in elderly patients. It also aimed to evaluate the effect of intensive geriatric rehabilitation on demented/ cognitively impaired patients with hip fracture. | Median lengths of hospital stay of patients with moderate or mild dementia were significantly shorter in the treatment group than in the control group. Three months after the surgery, the patients in the intervention group with mild dementia were as successful as the patients with no dementia in returning to independent living. The study also found that severity of cognitive impairment was related to higher mortality and less successful return to independent living. | The geriatric rehabilitation team had weekly joint meeting to discuss rehab goals. No other discussion about team process. |
| Campion et al., 1983 An interdisciplinary geriatric consultation service: A controlled trial | A controlled trial to examine how the structure and function of an interdisciplinary Geriatric Consultation Team (GCT) involvement leads to differences in use of rehabilitation services, length of stay, discharge disposition, and rate of hospitalization. | The study found that median lengths of hospital stay of patients with moderate or mild dementia were significantly shorter in the treatment group than in the control group. Three months after the surgery, the patients in the intervention group with mild dementia were as successful as the patients with no dementia in returning to independent living. The study also found that severity of cognitive impairment was related to higher mortality and less successful return to independent living. | Geriatric team consult conducted assessments and provided recommendations for the discretion of the attending physician. The team interacted through discussion and rounds. |
| Allen et al., 1986 A randomized, controlled clinical trial of a geriatric consultation team: Compliance with recommendations | RCT to determine if the geriatric consultant team enhanced older adults' care and to determine the compliance rate of application of the teams' suggestions. | The geriatric consultation team recognized cognitive issues 70% of the time in comparison to 10% of usual care. | The process by which the team collaborated with each other or other practitioners was not discussed, except to indicate that there was greater compliance with the geriatric teams' suggestions when there were conversations that occurred between the house staff and the team. |

Continued

Table 2: Continued

| Author, Year, Title | Methodology | Results | Comments |
|--|---|---|--|
| <p>Kratz, 2008 Use of the acute confusion protocol: A research utilization project</p> | <p>An evaluation of an intervention targeted at decreasing negative outcomes from delirium. The protocols were related to orientation, nonpharmacological sleep, and early mobilization.</p> | <p>Although they report success there is little information about numbers of patients, ages, ethics process, or how data was collected.</p> | <p>There is no information on how the team influenced the success of the protocol or the processes the team used among one another.</p> |
| <p>Lloyd-Williams & Payne, 2002 Can multidisciplinary guidelines improve the palliation of symptoms in the terminal phase of dementia?</p> | <p>This study re-evaluated the palliative care offered to patients dying of dementia a year later to determine whether such multidisciplinary guidelines could have an impact on their care.</p> | <p>Multidisciplinary guidelines improved palliative care of patients dying from dementia.</p> | <p>Members of medical and nursing staff together with a palliative care doctor and pharmacy staff developed multidisciplinary guidelines on management of common symptoms. Does not indicate the process they used or how they facilitated the uptake of these guidelines.</p> |
| <p>Milisen et al., 2001 A nurse-led interdisciplinary intervention program for delirium in elderly hip-fractured patients</p> | <p>Longitudinal perspective before and after sequential design to develop and test the effect of a nurse-led interdisciplinary intervention program for delirium on the incidence and course (severity and duration) of delirium, cognitive functioning, functional rehabilitation, mortality, and length of stay in older hip-fracture patients.</p> | <p>Delirium or those at risk for delirium were discovered and received interventions in the study group.</p> | <p>The registered nurse role in a different capacity was discussed in great detail. No information about how the team interacted to develop the program or to achieve these positive outcomes.</p> |
| <p>Mudge et al., 2012 Improving quality of delirium care in a general medical service with established interdisciplinary care: A controlled trial</p> | <p>A controlled trial to implement delirium guidelines in general medical patients to reduce incidence and duration of delirium and improve outcomes in delirious patients.</p> | <p>Delirium or those at risk for delirium were discovered and received interventions in the study group.</p> | <p>No discussion about how the team achieved positive outcomes or about team processes.</p> |
| <p>Sandhaus et al., 2010 A volunteer-based hospital elder life program to reduce delirium</p> | <p>A quasi-experimental design to examine the implementation of primary preventive strategies in the hospitalized older adult to decrease the incidence of delirium in that population.</p> | <p>Nurses and family were satisfied but we do not know if delirium was reduced.</p> | <p>No discussion about how nurses, families, and patients engaged with the volunteers. No information about team processes.</p> |
| <p>Kircher et al., 2007 A randomized trial of a geriatric evaluation and management consultation services in frail hospitalized patients</p> | <p>RCT to examine if an inpatient geriatric evaluation and management (GEM) consultation service could improve re-hospitalization; nursing home placement; survival; functional, emotional, and cognitive status; social situation; and quality of life.</p> | <p>The GEM team did not improve rates of re-hospitalization or nursing home placement.</p> | <p>Team conferences were held weekly to evaluate and make recommendations for patients. Recommendations implemented by the GEM team, other staff members, patients, and other physicians. No information about processes for collaboration indicated. Authors suggest that a consult service has limited influence with nursing management or interdisciplinary collaboration.</p> |

Continued

Table 2: Continued

| Author, Year, Title | Methodology | Results | Comments |
|--|--|---|--|
| Saltz et al., 1988 Impact of a geriatric consultation team on discharge placement and repeat hospitalization | RCT to examine impact of a geriatric consultation team on discharge planning and long-term care initiation. | The intervention group was more likely to have recommendations related to discharge planning. However, no significant differences were noted between the control and intervention groups. | The team met twice weekly to review the progress of each patient. Regular rounding by individual team members was also done informally. Recommendations were recorded in the hospital chart and discussed with hospital staff whenever possible. No information of this process or its effectiveness. House staff complied with recommendations (93.9%). |
| Winograd et al., 1993 A negative trial of inpatient geriatric consultation | RCT to determine the effectiveness of inpatient interdisciplinary geriatric consultation during the hospitalization of frail older adults. | No differences between control group and intervention group. 67% of all recommendations were followed. Recommendations for geriatric syndromes were followed 30% of the time. | Authors suggest that compliance with recommendation was poorest when they required staff time, effort, or understanding of geriatric syndromes. The processes used to provide their recommendations or discuss them with staff are not reported. |

Note: GP = general practitioner; HF = heart failure; IGCT = inpatient geriatric consultation team; MDT = multidisciplinary team; PT = physical therapist; OT = occupational therapist; RCT = randomised controlled trial

the authors did not identify the composition of the team (Banerjee et al., 2007; Boorsma et al., 2011; Mudge et al., 2012). The remaining 31 articles identified a wide range of disciplines. The represented disciplines ranged from only two – a geriatrician and geriatric nurse specialist (Shyu et al., 2012, 2013) – to larger teams encompassing many disciplines, such as geriatrician, geropsychiatrist, social worker, occupational therapist, physiotherapist, speech therapist, recreational therapist, nutritionist, and discharge planning nurse (Campion et al., 1983). Table 3 identifies the team composition and the context for each of the articles. The type of interventions targeted influenced the types of professionals involved. For example, when the focus was mobility, occupational therapists and physiotherapists were involved (Christofoletti et al., 2008). When the focus was on decreasing depression, general practitioners and nursing home staff were involved (Llewellyn-Jones et al., 1999). Team composition related to the purpose of the team and the context – hospital, home, or residential care – rather than a formula of particular professionals.

Reported Successes

Reported successes were as diverse as the composition of the teams and are identified in Table 2; under the results column, each study's reported success is identified. Eight (24%) of the articles reported on improved cognition (Allen et al., 1986; Deschodt et al., 2012; Inouye et al., 1999; Kratz, 2008; Llewellyn-Jones et al., 1999; Milisen et al., 2001; Mudge et al., 2012; Shyu et al., 2013); six (18 %) reported on improvements in psychosocial functioning (Banerjee et al., 2007; Callahan et al., 2006; Dellasega et al., 2001; Leontjevas et al., 2013; van der Marck et al., 2013; Opie et al., 2002); five (15%) on physical functioning (Chapman & Toseland, 2007; Christofoletti et al., 2008; Sindaco et al., 2012; Shyu et al., 2012; Stenvall et al., 2012); four (12%) on decreased use of health care services or medications (Campion et al., 1983; Crotty et al., 2004; Huusko et al., 2000; Schmidt et al., 1998); two (6%) on improved quality of care (Boorsma et al., 2011; Lloyd-Williams & Payne, 2002); and one (3%) on family satisfaction (Sandhaus et al., 2010).

Examples of how interventions led to success include individually tailored medical, nursing, and psychosocial interventions that led to reductions in responsive behaviours in nursing home residents with dementia (Opie et al., 2002). One team that developed protocols to manage specific care issues reported improved orientation, nonpharmacological management of sleep, early mobilization, decreased fall rate, and lower restraint and sedative use (Kratz, 2008). Another team achieved significant improvements in medication use with residents as a result of case conferencing (Crotty et al., 2004). Geriatric consultation services teams improved awareness of older adults' functional

Table 3: Interprofessional team composition and context

| Author | Interprofessional Team Geriatric Consultation Team Composition | Context |
|---|---|--|
| Shyu et al., 2012; Shyu et al., 2013 | Geriatrician and geriatric nurse | Hospitalized older adults in Taiwan |
| Allen et al., 1986 | Physicians, clinical nurse specialist, and social worker | Hospitalized older adults in the United States |
| Deschodt et al., 2011; Deschodt et al., 2012 | Geriatrician, nurses, social worker, occupational therapist (OT), and physiotherapists (PT) | Hospitalized older adults in Belgium |
| Dellasega et al., 2001 | Geriatric clinical nurses' specialist, pharmacist, social worker, and primary care physician | Hospitalized older adults in the United States |
| Winograd et al., 1993 | Geriatrician, geriatric fellow, social worker, clinical nurse specialist, psychiatry, and nutrition | Hospitalized older adults in the United States |
| Campion et al., 1983 | Geriatrician, geropsychiatrist, social worker, occupational therapist (OT), physiotherapists (PT), speech therapist, recreational therapist, nutritionist, and discharge planning nurse | Hospitalized older adults in the United States |
| Kircher et al., 2007 | Geriatrician, social worker, nurses, paramedical staff, and psychiatrist | Hospitalized older adults in Germany |
| Callahan et al., 2006 | Geriatrician, psychiatrist, and psychologist working with the primary physician and geriatric nurse case manager | Community-dwelling older adults in the United States |
| Bellantonio et al., 2008 | Geriatrician, geriatrics advanced practice nurse, PT, dietitian, and social worker | Long-term care or assisted living in the United States |
| Opie et al., 2002 | Psychiatry, psychology, and nursing | Long-term care or assisted living in Australia |
| Interprofessional Team Composition from Programs or Approaches to Care | | |
| Author | Interprofessional Team Composition from Programs or Approaches to Care | Context |
| Villars et al., 2013 | Physician, nurse, social worker, psychiatrist, and neuropsychologist | Hospitalized older adults in France |
| Huusko et al., 2000 | Geriatric internist, specially trained general practitioner, nurses with training in older adults, social worker, neuropsychologist, OT, and PT | Hospitalized older adults in Finland |
| Inouye et al., 1999 | Geriatrician, geriatric nurse specialist, therapeutic-recreation specialist, PT, and volunteers | Hospitalized older adults in the United States |
| Stenvall et al., 2012 | Nurses, physicians, physiotherapists (PT), and occupational therapists (OT) | Hospitalized older adults in Sweden |
| Kratz, 2008 | Pharmacists, OT, PT, nurses and nurses' aides | Hospitalized older adults in the United States |
| Milisen et al., 2001 | Delirium resource nurse, a geriatric nurse specialist, and psychogeriatrician | Hospitalized older adults in Belgium |
| Cole et al., 2002 | Internist, psychiatrist, and nurse | Hospitalized older adults in Canada |
| Lloyd-Williams & Payne, 2002 | Physicians, nurses, and pharmacists | Hospitalized older adults in England |
| Sindaco et al., 2012 | Cardiologist, specialized nurses, and primary care physician | Hospitalized older adults in the United States |
| Sahdhaus et al., 2010 | Nurse practitioner, gerontological certified registered nurse, elder life specialist, geriatrician, and volunteers | Community-dwelling older adults in Italy |
| O'Connor et al., 1991 | Social worker, community psychiatric nurse, OT, PT, and volunteers | Community-dwelling older adults in England |
| van de Marck et al., 2013 | Nurses and physicians | Community-dwelling older adults in the Netherlands |
| Leontjevas et al., 2013 | Nurses and physicians | Long-term care or assisted living in the Netherlands |
| Christofolletti et al., 2008 | PT and OT | Long-term care or assisted living in Brazil |
| Bellantonio et al., 2008 | Geriatrician, geriatrics advanced practice nurse, PT, and social worker | Long-term care or assisted living in the United States |
| Llewellyn-Jones et al., 1999 | Physician, nurses, and nursing aides | Long-term care or assisted living in Australia |
| Chapman & Toseland, 2007 | Medicine, nursing, social work, psychology, PT, OT, and nutrition | Long-term care or assisted living in the United States |
| Schmidt et al., 1998 | Physician, pharmacist, nursing, and nursing assistants | Long-term care or assisted living in Sweden |
| Crotty et al., 2004 | Physician, geriatrician, pharmacist, and residential care staff | Long-term care or assisted living in Australia |
| Studies that Did Not Specify Team Composition | | |
| Banerjee et al., 2007 | Did not specify | Community-dwelling older adults in England |
| Boorsma et al., 2011 | Did not specify | Long-term care or assisted living in the Netherlands |
| Mudge et al., 2012 | Did not specify | Hospitalized older adults in Australia |

problems (Campion et al., 1983) and improved quality of life (Boorsma et al., 2011) through comprehensive assessments.

Although all of the articles suggested that interprofessional teams had the potential for success in working with older adults experiencing cognitive challenges,

there was considerable variation in the reported successes. Eight (24%) of the articles either did not report success or reported no significant changes in desired outcomes (Bellantonio et al., 2008; Cole et al., 2002; Deschodt et al., 2011; Kircher et al., 2007; O'Connor et al., 1991; Saltz et al., 1988; Villars et al., 2013; Winograd et al., 1993). Moreover, authors rarely provided detailed information about how successes were achieved. In other words, the processes that teams used to achieve their success were not consistently mentioned.

Reported Challenges

Only six authors (16 %) reported barriers to success. These authors reported on geriatric consultation teams and identified a lack of adherence to team recommendations (Callahan et al., 2006; Cole et al., 2002; Deschodt et al., 2011; 2012; O'Connor et al., 1991; Winograd et al., 1993). Winograd et al. (1993) reported that recommendations requiring staff time, effort, or understanding of geriatric syndromes were least likely to be followed. They noted that staffing levels and processes by which professionals on the units work together were outside the influence of a geriatric consultation team. Moreover, O'Connor et al. (1991) reported that families often did not accept recommendations made by the geriatric consultation team. Most authors (84%) did not provide any information about the challenges to their interprofessional team's success.

Team Processes

Ten articles (29%) reported on processes, which fostered success in implementing teams' recommendations or programs (Allen et al., 1986; Dellasega et al., 2001; Callahan et al., 2006; Chapman & Toseland, 2007; Llewellyn-Jones et al., 1999; Lloyd-Williams & Payne, 2002; van der Marck, 2013; Mudge et al., 2012; Schmidt et al., 1998; Villars et al., 2013). These authors identified the importance of communication, staff involvement strategies, and education interventions. Mudge et al. (2012) reported that monthly care rounds, frequently seeking feedback from unit staff, using a communication book, and frequent one-on-one team interaction improved staff's detection of older adults with (or at risk for) delirium. Lloyd-Williams and Payne (2002) identified that staff involvement in developing interprofessional guidelines aided in guideline implementation. Villars et al. (2013) used a resource person (nurse or caregiver) to facilitate communication about care plans between the interprofessional team and caregivers. Llewellyn-Jones et al. (1999) trained general practitioners in detecting depression and held education programs for older adults about managing depression. Dellasega et al. (2001) reported that weekly team meetings focused on how to evaluate and make

recommendations about their older adult patients served to build team confidence and motivation to implement the recommendations. Unfortunately, exactly how confidence and motivation were fostered was not described. Other authors identified the importance of encouraging team members' participation (Allen et al., 1986; Schmidt et al., 1998) and supporting team members (Callahan et al., 2006; Chapman & Toseland, 2007; van der Marck, 2013), but did not describe how supporting team members and their participation occurred.

Older Adults and Their Families

Only three of the articles (9%) reported involving older adults and their families' perspectives in health care teams' care planning. These included (1) a study which reported on the incorporation of residents and families in the planning of interventions for residents with dementia (Chapman & Toseland, 2007), (2) a trial reporting that patients and families were satisfied with a volunteer program to decrease delirium (Sandhaus et al., 2010), and (3) an examination of discussions about care plans with older adults and their family members in order to adjust plans according to personal wishes (Boorsma et al., 2011). Unfortunately, Chapman and Toseland did not provide enough information for us to understand how residents and families were incorporated, nor did Sandhaus et al. identify why patients and families were satisfied with their volunteer program. The lack of information about how teams worked with older adults and their families in 91 per cent of the articles suggests that either authors are not reporting these details, or that older adults and their families' perspectives are not being solicited. Ultimately, this lack of information suggests gaps in our understanding about how interprofessional teams can best work with older adults experiencing cognitive challenges and their families.

Discussion

Because 71 per cent of authors did not report on interprofessional team processes, our results highlight a gap in authors' reporting how interprofessional teams achieve positive outcomes for older adults experiencing cognitive challenges. Moreover, 91 per cent of authors did not report on how interprofessional teams worked with older adults and their families, suggesting that not only do we have gaps in understanding how interprofessional teams achieve success, but we also do not understand how to best to work with older adults and their families. Other scholars have noted the lack of understanding of team processes (Jones & Jones, 2011; Lemieux-Charles & McGuire, 2006; Paradis et al., 2014; Reeves et al., 2010). The 29 per cent of authors who did report on process highlighted the

importance of communication, staff involvement strategies, and education interventions to support success both in achieving outcomes with older adults and in supporting interprofessional collaboration.

We considered how these results fit within Reeves et al.'s (2010) theoretical framework, which identifies relational, contextual, organizational, and process issues regarding interprofessional collaboration. Their organizational and process issues can be found in Winograd et al.'s (1993) report of staffing levels and work processes as barriers to having the interprofessional teams' recommendations followed. Moreover, details about relational issues were provided by four authors, as follows: Mudge et al. (2012) discussed meetings and one-on-one interactions, and Lloyd-Williams and Payne (2002) discussed staff involvement in developing guidelines. Dellasega et al. (2001) stressed the importance of weekly team meetings, and Villars et al. (2013) suggested that one-on-one human interaction could facilitate communication about care plans. In addition, although they did not provide details, five other authors supported relational issues by suggesting the importance of encouraging and supporting team members (Allen et al., 1986; Callahan et al., 2006; Chapman & Toseland, 2007; van der Marck et al., 2013; Schmidt et al., 1998). These findings support Manser's (2009) suggestion that effective teamwork requires communication and, coordination. We suggest that our findings support the importance of organizational, process, and relational issues that have been identified by Reeves et al. (2010).

The theoretical framework of relationship-centred care aides in conceptualizing health care as embedded in human relationships, between care recipients and health care providers, and among health care providers (Soklaridis, Ravitz, Nevo, & Lieff, 2016; Tresolini et al., 1994). Our findings add to these scholars' findings and highlight the importance of relationships to patients, health care professionals, and the organization in providing collaborative care to improve both patient care and organizational performance (Soklaridis et al., 2016). Yet engaging in relationships requires trust, which is also a necessary ingredient for effective teamwork affected by organizational culture (Cox, 2012). More research to understand how health care professionals are able to form team relationships that foster trust and how organizational processes can support the development of these trusting relationships would inform strategies to improve interprofessional collaboration.

Although scholars have suggested that interprofessional teams experience power conflict, confusion about their roles, differences in use of language, and inadequate organizational supports (Barrow, McKimm, Gasquoine, & Rowe, 2014; Finn, Learmonth, & Reedy, 2010; Fox &

Reeves, 2015), insufficient detail was provided by the authors to determine if these issues affected the interprofessional collaboration of the teams in the studies. We wonder if an emphasis on reporting the outcomes of a research study eclipses the need to provide information about processes. We implore researchers to include these details in their publications in order to build an evidence base about team processes – what does not work, what works, and how it works.

We contend that understanding how (the process by which) interprofessional teams achieve success working with older adults experiencing cognitive challenges is of paramount importance, particularly when there are multiple voices (from multiple disciplines) communicating with older adults who may be physically and cognitively frail – as is the case with delirium, dementia, and depression. The dearth of information provided about team processes suggests that either authors are not reporting these details, or their complex nature has not been given adequate consideration. More research is needed to examine the processes of interprofessional teams that are having success in working with older adults experiencing cognitive challenges and their families. Understanding how successful teams interact with one another and with older adults, as well as how organizational supports influence their collaboration, would provide practical strategies for guiding interprofessional teams working with older adults experiencing cognitive challenges.

This study was limited by inclusion of English-only articles and by the scoping review structure; the rigor of the studies included as data were not analysed. Rather, data were critically examined for how authors reported on their success, challenges, the process teams used to achieve their outcomes (how), and older adult and family involvement. This study points to significant gaps in our understanding about the ways in which relationships, processes, context, and organizational support influence how interprofessional teams can best work with these vulnerable older adults and their families.

Conclusion

This scoping review of the literature about how interprofessional teams successfully work with older adults experiencing cognitive challenges and their families revealed gaps in our understanding about successful processes. Twenty-nine per cent of authors identified communication, education, and staff involvement as important processes that support team success. More research is needed to understand the processes that influence interprofessional team's success with this population.

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