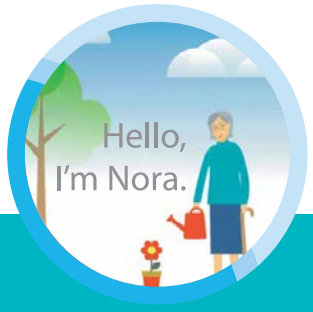
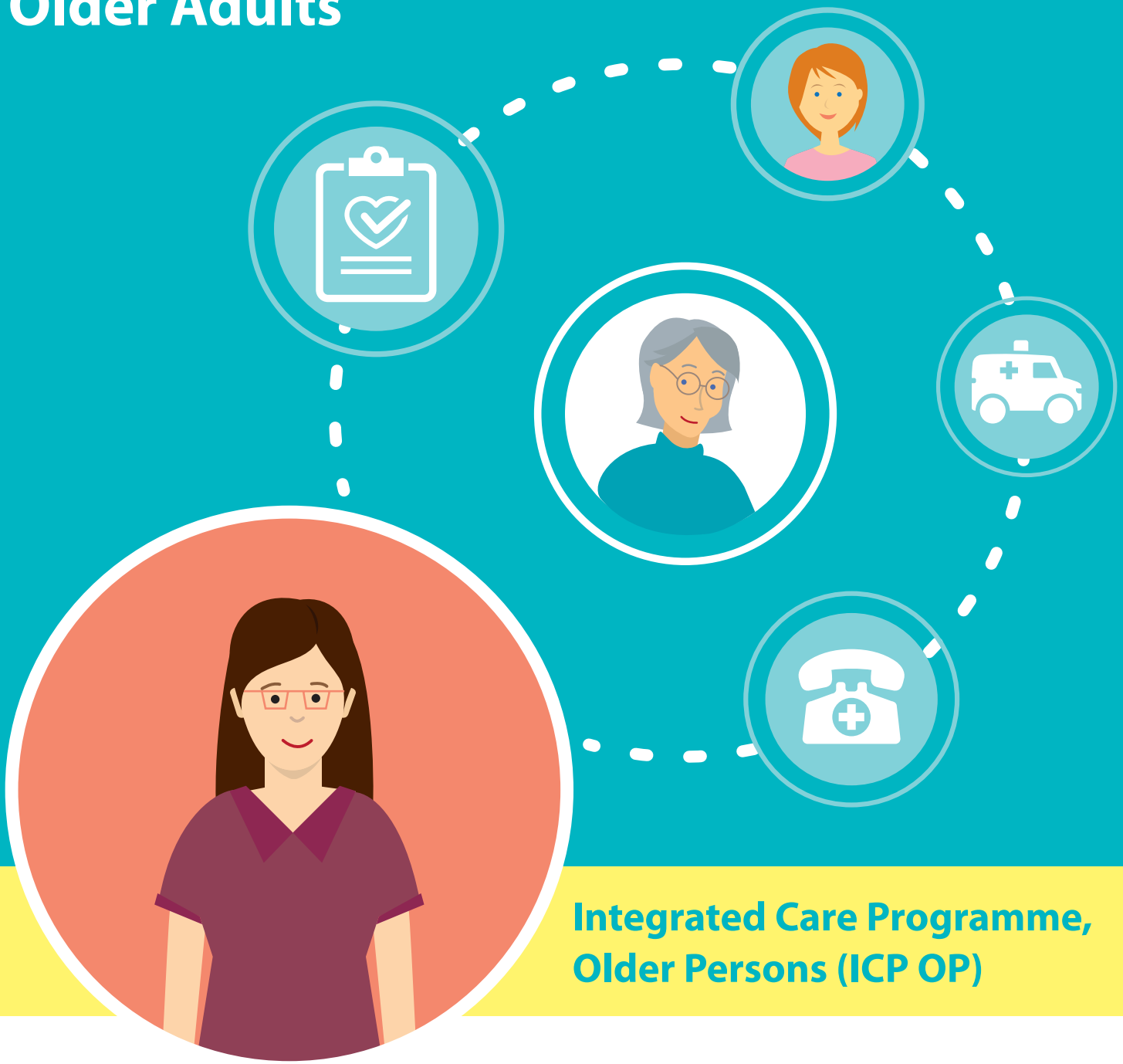
National Clinical
& Integrated Care Programmes
Person-centred, co-ordinated care



Case Management Approaches to support integrated care for Older Adults



Integrated Care Programme, Older Persons (ICP OP)

Dr. Louise Hopper, Cody Byrne
and Emma O'Shea

School of Nursing and Human Sciences
Dublin City University

OLDER PEOPLE

DCU
Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

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Executive Summary

Introduction

An ageing demographic, a rise in those living with multiple chronic conditions and the increasing costs associated with their care, has led many health and social care systems to review how best to treat an ageing population. There is reflected in international health system policy that seeks to move away from the episodic and unplanned nature of current care approaches to person-centred, planned and coordinated care models and shift the delivery of care away from costly acute settings. In Ireland, the all party Slaintecare Report (Govt of Ireland 2018) identified the delivery of integrated care as one of 4 key reforms, with the acceleration of integrated care for older persons care as one of a number of key strategic actions.

In response to this policy shift, the Integrated Care Programme for Older Persons (ICPOP) was tasked with the design and implementation of integrated care for older adults in Ireland. This service redesign was conceptually outlined in a 10 Step Integrated Care Framework (ICP OP 2017) for older persons with the development of community based multidisciplinary teams (MDTs) forming the bedrock of a new model of care. Within this MDT model a case management approach was proposed. Case management is a well established means of delivering care in other areas where complex care needs require co-ordination (e.g. mental health and homeless services). Case Management is a complex intervention that involves organising and coordinating care for the individual. It forms a key cornerstone of a new way of working that enables and supports the delivery of secondary care in the community appropriate to the needs of older adults with complex needs and long term conditions such as frailty. The flexibility and adaptability of case management models is a key strength as approaches can be tailored to suit a diverse range of settings and locations. Emerging evidence suggests that case management approaches have a key role to play in achieving improvements in clinical care and in system- and patient-oriented outcomes. The potential benefits of this approach seem to be most significant for individuals 'at risk' of hospitalisation and for those living with multiple health problems.

Case management involves collaborative and multidisciplinary approaches to organising and coordinating care for the individual. It typically comprises of case finding, needs assessment, care planning, care coordination and case closure. Its strength lies in its flexibility and adaptability to a variety of health care settings, but the absence of a clear definition and the existence of numerous overlapping case management models makes evaluation and model comparison very difficult.

Currently in Ireland case management is not commonplace as a service model in response to the needs of Older Persons, despite emerging pockets of good practice such as dementia care. This report is seen as having utility for service leaders (clinicians and managers) who are instrumental in redesigning services for older persons. This report therefore aims to examine the evidence regarding case management models that have developed nationally and internationally and specifically to review those models that have been identified in older persons health and social care services as well as other population cohorts with complex needs. One such long term condition, frailty, is emerging as a recognisable health challenge as the population ages, that lends itself to a case management approach. In drawing on evidence from other service contexts, it makes recommendations on a model that is a 'best fit' in terms of older persons. As older person integrated care services mature there is opportunity to undertake further research into specific interventions that work best with older persons when adopting a case management approach. In the interim the report offers a synopsis of the literature and summarises the key features of the role, skills, education and competencies required.

Methodology

A review of published case management literature was conducted. This review examined studies across a wide range of health settings and although it had a focus on older adults, more general studies were included if they examined the efficacy of case management approaches and included older adults in their samples. Ten frequently cited grey literature reports were also reviewed.

Case Management Approaches

Six general models underpin most current case management approaches: the Brokerage Model, The Generalist Model, Assertive Community Treatment (ACT), Intensive Case Management (ICM), Clinical Case Management and Strengths-Based Case Management. The models share the same core components (assessment, planning, coordination, monitoring and advocacy), but differ in the intensity of case management, the level of client participation and the degree of service provision. Newer models can differ quite extensively from basic models (e.g. ICM from ACT), and they often incorporate multi-disciplinary teams and a more extensive case-manager/client relationship. Case management approaches need to be tailored to suit the health and social care systems and the policy contexts in which they are being implemented. Six tailored programmes are examined in this report: GRACE, PACE, GEM, Guided Care, Community Matrons and Evercare™.

Evaluating Case Management Approaches

The lack of a standard case management approach, the way in which case management models are adapted to fit different contexts, and the lack of transparency in the reporting of case management programme design, makes it very difficult to compare across models and to develop generalised conclusions about the value of case management as an approach. Only four of fifty-two evaluation studies used a specific framework to underpin their evaluation. A number of methodological considerations can be drawn from the evaluation approaches used to date. Recommendations for future evaluation-focused research include having a clearly defined target population and sample size, a clearly defined intervention, high-quality randomised control trials, appropriate outcome selection and measurement, and the adoption of a formal evaluation design.

Inconsistent findings dominate case management reviews and the literature presents many inconsistent conclusions. Mixed results have been found for system-oriented outcomes (e.g. unplanned hospital admissions, hospital length of stay, admission to long-term care, cost efficiency and mortality rates) and for patient-oriented outcomes (e.g. patient satisfaction and quality of life). Improving 'care as usual' and the lack of a standard model make evaluation difficult, but the literature supports the notion that case management approaches can be beneficial in healthcare settings if implemented correctly.

Case management approaches that target organisational interventions will be more effective on a range of system-oriented outcomes. Those that target patient-oriented interventions will have more success with patient-oriented outcomes. This highlights the impact that model selection will have in terms of achieving improvements in different outcome indicators. It is therefore vital to clearly identify the outcomes that are the primary focus in any case management approach.

Key Components of Successful Case Management Programmes

Few studies employed formal evaluation frameworks in their assessment of the efficacy of case management, but the key components of successful case management approaches can be extracted from their findings. The role of Case Manager is central to the success of a case management programme. It must however be clearly defined. The person fulfilling the role must have the necessary skills and competencies to carry out their role effectively, including; interpersonal skills, advocacy and negotiation skills, systems knowledge, needs assessment capability, problem solving skills, medication management (prescribing ability if possible) and clinical governance. They must also receive the required training and support to enable them to understand how to get the best from the case management programme.

Interdisciplinary collaboration, the need for a trusting relationship between the Case Manager, the multidisciplinary care team and the client, and information technology that supports data sharing and collaborative working is essential for programme success.

The case management programme itself should be clearly defined with a published protocol that supports evaluation and comparison with other approaches. It must have a clearly defined target population and a standardised approach to screening for eligibility. The programme should have a person-centred ethos and comprehensive holistic assessment that drives the implementation of tailored care plans. The Case Manager is the single point of contact and has overall responsibility for ensuring continuity of care for the client. The duration and intensity of the programme must be appropriate to the target population and the intensity of case management required. It should also be recognised that intensity levels per client are likely to vary over time. Caseload management benefits from

clearly defined supported discharge processes. Successful programme have integrated funding from health and social care, and governance and quality assurance processes that recognise the value of case manager feedback.

Even the most well designed case management programme will falter if the environment in which it is implemented does not support integrated care provision. Radical system redesign may be required in order to deliver the benefits of case management approaches to the broader health and social care system. Case management therefore works best when it is part of a wider programme of integrated care and it should be embedded as a tool with a more integrative structure in order to realise potential benefits. The services responsible for providing case management must be flexible and have the organisational and structural capability to be responsive to individual client needs. Finally, case managers report that conflicting organisational goals and high volumes of administrative work can hamper their ability to provide person-centred case management to their clients.

Conclusions and Recommendations

The range of case management approaches currently in use in health and social care systems within and across different jurisdictions, demonstrates that effective case management can be provided in a number of different ways. There is no one ideal model of case management that can be recommended in the context of integrated care for older adults in Ireland, but the implementation of case management within the ICPOP framework provides an integrated and coordinated care environment that will be essential to its success and is reflected in the summary of findings (see table page 8). Focusing solely on system-oriented outcomes is likely to be too narrow a focus for success. Given the current complexity of care pathways for older adults and the fragmented nature of health and social care in Ireland, there is an opportunity to make potentially larger gains in relation to patient-oriented outcomes. Although rarely the primary focus of case management programmes, achieving better outcomes for clients and their families, is a worthy goal congruent with the person-centred orientation of the ICPOP framework.

The methodological considerations and key components of successful programmes described in this report will serve as guidelines for the design of case management for older adults in Ireland. Clear agreement of the primary purpose of introducing case management, unambiguous definition of the target population and their associated needs, availability of and access to the services necessary to support these needs, the appointment of skilled case managers and the adoption of formal evaluation and governance processes will further support the definition, design and implementation of a care management programme that is fit for purpose.

Case management is one part of a larger strategy for integrated care that requires a shared strategic vision across public health, primary care and acute care policy, with an emphasis on primary prevention, health literacy and health promotion, multi-disciplinary primary care teams, collaborative practice across professions and health care settings, and between health and social care, and community-based rehabilitation and re-enablement programmes.

Summary of findings: Case management for older persons

The key components of a successful case management approach are:

1. The Case Manager (single point of contact) with

- clearly defined role and responsibilities
- appropriate skills and competencies with particular reference to the application of same in gerontological care and expertise
- access to education and training required to support their role.

2. Inter-/Multi-disciplinary collaboration across and within health and social care systems.

3. A programme design that incorporates:

- a published protocol (for clarity and ease of comparison with other programmes)
- a person-centred ethos
- a single point of contact for clients and their families
- clearly defined screening and assessment procedures e.g. Comprehensive Geriatric Assessment
- monitoring and review at intervals appropriate to the intensity of the intervention and the appropriate development and coordination of a multidisciplinary care plan as needed.
- flexibility to support person-centred care and meet fluctuating needs of clients
- supported discharge facilitating caseload management and client self-management
- appropriate levels of sustainable funding
- governance and quality assurance built into the programme from the outset

4. Service organisation that:

- shares a strategic vision of integrated and collaborative care provision
- is seamlessly coordinated to facilitate the delivery of integrated care
- provides levels of service availability and a range of services appropriate to the ethos and delivery of person-centred care
- incorporates financial models that can promote and sustain system integration.

Evidence also suggests that the most significant barriers to successful implementation of case management programmes are:

1. conflicting goals between Case Managers and their clients
2. negotiation and conflict mediation
3. conflicting organisational goals
4. high levels of administrative work that detracts from the time available to manage cases.

1. Introduction

Like most of the Western World, Ireland's demographic is ageing. People aged 65, over comprise 12.7% of the population, and use 53% of inpatient beds. People aged 85 and over represent 1.4% of the population and use 13.5% of inpatient beds (HSE, 2016). It has been predicted that the proportion of the population aged 80 years or older is expected to almost double to 2.1% in the next 20 years (McVeigh, Al-Azawi, O'Donoghue, & Kerin, 2013). In Ireland, it is expected that there will be an increase of 17.3% in those aged 65 and over by 2021 and an additional 15,200 people will be 85 years and older (HSE, March 2015).

Coupled with this 'greying' population, the coexistence of two or more chronic conditions (multi-morbidity) has become increasingly prevalent as life expectancy increases. An inverse relationship has been documented between multi-morbidity and quality of life (QoL) and research has demonstrated how multi-morbidity affects ability to work and employability, disability, and mortality (Boyd & Fortin, 2010). Those with multi-morbidity also have need of a broader approach to healthcare utilisation (Barnett et al., 2012). Patients over 75 years of age spend three times longer in the Emergency Department (ED) than those aged 65 or less, and up to 40% of this older cohort wait 24 hours or more in ED (HSE, March 2015). For patients over 85 years of age, approximately 600 acute hospital presentations can be anticipated per 1,000, and 50% of acute hospital delayed discharges require the Nursing Home Support Scheme (NHSS) or a Home Care Package (HCP) to be put in place prior to discharge (HSE, 2016). In addition, 4.1% of the population provide unpaid care with the profile of primary caregivers also aging (39% increase in primary caregivers who are 7 years or older).

Not only does the rise in multiple chronic conditions pose extensive health problems for our older population, there are also significant financial repercussions, with almost 65% of the total health care expenditure in some high-income countries (e.g. the US) attributed to individuals with multi-morbidities (Parekh & Barton, 2010). The rise in the number of those living with multiple chronic conditions and the rising costs associated with their care, has led many health and social care systems to a review how we can better treat our ageing population and how we can essentially 'do more with less'.

1.1. A changing model of care

The high risk older adult has complex health and social care needs and requires a level of care that is intensive, sustained and time consuming (Hudson & Moore, 2006). This person is at risk of repeated and unplanned hospital admission. Hospital length of stay (LoS) is often long given multi-morbidity, complex needs and the support required to return to their previous living environment. Hospital admissions can further exacerbate long-term conditions by hastening a deterioration in function and a potential loss of local support mechanisms over time (Boaden et al., 2006). Repeated admissions and lengthy stays also significantly impact hospital occupancy rates and availability of acute services.

A compelling argument exists to move away from the episodic and unplanned nature of current care approaches to person-centred, planned and coordinated care models. By changing the health and social care delivery model to one that is coordinated, proactive, local, individualised and preventative (i.e. focuses on wellness as well as disease management); it will support people to live well at home for longer. Situating care in primary and community settings reduces the likelihood of acute admissions, increases the potential of available and appropriate post-admission support, and decreases the burden on acute care settings.

International evidence suggests that sustainable health and social care models must be population-based, integrated, and focused on those living with long-term conditions (particularly those 75 years and older). The UK government has recommended a framework that adopts three broad approaches to drive care improvements (Hutt, Rosen, & McCauley, 2004). These are:

- *Case Management* – intensive, personalised care for those at highest risk of hospital admissions.
- *Disease Management* – ongoing monitoring and review of patients with less severe clinical symptoms.
- *Self-management* – providing support and empowering people living with long-term conditions that are relatively stable to self-manage their own care.

This report will focus on the first of these approaches, namely Case Management. Emerging international evidence suggests that case management can deliver tangible improvements in clinical care, patient satisfaction and patient well-being. It is argued that adopting a case management process will reduce unnecessary contacts within the health and social care system, in particular emergency contacts and those sporadic contacts that are not integrated into a care plan for that individual (Stokes et al., 2015). Shifting the focus of care delivery from acute to community settings will facilitate savings by removing load from overburdened and costly acute care services (Stokes et al., 2015). Doing so within a case management framework will ensure that care is delivered in an integrated way that is more cost-efficient from a systems perspective and more effective and acceptable to the individual in receipt of that care (Ross, Curry, & Goodwin, 2011). The potential benefits of this approach are most significant for individuals 'at risk' of hospitalisation and for those living with multiple health problems.

1.2. Case Management

Case Management is a complex intervention that involves organising and coordinating care for the individual. There is no universally acknowledged definition of case management and previous reviews have retrieved more than 70 terms relating to, and over 175 definitions of, case management (Armitage, Suter, Oelke, & Adair, 2009). For the purpose of this report, a definition originating from the Case Management Society of America (2008) will be used:

> *"A collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual's and family's comprehensive health needs through communication and available resources to promote quality cost-effective outcomes."*

Case management is not a stringent model, but rather a set of criteria to be adopted and modified. Case management approaches typically include four core components (Ross et al., 2011). These are:

(1) Case finding – systematically identifying those individuals who are at risk of future emergency admission to hospital *before* they start to deteriorate. Typically, case-finding combines the use of threshold (i.e. identify those who pass a threshold that is deemed to signify increased risk) or predictive statistical models (i.e. predict those at high risk of a defined event) and clinical judgement (i.e. identify those high-risk individuals amenable to preventative case management) (Stokes et al., 2015). As the predictive power of statistical models is dependent on the accuracy, completeness and timeliness of patient-related data, electronic health records that integrate data from across the health and social care system are increasingly becoming a key component of the case-finding process (Bates, Saria, Ohno-Machado, Shah, & Escobar, 2014);

(2) Needs assessment – systematically identify all of an individual's health and social care needs and determine how they can best be met. Given the complex set of needs that typically exists for 'at risk' individuals, it is necessary to look beyond traditional assessment of purely health-related needs towards the comprehensive assessment of the holistic needs of the individual and of their primary caregiver (Ross et al., 2011);

(3 Care planning – the creation of individualised care plans that align services and supports to an individual's personal circumstances and to their health and social care needs. The care plan forms a structured framework for care delivery. It is a living document that changes as needs change (Boaden et al., 2006).

(4) Care coordination – continuous communication with clients, caregivers, health and social care professionals, services and the broader health and social care system with the intention of implementing, monitoring and adapting care plans as the need arises. Successful care coordination requires the presence of a case manager who takes responsibility for overseeing the effective implementation of the care plan and for supporting the individual and their caregivers through the often complex care pathways they encounter as they attempt to deal with a range of complex and diverse needs (Hudson & Moore, 2006).

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While the care plan is the basis of the case management programme, coordination of care is the basis of the role of the case manager. Case managers may work in isolation to assess needs, develop care plans and source appropriate services on an individual's behalf. They may also operate in multi-disciplinary teams where they source a variety of treatment options from a range of different health care professionals within and outside of the core team. The latter approach can more easily facilitate the implementation of an appropriate, holistic and individually tailored care plan (Ross et al., 2011).

Where case management is provided for a specified period of time or until a pre-defined improvement threshold is met, a case closure component should be added to the model to ensure effective discharge and caseload management (Roland, Dusheiko, Gravelle, & Parker, 2005). This process should also govern client death or self-discharge from the programme.

The strength of case management lies in its flexibility and adaptability to varying healthcare settings, and it has been applied in ED, home care, mental health and rehabilitation settings (Beauchamp, Cheh, Schmitz, Kemper, & Hall, 2008). However, the absence of a universally recognized operational definition of case management and the existence of numerous overlapping case management models has made the evaluation and comparison of case management approaches particularly challenging. As a result, there are mixed findings concerning the efficiency and efficacy of case management (Craven & Conroy, 2015; Huntley et al., 2013). Yet, case management has become an increasingly utilized approach across various health care settings in an attempt to tackle the rising rates and cost of healthcare utilization around the world.

1.3. The Integrated Care Programme for Older People (ICPOP)

Ireland is also at a point where it needs to examine better ways to care for an ageing and increasingly multi-morbid population and a move towards a framework of integrated care for older adults is in progress. The Health Service Executive's (HSE) Integrated Care Programme for Older Persons (ICPOP) and National Clinical Programme for Older Persons (NCPOP) are collaboratively working to implement an integrated model of care for this population.

The ICPOP 10-step Framework for Older People provides a conceptual map of integrated care that includes overarching functions required to deliver integrated care (e.g. multi-disciplinary working and information technology support), population-based approaches and evidence-based clinical pathways (HSE, 2016). The programme combines the development of high quality primary care and community-based services with improved coordination and integration of secondary care to provide an integrated care programme for older adults with complex health and social care needs. This approach shifts care away from costly acute settings. The introduction of case management approaches for older adults is a key component within the MDT model underpinning the ICPOP framework.

1.4. Aims of this report

This report is seen as having utility for service leaders (clinicians and managers) who are instrumental in redesigning services for older persons. The report will critically evaluate published case management approaches in terms of their suitability for this population. The report will also examine how case management models have been evaluated in the literature and present evidence-based recommendations to inform the development of the case management approach in the ICPOP programme. In drawing on evidence from other service contexts, it makes recommendations on a model that is a 'best fit' in terms of older persons. As older person integrated care services mature there is opportunity to undertake further research into specific interventions that work best with older persons when adopting a case management approach. In the interim the report offers a synopsis of the literature and summarises the key features of the role, skills, education and competencies required.

2. Methodology

The Case Management Society of America (2008) definition of case management guided the search strategy for this literature review. For our population of interest, 'older persons' were identified as 65 years and older.

2.1 Eligibility criteria

Studies were included in this review if they met the following criteria:

- *Intervention:* Studies examining case management (or associated terminology) interventions across a range of settings (e.g. primary care, community-based settings and acute care) were examined.
- *Population:* Researchers typically searched for older populations who were 65 years and older or populations with multi-morbidities (predominantly older persons), but exceptions were made for more general population samples that still examined the efficacy of case management models and included older persons in their sample.
- *Study type:* Qualitative and quantitative studies were analysed with particular emphasis on randomised control trials (RCTs) and systematic reviews.
- *Publication date:* Studies published between 1994 and July 2017 were included.
- *Databases:* PsycInfo, CINAHL, ERIC, MEDLINE, PsychARTICLES and Cochrane Databases were included.

A limited range of criteria was used to exclude studies, including:

- *Language:* Only studies in English were considered for this review.
- *Publication type:* Grey literature was not examined in detail. A limited number of key reports frequently referenced in published literature were examined (e.g. Beauchamp et al., 2008; Boaden et al., 2006; Challis et al., 2010; Goodman et al., 2010; Ham, Imison, & Jennings, 2010; Hutt et al., 2004; Purdy, 2010; Ross et al., 2011; UnitedHealth Europe, 2005).

2.2 Search strategy and study selection

Four sets of MeSH terms were constructed consisting of the following themes: Case Management, Older Persons, Healthcare Settings and Systematic Reviews. For a full list of the search terms, see Appendix 1.

A total of 4,474 articles were identified from the initial search. At this point, duplicates and non-English articles were removed (n = 174). Titles, abstract and keywords of the remaining articles (n = 4,290) were screened for relevance by three researchers. A proportion of these articles (20%) were independently screened by the first author, along with articles the initial reviewers felt were ambiguous but 'potentially relevant'. Following this initial screening, the full text for the remaining 420 articles were reviewed against the inclusion/exclusion criteria. This work was carried out independently by one researcher and the first author independently screened a proportion of these articles (10%). Any disagreements were resolved by group discussion. A total of 283 studies were selected for inclusion in this literature review; 10 commonly cited reports (grey literature) were subsequently included.

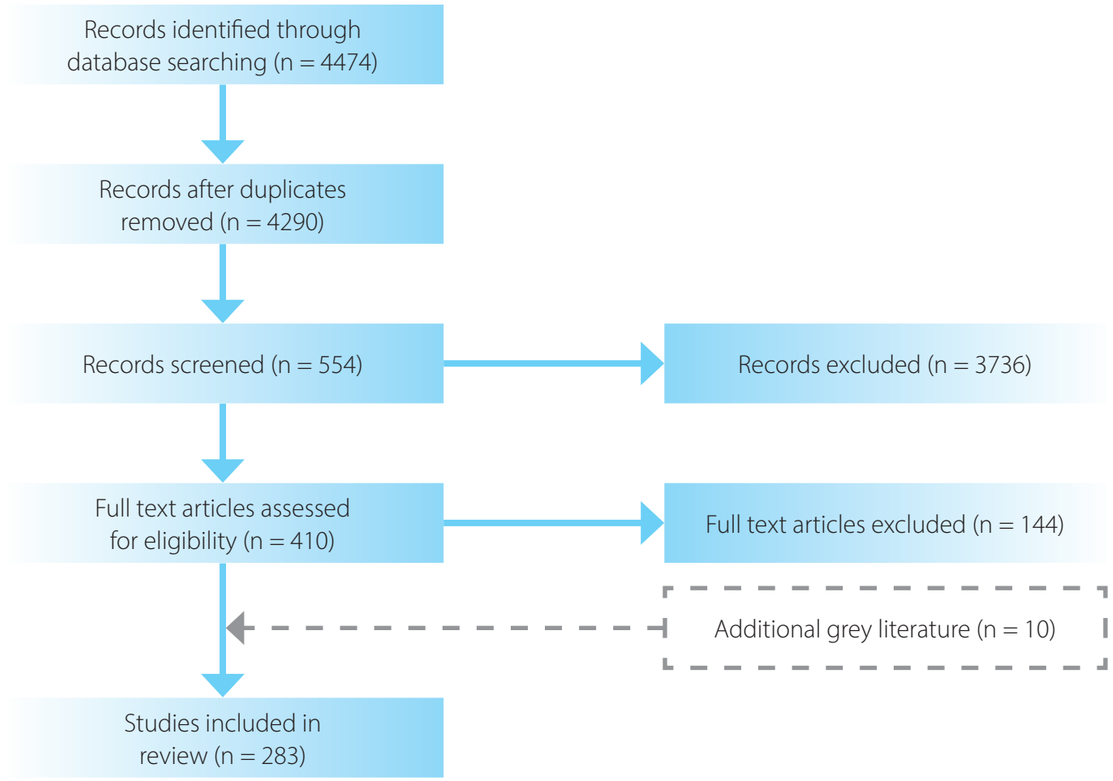

Figure 1: Search strategy and literature selection.

3. Case Management Approaches

Since its introduction, continuous development of the idea of case management has led to the establishment of six general, yet distinct, models. These models have subsequently been adopted, adapted and implemented in varied healthcare settings and in accordance with a variety of different national healthcare policies. This section first briefly describes the key characteristics of the six general models. It then examines how these models have been adapted to create tailored country- or context-specific models, providing approaches of how the basic models can be extended in practice.

3.1 General models of Case Management

Six general models underpin most current case management approaches. The models share the same core components; assessment, planning, coordination, monitoring and advocacy, but they differ in terms of the intensity of case management (i.e. the degree of case manager involvement), the level of client participation and the degree of service provision (Vanderplasschen, Wolf, Rapp, & Broekaert, 2007).

1. The Brokerage Model: In this model, the case manager acts as a 'broker' who assists clients to find supports and services that meet their needs. Engagement between the client and the case manager is typically brief; one to two contacts (Stahler, Shipley Jr, Bartelt, Ducette, & Shandler, 1996). This is case management at its most primitive.

2. The Generalist Model: In this extension of the Brokerage Model, the case manager works with the client to help them to identify their needs. The case manager then negotiates on behalf of the client for improved access to services and supports. As a result, the services and supports are likely to be more personalised for this client (Woodside & McClam, 2016).

The Brokerage and Generalist models are very similar. Case managers are individual health professionals who work in isolation to identify and avail of appropriate services as needed (Stahler et al., 1996; Vanderplasschen et al., 2007; Woodside & McClam, 2016). The emphasis is primarily on increasing awareness of, and signposting to, available services and supports. There is less focus on the ongoing monitoring and support of clients. Case managers are less likely to assist a client who faces barriers to services. Although there is more contact between the client and the case manager in the Generalist Model, the relationship between the two develops the least in these approaches. There is little time for trust to develop and this is turn is related to poor treatment adherence. Neither model provides outreach or service provision at home.

3. Assertive Community Treatment (ACT): In this model, the case manager works with multi-disciplinary teams to identify the needs of the client and to provide services directly through assertive outreach to clients (B. J. Burns & Santos, 1995; Mueser, Bond, Drake, & Resnick, 1998). In addition to identifying services and supports that meet client needs, the case manager also engages in direct counselling, skills building, family consultations and crisis intervention (Vanderplasschen et al., 2007). ACT has been associated with reduced hospital admissions. This is achieved through community-based teams operating on a 24x7 basis. Team members share caseloads that are monitored in daily meetings (T. Burns et al., 2007).

4. Intensive Case Management (ICM): This approach can be thought of as an extension of the ACT model, but one with smaller caseloads than typically found with ACT (T. Burns et al., 2007). The success of ICM depends on its adherence to the ACT model, in particular the multi-disciplinary nature of this model. However, it also incorporates more intensive and time-consuming management of the case to tailor the supports to the generally more complex needs of the client. It works best when the case manager has fewer than 20 clients and in situations where clients require higher levels of tailored support and/or high intensity input (Dieterich et al., 2017).

ACT and ICM models provide more comprehensive approaches to case management where the client-case manager relationship is an important part of the care plan development. Both models developed from attempts by psychiatry services to respond to care needs of clients with severe mental health conditions (B. J. Burns & Santos, 1995; T. Burns et al., 2007). Focused on service provision

in the home and in community settings, these multi-disciplinary models utilise input from each of the different health and/or social care professionals involved in care provision, and they work with the client to develop an appropriate and individualised care plan.

5. Clinical Case Management: In this model, the case manager combines resource allocation with a more therapeutic role (Kanter, 1989). Unsurprisingly, it is of the utmost important that the client-case manager relationship is very strong as it is through this relationship that the case manager is able to gain additional insight into the difficulties faced by the client and therefore an increased understanding of the services needed to support the client (Simpson, Miller, & Bowers, 2003). Working typically in isolation, the case manager works on both service provision and coordination of services to meet the clients wide range of health and social care needs (Kanter, 1989).

6. Strengths-Based Case Management: This form of case management focuses specifically on the client's strengths (rather than focusing on their difficulties) and works to empower the client to be intrinsically motivated to succeed (Siegal et al., 1995). It also incorporates the key principles of ACT (Brun & Rapp, 2001). As a result, the case manager works on both external (e.g. services, supports, social relations and informal help networks) and internal (e.g. confidence, competencies, hopes) resources, rather than exclusively external resources as in the other case management models (C. A. Rapp & Goscha, 2008). The client-case manager relationship is particularly important in this model. Indeed, the added value in this model may be the case manager's ability to support and encourage adherence to care plans (R. C. Rapp, Siegal, Li, & Saha, 1998).

Figure 2 presents a depiction of how the different case management models interact with each other. In summary, the Brokerage and ACT models are the foundations from which the other models have developed. Newer models can differ quite extensively from the basic models in areas that include, but are not limited to, the incorporation of a multi-disciplinary team, and whether client support or coordination of services is the main objective of the model. The Generalist Model is to the Brokerage Model, as ICM is to ACT, where the latter model in each case is an extension of the former and includes a more significant and extensive relationship with the client. The Strengths-Based Model adopts characteristics of both the Generalist and the ICM models. It lacks the inclusion of a multi-disciplinary team and focuses on the coordination of services (similar to the Generalist model) and it is built on a detailed working relationship with the client in the provision of said services (similar to ICM). Finally, the Clinical Case Management model extends from the Strengths-Based Management model, but with a reduced focus on empowering the client and increased attention on the case manager functioning in a therapeutic role.

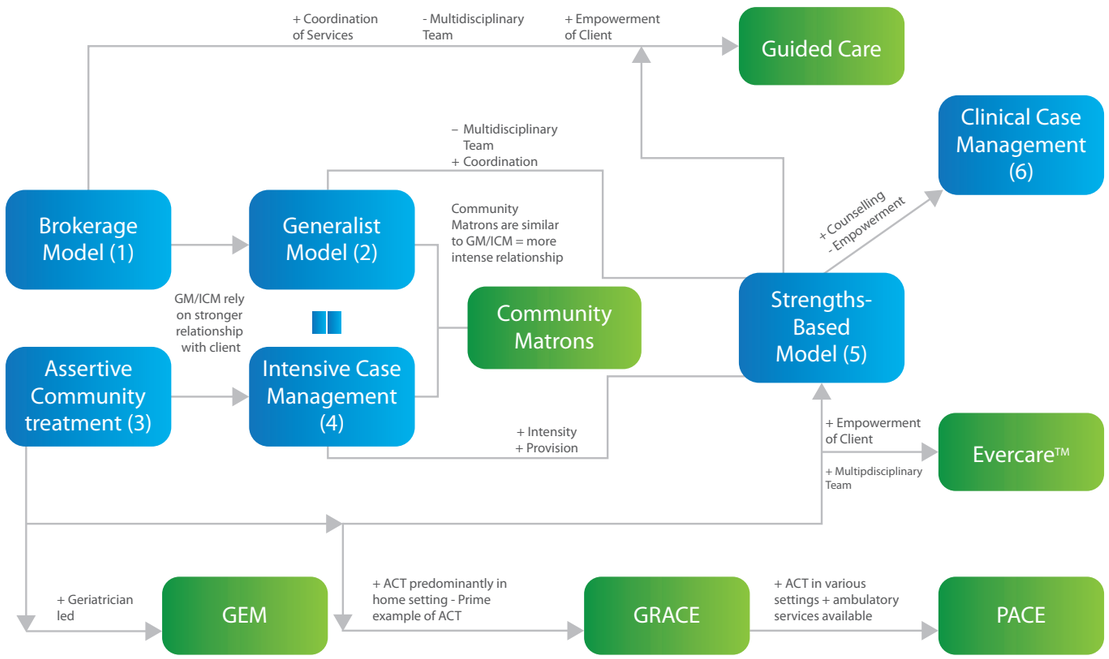

Figure 2: Depiction of the interaction between general case management models (blue) and the tailored models (green) that have been analysed in this report.

3.2 Tailored models of Case Management

When it comes to implementing case management, the general models described in the previous section typically have to be tailored to suit specific health and social care systems and the policy context in which they are being implemented. The systematic review carried out by Stokes and colleagues (2015) details 36 different models that have been implemented as case management interventions. Six examples are summarised in this report. These have been chosen as they highlight some of the ways in which the general models can be combined and extended to create tailored approaches. The six tailored models are also presented (in green) in Figure 2.

3.2.1 Geriatric Resources for Assessment and Care of Elders (GRACE)

The GRACE programme is a Canadian model based on a two-person GRACE support team consisting of an advanced nurse practitioner and a social worker. The support team care for low-income older adults in collaboration with the GP and a geriatrics multi-disciplinary team. This team is geriatrician-led and it usually also includes a pharmacist, physical therapist, community resource expert and mental health case manager (Counsell, Callahan, Buttar, Clark, & Frank, 2006; Counsell, Callahan, Clark, & et al., 2007). The GRACE programme commences with an initial and subsequently annual comprehensive in-home assessment by the support team that takes approximately 1.5 hours. The support team are then responsible for developing the individualised care plan in collaboration with the geriatrics team. The care plan is based on 12 evidence-based care protocols covering medication management, depression, mobility issues, vision difficulties and other geriatric conditions. As the support team is responsible for coordinating care for the client on an ongoing basis, they meet with the GP to review the care plan and obtain their input. They then discuss and agree the care plan with the client in a second home visit, manage referrals and logistics (i.e. making appointments for the client), and provide health coaching (Bielaszka-DuVernay, 2011). The support team also communicates the care plan to family members and other health care providers as appropriate. Care plans are reviewed at GRACE interdisciplinary meetings (weeks 3 and 6 and months 3, 6, and 9) and client meetings are monthly at a minimum (Counsell et al., 2007; Schubert, Myers, Allen, & Counsell, 2016). Supporting care transitions are an important element of the GRACE programme (Bielaszka-DuVernay, 2011). A home visit also occurs immediately after any hospitalisation or visit to the ED. Coordination of care is supported by an electronic medical record and a web-based tracking system (Counsell, Callahan, Tu, Stump, & Arling, 2009). The caseload, availability of the support team and training for this team are unclear from the published studies (Stokes et al., 2015).

The GRACE programme is a good example of an ACT model of case management. It focuses on service provision in the home and it relies on a multi-disciplinary team and client input to develop and monitor an appropriately tailored care plan. The close working relationship with GPs and having a social worker on the main support team are cited as key elements of the programme's success (Bielaszka-DuVernay, 2011).

3.2.2 Program of All-Inclusive Care for the Elderly (PACE)

The PACE programme operates specifically in the US. Medicare and Medicaid support helps to fully finance the costs associated with the programme including hospitalisations and nursing home stays (Boult & Wieland, 2010; Lee, Eng, Fox, & Etienne, 1998). The programme also integrates the delivery and financing of services for older adults requiring nursing home care, but who have the ability to reside in community settings. PACE participants attend day health centres where they can receive services to meet most of their needs. Although the programme can contract out services, all services continue to be managed and coordinated by the PACE care team.

PACE is another example of an ACT model of case management. Multidisciplinary collaboration is key and it supports the development of a care plan that best suits the client. Service provision is a consistent theme throughout the model. Unlike the GRACE programme that is predominantly used in the home setting, the PACE model provides services across a variety of settings. Additionally, the inclusion of ambulatory care to specifically assist those with mobility issues is a core component of the programme. It is of particular value to older adults with relatively poor social support networks and/or those living in remote locations.

3.2.3 Geriatric Evaluation and Management (GEM)

The GEM model was developed in Australia as a geriatrician-led service model promoting the use of a multi-disciplinary team (usually consisting of physiotherapists, social workers, occupational therapists and nurses) to coordinate and improve the care transition experiences and outcomes of the older people availing of the service (R. Burns, Nichols, Graney, & Cloar, 1995; R. Burns, Nichols, Martindale-Adams, & Graney, 2000; Harvey, Foster, Strivens, & Quigley, 2017). The objective of GEM is to complete a comprehensive geriatric assessment and to use this data to: (i) develop a comprehensive medical plan that takes account of the client's new and existing medical, psychosocial and rehabilitative care needs; (ii) identifies, enhances and coordinates the client's support services; and (iii) improves physical, cognitive and social functioning of older adults with multiple morbidities (Toseland et al., 1996). Assessment and follow-up typically takes place in a GEM clinic. The caseload and availability of the case manager within the GEM team is unclear from the published studies (Stokes et al., 2015). The GEM model has been adopted in a number of medical centres for veterans in the US, but it has not been widely adopted outside of this network to date (Engelhardt, Toseland, Gao, & Banks, 2006).

The GEM model is based almost entirely on the ACT model with the addition of a geriatrician-led case manager; a speciality that many other models fail to include, even within their multi-disciplinary teams.

3.2.4 Guided Care

Guided Care is a team-based approach to providing care to 50 to 60 older adults at highest risk of significant healthcare use in the following year (Boult, Reider, Leff, & et al., 2011). The team consists of a Guided Care Nurse (GCN), physicians (2 to 5) and primary care office staff (Boyd et al., 2007). The GCN completes a tailored education programme designed to equip them with the skills and competencies needed to provide all of the services that are available in the Guided Care model. These services include comprehensive in-home assessment, regular client monitoring, facilitating access to services, collaborative care, creation of evidence-based guidelines for chronic conditions, motivational interviewing for health behaviour change, cultural competence, and educating and supporting caregivers (Boult & Wieland, 2010; Boyd et al., 2007). Web-based electronic records provide GCNs with best-practice guidelines, while medication alerts enable them to manage appointments with other health care professionals (Ross et al., 2011). Once trained, the GCNs are integrated into primary care settings by the physicians on the team, typically through a process of observation and interaction with other staff. Predictive modelling based on claims data is used to identify cases (Ross et al., 2011). Neither the primary location of the GCN nor their availability is clear from the published literature (Stokes et al., 2015).

The Guided Care approach displays elements of the Brokerage and Strengths-Based Models. The former is in evidence in the focus on service provision rather than in performance assessment, while the use of motivational interviewing for health behaviour change incorporates elements of the latter.

3.2.5 Community Matrons

In England, nurses can undertake case management as part of their traditional role, but a new Community Matron role was introduced to implement a case management approach to support people with complex chronic conditions. The aim was to increase the likelihood of achieving positive health outcomes for these individuals while reducing associated unplanned and costly hospital admissions (Brown, Stainer, Stewart, Clacy, & Parker, 2008; Gage et al., 2013). Community Matrons are full time dedicated case managers and they tend to have smaller caseloads than practice, district or disease-specific nurses; typically less than 50 clients. They tend to have more frequent and more intensive contact with clients, in particular older clients who are taking more medications. Community matrons can and have been used to fulfill the nurse-led case management requirement of other programmes or models (e.g. Evercare™) adopted by NHS trusts (Patrick et al., 2006).

The Community Matron model is a personalised approach to case management, where the development of the client-case manager relationship is essential. It can be considered an example of the Generalist Model of case management; in this instance, it is suggested that it is a more client-focused version of the Brokerage Model with smaller caseloads.

3.2.6 Evercare™

Evercare™ is a programme that was initially developed in the US in response to increasing numbers of hospital admissions from nursing homes. It was subsequently extended to older adults living in the community (Fraser, 2005). Evercare™ is based on five fundamental principles, which are: (i) application of an individualised, holistic approach to maximise client function, independence and quality of life; (ii) centrality of primary-care and in particular the role of the primary case nurse; (iii) a desire to keep older adults out of hospital by using proactive rather than reactive approaches to managing healthcare; (iv) medication management and review; and (v) a more robust approach to identifying, proactively managing, and monitoring caseload outcomes. The case management role is performed by an advanced nurse practitioner. The Evercare™ model describes five core competencies required by this individual. These are: (i) Clinician (actively delivering care, monitoring interventions); (ii) Care orchestrator (coordinating care across agencies and boundaries); (iii) Communicator (interacting with a range of professionals/family/carers/clients); (iv) Coach (encouraging, supporting the client to monitor/manage own care); and (v) Champion (acting as liaison for older person and actively ensuring that they receive a quality service). In the US, existing qualified nurse practitioners perform the role of the case manager (Fraser, 2005).

In the NHS model, clients are initially selected based on age (65 and over) and a history of emergency admissions (Gravelle et al., 2007). Advanced primary nurses (APN) act as case managers who agree tailored care plans with the client, their GP and other health and social care professionals as needed. The APN role was developed within the NHS during the implementation of Evercare™ because although it overlapped with the existing 'advanced nurse practitioner' role, not all APNs held advanced nurse practitioner competencies as outlined by the Nursing and Midwifery Council (Hudson & Moore, 2006). Risk stratification tools are used to manage caseloads, but the number of cases typically allocated to an APN is unclear from the published studies (Patrick et al., 2006; Stokes et al., 2015).

The Evercare™ programme combines elements of a number of different general case management models. The influence of ACT can be seen in the collaborative and multi-disciplinary approach of the APN and the primary health care team. There is also a high level of supervision and management, combined with the recognised importance of having a good client-case manager relationship. The involvement of the client in developing and agreeing their personalised care plan is reflective of both the ACT and ICM models. When the core competencies of the APN are examined, the 'Coach' aspect is very similar to the approach taken in the Strengths-Based Model, while the 'Champion' competency is more reflective of the Brokerage Model.

4. Evaluating Case Management Approaches

The lack of a standard 'Case Management Intervention', the way in which case management models are adapted to fit different contexts, and the lack of transparency in the reporting of case management programme design, makes it very difficult to compare across models and to develop generalised conclusions about the value of case management as an approach (Ross et al., 2011). The impacts can be difficult to quantify (e.g. impact on client well-being), measure (e.g. medium to longer-term health outcomes) and in some cases untangle (e.g., where there are multiple morbidities and/or multiple factors involved treatment and care planning). Misattribution and a difficulty demonstrating cause and effect are common problems (Huws et al., 2008; Ross et al., 2011). Despite these mixed findings, it is generally accepted that case management can have a positive impact on care planning, care outcomes, the patient experience and in some cases service utilisation when it is designed and implemented appropriately (Ham & Oldham, 2009). This section examines evaluations of case management approaches with older adults.

Fifty-two evaluation studies were found. These included three studies focused specifically on dementia (Challis, von Abendorff, Brown, Chesterman, & Hughes, 2002; Lam et al., 2010; Vroomen et al., 2015) and one focused on stroke-related care (Mayo & Scott, 2011). In addition, fourteen literature reviews relating to case management approaches were examined. These included two specifically focused on dementia care (Khanassov, Vedel, & Pluye, 2014; Koch et al., 2012). The majority of evaluation studies reviewed for the purposes of this report were conducted in the community, within primary care settings (n=50), while one study was conducted in a residential aged-care setting (Ervin, Finlayson, & Tan, 2012) and another in a hospital setting (Gibson, Martin, Johnson, Blue, & Miller, 1994).

A variety of methodological designs was used to evaluate case management approaches:

- Cluster Randomised control trials
- Quasi-experimental/non-randomised designs
- Cross-sectional survey designs
- Qualitative interviews
- Observations
- Healthcare record reviews
- Prospective questionnaire designs
- Retrospective cohort studies
- Retrospective case control
- Embedded multiple case study
- Systematic reviews
- Narrative/integrative reviews

4.1 Evaluation frameworks/protocols

The majority of primary studies (48/52) did not employ a specific framework or protocol to guide evaluation of case management. The four studies that did report using a particular evaluation framework are briefly outlined here.

4.1.1 Process evaluation of the Prevention of Care Program (PoC)

Metzelthin and colleagues (2013) conducted a mixed methods process evaluation of the Prevention of Care (PoC) programme to evaluate: 1) the extent to which the interdisciplinary PoC approach was implemented as intended and 2) healthcare professionals and clients experience of the intervention and its feasibility. The programme for the care of frail older adults was implemented in the Netherlands and it consisted of a core team (GP and nurse) who coordinated care (e.g. assessment, care planning, treatment and monitoring) with other health professionals. Metzelthin and colleagues (2013) selected the components for their evaluation (i.e. reach, dose delivered, fidelity, dose received [exposure and satisfaction], and barriers) from those recommended for process evaluation of health interventions and research (Baranowski & Stables, 2000; Linnan & Steckler, 2002; Saunders, Evans, & Joshi, 2005).

Qualitative semi-structured interviews were carried out to gauge the experience of and satisfaction with the intervention, and the barriers and facilitators to adherence. Quantitative data was gathered from logbooks and evaluation forms completed by practice nurses. They self-reported information relating to the amount (dose) of care delivery; number of team meetings; referral to other disciplines, numbers of and reasons for drop-out; nurse self-reported frailty of the older person; the older person's ability to understand the goal and the care approach; the older persons' adherence to commitments (Metzelthin et al., 2013). No validated tools used for quantitative aspect of the evaluation.

4.1.2 Process and outcome evaluation of the PRISMA Model

Hébert and Veil (2004) developed a method to measure the implementation of an integrated service delivery system for older adults that comprised of six mechanisms and tools: (i) coordination of all organisations providing health and social care; (ii) a single entry point into the system; (iii) case management; (iv) single assessment tool with case-mix classification; (v) individualised service plans; and (vi) electronic patient records. Quantitative indicators were identified for each component and components were weighted according to their relative importance in order to generate a total 'evaluation' score (out of 100). This method was subsequently used to evaluate the PRISMA Model implemented in Quebec, Canada (Hébert et al., 2008). This evaluation study was carried out using an embedded multiple case study methodology (Yin, 1994), where each of the three regions of Quebec was defined as a case. Data collection techniques used to measure the indicators for each of the six weighted components included: document analysis (minutes, charts review), individual interviews (policy-makers, managers, clients and caregivers), focus groups (CMs, clinicians), postal questionnaires (physicians) and standardised questionnaires. The same approach was used in a subsequent study by Carrier (2012) to evaluate case management; in particular service integration and coordination in the context of integrated care networks for frail older adults.

4.1.3 Case management evaluation using the PRECEDE Model

Oh (2013) carried out a cross-sectional study using survey and claims data to determine the effects of case management (greater than 18 months in duration) on a range of outcome variables measured for recipients of Korean Medical Aid. The PRECEDE model (Downie, Fyfe, & Tannahill, 1990) was used to decide which outcome variables to choose in evaluating the interventions. In this model, predisposing, enabling and reinforcing factors influence health behaviour, which in turn influences QoL. In this evaluation, the outcome variables chosen were recipients' satisfaction, ability to handle health problems, health behaviour, QoL, hospital visiting days and medical expenditure.

4.2 Methodological considerations

A number of methodological considerations can be drawn from the evaluation studies and literature reviews pertaining to the implementation and evaluation of case management approaches. Key recommendations future evaluation-focused research are outlined here.

4.2.1 Clearly defined target population and sample size

A number of studies indicated that the absence of having a clearly defined target population regarding programme enrolment, with stringent inclusion/exclusion criteria, was a limitation of their case management approach (Lam et al., 2010; Latour et al., 2007; Möller, Kristensson, Midlöv, Ekdahl, & Jakobsson, 2014; You, Dunt, & Doyle, 2016). For example, Metzelthin and colleagues (2013) realised that they should have used a higher cut off point on the Groningen Frailty Indicator screening tool, because some of the older adults in the study were not frail enough to really demonstrate significant benefits from the intervention. You and colleagues (2013) and Koch and colleagues (2012) agreed that targeting participants with more severe conditions/symptoms and higher risk would better demonstrate benefits for the target population where they do actually exist. Other authors argue that frailty alone is not always the most appropriate index for recruiting older adults into a programme, and that other contextual factors (e.g. the appropriateness of their home/community care situation) are often more important (Carrier, 2012). This can better indicate if their support needs are being appropriately met in the community.

A related difficulty was the lack of statistical power to detect effects in the data that authors argued did actually exist. This was generally attributed to small sample size (Ervin et al., 2012; Sylvia et al., 2008). In some cases, where there was a clearly defined target population, researchers had to relax the inclusion criteria in order to increase sample size and statistical power (Patrick et al., 2006). However, this may in turn have weakened the chance of finding real effects. In studies on frail older adults, a common issue researchers faced was delayed follow-up and/or complete drop out, due to acute illness and readmission to hospital (Kristensson, Ekwall, Jakobsson, Midlöv, & Hallberg, 2010). Sample size calculations should therefore take account of potentially higher than average rates of attrition and data collection delays.

4.2.2 Clearly defined intervention

A number of evaluation studies and systematic reviews reported the particularly problematic issue of poor reporting transparency regarding the case management approach itself and the implementation of that approach. Case management is often not tightly defined (Koch et al., 2012; Latour et al., 2007) and case management programmes tend to be hugely heterogeneous with regard to their component characteristics (noted in reviews by J. Y. Joo & Huber, 2014; Koch et al., 2012; You et al., 2013).

4.2.3 Non-randomised, non-blinded intervention designs

While necessary in some cases where randomisation is not feasible (or perhaps even ethical), some authors feel this limited their ability to investigate intervention effectiveness; particularly where group differences existed at baseline (Ruikes et al., 2016). There is still a need for high-quality randomised control trials in this area that are based on focused and well-defined populations, interventions and outcome assessment (Latour et al., 2007).

4.2.4 Outcome selection and measurement

Selection of appropriate outcomes and measurement tools received a lot of attention across the evaluation studies and systematic reviews. Sandberg and colleagues (2015) noted that when evaluating an intervention such as case management, it is not enough to focus solely on healthcare utilization as many of the existing studies have done, but also healthcare costs, quality of life and patient satisfaction. Indeed, avoiding hospital admission is not necessarily the most sensitive indicator of success or of best care in relation to case management; expediting hospital admission can be the most appropriate approach in some cases for frail older adults (Elwyn, Williams, Roberts, Newcombe, & Vincent, 2008).

Nor is it sufficient to focus on levels of function, healthcare use and costs, and exclude psychosocial variables such as emotional or mental health status, and social and physical environmental supports and barriers, as a way of determining 'frailty' in older adults (Hyduk, 2002). Comprehensive psychosocial screening should be included prior to programme enrolment and followed-up throughout for evaluation purposes. Special attention should also be paid to outcomes relating to strengthening confidence and empowering clients to improve health behaviour (Brokel, Cole, & Upmeyer, 2012).

Some authors, including Ruikes and colleagues (2016) argued that it is important to carefully choose outcome measures that are specific and responsive to your target population. For example, if you are looking at case management in older adults with dementia, dementia-specific measures should be chosen to evaluate the outcomes of the case management programme for this group. Other authors have suggested that more rigorous measurement tools that are specific to case management approaches must be developed and validated for use in future case management evaluations (J. Y. Joo & Huber, 2014); for example, the 'Patient Satisfaction with Case Management Survey' used by Head and colleagues (2010).

In summary, complex interventions, particularly those with some degree of tailoring to individual needs (e.g. case management models) have wide spread and person-varying effects, which may not be best represented by the changes on a single domain of outcome variable. Mayo and Scott (2011) argue that evaluators should consider the range of possible outcomes based on the target population at hand (e.g. healthcare utilisation and associated costs, but also client [and carer where relevant] psychosocial, cognitive, functional, and physical health outcomes).

4.2.5 Evaluation design

Few studies follow a formal methodology when evaluating case management approaches. In particular, few evaluate the implementation of the case management model itself (Reilly et al., 2011). As a result, more implementation focused evaluations are needed that can speak to factors such as programme adherence and fidelity, the barriers to and facilitators of successful implementation, and the effects of specific intervention components in order to determine the 'active ingredients' of successful approaches (Fletcher & Mant, 2009; Möller et al., 2014; Reilly et al., 2011; Sandberg et al., 2015). Cost studies that apply a societal perspective and include a full economic appraisal (where appropriate) are also needed as simple cost evaluations are not enough to support a cost/benefit analysis of case management interventions or justify their value (You et al., 2013). Finally, more qualitative research is needed to overcome the limitations of quantitative approaches (that often focus on event rates, service use rates, and therefore do not detect improvements in other patient outcomes/experiences), by giving rich description of context (Elwyn et al., 2008).

Summary of findings

The analysis of case management evaluations revealed 5 key methodical considerations to be taken into account when designing and evaluating a case management programme.

- Clearly defined target population and sample size
- Clearly defined intervention
- Need for high-quality randomised control trials
- Importance of outcome selection and measurement
- Formal evaluation design.

4.3 Comparison of system and patient outcomes across models

Mixed results were found for the models described in this report concerning their effectiveness in providing significant health outcomes from both a system- and a patient-oriented perspective. This is consistent with outcome evaluation of case management studies more generally in the literature (Bernabei et al., 1998; Huntley et al., 2013; Purdy, 2010; L. Smith & Newton, 2007; Stokes et al., 2015). In this section, publications relating to the use of the six tailored models of case management described above were examined to extract findings relating to system- and person-oriented outcomes. A comparison of results across the six models in provided in Table 1 at the end of this section. The main findings are summarised below with the addition of relevant evidence from evaluations and systematic reviews of case management.

4.3.1 System-Oriented Outcomes

System-oriented outcomes pertain to those aspects of the health and social care system where we expect to see an impact because of the introduction of case management. Published evidence is mixed, but some findings suggest that case management approaches can result in a reduction in service utilisation (Hutt et al., 2004). Studies typically focus on one or more of the following outcomes.

Unplanned Hospital Admissions

Unplanned utilisation of hospital services was the most common system-oriented outcome measured. The GRACE, Evercare™, PACE and Guided Care models often demonstrated success in preventing unplanned admissions, albeit that positive results were not found across all studies. For example, Evercare™ in the USA (Kane, Flood, Keckhafer, Bershadsky, & Lum, 2002) outperformed Evercare™ in the UK. The disparity in results has been attributed to the use of different client selection criteria in the UK (Boaden et al., 2006). One Guided Care study (Boult et al., 2013) found a 38% reduction in unplanned hospital admissions, but the study had a small sample size and the reduction was not statistically significant. No significant reduction was found using the Community Matron model, although clients with access to a Community Matron did report that they were less likely to go to the ED or to their GP (Downes & Pemberton, 2009).

Length of Stay (LoS)

The GRACE and Evercare™ models, both of which incorporate elements of ACT, have shown reductions in LoS for clients. Shorter LoS was also found for Guided Care participants in relation to controls (Sylvia et al., 2008). In contract, findings were insignificant for the Community Matron model.

The evidence for hospital utilisation from systematic reviews is also mixed. Case management was not found to have a significant impact in many reviews (Huntley et al., 2013; J.Y. Joo & Liu, 2017; L. Smith & Newton, 2007; Stokes et al., 2015), but others found instances where there was a clear positive impact (Eklund & Wilhelmson, 2009). Manderson and colleagues (2012) illustrate the difficulty in drawing conclusions from systematic reviews of case management, including their own. They found that some individual studies found positive impacts while others did not and that these tended to cancel each other out in any subsequent meta-analyses. Indeed the heterogeneity of models, settings, target populations and measurement approaches precluded meta-analysis in many cases (J.Y. Joo & Liu, 2017). This highlights the variability and subjectivity of case management approaches (i.e. the lack of a one-size-fits-all approach to the delivery of case management) and the subsequent evaluation of those programmes.

Admission to long-term care

The PACE programme found that participants were 20% less likely to be admitted into long-term care, but more likely to use ambulatory care services (Kodner & Kyriacou, 2000). A delay in requiring long-term residential care has also been reported elsewhere in the literature (Elkan et al., 2001; Newcomer, Maravilla, Faculjak, & Graves, 2004).

Cost Efficiency

The GRACE model was the only tailored model found to be consistently effective in reducing healthcare costs. It achieved this through incorporation of its model into local healthcare settings. In contrast, the Community Matron model resulted in increased costs per patient, due in part to the more intensive time allocation that Community Matrons dedicate to their clients (Goodman et al., 2010). Case management was not typically found to have had a significant impact on total cost of care in systematic reviews (Oeseburg, Wynia, Middel, & Reijneveld, 2009; Stokes et al., 2015).

Mortality Rates

Efficacy in reducing client mortality rates was examined in relation to the Guided Care and Community Matron models. Neither approach had a significant effect on mortality. Published systematic reviews of case management evaluations have also produced inconsistent results regarding mortality rates: Smith and Newton (2007) reported non-significant findings for various models of case management; You and colleagues (2012) presented two studies that were successful in significantly reducing mortality rates of those in the intervention group; but meta-analyses generally found inconsistent reductions in client mortality (e.g.Goodman et al., 2010).

4.3.2 Patient-Oriented Outcomes

Patient-oriented outcomes are those outcomes from health and social care that are important to clients themselves. Patient satisfaction and Quality of Life (QoL) were most frequently reported, but independence, function and well-being have also been examined. These outcomes are complex, ambiguous (i.e. lack uniform definition) and often difficult to measure, so it can be challenging to accurately identify the specific impact of case management in relation to each (Ross et al., 2011).

Patient Satisfaction

Self-reported satisfaction was the most commonly measured patient-oriented outcome. Significantly, high levels of patient satisfaction were found for the GRACE, Evercare™ and the Guided Care models in comparison to 'care as usual' control groups. For example, Evercare™ participants valued the perceived enhanced access to care, increased psychosocial support and better communication (e.g. case manager availability) offered by the programme (Sheaff et al., 2009). Guided Care participants were more likely to rate their care highly in comparison to those not receiving case management (Boult et al., 2011) and similar high levels of carer satisfaction

were experienced (Wolff et al., 2009). One Guided Care study (Marsteller et al., 2013) reported that improved communication with the client and their family contributed to the improvement in patient satisfaction, but this was association not reported by all. Qualitative and survey evidence linked enhanced patient satisfaction to the relationship between client and Community Matron (Brown et al., 2008; Leighton, Clegg, & Bee, 2008; Patrick et al., 2006). No significant results were found for the GEM model.

A consensus emerges from the systematic reviews that suggests that patient satisfaction does improve when case management approaches are adopted (Goodman et al., 2010; L. Smith & Newton, 2007; Stokes et al., 2015), although it must be noted this is not exclusively the case (Manderson et al., 2012).

Quality of Life (QoL)

A statistically significant increase in client QoL was reported for the PACE (Boult & Wieland, 2010) and Guided Care models (Boult et al., 2011). Family carers in Guided Care studies also reported reduced levels of carer strain (Wolff et al., 2009). A UK Evercare™ pilot reported that 97% of participants felt better able to cope with their health condition (UnitedHealth Europe, 2005). Enhanced QoL was also reported for the Community Matron model; this support came from qualitative studies (Brown et al., 2008).

The evidence from systematic reviews would suggest that case management has a positive impact on self-reported health status although the size of the benefit is small and in some cases, it is no longer found when statistical adjustments are made for multiple comparisons (Stokes et al., 2015). Findings related to the broader concept of QoL were sometimes mixed (Eklund & Wilhelmson, 2009; J.Y. Joo & Liu, 2017), but those focusing predominately on studies based on the ACT and ICM models were more positive (L. Smith & Newton, 2007).

Model	Unplanned Hospital Admissions	Length of Stay	Admission to Long-term Care	Cost Efficiency	Mortality Rates	Patient Satisfaction	Quality of Life
GRACE 2 year RCT (n=474) (Bielaszka-DuVernay, 2011; Counsell et al., 2006; Counsell et al., 2007; Counsell et al., 2009)	No significant difference across all participants. In a predefined group of clients most at risk (n=112) Yr 1: 12% reduction Yr 2: 22% reduction 1 yr post trial: 40% reduction.	Not reported	Not reported	Yr 1: neutral (savings offset by programme costs) Yr 2: $1,500 per patient. Mean 2-year costs not significantly different from those in usual care.	No significant differences found.	Patients were positively disposed to this model of care.	Significantly improved general health, vitality, social function and mental health.
GRACE VA (n=179) (Schubert et al., 2016)	37.9% fewer hospital admissions 14.8% fewer 30-day readmissions	28.5% fewer bed days	Not reported	Estimated savings of $200,000 per year after programme costs.	Not reported	Not reported	Not reported
PACE WPP longitudinal study (n=1258) (Kane, Homyak, Bershadsky, & Flood, 2006)	No significant differences found	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.	No significant differences found.
PACE Cohort studies (Beauchamp et al., 2008; Boult & Wieland, 2010; Nadash, 2004; Wieland, Boland, Baskins, & Kinosian, 2010)	Significantly fewer hospitalisations.	Reduced LoS	Significantly more nursing home stays (short- and long-terms stays combined)	Not reported.	Reduced mortality rates when higher PACE mortality risk is taken into account.	More likely to have better health management (e.g. end of life documents). High levels of satisfaction but perceived limits to breadth of activities available at the PACE centre.	Better self-rated health status and perceived quality of life.
GEM (R. Burns et al., 1995; R. Burns et al., 2000; Engelhardt et al., 2006; Harvey et al., 2017)	No significant differences found.	Hospital days rose from 2.45 at 8 months to 6.13 at 16 months, but then fell to 2.97 days during the 16- to 24-month period.	Not reported	Lower overall health care costs by 24 months once prior health case costs (pre-enrolment) are accounted for (Engelhardt et al., 2006).	54% lower mortality in one study (Harvey et al., 2017). No significant differences found in other studies.	Patients and carers experienced troublesome care transitions, unmet needs and lacked confidence at self-management in the most recent evaluation.	Significantly improved health perception, depression scales scores, life satisfaction and higher levels of social activity.
Guided Care Cluster RCT (Boult et al., 2013; Boult et al., 2008; Boyd et al., 2010; Leff et al., 2009; Marsteller et al., 2013; Sylvia et al., 2008)	Trend towards lower fewer hospital admissions but not statistically significant. Note: 29% lower use of home care services.	Trend towards fewer hospital days but not statistically significant	Not reported	Trend tower health insurance expenditure but not statistically significant.	No significant differences found.	Significantly higher participant ratings of quality of care. Physicians reported enhanced client communication but otherwise similar satisfaction with care as usual.	Significantly higher aggregated quality of life for clients and carers. No significant difference in carer strain or depression.

Model	Unplanned Hospital Admissions	Length of Stay	Admission to Long-term Care	Cost Efficiency	Mortality Rates	Patient Satisfaction	Quality of Life
Community Matron (Brown et al., 2008; Gage et al., 2013; Leighton et al., 2008; Patrick et al., 2006)	No significant differences found	No significant differences found.	Qualitative findings suggest that clients were assisted to remain at home for longer.	Cost per patient significantly higher due to smaller caseloads.	Not reported	Cross-study qualitative analysis suggests high levels of client, carer and GP satisfaction.	Cross-study qualitative analysis suggests improvements in global health, psychological & social health and independence.
Evercare™ (Boaden et al., 2006; Gravelle et al., 2007; Sheaff et al., 2009)	No significant differences found	No significant differences found.			No significant differences found	No significant quantitative differences, but qualitative findings suggest increased service access and better contact with health professionals.	Qualitative findings suggest improved quality of life.

4.3.3 Discussion and Conclusions

In summary, support was found for tailored adaptations of the ACT model. Positive results were found for the GRACE programme, which was the approach that most closely adopted the full ACT model. The GEMS programme, also based on ACT, had only relatively weak support. Most was qualitative in nature and few significant quantitative differences were reported in comparison to care as usual other than in the most recent GEMS study which reported significantly improved mortality rates (Harvey et al., 2017). The Guided Care and Evercare™ models resulted in significant improvements in patient and caregiver satisfaction and quality of life self-reported ratings, perhaps as a result of the incorporation of strengths-based components in each of these programmes. For example, Guided Care focused on empowerment of the individual to develop intrinsic motivation to modify their own behaviours. This highlights the impact that model selection will have in terms of achieving improvements in different outcome indicators.

Inconsistent findings also dominate case management reviews and the literature presents many inconsistent conclusions. For example, in a systematic review conducted by Huntley and colleagues (2013) no study found a significant reduction in unplanned hospital admissions, despite the fact that half of the included approaches were based on ACT models previously found to have positive improvements for this outcome indicator. In contrast, a review of case management studies focused on supporting frail older adults found reductions in unplanned hospital admissions and reduced healthcare costs (Oeseburg et al., 2009). In this instance, we have the same case management model (ACT) delivering inconsistent results depending on the scope of studies included in the review. Eklund and Wilhelmson (2009) found that the study with the strongest methodology and the highest number of significant improvements drew on components of the ICM model, namely the inclusion of a multi-disciplinary care team coupled with an extensive collaboration between the client and case manager.

Some suggest that the inconsistent findings of case management in general, and in particular with regard to more intensive models such as ACT and ICM, are a result of *'care as usual'* improving over the years to incorporate elements of primitive case management (L. Smith & Newton, 2007). This complicates comparisons between the intervention and control groups in randomized-control trials, making it more difficult to identify the impact that the intervention is having. Herein lies the possibility that case management remains as effective as it once was considered to be, but that standard care has and is improving and closing the gap between the two.

Another consistent theme within the literature is that there is no 'one-size-fits-all' model, but there are key aspects of each case management approach that may be relevant to a particular locality (Manderson et al., 2012). This is in fact the real strength of case management; that is, the flexibility and adaptability of each model to a diverse range of settings and locations. Perhaps unsurprisingly, case management models that target organizational interventions (e.g., specific risk factor management) are more effective on a variety of system outcome variables such as reduced unplanned admissions and length of stay than those that target patient-orientated interventions (e.g., health related behaviours; S. M. Smith, Soubhi, Fortin, Hudon, & O'Dowd, 2012). The more intensive models of case management influenced patient-oriented outcomes more significantly than hospital utilisation or cost, and in some cases (e.g. Community Matron) costs were found to increase in comparison to case as usual. Demonstrating improvement in patient outcome measures is a worthy goal of person-centred approaches to care, but it is rarely seen as the primary objective of case management (Stokes et al., 2015).

5. Key components of successful case management approaches

As few studies employ evaluation frameworks and no study has reported developing a specific case management evaluation protocol, it is useful to examine the evaluation outcomes that have been reported in the literature to identify potential 'key components' of successful case management approaches. This section outlines recommendations regarding programme components, processes and implementation guidelines synthesised from the primary evaluation studies. It should be noted that since the majority of the research in this area has been conducted in primary care and in community settings, the findings here relate principally to evaluating case management approaches in these settings.

5.1 The "Case Manager"

The role of the "Case Manager" is central to the success of a case management programme. This person must have the necessary skills, competencies, training and support to carry out the role effectively. This role has been undertaken by a range of different professionals and referred to using a variety of different labels. The term "Case Manager" will be used here to illustrate the need to establish a role with case management approaches at its core, in contrast to other roles which have a different focus but which may encompass some aspect(s) of case management.

5.1.1 Defining the role

Evidence suggests that many case management programmes have struggled to define the role of the Case Manager clearly and that case managers and other health professionals in the wider care network can have overlapping roles and responsibilities; for example, between community nurses and the GP (Challis et al., 2010). Perceived differences in seniority and rivalry between services can exacerbate these problems (Goodman et al., 2010). Clarity of roles, responsibilities and boundaries is essential to the success of the programme (Chapman, Smith, Williams, & Oliver, 2009). One individual, or team, must have overall responsibility and accountability for the end-to-end care process associated with a given case (Challis et al., 2010). In the absence of this clear and unambiguous accountability, care can become fragmented leading to implementation problems and unrealised benefits for the client and the system (Ross et al., 2011).

5.1.2 Skills and competencies

Studies show that the role of Case Manager has been undertaken by people from a variety of health and social care professions (e.g. nursing, occupational therapy, geriatrics, psychotherapy, social work) and in some cases by people without clinical expertise. Regardless of the background of the individual taking up this role, there are certain skills and competencies that they must possess or receive training in, to be effective (Boaden et al., 2006). These include:

- *Interpersonal skills:* Case Managers need to be able to develop effective working relationships with clients and their families, with other members of the multi-disciplinary care teams and with service providers. In particular, they need to be approachable, empathetic, understanding, patient and persistent. The relationship between the Case Manager and the client is fundamental to the success of the programme. It should seek to empower the client and give them the confidence to self-manage (Schraeder et al., 2008), but it takes time to develop. It can take 6 to 12 months to reach a point where the Case Manager has sufficiently detailed knowledge of their client to be easily able to identify changes in their health status (Goodman et al., 2010). The Case Manager must also build relationships between primary care services (e.g. the GP and community-based health and social care professionals), secondary care (e.g. consultants, outpatient clinics) and acute care services in order to best support their clients. Case managers typically report this aspect of their job as one of the most challenging (Goodman et al., 2010; Hudson & Moore, 2006; Sheaff et al., 2009).
- *Advocacy and negotiation skills:* Case Managers also need to have the appropriate expertise to advocate successfully for services and supports on behalf of their clients. This wide-ranging aspect of their role includes understanding what clients

are entitled to, helping fill out grant applications, and negotiating directly with service providers and key decision-makers (Fletcher & Mant, 2009). It is therefore important that the Case Manager has some degree of influence over service providers and those involved in resource allocation (Kodner & Kyriacou, 2000). Success in this aspect of their role is directly linked to increased client and carer satisfaction (Boult et al., 2011; Brown et al., 2008; Marsteller et al., 2013; Sheaff et al., 2009).

- *System knowledge:* The Case Manager needs to have the requisite knowledge of the health and social care systems to enable them to identify, locate and access the appropriate services and supports for their clients.
- *Needs assessment:* The Case Manager (or care team) needs the skills to carry out an effective holistic assessment of the needs of the client (including their family caregiver as appropriate).
- *Problem solving skills:* Once armed with the knowledge of the system and an understanding of the client's needs, the Case Manager must expertly match these needs to available services and supports, develop the care plan in conjunction with the client and multi-disciplinary team, and coordinate the implementation and monitoring of that plan. Case Managers can often find themselves in a position where they are 'fixing' problems as they arise (Elwyn et al., 2008). In addition, they can often find themselves relying on their own initiative to source solutions, particularly if they are working in a context where they are faced with a lack of information about available supports and services, a lack of services themselves or a more general lack of resources, or a lack of stakeholder support for the programme (Cubby & Bowler, 2010).
- *Medication prescribing:* In some models, Case Managers have the ability to prescribe medication. This is not an essential requirement for the role, but GPs and clients have identified this as a major benefit (Chapman et al., 2009; Goodman et al., 2010; Sheaff et al., 2009). In the absence of direct prescribing capability, Case Managers must be in a position to ensure timely access to medication (e.g. via communication channels with the GP or with the multi-disciplinary team) and have the requisite knowledge to effectively monitor medication adherence.
- *Clinical governance:* The case manager will be responsible for clinical governance across the continuum of care for their clients (Ross et al., 2011). It is important that feedback directly from the case manager forms part of the overall quality assurance of the programme and feeds directly into programme governance structures.

There is some debate in the literature about whether case management approaches are best led by health professionals (most commonly nurses) or by social workers (Hébert et al., 2008; Hyduk, 2002); however the majority of the research conducted to date has been nurse-led (J. Y. Joo & Huber, 2014). Specific and dedicated case management nursing roles (as opposed to case management delivered by nurses already working in the community) has been found to lead to improved medication review processes, new diagnoses, and to the coordination of care tailored to the changing needs of the clients (Elwyn et al., 2008; Markle-Reid, Browne, & Gafni, 2013; Sylvia et al., 2008; You et al., 2016). Perhaps the Case Manager role is actually the emergence of a brand new profession in health and social care, one that goes beyond traditional nursing care and meaningfully considers the best way of supporting the client's autonomy (Hébert et al., 2008).

5.1.3 Education and training

Evaluation results demonstrate the need to develop appropriate training and education programmes for staff: (i) to help them understand the intended benefits of each component of the case management approach; (ii) to assist them in faithfully delivering the individual aspects of the case management intervention in practice; and (iii) to equip them with skills regarding optimal resource allocation, a vital component of any successful change management programme (Bernabei et al., 1998; Kristensson et al., 2010; Metzelthin et al., 2013; Weissert, Hirth, Chernew, Diwan, & Kim, 2003). There is, however, no consensus regarding the amount or level of training needed to be effective. The content and intensity of training varies widely across existing case management programmes (Goodman et al., 2010) and it is driven at least in part by how case managers are appointed in each model (e.g. the professional background they bring with them to the role. The literature examining the training needs of case managers with nursing backgrounds highlights the importance of advanced mentoring and clinical supervision skills (Boaden et al., 2006; Cubby & Bowler, 2010; Hudson & Moore, 2006). Case Managers that are located within, or who work closely with, multi-disciplinary care teams have the advantage of being able to experience different disciplines in the course of their daily work, which affords them the opportunity to learn new skills and competencies as a matter of course (Chapman et al., 2009).

5.2 Inter-/Multi-disciplinary collaboration

Interdisciplinary collaboration in relation to the design and review of individualised, person-centred care plans, is commonly cited as one of the key active ingredients for successful case management programmes (Bernabei et al., 1998; Brokel et al., 2012; de Stampa et al., 2014; J. Y. Joo & Huber, 2014; Landi et al., 1999; Markle-Reid et al., 2013; Metzelthin et al., 2013; Nelson & Arnold-Powers, 2001; Onder, Liperoti, Bernabei, & Landi, 2008; Sylvia et al., 2008; You et al., 2016). The need for a trusting relationship between the Case Manager, the multi-disciplinary teams and the client is highlighted as essential to facilitating shared decision-making in relation to care planning and delivery (Chow & Wong, 2014; A. C. T. Leung et al., 2004; You et al., 2013)

Interdisciplinary collaboration can be facilitated by the clear delineation of roles, scope of practice and accepted communication channels (Schraeder et al., 2008). Timely and efficient communication about the client's current health status is also an essential component of this collaborative relationship; this can be facilitated by case manager participation in GP visits with the client if appropriate, brief updates via email, impromptu conversations between visits and scheduled team conferences (Schraeder et al., 2008). Case managers can also be located in primary care facilities as part of, or adjacent to, multi-disciplinary primary care teams to better facilitate interaction, collaboration across disciplines (Khanassov et al., 2014).

The use of health information technology is also important not only in terms of facilitating interdisciplinary collaboration, but also as a tool for effectively monitoring the health status of clients (Hébert et al., 2008; A. C. T. Leung et al., 2004). For example, Brokel and colleagues (2012) argue that a computerised clinical chart sharing the client's health and social care needs, intervention/care plan and outcomes should be part of the data set used by community-based case management programmes that aim to sustain the quality of life for people living with chronic conditions.

5.3 Programme design

5.3.1 Published protocol

A number of review authors have noted that case management programmes have been poorly described to date. This stifles learning about the specific programme components that work well across settings when trying to integrate the findings in this area (J. Y. Joo & Huber, 2014; You et al., 2013). Programmes should have clearly defined components, and these should be reported in a transparent and replicable manner in protocol format (Enguídanos & Jamison, 2006; Reilly et al., 2011). Protocols should include designated guidelines, time frames, contact schedules for follow-up and discrete, focused goals for addressing the problems at hand (i.e. the specific programme components that will be employed and tailored to help reach these goals (Enguídanos & Jamison, 2006)).

5.3.2 Patient-centred approach

You and colleagues (2016) noted the importance of having the clear service objective that case management programmes should always be tailored so that they are congruent with meeting an individual's outcome goals. Adopting person-centred processes that support and motivate clients in a tailored way, to meet their individual goals, is fundamental to success (Chow & Wong, 2014). When case managers are equipped with better outcome-potential information and training in how to interpret this information, they will allocate scarce resources in ways that are most likely to maximize client benefits (Khanassov et al., 2014; A. C. T. Leung et al., 2004; A. Y. M. Leung, Lou, Chan, Yung, & Chi, 2010; Vroomen et al., 2015).

5.3.3 Single point of contact

Having a single, designated point of contact with designated responsibility for facilitating access to case management programmes is essential (Hébert et al., 2008; Landi et al., 1999; Nelson & Arnold-Powers, 2001; You et al., 2016). This person (the Case Manager) should also retain oversight of the entire case over time regardless of where the client is in their intervention timeline, or which individual or organisation is currently meeting their care needs. This ensures continuity of care for the client, which is highly valued by the clients and their families (Brown et al., 2008; Goodman et al., 2010; Sheaff et al., 2009). Difficulties can arise if the Case Manager leaves and this in-depth knowledge of the case is lost, so robust information systems are required to ensure that the knowledge is not owned by a single individual.

The availability of case managers differs between programmes. In most UK programmes, case managers are available during normal working hours, but the need for out-of-hours case management services was highlighted in the evaluation of the Evercare™ programme as more than 50% of emergency admissions occurred at these times (Boaden et al., 2006). In some programmes, Case Teams organise their work such that longer periods of availability are possible (Downes & Pemberton, 2009). This approach also ensures that cover is available for periods of leave or illness. Yet, case managers often report being continuously on call (Ross et al., 2011), and the nature of the Case Manager role can be quite stressful, particularly if funding is insecure and/or resource availability is limited. One Community Matron programme reported high levels of stress-related absenteeism and high turnover among staff (Russell, Roe, Beech, & Russell, 2009).

5.3.4 Screening and assessment

Case management is time consuming and intensive so it is essential to have a clearly defined target population and a standardised way of identifying these people (You et al., 2016). Clear eligibility criteria are required in order to identify those who will benefit most from the programme (i.e. those most at risk) and clear discharge criteria are required to ensure effective caseload management. A comprehensive holistic (e.g. multi-dimensional) intake assessment is then necessary to inform individualised care planning for physical and psychosocial needs (Chow & Wong, 2014; Lam et al., 2010; Landi et al., 1999; A. Y. M. Leung et al., 2010; Markle-Reid et al., 2013; You et al., 2013).

5.3.5 Monitoring and review

Regular monitoring and review of open cases is required and this should be based on Case Manager review and feedback from clients, family and the multi-disciplinary team (A. Y. M. Leung et al., 2010; Schraeder et al., 2008; You et al., 2013, 2016). This review and information exchange can take place as part of regular communication between the Case Manager and the wider team, as part of regularly scheduled multi-disciplinary team meetings or during specifically organised case conferences (Ross et al., 2011). Whatever the mechanism, it is vital that this exchange is timely, based on up to date information and includes the broader care team (Boaden et al., 2006; Cubby & Bowler, 2010). The Case Manager must retain oversight of the process at all times, so that gaps in case provision can be easily identified, overlaps avoided and changing client needs managed effectively.

While case management programmes have traditionally used a variety of methods for information exchange (Ross et al., 2011), increasingly client data is input, stored and updated electronically so that information follows the patient and all members of the team have access to the most up to date information regardless of their location (Challis et al., 2010; Downes & Pemberton, 2009; Goodman et al., 2010). Despite a consensus that timely, comprehensive and accurate data is a cornerstone of case management, many case managers lack the ability to see all client data from across the health and social care system in a single location, and some evidence suggests that communication within Primary Care Teams and between Case Managers and hospital services is particularly problematic (Challis et al., 2010; Sheaff et al., 2009).

5.3.6 Program flexibility

The duration of the intervention must be carefully considered and tailored to the needs of the target population. Evidence would suggest that interventions up to and including three months duration are too short to meaningfully benefit clients, and that at least 6 months duration is recommended (Kristensson et al., 2010; Patrick et al., 2006). Others report that a programme of up to two years might more appropriate (A. Y. M. Leung et al., 2010).

Caseloads must also be managed so that the Case Manager can provide a proactive and preventative service to their clients. Where caseloads become unmanageable, case managers end up providing a service that is reactive ('fire-fighting') and incapable of meeting the aims for which it was originally designed (Boaden et al., 2006). There is no consensus on the appropriate caseload for a Case Manager; different underlying models require different levels of case management intensity. Ross and colleagues (2011) summarise the factors that typically drive the establishment of manageable caseloads. They are:

- The nature of the client's condition (including the number of comorbidities).
- No more than 10-15% of high risk clients
- Clients' sociodemographic profiles
- Clients' environments (e.g. geographic location, home circumstances, social support networks)
- Clients' willingness to engage in the programme
- Case Manager experience level.

More intense intervention may be needed at critical points of change. For example, active intervention during care transition periods (e.g. beginning day services) was shown to provide an opportunity to adjust client care plans to meet current needs, which in turn helped to prevent exacerbations in health conditions (Schraeder et al., 2008). Some groups, for example people with dementia, will require higher intensity case management than others (Khanassov et al., 2014; Reilly, Hughes, & Challis, 2009; Vroomen et al., 2015). When higher intensity case management is required, case managers are advised to:

- carry a small caseload and tightly manage entry to and exit from the programme to ensure that work load remains manageable
- have more frequent and proactive client follow-up
- have increased contact with carers/family members and other multi-disciplinary team members.

5.3.7 Supported discharge

While the aim of a case management programme is to encourage independence and self-management of care, clients can develop a reliance on the Case Manager to the extent that potential discharge from the programme can lead to heightened anxiety (Boaden et al., 2006). It is important to ensure that case managers have the skills to empower clients, support their autonomy and avoid maladaptive dependent relationships. At the same time, caseloads must be proactively managed and clients who no longer need the intensity of the case management programme, should be discharged. Some programmes offer supported discharge where the client is provided with information that highlights the goals they have achieved and explains the reason for their discharge. Clients may be encouraged to discharge themselves when they feel ready (with multi-disciplinary care team agreement), and/or given an opportunity to link back in with the programme if needed (Ross et al., 2011).

5.3.8 Funding

Successful programmes have integrated programme funding from both health and social care funding streams (You et al., 2016). The Case Manager role is the crucial link. They should be able to determine the medical and/or social, treatment and/or preventative allocation of resources for vulnerable groups (Onder et al., 2008).

5.3.9 Governance and quality assurance

Ongoing review/audit of the programme should be built-in from the design phase. This process should clearly incorporate feedback from the case manager, as they are responsible for ensuring good clinical governance across the continuum of care. It is therefore important that feedback directly from the case manager forms part of the overall quality assurance of the programme. This process should also incorporate multi-disciplinary feedback from the other healthcare professionals involved in delivering the programme; this will allow any given case management programme to become increasingly more tailored to the local setting over time (Ervin et al., 2012).

5.4 Service organisation

Even the most well designed case management programme will falter if the environment in which it is implemented does not support integrated care provision. For example, despite achieving positive patient-oriented outcomes, the Evercare™ model was less successful in achieving system-oriented outcomes and Boaden and colleagues (2006) comment that they found no evidence of systematic redesign of care to facilitate the realisation system outcomes. They noted poor integration between primary and secondary care, and out of hours services that were not focused on keeping clients out of hospital; a core objective of the Evercare™ programme. They argue that more radical system redesign is needed to deliver greater benefits to health and social care systems.

5.4.1 Shared strategic vision

Case management works best when it forms part of a wider programme of care in which it is one of multiple strategies to providing integrated health and social care (Ross et al., 2011). Such strategies include, but are not limited to: (i) the provision of well-resourced, efficient and effective primary care; (ii) health promotion and primary prevention; (iii) provision of sufficient, appropriate and tailored home- and community-based care; and (iv) community-based rehabilitation and re-enablement programmes. All stakeholders involved in the delivery of care to older adults must hold a shared vision of how case management supports this objective, their role within the case management programme, a sense of shared responsibility and a collaborative approach to problem-solving in the context of providing person-centred care (McEvoy, Escott, & Bee, 2011). The weight of evidence suggests that where this shared vision is missing, case management approaches falter and fail to deliver on promised benefits (Chapman et al., 2009; Ross et al., 2011). One mechanism for eliciting stakeholder support is to engage with stakeholders early in the design and implementation of the programme (Boult et al., 2011). Evidence from the UK demonstrates that programmes that lack support of key stakeholders (e.g. GPs) struggle to maintain momentum (Boaden et al., 2006; Cubby & Bowler, 2010), but if stakeholders can be persuaded of the benefits of case management (e.g. improved patient outcomes, regular client monitoring, coordinating the case process, and reduced overlaps leading to reduced workloads), it is possible to improve these relationships over time (Boaden et al., 2006; Chapman et al., 2009; Sheaff et al., 2009). It is incumbent, therefore, that case managers recognise that building relationships with stakeholders is a core component of their role.

5.4.2 Service coordination and integration

Case management must be employed as a tool that is embedded within a more general integrative structure in order to ensure continuity of care for frail older adults. It has been shown to be less effective in fragmented health care systems (Carrier, 2012; Markle-Reid et al., 2013; Reilly et al., 2009; You et al., 2016). One of the main reasons for this is that populations requiring case management typically have a range of complex needs that must be supported by a combination of health and social services; a combination that is often quite different from person to person (Challis et al., 2011). While health systems have traditionally found it easier to meet health needs, social care is particularly important for rehabilitation and re-enablement (Ross et al., 2011), hence it has been argued that case managers with at least some background in social care have an advantage (Fletcher & Mant, 2009). Co-location of services has been adopted in some models (Goodman et al., 2010), but this is not essential if the links between health and social care services are strong and supported (e.g. where multi-disciplinary teams form a key component of the case management programme).

5.4.3 Availability of flexible services

In order to meet the objective of providing person-centred care, the services responsible for providing case management must be flexible and have the organisational and structural capability to be responsive to individual needs (You et al., 2016). As the majority of case management approaches covered in this report take place in the community, sufficient and appropriate home- and community-based services must be available for case managers to refer into. Evidence demonstrates that a lack of such services is a key barrier to the successful implementation of any case management programme (Boaden et al., 2006; Russell et al., 2009). It has also been shown that successful programmes can support the expansion of existing community services; for example, the introduction of primary care monitoring programmes for blood pressure, enhanced diagnostic facilities and community-based respite services (Elwyn et al., 2008; Goodman et al., 2010; Hutt et al., 2004). Although case management evaluation findings are limited with regard to overall impact on service use, McWilliam and colleagues (2004) reported that the provision of flexible, client-driven care does not increase resource consumption or undermine care outcomes.

5.4.4 Financial models

It is clear from the success of some of the US programmes that case management approaches benefit from payment systems that facilitate and encourage integrated care (Ross et al., 2011). More can be done to examine ways in which clients, perhaps with the support of their Case Managers, can manage their own personal health and social care budget.

5.5 Case Manager perspectives

Few studies have examined the facilitators of, and barriers to, successful implementation of case management programmes. The most comprehensive analysis included 47 interviews with case managers that was carried out by You and colleagues (2016) as part of a larger mixed methods study. While the research question guiding the interviews related to gathering their perspective on goal setting, the authors noted that case managers felt strongly about integrated care provision as a means of addressing the fragmented care delivery systems in which they work. Indeed, many felt that this was a key aspect of their role as a Case Manager. Some highlighted a need for ongoing professional development training to upgrade skills and broaden knowledge, particularly in relation to skills and competencies that would improve their ability to support clients to meet their own goals.

Case managers also identified a number of barriers to case management implementation from their point of view. These included:

- *Conflicting goals between Case Managers and clients:* Some case managers felt that clients made 'wrong' or 'risky' choices. The case managers felt that they were unable to endorse these choices and that this presented them with a dilemma; respect the client's right to choose or interfere with this choice. This dilemma was felt particularly strongly when the choice potentially affected client safety, but at the same time, there was a recognition of the importance of maintaining trust in the relationship.
- *Mediation of conflicting goals between clients and their families:* Case managers also spoke of the need to act as conflict mediators in many situations; particularly where the wishes of the clients differed from those of their family.
- *Conflicting organisational goals:* The case managers noted that organisational goals are sometimes in conflict with the goals that would have been agreed with clients and in many cases, this conflict prevented the case managers from practicing person-centred care. Additional issues such as limited resources, limited time, inflexible administrative processes (e.g. inability to move quickly at times of change), inflexible services, bureaucracy and simply trying to keep up with who was offering what service, where and when (particularly in relation to community-based services) also impacted on the case managers ability to support their clients to achieve person-centred goals.
- *Considerable administrative work:* Many case managers spoke of the need to complete onerous volumes of administrative work (e.g. paperwork) and they felt that this conflicted with their goals of meeting clients regularly, endeavouring to address clients' care needs and seeking professional development opportunities. It should be noted that the study did not explore what case managers felt was an appropriate level of data capture to meet the need for accurate, timely and comprehensive information pertaining to their clients.

6. Conclusions and Recommendations

6.1 Summary of key findings

Overall, it would appear that the literature supports the assertion that case management approaches can be beneficial in healthcare settings, while also acknowledging that mixed findings do appear (Ziguras, Stuart, & Jackson, 2018). Systematic reviews have highlighted that, particularly in comparison to other intervention types, such as consumer-driven models or integrated care networks, case management was the most effective at reducing unplanned health care service utilisation or improving client functioning (Low, Yap, & Brodaty, 2011). Case management reviews have also attempted to account for the variability in evaluation results and have suggested that improvements in 'care as usual' and the lack of a standard model make evaluation and cross-study comparison difficult. That said, it has been possible to identify common characteristics among successful case management programmes.

The range of case management approaches currently in use in health and social care systems within and across different jurisdictions, demonstrates that effective case management can be provided in a number of different ways. To be successful, however, it requires individual roles (e.g. the Case Manager), individual responsibility and commitment from varied health and social care professionals, and an ethos of collaborative multi-disciplinary working with shared goals and responsibilities. At the individual level, case managers need to be equipped with the skills, competencies and supportive framework that allows them to carry out their role successfully. Other health care professionals must understand what is expected of them within the case management framework, and the benefits to them of engaging in this collaborative approach. At an organisational level, Case Managers and multi-disciplinary teams need to be supported with systems and processes that make collaborative work easier to carry out (e.g. recognised multi-disciplinary team structures, appropriate information technology support, sharable electronic patient records and clinical supervisory processes). At a system level, delivery of health and social care must be integrated. Sufficient, appropriate services must be available that can flexibly match the needs of the target population. The best-designed case management approach will not be able to deliver on its objectives if the services on which it depends are not available (e.g. at-home respite or out-of-hours nursing or social care).

6.2 Case Management in an Irish context

There is no one ideal model of case management that can be recommended in the context of integrated care for older adults. It is accepted that any case management approach introduced in Ireland will need to integrate with existing and often-fragmented models of health and social care and that a radical restructure of care is unlikely in the short-term. The intention, however, is to incorporate case management approaches within an integrated care framework (ICPOP), which should better facilitate the realisation of the benefits that case management can bring (i.e. the coordinated health and social care services and collaborative interdisciplinary work practices essential to the success of the case management) for older adults with complex needs and those living with long-term conditions such as fraility.

It will be important to recognise that although evidence suggests that system-oriented outcomes can be impacted positively by introducing a case management approach, the strongest evidence originates from the US where case management programmes are more established. Elements of these programmes are linked closely with the structure and organisation of healthcare in the US including financial aspects of the system such as Medicare (Ham et al., 2010). This makes it difficult to transfer the programme and its associated benefits easily and faithfully to another jurisdiction. This difficulty has been demonstrated in the less favourable results found for Evercare™ programmes in the UK when compared to those in the US (Hudson & Moore, 2006; Patrick et al., 2006).

Implementing case management approaches in Ireland will therefore require an appreciation of how this country differs in terms of its economic and regulatory environments and the way in which its health and social care systems are structured. Focusing solely on system-oriented outcomes is likely to be too narrow a focus for success. Given the current complexity of care pathways for older adults and the fragmented nature of health and social care in Ireland, there is an opportunity to make potentially larger gains in relation to patient-oriented outcomes. Although rarely the primary focus of case management programmes, achieving better outcomes for clients and their families, is a worthy goal congruent with the person-centred orientation of the ICPOP framework.

While it is possible to influence different types of outcomes from a single case management approach, this will necessarily require the development of a more complex model that combines aspects of two or more of the general models of case management. For example, empowerment can be promoted through client/case manager interactions and these can also enhance patient satisfaction and quality of life, but particular focus should also be directed towards organizational features if systems-oriented outcomes also need to be addressed. It is therefore important to identify clearly the outcomes that are the primary focus in any case management approach.

Section 4.2 has detailed the methodological considerations that should be taken into account when designing and evaluating a case management programme. Section 5 has examined the critical design elements required for a successful case management programme regardless of the specific model or combination of models that underpin programme design. Taken together, they provide a roadmap or set of guidelines that will inform development of new case management programmes. Addressing the following key questions will provide additional direction for that design process.

1. What is the primary purpose of introducing case management to the health and social care system now?

For the reasons outlined above, it is important to be clear and unambiguous about the criteria upon which success will be judged. If multiple programme outcomes are defined, it is important to consider how each will be weighted and measured. Consideration should also be given to the development of outcome measures appropriate to the target population; in this case at-risk older adults with complex needs or those living with long-term conditions.

2. What is the target population and what are their needs?

The response to these questions will drive the type of case management approach needed to deliver person-centred care to this population. It should inform the intensity of case management required and the spread of services and supports necessary to meet client needs. For example, higher intensity case management approaches are likely to deliver the best results in relation to coordinating care for older adults with multi-mordibities and supported discharge of frail older adults. The cost-effectiveness of the case management approach will also rest on the programme's ability to identify not only those who can most benefit from the programme, but those for whom costly acute care can be avoided or reduced.

3. Where do the required services and supports exist and how can they be accessed?

The answer to this question will help determine how case management can be introduced and if it is possible to integrate this new approach into existing health and social care systems and processes, or if new pathways of care delivery are required. Regardless of which approach is required, the success of case management approaches for older adults with complex needs requires that both health and social care needs are addressed. Coordinating health care needs in the absence of concurrently addressing social care needs will limit the extent to which rehabilitation and re-enablement is possible.

The case management programme must be designed in close collaboration with policy makers and with health and social care providers so that a common strategic vision of integrated and coordinated care is adopted by all. Each stakeholder must be aware of their own role and responsibilities in pursuit of this strategy and the roles and responsibilities of all others involved. At this point, it would be important to recognise limitations existing within the current system (e.g. service availability, limited implementation of Primary Care Teams), current policy direction (e.g. status of eHealth strategy), and perform a risk analysis to determine the likely impact of each on the case management programme's ability to deliver on expected outcomes.

4. Who will perform the Case Manager role?

It will need to be determined if the Case Manager will be recruited from existing health and/or social care roles (e.g. Advanced Nurse Practitioners) or if a new role will be created. If the latter, the likely candidates for this role will need to be identified and education and/or training programmes developed to address potential gaps in their case management skills and competencies. The intensity of this training and support will be driven by the degree to which people with the necessary skills and competencies exist in the current health and social care system.

5. How will the case management programme be evaluated?

Finally, a formal evaluation design should be developed so that objective and valid feedback on programme performance can be gathered. These data will be essential in terms of establishing the extent to which programme objectives are being met and as input to quality assurance and continuous improvement cycles.

6.3 Strengths and limitations of this review

A strength of this study is that models of case management were examined from across the health and social care sector, not just approaches that have been used to date with older adults. This broad scope enabled a review of general and tailored approaches to case management that in turn facilitated the extraction of critical factors in the successful implementation of these programmes. There were some limitations of selecting this broad scope given available resources for the review. Firstly, our ability to double-screen all studies at every stage of the selection progress was limited; a proportion were double-screened at each step, as outlined in the methodology section above. Secondly, grey literature was excluded from our review. However, a small number of key reports were identified during the analysis of the final set of selected articles and these were incorporated into our review as they presented either detailed results from a particular case management approach; for example Evercare™ (Boaden et al., 2006) or a systematic review and/or meta-analysis of case management approaches relevant to the integrated care of older adults (e.g. Ham et al., 2010).

The lack of clarity regarding the definition and evaluation of case management approaches also needs to be acknowledged. Poorly described evaluation protocols, inconsistent outcome measures, small sample sizes and short intervention timeframes are common among published evaluations of case management programmes. Significant longitudinal funding is required in order to carry out high quality randomised control evaluation studies of case management models in different settings. Furthermore, case management interventions are complex in nature and as a result, implementation, process and cost evaluations are required in order to fully examine their impact. Finally, a clear operational definition needs to be developed for case management in general and for the specific models described in this report. The lack of these clear operational definitions results in wrongly classified interventions that makes comparative analysis even more difficult.

6.4 Conclusion

Case management is an effective intervention that can be used with older adults in healthcare settings. Its strength lies in its person-centred orientation and its adaptability to different contexts. While there are mixed findings in the literature, a variety of studies have highlighted the effectiveness of case management with regard to a variety of patient-oriented and service-oriented outcomes, and in some cases the potential for cost savings. To achieve these outcomes, the case management programme must be well designed and appropriate for the population of interest. It must be adequately resourced with appropriately trained case managers, care teams, and allied health and social care professionals. It must also be embedded in a wider system that supports integrated provision of health and social care and one with collaborative and multi-disciplinary working at its core.

Despite the fact that there have been many standalone case management interventions, successful case management programmes cannot be implemented alone. They require that a shared strategic vision exists across public health, primary care and acute care policy, with an emphasis on primary prevention, health literacy and health promotion, multi-disciplinary primary care teams, collaborative practice across professions and health care settings, and between health and social care, and community-based rehabilitation and re-enablement programmes. Case management is therefore one part of a larger strategy for integrated care.

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Appendix 1: Search strategy

Keywords

1 Case-Manage*.tw.	**37** Or/26-36
2 CaseadjManage*.tw.	**38** 25 and 37
3 Case-Coordinat*.tw.	**39** Systematic Review.ti,ab.
4 CaseadjCo-ordinat*.tw.	**40** 25 and 39
5 CaseadjCoordinat*.tw.	**41** 38 or 40
6 Coordinated-Care*.tw.	**42** Healthcare Settings.tw.
7 CoordinatedadjCare*.tw.	**43** Healthcare Services.tw.
8 Co-ordinated-Care*.tw.	**44** Health Care Services .tw.
9 Co-ordinatedadjCare*.tw.	**45** Livingadj3Home.tw.
10 CareadjManage*.tw.	**46** Community Health*.tw.
11 Manage*adjCare.tw.	**47** Community Aged Care.tw.
12 CareadjCoordinat*.tw.	**48** Community Mental Health*.tw.
13 CareadjCo-ordinat*.tw.	**49** Hospitals.tw.
14 GuidedadjCare*.tw.	**50** Acute Care*.tw.
15 Guided-Care*.tw.	**51** Care Setting.tw.
16 CareadjPlan*.tw.	**52** Residential Care.tw.
17 Multi-disciplinaryadjCare*.tw.	**53** Community Care.tw.
18 MultidisciplinaryadjCare*.tw.	**54** Home Care.tw.
19 InterdisciplinaryadjCare*.tw.	**55** Home Health.tw.
20 InterdisciplinaryadjManage*.tw.	**56** Home Assistance.tw.
21 GeriatricadjEvaluationandadjManagement.tw.	**57** Home Help.tw.
22 MultidisciplinaryadjTeam.tw.	**58** Home-Based Care.tw.
23 Multi-disciplinaryadjTeam.tw.	**59** Primary Health Care.tw.
24 InterdisciplinaryadjTeam.tw.	**60** Social Work*.tw.
25 Or/1-24	**61** Social Welfare.tw.
26 Elderly.tw.	**62** Social Protection.tw.
27 OlderadjAdults.tw.	**63** Welfare.tw.
28 OlderadjPeople.tw.	**64** Social Services.tw.
29 OlderadjPatients.tw.	**65** Social Participation.tw.
30 Aged.tw.	**66** Social Support.tw.
31 Ageing.tw.	**67** Community Mental Health*.tw.
32 Aging.tw.	**68** Mental Health Services.tw.
33 Elder.tw.	**69** Mental Health Care.tw.
34 Geriatric.tw.	**70** Mental Health Treatment .tw.
35 Senior.tw.	**71** Or/42-70
36 Frail.tw.	**72** 41 and 71

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