Coordinated care: What does that really mean?

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Abstract:

Coordinated care is a term frequently used to describe an approach to health care delivery in a complex primary health care system. However, the elements that constitute coordinated care are not clearly defined, nor completely understood. Rather, the term is used simultaneously and interchangeably to conceptualize the structure, process, philosophy and interpersonal dimensions of care delivery. This paper seeks to explore current literature to develop an understanding of the attributes that constitute coordinated care.

Now more than ever, the fabric of our health care system is fraying as a result of the significant challenges that are demanding solutions (Demoratz, 2004). Primary health care systems are, in and of themselves, inherently multifaceted. This *system complexity* is characterized by non-linear interactions, with networks of open feedback-loops and multiple groups of people who influence each others' behaviour across time and in unpredictable ways (Gatrell, 2005). Although a complex and unpredictable system is capable of being flexible and responsive to client needs, it is usually experienced as being *fragmented*. Given that the needs of people with complex and chronic conditions traverse so many life domains, it is not surprising that health systems can be experienced as inadequate, uncoordinated, confusing and overwhelming. The need for systems to be divided into workable components further alienates them from the experience of clients. Consequently, the process of ensuring effective and coordinated care between a range of health and social services has now become a well-established policy concern in most developed countries (Allen, Griffiths, & Lyne, 2004).

The pressure placed on health systems to solve these complex problems can create a sense of urgency to find a panacea in concepts such as coordinated care. As noted by Austin and McClelland (1996), concepts such as coordination are so familiar that they quickly become rhetoric and their underlying complexity can be overlooked. This situation can lead us to the incorrect assumption that fragmented health systems can be addressed through simple methods. In contrast to this perception, coordination of care is far from simple. Despite the fact that the last decade has provided greater clarity about coordination, workable solutions remain elusive. Thus, it is crucial to establish a clear and shared understanding of the concept and its purpose. Without this shared understanding, concepts such as coordinated care run the risk of becoming unfocussed, and limited in their ability to respond to the demands placed on them. They risk becoming ‘all things to all people’ and, therefore, unable to deliver.

A common understanding of coordinated care is frequently implied in the literature, and despite frequent use of the terminology, the elements that constitute coordinated care are not clearly defined, nor completely understood. Indeed, the term “coordinated care” is used simultaneously and interchangeably to conceptualize structural aspects of care delivery (i.e., what care is provided and when); the process of care delivery (i.e., how care is delivered); the philosophical aspects of care delivery (i.e., why care is delivered in a particular manner); and the interpersonal aspects of care delivery (i.e., who delivers care to whom).

In most studies, the actual tasks of a care coordinator involve assessing and planning, implementing plans and delivering services, re-assessing and adjusting plans (Chen et al., 2000). Woolf et al. (2005) recently developed an approach to care coordination based on a health psychology model that has been used extensively in behavioural counselling (the 5As model). By examining and comparing 17 practice-based coordination interventions, Woolf et al. identified five common elements which mirrored the elements found in the 5As model, which included:

(1) *Assess*: Identify chronic conditions and unhealthy behaviours;
(2) *Advise*: Offer brief advice;
(3) *Agree*: Set collaborative goals and action plans (e.g., behaviour "prescriptions"),
(4) *Assist*: Provide more extensive education (e.g., training), counselling (e.g., coaching, case management), and self-help tools (e.g., pedometers, activity logs, food diaries); and
(5) *Arrange*: Organize services, follow-up and reinforcement (e.g., e-mail or telephone follow-up, patient-held health diaries)

Although these activities are important to care coordination, most researchers refer to broader levels of coordination, namely vertical coordination (e.g., clear pathways, smooth handovers between services and coordinated plans for forward movement) and horizontal coordination (e.g., networks and partnerships between services, interdisciplinary teams and consumer engagement) - see for example, King and Meyer, 2006; Palsbo, Mastal, and O'Donnell, 2006; and Rosenthal et al., 2005).

Another framework for understanding coordinated care is that developed from a recent systematic review (Davies et al., 2006). This framework described the need for coordination at the micro-level (i.e., the service practitioner and the individual with a chronic or disabling condition), meso-level (i.e., services and organizations) and macro-level (i.e., system). Across these levels, coordination approaches fell into two major categories, namely those focused on processes to facilitate coordination (e.g., communication strategies, supports for service providers and supports for individual consumers) and those focussed on structures for coordinating activities (e.g., shared information systems, referral proformas, care plans, decision support systems and so forth). The most successful strategies in terms of outcomes for consumers were those that involved a re-organisation of structures to strengthen relationships between organisations and the provision of tools to actively support coordination (e.g., a shared care plan and records).

At an even broader level, Wolff and Boult (2005) recently identified nine components that constituted the most comprehensive systems of care coordination (i.e., patient evaluation, individual care planning, evidence-based decision-making, empowerment of consumers, promotion of healthy lifestyles, coordination across multiple conditions, coordination across provider settings, caregiver support and education and access to community resources). This model highlights the complexity of coordinated care. In reality, however, few models of care have been found to address all these components or activities. Indeed, some evidence has suggested that models may not need to contain all these activities, as long as they contain a core set of elements. For instance, Von Korff and his colleagues (Von Korff, Gruman, Schaefer, Curry, & Wagner, 1997) concluded that successful comprehensive coordination programs typically contained four essential elements, namely,

1. Collaborative problem definition (i.e., the identification of both patient-defined problems and physician diagnosed medical concerns);
2. Targeting, goal setting and planning;
3. A continuum of information, self-management training and support services; and
4. Active and sustained follow-up.

In light of this complexity and confusion, Perkins (2001, p.169), argued that "we need a much clearer understanding of the roles of the different elements of care coordination”. Similarly, Loxley (1997, p.38 cited in Munn, Cheers, & Petkov, 2003) argued that “coordination has not been thoroughly examined as either a concept or a practice”. According to King and Meyer (2006) coordinated care is a term that has become all-inclusive, and is not well defined or described. The purpose of this review was, therefore, to systematically search the coordinated care literature to develop an understanding of the attributes that constitute this concept Additional reviews will systematically explore the attributes of associated concepts including continuity of care, integrated care, and chronic disease management.

Method

Four databases, namely, JSTORR, Medline, CINAHL, and Cochrane, were searched for abstracts relating to the concepts of interest. The following search terms were used: ‘Service Coordination’; ‘Chronic Disease Management’; and ‘Coordinated Care’. These terms were generated as part of a larger conceptual analysis of complex chronic disease care by a panel of researchers and practitioners during a discussion about the models and descriptions that have been applied to coordinated care in practice.

Abstracts identified from this search were selected for further analysis if they were published in English between 2000 and 2008; related to chronic disease care or complex health needs; and contained some discussion of the components of care coordination in primary care. Table 1 below details the number of abstracts used in this process.

Table 1: Search Terms and Resulting Papers

	JSTORR		**Medline**		**CINAHL**	
	No. of Abstracts	No. of Inclusions	No. of Abstracts	No. of Inclusions	No. of Abstracts	No. of Inclusions
Service coordination	44	0	9	2	65	21
Chronic disease management	6	1	52	5	441	40
Coordinated care	16	0	29	9	143	12
TOTAL	66	1	80	16	649	73

The 90 abstracts identified during this process were then examined and selected for further analysis if they contained definitions of the concepts of interest or identified the components of those concepts. Using these criteria, 38 papers were identified and subject to further analysis. After reading each paper, we retained only those that contained: a) descriptions of components of coordinated care; b) components of coordinated care that were claimed or assumed to be a prerequisite of coordinated care; c) a characteristic that recurred frequently as an aspect of coordinated care, or d) behaviours that were tacitly approved or openly promoted by authors as being representative of the components coordinated care (DeSantis & Ugarriza, 2000; Walker & Avant, 2005). Only 18 papers met these inclusion criteria.

These texts within these papers were deconstructed to ascertain the attributes associated with coordinated care. The attributes (described components, implied or stated prerequisites, tacitly or openly approved behaviours and frequently recurring characteristics) were then subject to thematic analysis to generate the concepts associated with coordinated care. The analysis of papers was conducted by transcribing the text around each attribute. All the attributes contained in the selected papers (n=18) were subjected to coding by two independent researchers.

At the first level of coding attributes were sorted into a broad thematic structure: a) accessing coordinated care; b) purpose of coordinated care; c) the players/providers in coordinated care; d) the process of coordinated care e) system level coordination; and f) client[1] level coordination.

A second level of coding resulted in a more refined categorisation of the process, system and client level themes into client, service and system level concepts. The client level concepts that were identified included: person-centred care, assessment, care planning, monitoring, and self-management support/education. The service level concepts that were identified included: the care team, communication, learning communities, guidelines and

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[1] The terms 'client' and 'patient' are often used interchangeably in the coordinated care literature. This paper refers to people who require chronic disease health care as either 'people' or 'clients', irrespective of the terminology that was used in the original paper.

protocols, and cooperative service delivery. The system level concepts that were identified included: resource management, information management, integration, and linkages. The coding process is represented in Figure 1.

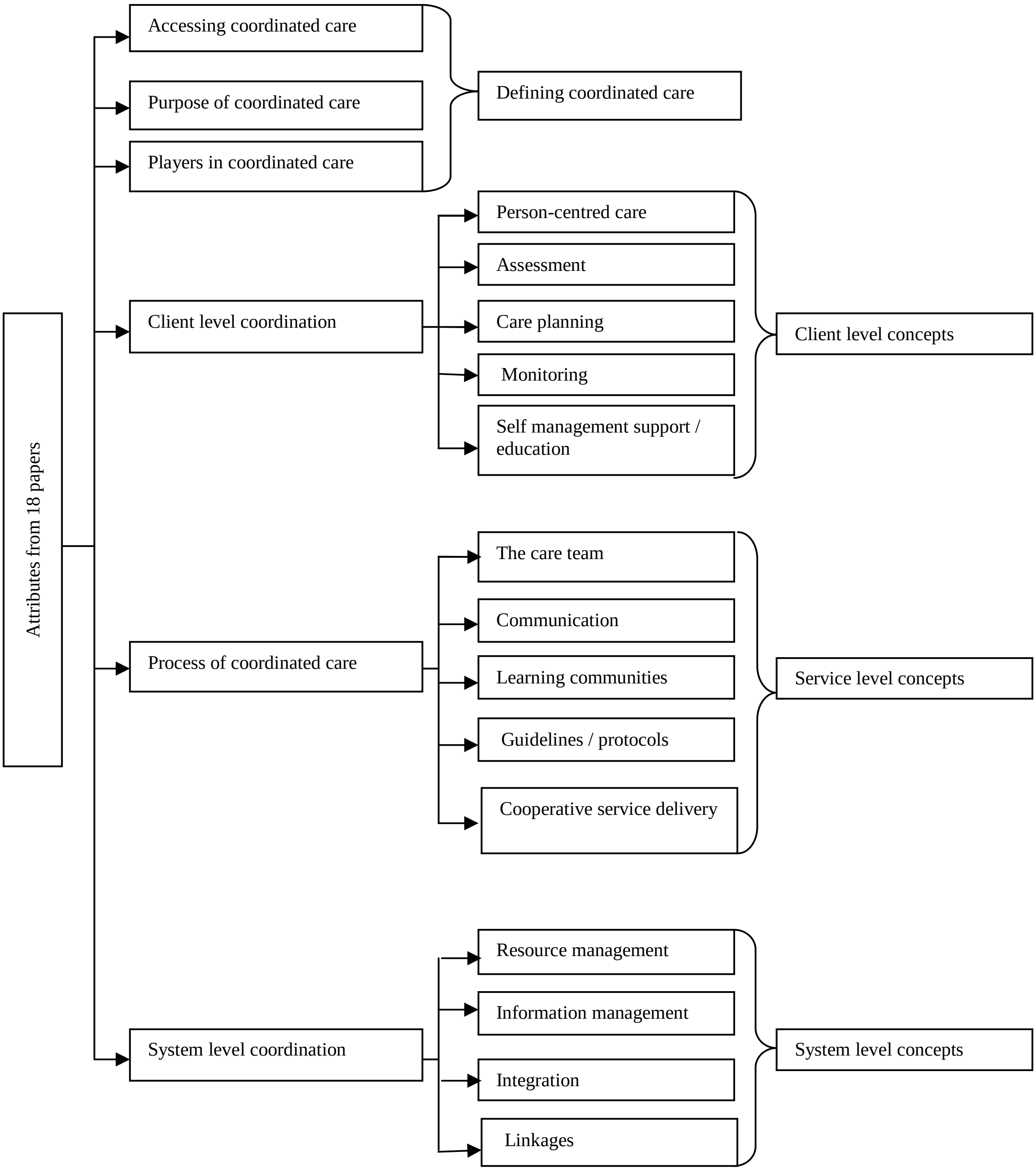

Figure 1: Concept development through multiple coding processes

Results

Defining coordinated care

The literature suggested that coordinated care is required when people's care needs are complicated such that there is a requirement for "multiple ongoing interventions from a variety of specialists" (Branca & Lake III, 2004, p.40). Coordination of care is conceptually complex and is associated with the provision of safe, quality health care to people with chronic disease. Rothman and Wagner (2003) argued that coordination of care is critically important to those with chronic disease, and is also the cornerstone of high quality medical care. Safety is an integral component of the provision of coordinated care (Wertenberger, Yerardi, Drake, & Parlier, 2006). As an alternative to reactive, fragmented acute care delivery, coordinated care offers a systematic approach to supporting people with chronic conditions (Bowler, 2006) that is responsive to their needs (Segal, Dunt, & Day, 2004). When coordinated care is employed, people are supported in all settings across the health-wellness continuum (Palsbo, Mastal, & O'Donnell, 2006) resulting in care that is reliable, accessible, timely, efficient and of high quality (Wertenberger et al., 2006).

Coordinated care results in outcomes for both service providers and patients. At a service level, clinical and business outcomes are achieved through the use of coordinated care, service demand can be understood, hospital admissions can be reduced, waste can be decreased, and the right care can be delivered in the right place at the right time (Wertenberger et al., 2006). Additionally, vulnerable populations can be prevented from falling through the cracks in the continuum (Marek et al., 2005), and duplication of services can be reduced (Schifalacqua, Hook, O'Hearn, & Schmidt, 2000). Outcomes for people with chronic conditions have been found to include enhanced clinical outcomes (Marek et al., 2005) such as effective medication management and early detection of disease exacerbation (Bowler, 2006; Marek et al., 2005). In some studies, access to care was improved, complication rates were reduced (Wertenberger et al., 2006), and the number of crises people experience was diminished (Bowler, 2006). Individual independence was promoted (Bowler, 2006; Wertenberger et al., 2006) and people were more prepared to deal with disease progression (Aiken et al., 2006). Consequently, unmet care needs can be met by employing principles associated with coordinated care (Perkins et al., 2001; Segal et al., 2004).

Although coordinated care involves health care organizations (Rosenthal et al., 2007) and community agencies (Stille, Jerant, Bell, Meltzer, & Elmore, 2005); it is identified as a core function of primary care (Bowler, 2006; Stille et al., 2005). People with chronic diseases and their families are key participants in the coordinated care team (Segal et al., 2004; Stille et al., 2005; Wertenberger et al., 2006), and the model depends on sustained partnerships between clinicians, providers and service users (Perkins et al., 2001; Shannon, 2002; Stille et al., 2005; Wertenberger et al., 2006).

The literature confirmed that activities associated with coordinated care occurred at three levels, namely a systems level, a service provision level, and a client level. This is consistent with the findings of Davies et al., (2006) who described micro (service provider and individual/family), meso (health service organization), and macro (health system) level strategies for care coordination. The concepts that were been identified at each of these levels are discussed below.

Client level concepts

Person-centered care

The principle of person-centered care was considered integral to the coordination of chronic disease care (Bowler, 2006; Coughlin, Pope, & Leedle, 2006). Person-centered care appeared to begin with an assumption that individuals had access to all types of services they required. Examples included access to an individual (a service coordinator), to a range of necessary services, and to care across levels and settings (Rosenthal et al., 2007; Schifalacqua et al., 2000; Segal et al., 2004). Each of these access categories were considered to be important components of coordinated care. Pivotal to person centered care were principles of care delivery including: advocacy (Wertenberger et al., 2006); involvement (Segal et al., 2004); social and psychological support (Aiken et al., 2006); empowerment (Schifalacqua et al., 2000); upholding rights and confidentiality (Schifalacqua et al., 2000); customization of care to comply with the values and needs of people (Wertenberger et al., 2006); and addressing the spiritual and/or cultural needs of people (Schifalacqua et al., 2000).

The processes by which person-centered coordination was implemented included: ensuring service provision matches patient need (Morin et al., 2005; Perkins et al., 2001); using goal setting and problem solving approaches that included the person (Rothman & Wagner, 2003; Stille et al., 2005); ensuring that the person has control over their care (Wertenberger et al., 2006); gathering knowledge about the person, families, prior health care experience and prior responses (Stille et al., 2005); gathering information about the person's perspectives and disease management skills (Rothman & Wagner, 2003); informing people about the roles of their service providers (Stille et al., 2005); providing support for people during visits to health professionals (Palsbo et al., 2006; Schifalacqua et al., 2000) and, importantly, ensuring that care provision was based on a continuous healing relationship (Wertenberger et al., 2006).

Assessment

Coordinated care was not considered to be an appropriate care mechanism for all people with chronic disease. Indeed, the literature suggested that before coordinated care was initiated, it was critical to undertake a process of identifying the population for whom coordinated care was most likely to have relevance (Coughlin et al., 2006; Perkins et al., 2001; Segal et al., 2004). People who required different services from multiple service providers were likely to be an appropriate group towards whom coordinated care could be targeted (Perkins et al., 2001), but other "risk stratification" assessment was also necessary. Once a target group was identified, it was necessary to undertake a process of categorizing people according to their level of need

(Bowler, 2006; Segal et al., 2004). Morin et al., (2005) identified the need for a single entry point into a coordinated care system, arguably because it facilitated this assessment and triage process.

Assessment of clients was believed to occur in several ways. Initially, a comprehensive assessment of clients and their health risk was undertaken (Bowler, 2006; Marek et al., 2005; Palsbo et al., 2006; Perkins et al., 2001; Schifalacqua et al., 2000; Shannon, 2002), with reassessment at determined intervals (Perkins et al., 2001; Schifalacqua et al., 2000; Wertenberger et al., 2006). The assessment process associated with coordinated care went beyond clinical needs assessment to a holistic approach for determining medical, psychological and social needs (Bowler, 2006; Branca & Lake III, 2004; Palsbo et al., 2006; Rosenthal et al., 2007; Segal et al., 2004). A characteristic of coordinated care was that key issues were identified (Rosenthal et al., 2007) and care needs were anticipated (Wertenberger et al., 2006).

Care planning

Care planning was an essential component of coordinated care. Care plans were considered to be essential to the development and implementation of an individualized, therapeutic plan about how a person’s needs will be met (Bowler, 2006; Coughlin et al., 2006; Marek et al., 2005; Morin et al., 2005; Palsbo et al., 2006; Perkins et al., 2001; Rosenthal et al., 2007; Segal et al., 2004; Shannon, 2002; Stille et al., 2005). However, a feature of care plans was that they must be relevant and communicate information efficiently and accurately between clinicians and their clients (Segal et al., 2004; Stille et al., 2005). Care plans must also reflect an optimal mix of services and treatments that address needs aggressively and proactively across the continuum (Coughlin et al., 2006). Care plans were thought to be utilized for different purposes. For instance, they were mechanisms for developing an emergency response plan (Aiken et al., 2006); reflecting varying levels of need and changes in need (Segal et al., 2004); arranging appropriate health and welfare services (Segal et al., 2004); promoting multifaceted and multidisciplinary care (Branca & Lake III, 2004; Rosenthal et al., 2007); and planning service delivery (Marek et al., 2005; Morin et al., 2005; Palsbo et al., 2006; Perkins et al., 2001).

Monitoring and review

The primary focus of monitoring and review related to characteristics of individuals who were receiving coordinated care. It was assumed that people benefited from close supervision while their services were being organized (Marek et al., 2005). The importance of prompt follow-up activity was highlighted (Wertenberger et al., 2006), including care plan monitoring and review (Shannon, 2002); client evaluation (Palsbo et al., 2006); clinical monitoring (Aiken et al., 2006; Shannon, 2002), such as monitoring the effects of medication/treatments and tracking progress (Schifalacqua et al., 2000); and adjusting therapy so disease was optimally controlled (Rothman & Wagner, 2003) and symptoms were adequately relieved (Aiken et al., 2006). A team approach to care review was identified in the literature, relying on team meetings, case management discussions, and case conferences

(Bowler, 2006; Munn et al., 2003; Shannon, 2002). Additionally, it was considered important for services and service provision to be evaluated and adjusted (Morin et al., 2005).

Self-management support and client education

Client and caregiver education and self-management support were identified as important components of care coordination (Aiken et al., 2006; Bowler, 2006; Palsbo et al., 2006; Rosenthal et al., 2007; Schifalacqua et al., 2000) and were commonly combined with disease management (Wertenberger et al., 2006). The purpose of education was to advance self-management skills (Wertenberger et al., 2006); collaboratively establishing treatment goals (Aiken et al., 2006); assist clients to develop skills associated with self-efficacy (Palsbo et al., 2006); and increase client knowledge about their illness (Aiken et al., 2006). Self-management support is consistently described in the literature as integral to care coordination. Several authors (Bodenheimer, Wagner, & Grumbach, 2002; M. T. Coleman & Newton, 2005) describe self-management support as an essential component of the chronic care model that guides high quality chronic illness management and improved patient outcomes in primary care.

Concepts relating to service delivery of coordinated care

Conceptually, care cannot be coordinated unless health care providers work within a structured framework that facilitates the coordinated delivery of services. The concepts that arose from the literature as being components of a structured care delivery framework included: the care team; communication including through the use of guidelines and protocols, knowledge sharing through learning communities; and flexible service delivery systems. Each of these concepts will be discussed separately.

Characteristics of the care team

The optimal method of delivering coordinated care was through a multi-disciplinary primary care team that functioned as a cohesive unit (Shannon, 2002; Stille et al., 2005; Wertenberger et al., 2006); provided visible, transparent, relevant and sustainable care (Stille et al., 2005; Wertenberger et al., 2006); and cooperated clinically to deliver a whole package of care (Wertenberger et al., 2006). To achieve cohesion it is essential that a leadership role was assumed by one team member (Aiken et al., 2006), that a care coordinator was designated and named for each client, and that roles of individual health practitioners were defined (Bowler, 2006; Perkins et al., 2001). The concept of case management is an approach to coordinated care delivery that was suggested by both Morin et al., (2005) and Shannon (2002)..

The role of care coordinator was described as intellectually demanding and time consuming (Stille et al., 2005), and included orientation of team members within the care network (Morin et al., 2005) as well as service provision (Aiken et al., 2006). Shannon (2002) suggested that case coordinators should hold a health qualification. Consistent with this postulate, other researchers (Aiken et al., 2006; Coughlin et al., 2006) have asserted that experienced Registered

Nurses are appropriate care coordinators, whereas others (Segal et al., 2004) have argued that the General Practitioner was a suitable care coordinator.

Communication

Communication referred to the establishment of smooth processes to promote timely interaction and collaboration among health care providers, clients, families and funders (Aiken et al., 2006; Coughlin et al., 2006; Marek et al., 2005; Morin et al., 2005; Palsbo et al., 2006; Schifalacqua et al., 2000; Stille et al., 2005; Wertenberger et al., 2006). Essential components of communication included the processes of sharing knowledge on a frequent basis (Wertenberger et al., 2006) and managing the interdependence among parties (Branca & Lake III, 2004). Knowledge sharing related to client specific communications, disease-related information, and health care provision expertise.

Guidelines and protocols.

Decisions relevant to care coordination were thought to require an evidence base (Wertenberger et al., 2006). Evidence based practice included the establishment of policy regarding optimal disease management procedures, standardisation of procedures, and the establishment of guidelines or collaborative disease management protocols (Munn et al., 2003; Rosenthal et al., 2007; Schifalacqua et al., 2000). Many chronic diseases (e.g., asthma, chronic heart failure, diabetes) have associated clinical guidelines for managing health care provision to achieve best practice of both disease management and health outcomes. These single disease management pathways could be expanded to assist with the coordination of complex care needs associated with multiple chronic diseases (Coughlin et al., 2006). Consequently, existing best practice guidelines and protocols could be adapted to incorporate complexities associated with the coordination of complex care needs. Thus, this concept is consistent with the earlier identified concepts of care planning and communication.

Learning communities.

The literature identified learning communities of health care providers as an important component of coordinated care. These learning communities were identified as a method of ensuring the provision of sound underlying knowledge for providers (Wertenberger et al., 2006); quality care planning practices by providing training and physician education (Rosenthal et al., 2007; Segal et al., 2004); clinical supervision (Bowler, 2006); and pooling the collective expertise of health professionals (Rosenthal et al., 2007). These purposes can be achieved by promoting professional communities of practice (Wertenberger et al., 2006) and assisting practitioners to learn from one another (Rosenthal et al., 2007). The identification of the concept of learning communities requires further investigation. Although identified in the literature as a key component of coordinated care, in reality, coordination of knowledge amongst health professionals, that is, professional communities of practice, is frequently overlooked and does not receive the attention of funding bodies that prioritize and allocate funding to the coordination client care and services.

Cooperative service delivery

Services need to work together in a flexible manner (Perkins et al., 2001) so that care coordination can occur. Flexible care provision can potentially be achieved by the development of networks and coalitions of provider organisations and individual practitioners (Perkins et al., 2001; Rosenthal et al., 2007) in a spirit of cooperation and mutual adjustment (Munn et al., 2003). Munn (2003) advocated strongly for a sharing approach that included sharing of administrative services, support services, core services, resources and programs. Alternatively, Wertenberger (2006) advocated for key service management changes within healthcare services that transcended individual clients and developed a sustainable system of prompt access to clinic based care and care coordination including: planning for contingencies, managing constraints, reducing appointment types, reducing demand, synchronizing information, understanding supply and demand, optimizing the care team, predicting and anticipating client needs, optimizing physical space and equipment, and working to decrease backlogs. Designing a supportive, sustainable, flexible service delivery system (Rosenthal et al., 2007) within and between services was, therefore, an essential component of coordinated care.

System level concepts

In many papers, use of the term coordinated care implied that both care services and whole systems were connected and coordinated (Marek et al., 2005; Rosenthal et al., 2007). The literature identified two coordination activities, that is, care coordination and service coordination. Care coordination activities required coordination at a system level, include the coordination of activities across settings (Stille et al., 2005), resources (Munn et al., 2003), client care (Aiken et al., 2006; Schifalacqua et al., 2000), programs (Munn et al., 2003), and services (Morin et al., 2005; Munn et al., 2003; Schifalacqua et al., 2000). Alternatively, service coordination activities referred to the coordination of social and medical services (Palsbo et al., 2006); and ensuring that individuals responsible for care coordination acted as a service planner by identifying and working with existing service providers (Aiken et al., 2006; Perkins et al., 2001). At a system level, four key concepts were identified in the literature, namely, resource management, information management, organizational integration and collaboration.

Resource management

A major premise of coordinated care was that cost-effective options for care delivery would be identified and implemented (Schifalacqua et al., 2000), and that these methods might include service substitution, for example purchasing community based services as a substitute for institutional care (Perkins et al., 2001), and proactive leveraging of resources that is, ensuring that intensive care management services are targeted towards those with the highest predictive need thus reducing avoidable emergent and / or acute care provision (Coughlin et al., 2006). An important aspect of resource management identified in the coordinated care literature was that of fund pooling (Munn et al., 2003; Perkins et al., 2001). In coordinated care systems, health services were often purchased from pooled funds under the premise that funds saved as a result of cross-sectoral efficiency would meet the associated costs of coordinating care (Segal et al., 2004). For this type of service integration to occur, a single administrative structure with responsibility for providing a unified approach to service delivery was required (Munn et al., 2003). Resources, which included community-based resources (Palsbo et al., 2006; Rosenthal et al., 2007) needed to be mobilized to achieve care coordination (Schifalacqua et al., 2000). However, coordination of resources tended to occur at senior and middle levels of management within organizations (Munn et al., 2003) whereas the use of resources occurred at the client interface. In the absence of coordinated sharing of information about resources, this divide could produce a mismatch between funding and the activities it should support.

Information management

Information was considered to be an important system-level resource, and as such, formed a component of coordinated care. The approach to information management was, however, dependant on the focus of the organization and occurred on a continuum ranging from managing the information flow between services about specific clients, to managing more general information flows among a comprehensive network of service organizations. Coordinated information sharing at both levels was considered to be essential to the delivery of coordinated health care (Morin et al., 2005; Munn et al., 2003). Coordinated care required efficient and effective information transfer between clinicians (Stille et al., 2005) as well as synchronization of information between clients and clinicians (Wertenberger et al., 2006). Organizations differed in the way they managed information depending on whether they focused on coordinating service around clients or developing a comprehensive inter-organisational service delivery system that existed beyond individual clients (Munn et al., 2003). Information sharing referred to both clinical and general information sharing. Consequently, Rosenthal (2007) referred to the use of clinical information systems, whereas Palsbo (2006) discussed information management systems. Clearly, coordinated care information systems need to address information across all levels (Munn et al., 2003).

Integration

Integration is an important component of coordinated care that was identified in the literature. In order for care coordination to occur, there generally needs to be an emphasis on integration with the associated implication that structures and processes within individual organizations are changed accordingly. Integration may require dissolution of all or part of existing organisations and systems (Rosenthal et al., 2007). The purpose of integration is to create an harmonious care delivery system by bringing diverse elements together (Stille et al., 2005). The concept of integration includes system, program, and service elements and can focus on the streamlining of programs at individual sites to the linking of services across programs and sites (Rosenthal et al., 2007). Importantly, the concept of integration includes the careful melding of inputs from multiple clinicians, clients and families (Stille et al., 2005), and the development of a network of integrated organizations (Morin et al., 2005). The use of the term ‘integration’ in the literature most commonly referred to the bringing together of separate structures and processes to provide coordinated care delivery. Thus, the concept of integration is consistent with the earlier identified concept of person-centred care and directs organisations toward working in unison to provide the right care to the right person in the right place at the right time. The mechanism for integration to occur was through the linking and collaborative actions of providers.

Linkages.

The concept of linkages was an important subset of integration. Organisations are able to undertake procedural and structural integration activities using mechanisms such as ‘Memorandums of Understanding’, establishing evidence based guidelines and protocols, and managing information networks to provide person-centred care, however, it is the people within the organisations who must work together to deliver the right care to the right person in the right place at the right time. When used in relation to coordinated care, linkages referred to the need to bring together in a collaborative manner the different elements within the continuum of care coordination including: frequent interactions amongst care facilities (Morin et al., 2005); linking case managers and physician care panels (Schifalacqua et al., 2000); linking separate organisation and each another (Munn et al., 2003); creating linkages between primary care physicians (Schifalacqua et al., 2000); and system and service linkages (Schifalacqua et al., 2000). Thus, the concept of linkages between providers is consistent with earlier identified concepts of learning communities, cooperative multidisciplinary care teams, and established communication processes. However, collaboration between health professionals to achieve person-centred care through the use of networks and professionally based learning communities requires further investigation to better understand their role and, indeed, whether or not they exist and the extent of their existence within current approaches to coordinated care.

Summary of Concepts

In summary, concepts associated with coordinated care coordinated activity at three levels, namely, the client, service delivery and the system.

At the level of client, coordinated care involves:

a. Person-centred care
b. Identification of a target group with complex needs and undertaking holistic health, social and risk assessments
c. Relevant and shared care planning
d. Regular reassessment, monitoring and review
e. Engagement with clients and caregivers to support self-management

At the level of service delivery, coordinated care involves:

a. A cooperative multidisciplinary primary care team with a clearly identified coordinator and defined team roles
b. Communication processes that facilitate timely interactions among all care partners – including clients and families
c. Learning communities among health care providers

d. Evidence based policies, guidelines and protocols
e. Flexible care provision

At the level of the system, care coordination involves:

a. Effective resource coordination including fund pooling and the involvement of senior and middle management
b. Mechanisms for efficient and effective transfer of synchronized information across settings, between clinicians, and between clinicians and clients
c. Integrated networks of organizations that include linkages between all components of the system.
d. Collaboration among elements of the system.

Discussion

Several key components of coordinated care have been identified in the literature, revealing a complicated matrix of activity that defines the concept. The literature supports the notion that comprehensive health care for people with chronic disease is complex and occurs at multiple levels. Coordinated care is one approach to the provision of comprehensive health care, but is often misinterpreted as a single simple strategy (such as care planning and/or service coordination). A full concept analysis of ccoordinated care reveals a multi-faceted concept that exists in many forms. In its fullest form, coordinated care can be conceptualized as consisting of (1) coordination and management of health care services for an individual client to create a comprehensive and continuous experience; (2) coordination of the providers to encourage team work and shared knowledge; and (3) coordination of service delivery organizations to create a network of integrated entities.

Coordinated care involves a horizontal aspect that ensures a comprehensive approach to the delivery of care i.e., coordinating services at a client level (assessment, care planning, identifying target populations etc), at a service level (communicating, putting together health care teams etc) and at a systems level (integration, resource management, information management). Several key aspects identified within the literature require further investigation including the role of partnerships and networks within and between organizations and systems and the role of networks and collaboration between health professionals such as the role of professional learning communities. However, coordinated care also involves a vertical aspect (i.e., facilitating interactions between levels) to ensure smooth operation of the health care system over time and across contexts. One important contribution to vertically coordinated care that is often overlooked is that of self-management support. Indeed, it is perhaps the most important contribution to the coordinated provision of quality health care both over time and across contexts, because the person with complex care needs is the single constant element within an environment that consists of both frequently changing health care needs and complicated care delivery structures.

Without doubt, achieving person-centered care coordination for people with complex health care needs is multifaceted. Subsequently, it is unlikely that all identified components of coordinated care will be achievable at all levels and in every context. It is important for organizations and health care providers to recognize those elements of coordinated care that are missing and establish the cause of their absence. Additionally, it is appropriate that clients who receive complex health care coordination are supported to identify missing elements, and are involved in establishing the cause and consequence of their absence. There is also an at least equal need to establish which components of coordinated care are key elements, the relationship between key elements and actual or perceived health care outcomes, and the cost-effectiveness of providing or not providing the key elements. However, in doing so, it is essential that already fragmented care delivery is not further fractured.

Fragmented health care is the Achilles heel of the current health system and contributes to the poor outcomes experienced by people with chronic and complex needs. Most researchers are clear that this issue must be resolved if the system is to achieve improved outcomes. Underlying the success of this realignment process is the need to link, if not merge, several diverse cultures, including management, health care delivery, science and finance (Coleman, 2002). The challenge associated with linking these diverse cultures and finding a suitable balance will be immense, but the benefits are likely to be significant.

Despite the likelihood of significant benefits, it is important not to assume that coordinated care will produce results beyond those that can be reasonably expected from quality health care. Indeed, coordination may actually increase costs by revealing unmet needs and improving service access/usage. Many researchers in this field have agreed that although coordination might result in greater consumer satisfaction and higher quality of life, these outcomes may come at a cost (Esterman & Ben-Tovim, 2002). Health systems must appreciate the potential limitations of care coordination. Expected improvements, outcomes and downstream cost savings may not always be realized (Krein et al., 2004). Nevertheless, it is likely that quality care coordination will be associated with increased client satisfaction and perceptions of well-being. By focusing only on the overt and immediate cost benefits or tangible health outcomes, we may inadvertently obscure those less tangible and covert benefits that are not as easily quantified or do not emerge for some time.

The current paper has examined the literature on coordinated care and has highlighted the complexity of this approach. In short, coordination activities can be directed towards the client, the provider, the system and/or all of these levels (Rosenthal et al., 2007). Systems should expect outcomes to reflect the level of activity that has been implemented in that coordination of the whole system is likely to be associated with more meaningful and sustainable outcomes than coordination at only a single level in the absence of other activities.

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