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Ten Key Principles for Successful Health Systems Integration

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Abstract

Integrated health systems are considered part of the solution to the challenge of sustaining Canada's healthcare system. This systematic literature review was undertaken to guide decision-makers and others to plan for and implement integrated health systems.

This review identified 10 universal principles of successfully integrated healthcare systems which may be used by decision-makers to assist with integration efforts. These principles define key areas for restructuring and allow organizational flexibility and adaptation to local context. The literature does not contain a one-size-fits-all model or process for successful integration, nor is there a firm empirical foundation for specific integration strategies and processes.

Introduction

Staff shortages, continuing cost inflation and service demand have intensified the call for more effective and efficient use of scarce resources through integrated service delivery models (Fleury 2006; Powell Davies 1996). Integrated health systems are widely considered to provide superior performance in terms of quality and safety as a result of effective communication and standardized protocols, although these outcomes have not been fully demonstrated (Gillies et al. 2006). Despite the growing enthusiasm for integration, information related to implementing and evaluating integration-related initiatives is dispersed and not easily accessible. There is little guidance for planners and decision-makers on how to plan and implement integrated health systems. With evidence-informed decision-making as an expectation in healthcare management and policy (Cookson 2005), there is a need to seek out and apply current knowledge on health systems integration to advance effective service delivery. Systematic reviews can serve as a tool for evidence-based decision-making for health planners and policy makers (Cookson 2005; Fox 2005; Lavis et al. 2004; Moynihan 2004).

A systematic review was conducted with the goal of summarizing the current research literature on health systems integration. It focused on definitions, processes and impact of integrated health service delivery systems. The review was undertaken in response to the information needs expressed by some health system managers and administrators in Alberta charged with the mandate to plan for and implement integrated service delivery models (Suter et al. 2007). This article will highlight the principles that were frequently and consistently presented as key elements for successful integration in the reviewed literature. The full report is accessible at http://www.calgaryhealthregion.ca/hswru/.

Methods

The methods of this review were based on recommendations for systematic review for evidence-based clinical practice (Higgins and Green 2006; Khan et al. 2001), with adaptations for the review's broader health systems and policy-related questions (e.g., Adair et al. 2003; Lavis et al. 2004; Wilczynski et al. 2004). Before initiating the search, draft research questions were validated by 21 decision makers in Alberta to ensure practice relevancy.

The health sciences literature (Medline, EMBASE, CINAHL, PsychINFO) for years 1998–2006 and business literature (ABI/Inform Global, CBCA, Business Source Premier) for years 2001–2006 were searched for relevant articles. Search terms included *delivery of healthcare*, *integrated*, *organizational integration*, *integrated health services*, *integrated healthcare*, *care coordination* and *health services integration*. This yielded 3,234 health sciences abstracts and 1135 business abstracts that were reviewed and rated for relevancy by three investigators; from those abstracts, 266 health sciences articles and 60 business articles were selected for full review. Each article was rated for quality, and key information was extracted and validated by more than one investigator. Based on the quality and relevancy ratings, 190 health sciences articles and 29 business articles were included in the review.

Results

No unified or commonly agreed upon conceptual model for health systems integration was found in the literature reviewed. Despite the diversity of approaches and strategies for health systems integration found, authors across articles associated a number of principles with successful integration processes and models. These principles were independent of type of integration model, healthcare context or patient population served. From the many principles described, 10 were frequently and consistently presented (Table 1) and are discussed below.

I. Comprehensive Services across the Continuum of Care

One principle of integrated health systems is the comprehensive scope of clinical and health-related services covered. Integrated health systems assume the responsibility to plan for, provide/purchase and coordinate all core services along the continuum of health for the population served (Leatt et al. 2000; Marriott and Mable 1998, 2000). This includes services from primary through tertiary care as well as cooperation between health and social care organizations (Simoens and Scott 2005). A population health focus is considered essential by some authors to achieve a fully integrated health system (Byrnes 1998).

The degree of integration is determined by factors such as the extent to which providers are assimilated into the larger system (reflected by similarities of goals, vision and mission) and the proportion of health services that are fully integrated in the system (Simoens et al. 2005).

II. Patient Focus

Rogers and Sheaff remind us that the "justification for integrated delivery systems is to meet patients' needs rather than providers'" (2000: 53). Organizations that fail to place the patient at the centre of their integration efforts are unlikely to succeed (Coddington et al. 2001a).

Patient focus is reflected by population-based needs assessments that drive service planning and information management and the desire to redesign internal processes to improve patient satisfaction and outcomes. Services demonstrate market sensitivity and responsiveness to changing needs of the population (Roberts 1996), ensuring the patient receives the "right care at the right place at the right time" (Shortell et al. 2000: 36). This requires a thorough understanding of the way in which patients move within and between different health and social care providers (Rogers and Sheaff 2000).

Integrated health systems should be easy for patients to navigate (Linenkugel 2001), and the importance of involving and being representative of the communities served has been stressed (Marriott and Mable 1998). Patient engagement and participation is desired, and consumers are presented with opportunities for input on various levels (Hunter 1999; Wilson et al. 2003).

It may be challenging for large integrated systems to retain a patient focus, prompting one author (Linenkugel 2001) to recommend that smaller systems may have better chances at success.

III. Geographic Coverage and Rostering

Many integrated health systems provide geographic coverage to maximize patient access to the services they provide and to minimize duplication (Coddington et al. 2001b; Leatt et al. 2000; Marriott and Mable 1998, 2000). In conjunction with the geographic coverage, rostering is often employed. This means that the system takes responsibility for an identified population in a geographic area, with clients having the right to exit if they wish to seek services from other providers (Leatt et al.1996; Marriott and Mable 1998, 2000).

The rationale for regionalization in most provinces in Canada was predicated on this concept of geographic coverage. However, Canada's relatively small, widely dispersed population has often been viewed as a barrier to the implementation of fully integrated delivery systems in all regions. Studies in the United States suggest that a minimum of 1,000,000 clients are needed to support the development of efficient integrated delivery systems (Shamian and LeClair 2000). Only in Canada's most populous areas is this patient base achievable; this type of integration is difficult or indeed impossible to achieve in the rural and remote northern areas (Leggat and Walsh 2000). Further research on rostering and geographic coverage is needed to better understand how it works in the Canadian context.

IV. Standardized Care Delivery through Interprofessional Teams

Standardized care delivered by interprofessional teams promotes continuity of the care process. Within effective interprofessional teams, all professionals are considered equal members; professional autonomy is maintained, and incentives are provided to meet performance and efficiency standards (Robinson and Casalino 1996). Roles and responsibilities of all team members are clearly identified to ensure smooth transitions of patients from one type of care to another (Robinson and Casalino 1996). Shared protocols based on evidence, such as best practice guidelines, clinical care pathways and decision-making tools, are essential to the functioning of interprofessional teams and help to standardize care across services and sites, thus enhancing quality of care.

While an interprofessional team approach is considered a basic tenet of integration (Coddington et al. 2001a), barriers to team collaboration are plentiful. Confusion or lack of role clarity (Appleby et al. 1999; Stewart et al. 2003), professional self-interest, competing ideologies and values, lack of mutual trust and conflicting views about client interests and roles (Burns and Pauly 2002; Coxon 2005; Hardy et al. 1999) challenge the collaborative process.

Closely related to the issue of interprofessional collaboration is communication (Appleby et al. 1999; Coburn 2001; O'Connell et al. 2000; Stewart et al. 2003). Barnsley et al. emphasize the importance of "an organic structure with diverse communication channels that efficiently transfer information across organizational boundaries" (1998: 19). Co-location of services (Appleby et al. 1999; Coburn 2001; Kolbasovsky and Reich 2005), frequent team meetings (Baxter et al. 2002) and the use of electronic information systems facilitate effective communication (Coburn 2001; Coddington 2001c; Hurst et al. 2002; Lin and Wan 1999).

V. Performance Management

The success of integrated health systems is felt to depend on well-developed performance monitoring systems that include indicators to measure outcomes at different levels. Performance management involves a structured approach to analysis of performance issues and how they might be addressed (Hunter 1999; Wilson et al. 2003). There are protocols and procedures that reflect the importance of measuring care processes and outcomes and using the information for service improvement. The focus is often on cost-effectiveness. Ongoing measurement of care outcomes and reporting are important parts of the quality improvement process. Some integrated health systems have mechanisms in place that link compensation to indicator-based performance; reward systems may be redesigned to identify, measure and reinforce achievement of organizational priorities and promote the delivery of cost-effective high-quality care (Coddington 2001c; Leatt et al. 2000).

VI. Information Systems

Many of the processes previously discussed are only possible with the support of state-of-the-art system-wide computerized information systems that allow data management and effective tracking of utilization and outcomes. Quality information systems also enhance communication capacity and information flow across integrated pathways (Coddington et al.

2001d; Hunter 1999; Leatt et al. 2000; Wilson et al. 2003). Electronic health records link consumers, payers and providers across the continuum of care and provide relevant information to these stakeholder groups. It is essential that information can be accessed from anywhere in the health system, even in remote locations, to facilitate seamless communication between care providers. The information system should also enable systemwide patient registration and scheduling coordination as well as management of clinical data. The ability to integrate clinical and financial information is viewed as important for monitoring cost-effectiveness and facilitating service planning (Leatt et al. 2000; Marriott and Mable 1998, 2000).

Developing and implementing integrated electronic systems is time-consuming, complex and costly. Poorly designed electronic information systems, systems that are not used by providers, lack of a clear business plan, lack of common standards, fear of diminished personal privacy, inadequate training and incentives for providers to participate, poor technology solutions and ineffective leadership all contribute to failure of information integration (Closson 2000; Drazen and Kueber 1998; Hurst et al. 2002).

VII. organizational Culture and Leadership

Implementation and operation of an integrated health system requires leadership with vision as well as an organizational culture that is congruent with the vision. Clashing cultures, such as differences between providers of medical services and long-term care services (Hardy et al. 1999; Coburn 2001), or between physicians and other service providers (Friedman and Goes 2001; Hawkins 1998), is one of the reasons named for failed integration efforts. Another cultural barrier to integration is an acute care mindset, which places the hospital at the centre of the integration process (Shortell et al. 1993). This runs counter to the concept of integrated, population-based health-care delivery (Coddington et al. 2001b; Shortell et al. 1994).

Bringing different cultures together demands committed and visible leadership with clear communication processes (Hunter 1999; Wilson et al. 2003). Leaders need to promote the new vision and mission of integration among their staff to help them take ownership of the process (Drazen et al. 1998; Friedman et al. 2001; Miller 2000; Shortell et al. 2000). Successful leaders recognize the importance of learning and how it contributes to the overall integration goal (Barnsley et al. 1998). They ensure opportunities, resources, incentives and rewards for staff learning and enable providers to take the time to obtain additional training (Hurst et al. 2002).

VIII. Physician Integration

Physicians need to be effectively integrated at all levels of the system and play leadership roles in the design, implementation and operation of an integrated health system (Appleby et al. 1999; Burns 1999; Coddington et al. 2001d; Hawkins 1998). Several challenges have been highlighted in the literature reporting experiences with physician integration. The perceived loss of power, prestige, income or change in practice style can result in physician discontent, resentment and resistance to change (Anderson 1998; Appleby et al. 1999; Budetti et al. 2002; Coddington et al. 2001d; Hawkins 1998). For some physicians, working

in an interprofessional, integrated care system with shared decision-making responsibility was “unpalatable” (Hawkins 1998: 22).

Taking advantage of existing networks, informal linkages among practitioners and a strong patient focus has been reported to facilitate physician integration (Gillies et al. 2001; Lester et al. 1998). Integrating primary care physicians economically and ensuring recruitment and retention through compensation mechanisms, financial incentives and ways to improve quality of working life is also noted to be critical to success. Despite the number of barriers documented, it is believed “stronger physician–system alignment is desirable and worthy of time, attention, and resources” (Gillies et al. 2001: 100).

IX. Governance Structure

Bringing together organizations and services into an integrated health system through contractual relationships or networks typically requires development of governance structures that promote coordination (Hawkins 1998). Governance must be diversified, ensuring representation from a variety of stakeholder groups that understand the delivery of healthcare along its continuum, including physicians and the community (Coddington 2001c; Hawkins 1998; Shortell et al. 2000).

A flatter, more responsive organizational structure (Hurst et al. 2002) that fully uses the skills and talents of employees and is independent of, but accountable to, government and the health organization’s rostered members and providers (Marriott and Mable 1998, 2000) facilitates integration. Strategic alliances with external stakeholders, government and the public are essential, as are financial incentives that influence providers’ attentiveness to costs and quality of services rendered. The complexity of these systems requires effective mechanisms for accountability and decision making (Friedman and Goes 2001).

X. Financial Management

Cost control was one of the major original incentives for health systems integration in the United States. It was believed that integrated health systems would result in economic benefits because of economies of scale and cost reductions in both administrative and clinical areas (Coburn 2001). Many authors claim, however, that integration processes may result in increased costs before they provide savings (Coburn 2001). The way services are funded is therefore an important consideration of integrated models (Leatt et al. 2000).

A major barrier to integration in some jurisdictions is differentiated service funding for home care, long-term care, social care, mental health, acute care and primary care (Appleby et al. 1999; Clague 2004; Mur-Veeman et al. 1999). Financing mechanisms are needed that allow pooling of funds across services (Hardy et al. 1999; Lin et al. 1999). Global capitation (e.g., population-needs-based funding) is one common form of funding. System funding will pay for all insured health (and specific social) services required by the enrolled population for a predetermined period of time (Leatt et al. 2000). The amount of money per enrollee is set prospectively and is adjusted to ensure an equitable distribution of funds using factors such as gender, age or geography. In Canada, remuneration for physicians in an integrated delivery system has become a challenge to integration, resulting in ongoing debate (Leatt et al. 2000; Marriott and Mable 2000).

Implications

Careful review of exemplary cases in the literature suggests organizations that have successfully integrated health systems have all focused on a combination of many, if not all, of the 10 guiding principles outlined above. Furthermore, they have committed resources to the development of processes and strategies that support implementation of these guiding principles. While much of the information in this review came from integration initiatives outside Canada, the 10 guiding principles are applicable to the Canadian context and were evident in many of the cases presented during the symposium's Integration Rounds. In our own organization, service planners will apply the 10 principles to the East Calgary Health Services Initiative. The initiative focuses on improving health outcomes of a geographic service area in East Calgary by customizing services to meet the needs of the community and by partnering with agencies and organizations that work outside the health sector. A framework comprising the 10 principles will be used for strategy formation and implementation to better achieve integrated health services.

Processes and strategies must be implemented that align with and support these guiding principles and integration structures (such as co-location of services, information systems); otherwise, the desired outcomes may not be achieved (Burns et al. 2001; Fawcett and Cooper 2001). Kodner (2002) proposes to use a continuum of strategies from the macro to the micro that span funding, administration, organizational, service delivery and clinical areas. De Jong and Jackson (2001) suggest integration strategies that target communication and access; culture, values and teamwork; and commitments and incentives to deliver integrated care. Conrad's suggestions (1993) were aimed at information provision, care management strategies, a common clinical culture and common educational programming. While the proposed strategies differ, there is consensus that multiple processes are necessary to ensure successful integration.

Consideration also needs to be given to the social, economic and political context that affects legal aspects, funding streams and broader integrating mechanisms, as they constitute significant determinants of the success of integrated service delivery models (Hardy 1999; Mur-Veeman 2003).

Conclusions

Recent reports on healthcare reform have reinforced the view that Canada's current healthcare system is not sustainable in its present form (Canadian Health Services Research Foundation 2007; Commission on the Future of Health Care in Canada 2002; Lee 2007; Premier's Advisory Council on Health 2001; Skinner et al. 2007). Integrated health systems are considered at least in part a solution to the challenge of sustainability. This systematic literature review was undertaken to provide guidance to decision makers and others who require information on how to plan for and implement integrated health systems.

An important learning of this review is that there is a wide spectrum of models for health systems integration. Based on the literature from a diverse group of healthcare and business organizations and a range of jurisdictions, 10 relatively universal principles of successfully

integrated healthcare systems have been identified. The 10 principles define the key areas for restructuring while at the same time allowing for organizational flexibility and adaptation to local context (Marriott et al. 2000). These principles may be used by decision-makers to assist with focusing and guiding integration efforts, but much more needs to be learned about specific structures and mechanisms for success. It is important to emphasize that the literature does not contain a one-size-fits-all model or process for successful integration, nor is there a firm empirical foundation for specific integration strategies and processes.

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Table 1

Ten key principles for integration

I. Comprehensive services across the care continuum • Cooperation between health and social care organizations • Access to care continuum with multiple points of access • Emphasis on wellness, health promotion and primary care
II. Patient focus • Patient-centred philosophy; focusing on patients' needs • Patient engagement and participation • Population-based needs assessment; focus on defined population
III. Geographic coverage and rostering • Maximize patient accessibility and minimize duplication of services • Roster: responsibility for identified population; right of patient to choose and exit
IV. Standardized care delivery through interprofessional teams • Interprofessional teams across the continuum of care • Provider-developed, evidence-based care guidelines and protocols to enforce one standard of care regardless of where patients are treated
V. Performance management • Committed to quality of services, evaluation and continuous care improvement • Diagnosis, treatment and care interventions linked to clinical outcomes
VI. Information systems • State of the art information systems to collect, track and report activities • Efficient information systems that enhance communication and information flow across the continuum of care
VII. Organizational culture and leadership • Organizational support with demonstration of commitment • Leaders with vision who are able to instil a strong, cohesive culture
VIII. Physician integration • Physicians are the gateway to integrated healthcare delivery systems • Pivotal in the creation and maintenance of the single-point-of-entry or universal electronic patient record • Engage physicians in leading role, participation on Board to promote buy-in
IX. Governance structure • Strong, focused, diverse governance represented by a comprehensive membership from all stakeholder groups • Organizational structure that promotes coordination across settings and levels of care
X. Financial management • Aligning service funding to ensure equitable funding distribution for different services or levels of services • Funding mechanisms must promote interprofessional teamwork and health promotion

- Sufficient funding to ensure adequate resources for sustainable change