CPRN CANADIAN POLICY RESEARCH NETWORKS

RCRPP RÉSEAUX CANADIENS DE RECHERCHE EN POLITIQUES PUBLIQUES

Ontario

Frameworks of Integrated Care for the Elderly: A Systematic Review

Margaret MacAdam

CPRN Research Report | April 2008

Canadian Policy Research Networks is a not-for-profit organization. Our mission is to help make Canada a more just, prosperous and caring society. We seek to do this through excellent and timely research, effective networking and dissemination and by providing a valued neutral space within which an open dialogue among all interested parties can take place. You can obtain further information about CPRN and its work in public involvement and other policy areas at www.cprn.org.

This report *Frameworks of Integrated Care for the Elderly: A Systematic Review* has been generously funded by a grant from the Ontario Ministry of Health and Long-Term Care.

The views expressed in the report are the views of the author and do not necessarily reflect those of the Ontario Ministry of Health and Long-Term Care.

Contents

Figures and Table

Acknowledgments

This literature review would not have been possible without the assistance of the Ontario Ministry of Health and Long-Term Care. In particular, the helpful comments of Charles Clayton, Senior Policy Advisor, were greatly appreciated.

Foreword

Finding efficient and effective ways to care for the elderly is always an important issue, and it is an issue of growing importance in Canada as the baby boom cohort ages. Our health system's central concern has been acute care, that is, treatment of episodes of illness or injury for a short period of time. However, elderly people often have chronic health issues – problems that are long-term and continuing. They may have more than one chronic condition and may need a variety of health and social support services to help them live well. In many cases, appropriate supports can allow those with chronic health issues to live in their own homes rather than in an institution as well as to avoid unnecessary hospital services. But for care to be matched well to individual circumstances, a range of services may need to be coordinated or even, depending on the complexity of the need, "integrated" by pooling resources from multiple systems.

In this report, Dr. Margaret MacAdam, a CPRN Senior Research Fellow, reviews the literature on efforts to provide integrated care for the elderly. Dr. MacAdam examines articles and papers that study comprehensive models of integrated or coordinated care.

The papers reviewed indicate that it is possible to design integrated programs that redirect care away from institutional services (use of long-term care homes and hospital care) and achieve improved quality of life and reduced caregiver burden. The specific features of successful models may vary, but typically include the use of case management and access to a wide range of social and health supportive services. However, while client outcomes improve, cost savings are not immediate. Investments have to be made to realize the potential of integrated care.

I would like to thank Dr. MacAdam for her valuable contribution to our understanding of the potential of systems that link health care of the elderly with social supports. I would also like to thank the Ontario Ministry of Health and Long-Term Care for its financial support for this research.

Sharon Manson Singer, Ph.D.
April 2008

Executive Summary

This literature review found promising indications that some models of integrated health and social care for the elderly can result in improved outcomes, client satisfaction and/or cost savings or cost-effectiveness. A substantial and growing body of knowledge is developing about the features of projects that are successful in achieving at least one or more outcome measures. Four frameworks were located; some are more detailed than others and some, more comprehensive in their scope. Notwithstanding their differences, there is congruence across the frameworks in most of their key elements. Among the key elements of these frameworks and in the literature in general are four types of interventions that must be structured in ways that are supportive of each other (Kodner, 2006). These key elements are:

- umbrella organizational structures to guide integration of strategic, managerial and service delivery levels; encourage and support effective joint/collaborative working; ensure efficient operations; and maintain overall accountability for service, quality and cost outcomes
- multidisciplinary case management for effective evaluation and planning of client needs, providing a single entry point into the health care system, and packaging and coordinating services
- organized provider networks joined together by standardized procedures, service agreements, joint training, shared information systems and even common ownership of resources to enhance access to services, provide seamless care and maintain quality
- financial incentives to promote prevention, rehabilitation and the downward substitution of services, as well as to enable service integration and efficiency

No single element of integrated models of care has been shown to be effective in and of itself. However, at a minimum, all successful programs of integrated care for seniors use multidisciplinary care/case management for seniors at risk of poor outcomes supported by access to a range of health and social services. The strongest programs also include active involvement of physicians. Decision tools, common assessment and care planning instruments and integrated data systems are commonly listed infrastructure supports for integrated care.

The next step in this research project is to anchor these findings within Canadian health policy. There will be a survey of Canadian provincial policy-makers as well as interviews with a range of policy-makers and providers in Denmark and the United Kingdom to identify which framework features are being implemented, to collect evidence of success and to describe the types of barriers and challenges being encountered along the road of health system reform. Policy implications of the data collection phase will be presented in the final report.

Frameworks of Integrated Care for the Elderly: A Systematic Review

> Every organizational activity – from the making of pots to placing man on the moon – gives rise to two fundamental and opposing requirements: the division of labour into various tasks to be performed, and the coordination of these tasks to accomplish the activity. The structure of an organization [or a system] can be defined simply as the sum total of the ways in which it divides labour into distinct tasks and then achieves coordination among them.
>
> – Gröne and Garcia-Barbero, 2001

The purpose of this literature review is to systematically review the literature to locate frameworks of integrated health care for seniors. *Frameworks of care* refer to underlying structures in health systems that reduce health care fragmentation and duplication that can lead to poor patient outcomes, inefficient service and wasted resources. The literature review is the first step in a larger project to collect new information from Canadian and international sources about optimal features of integrated care systems for seniors that include social as well as traditional health care services. The literature review was shaped by such questions as these: What features characterize successful models of integrated care for seniors? What frameworks of care have been published, and what are their shared features and differences?

1.0 Background and Rationale

Integrated care for the elderly has become a major theme in health reform because of well-documented issues surrounding the poor quality of care being delivered to those with chronic conditions. Health delivery systems and organizations, which developed in response to meeting acute care needs, have been criticized for such issues as fragmentation, wasted resources and poor outcomes for those with chronic conditions (Chen et al., 2000). The delivery of appropriate care for those with chronic conditions requires a paradigm shift from episodic, short-term interventions, which characterize care for acute conditions, to long-term, comprehensive care for those with continuing care needs. To support the shift, developed countries have made improved integration of continuing care services a key process for improving health care quality, access and efficiency. Care of the elderly has been a particular focus of integration efforts because of the very high proportion of seniors with one or more chronic conditions, their high use of health care services and the growth in the elderly population (Hofmarcher, Oxley and Rusticelli, 2007). The goals of integrated care efforts have been to improve accessibility, quality of care and financial sustainability (Banks, 2004).

1.1 What Is Integration in a Health Policy Context?

The term *integration* is widely used in the health literature, yet there are no shared definitions of it. Google Scholar produces 983,000 citations for the term *integrated health care* and 24,000 citations for *integrated health care for seniors*. From a systems perspective, some of the definitions include this Scottish definition: "the purposeful working together of independent elements in the belief that the resulting whole is greater than the sum of the individual parts" (Woods, 2001).

Kodner and Kyriacou (2000) define integration as "a discrete set of techniques and organizational models designed to create connectivity, alignment and collaboration within and between the cure and care sectors at the funding, administrative and/or provider levels." The WHO European Office for Integrated Health Care Services defines integrated care as "a concept bringing together inputs, delivery, management and organization of services related to diagnosis, treatment, care, rehabilitation and health promotion. Integration is a means to improve the services in relation to access, quality, user satisfaction and efficiency" (Gröne and Garcia-Barbero, 2001).

No shared definition of integrated care exists in Canada. Contrandripoulos et al. (2003) proposed that "integration involves organizing sustainable consistency, over time, between a system of values, an organizational structure and a clinical system so as to create a space in which stakeholders (individuals and organizations concerned) find it meaningful and beneficial to coordinate their actions within a specific context." Operationally, Leatt defined integrated delivery systems very broadly as "the creation of a modernized, cost-effective system characterized by closer working relationships between hospitals, long-term care facilities, primary health care, home care, public health, social welfare agencies, schools, police and others whose services have implications for the determinants of health" (Leatt, 2002). There are many other definitions that could be included here, but the point has been made: *integration* is a very elastic term.

Integration is also a nested concept; the term can refer to types, levels and form.

1.2 Types

Leutz (1999) makes important distinctions among linkage, coordination and integration:

- *Linkage* allows individuals with mild to moderate health care needs to be cared for in systems that serve the whole population without requiring any special arrangements.
- *Coordination* requires that explicit structures be put in place to coordinate care across acute and other health care sectors. While coordination is a more structured form of integration than linkage, it still operates through separate structures of current systems.
- *Full integration* creates new programs or entities where resources from multiple systems are pooled.

These distinctions are important because, as Leutz later demonstrates, not everyone needs integrated care. Many seniors are well served in the regular care delivery system because they do not have health issues that require support and care across a variety of settings. Seniors requiring continuing care across various care settings and providers can be provided that care either through well-coordinated care systems or through fully integrated programs of care.

1.3 Levels

Another nested layer within the concept of integrated care concerns levels of integrative activity.

- *System integration* includes activities such as strategic planning, financing, and purchasing systems, program eligibility and service coverage, within a geographical area or across a country or province.
- *Organizational integration* refers to the coordination and management of activities among acute, rehabilitation, community care and primary care provider agencies or individuals.
- *Clinical integration* concerns the direct care and support provided to older people by their direct caregivers (Edwards and Miller, 2003).

Lack of integration at any one level impedes integration across the levels (Banks, 2004; Kodner and Kyriacou, 2000). In other words, system decisions about the range of services, their availability, eligibility requirements, funding mechanisms and desired quality affect the ability of organizations to collaborate (especially across the health and social services sectors). Within and across organizations, clinicians can either be encouraged or restricted from participating in integrated care programs.

1.4 Form

Lastly, the concept of integrated care can refer to form. Forms of integration can either be vertical or horizontal.

- *Vertical integration* refers to the delivery of care across service areas within a single organization structure. For example, the 95 newly created *réseaux locaux de services* [local service networks] in Quebec are examples of vertical integration because hospitals, long-term care facilities, rehabilitation and community-based organizations have been merged to create a single geographically based entity for health services (with the exceptions of the teaching hospitals and physician care). Another example would be some of the health maintenance organizations (HMOs) in the United States, where the HMO owns and/or operates and is financially responsible for a range of health services (medical care, hospitals, rehabilitation services and continuing care services) for its enrolled population.
- *Horizontal integration* refers to improved coordination of care across settings. Coordinated access to rehabilitation services or cancer care can be considered versions of horizontal integration.

Thus, there is no single model of integration because the concept includes so many dimensions. Banks (2004: 8) describes integration as a "spectrum ranging from tolerance to co-operation, joint ventures, partnerships and mergers." The form, level or type of integration depends upon the desired outcome.

1.5 Our Working Definition

In this paper, we use the word *integration* to include both coordination and integration models *at the system level* that contain features that are stronger than *status quo* linkage models. Ideally, these features have been shown to produce improved access, quality and financial sustainability.

2.0 Methods

Our research questions were these:

- What features characterize models of care for seniors that have been evaluated and published in peer-reviewed journals?
- What features of integrated health and social care models are reported in national and international studies of system-level approaches to improving integration of care for seniors?
- What frameworks of care have been published, and what are their shared features and differences?

Studies and papers were sought through the main academic health electronic databases (AgeLine, CINAHL, MEDLINE and Google Scholar), followed by a limited snowballing exercise, using a wide range of terms combined with "integration," "frameworks of care," "models of care," "coordination" and "care of the elderly" or "care of those with chronic conditions" or "continuing care of the elderly." In addition to articles from scholarly journals, the grey literature was searched through general electronic databases. The term *grey literature* refers to papers or reports published in non-peer-reviewed journals. Lastly, personal calls were made to experts in the field in search of additional reports.

Only articles and papers that focused on comprehensive models of integrated or coordinated care of the elderly as a focus of health system reform were included. Many hundreds of articles located were about the coordination of care for a specific disease or diseases. For example, the Center for Medicare and Medicaid Services in the United States is currently funding a set of coordinated care demonstrations under the umbrella title of "Medicare Coordinated Care Demonstration." The purpose of these projects is to test whether case management and disease management programs can lower costs and improve patient outcomes and well-being in the Medicare fee-for-service population. These programs do not attempt to coordinate the full range of community-based services that seniors with a range of health conditions might need; hence they were omitted from this review (readers are referred to Brown et al., 2007). However, a thorough review of primary care integration literature has been published (Davies et al., 2006), and the high-level findings from that review are presented below. As well, there are hundreds of articles about integrated care within health and social care sectors such as primary care, hospitals or community-based services. We were interested in studies that cut across care sectors.

Very few demonstrations meet all of the criteria for randomized clinical trials. For example, we omit an article about the VNS CHOICE program, which reports reductions in hospital admissions and days over a four-year period (Fisher and McCabe, 2005), because the program has not been formally evaluated. We report on the findings of studies that used strong research

designs and that shared the goal of testing a coordinated model of health and social care intended to improve the quality of care for seniors with chronic conditions. We also include studies and review articles of comparisons of evaluated integrated care projects for seniors. Because our main interest is in policy-relevant frameworks of integrated health and social care, we include findings from two recent surveys of national health policy-makers (from the Organisation for Economic Co-operation and Development [OECD] and the European Union [EU]) on integrated care. Lastly, we include the findings from four studies that focus on frameworks of integrated care models.

Inclusion criteria for this review included:

- studies and review articles of the effectiveness of models of integrated health and social care for seniors in peer-reviewed journals, government websites or official evaluation reports;
- surveys of opinion leaders about features of integrated health and social care models; and
- articles presenting frameworks of health and social integrated care for seniors.

3.0 Results

3.1 Trials of Integrated Models of Care of the Elderly

Each of the studies in Table 1 used a formal evaluation process including randomized assignment of subjects to either a treatment or a control group or developed a comparison group. In each study, the clients were elderly people with chronic conditions.

Table 1. Evaluated Trials of Integrated Health and Social Care Projects for the Elderly

Study Author(s), Date and Article Title	Program Name and Location	Goal	Intervention	Results
Bird et al. (2007). "Integrated Care Facilitation for Older Patients with Complex Needs Reduces Hospital Demand."	Hospital Admission Risk Program, Australia	To reduce use of hospital services	- Assessment care coordination and facilitation (case management) - Facilitated access to health and social services - Self-management education	20.8% reduction in ER visits, 27.9% reduction in admissions, 19.2% reduction in LOS among treatment group. Cost-effective by $1M over existing system.
Béland, Bergman, Lebel and Clarfield. (2006). "A System of Integrated Care for Older Persons with Disabilities in Canada: Results from a Randomized Control Trial."	SIPA (System of Integrated Care for Older Persons), Canada	To reduce use and costs of institutional services (defined as hospitalizations, ER visits, days waiting for an NH bed and NH placement)	- Case management - Multidisciplinary teams - Home support services - Use of clinical protocols, intensive home care, 24-hour on-call availability and rapid team mobilization	Substitution of community-based for institutional services at no additional cost to the system. Increased client satisfaction, with no increase in caregiver burden or out-of-pocket expenses. No cost savings but cost-effective.

Study Author(s), Date and Article Title	Program Name and Location	Goal	Intervention	Results
US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, National Registry of Evidence-Based Programs and Practices. (n.d.). *	Program for All-Inclusive Care of the Elderly, (PACE), United States	To reduce use of hospitals, NHs, ERs	- Case management - Interdisciplinary team including physician - Use of adult daycare - Access to wide range of supportive health and social services - Capitation payment	Lower rates of hospital use, NH and ER visits, higher use of ambulatory services, lower mortality, better health status and quality of life than controls. No strong evidence of cost savings.
Newcomer, Harrington and Friedlob. (1990). "Social Health Maintenance Organizations: Assessing Their Initial Experience."	Social Health Maintenance Organization (SHMO), United States	To reduce acute care service and NH use	- Insurance model of acute and primary care services with a defined benefit of community-based care and case management - Capitation	Fell short of achieving full integration and cost-effectiveness. No consistent effects on hospital and NH admissions and LOS, but there was variation across sites. Enrollees were more satisfied than those in usual Medicare system.
Fischer et al. (2003). "Community-Based Care and Risk of Nursing Home Placement."	Social Health Maintenance Organization (SHMO), United States	To improve health of vulnerable seniors, reduce institutional use	- Case management - Access to full array of health and social services - Capitation payment	Over time, the availability of home and community care services reduced the risk of institutional placement of at-risk elders compared with senior HMO enrollees not enrolled in the SHMO.
Battersby and the SA HealthPlus Team. (2005). "Health Reform through Coordinated Care: SA HealthPlus."	SA Health Plus, Australia	Improved client outcomes within existing resources	- Assessment and care planning - Disease-specific guidelines	Improved well-being was achieved but not enough to be cost-effective. Self-management capacity was a key factor in achieving care coordination.

Study Author(s), Date and Article Title	Program Name and Location	Goal	Intervention	Results
Bernabei et al. (1998). "Randomised Trial of Impact of Model of Integrated Care and Case Management for Older People Living in the Community."	Integrated Care, Italy	Reduced admissions to NHs, use and cost of health services; no change or improved functional status	- Case management - Geriatric evaluation - Involvement of GPs - Coordinated service delivery of health and social services	Reduced use of hospital and nursing home care, no change in use of health services, improved physical and cognitive function. Cost-effective.
1. Commonwealth Department of Health and Aged Care. (2001). "The Australian Coordinated Care Trials: Summary of the Final Technical National Evaluation Report of the First Round of Trials." 2. Department of Health and Ageing (Australian Government). (2007). "The National Evaluation of the Second Round of Coordinated Care Trials: Final Report. Part 1 – Executive Summary."	Coordinated Care Trials, Australia	To improve client outcomes, service delivery and resource efficiency	- Assessment, care planning, - Enhancement of GP role in some locations	No impact on health and well-being in Round 1; improved health, well-being and access to services in Round 2; no conclusive impact on rate of hospitalization; increased use of community services in Round 1; reductions in hospital use in Round 2. Expenditures were greater than existing resources in Round 1; indications of cost-effectiveness in Round 2.

* The results reported above are based on a series of reports comparing the experience of PACE enrollees to seniors who did not enrol in PACE.

Note: ER=emergency room; GP=general practitioner; LOS=length of stay; NH=nursing home / long-term care home / continuing care facility.

The outcomes of interest in these projects included reductions in hospital and nursing home use, improvement in client satisfaction, and cost-effectiveness or cost savings, respectively. Table 2 groups the outcomes against the features that the projects had in common.

Table 2. Summary Table of Project Features and Outcomes

Outcomes	Features in Common	Projects	Comments
Reduction in hospital use	- Case management - Facilitated access to range of health and social services	Hospital Admission Risk Program, Australia SIPA, Canada PACE, United States Integrated Care, Italy Coordinated Care Trials: Round 2, Australia	SIPA, PACE and Integrated Care (Italy) all included active physician involvement and multidisciplinary case management team.
Reduced use of nursing homes / long-term care homes	- Case management - Multidisciplinary team - Active physician involvement - Access to range of health and social services	SIPA, Canada PACE, United States SHMO, US Integrated Care, Italy	PACE and SHMO use capitation payment. SIPA planned to evolve to capitation payment.
Cost-effectiveness or cost savings	- Case management - Facilitated access to range of health and social services	Hospital Admission Risk Program, Australia SIPA, Canada Integrated Care, Italy	Indications of cost-effectiveness in Coordinated Care Trials, Round 2
Increased client satisfaction, quality of life	- Case management - Facilitated access to range of health and social services	SIPA, Canada PACE, United States SHMO, United States SA HealthPlus, Australia Coordinated Care Trials, Australia	SIPA: no additional cost to caregivers

Table 2 reveals that, at a minimum, successful projects use case management and facilitated access to a range of health and social care services to achieve their goals. Otherwise, they vary in their key features (such as payment systems, roles of physicians, organization of participating providers, use of patient education and self-management, etc.).

The results in Table 2 highlight the role of physicians in integrated health and social care projects. It appears that physicians can play a critical role in achieving key outcomes such as reductions in hospital and nursing home use. The programs with the strongest results (SIPA, Integrated Care in Italy, PACE, SA HealthPlus) actively included either geriatricians or general practitioners (or both) in the projects.

Supporting this point are the results of a comparative study of outcomes of the PACE model and those of the Wisconsin Partnership Program (WPP) [Kane et al., 2006]. One of the barriers to more widespread use of PACE is the requirement for clients to use primary care physicians employed by the PACE site. The WPP is similar to PACE in some features, but it allows clients to retain their own physician and does not emphasize the use of a day centre among service options. Using a cross-sectional longitudinal approach, the use of hospital services was compared among enrollees in the two programs. Adjusting for numerous variables (such as

gender, race, age, and diagnosis), the PACE model was more successful than the WPP in reducing hospital admissions, preventable hospital admissions, hospital days, ER visits and preventable ER visits.

Kane and his colleagues concluded that, when community physicians serve only a small number of seniors in a project (the average primary care physician had only six patients enrolled in the WPP), they are unlikely to change their practice patterns to meet the needs of these patients.

Both rounds of the Coordinated Care Trials in Australia found that increased physician involvement in care planning was critical to the success of coordinated care (Commonwealth Department of Health and Aged Care, 2001; Department of Health and Ageing, 2007).

3.2 Reviews of Programs of Integrated Health and Social Care of the Elderly

Kodner and Kyriacou (2000) compared the features of two large, multi-site American models of integrated care, the PACE model and the Social HMO. The key characteristics of these fully integrated models included:

- targeted selection of seniors needing integrated care;
- contractual responsibility for defined package of comprehensive health and social care services;
- financing on the basis of the pooling of multiple funding streams with financial responsibility for all or most costs;
- "closed" network of providers (limited to a contracted or salaried set of providers) with emphasis on primary care and non-institutional services;
- use of micro-management techniques to ensure appropriate quality care and to control costs (i.e. care management, utilization review, disease management protocols); and
- multidisciplinary or interdisciplinary team care across the entire continuum, with clinical responsibility for quality outcomes.

Six key features seemed to influence the efficiency and effectiveness of these comprehensive models of care for the elderly:

- longitudinal care management, spanning time, setting and discipline;
- intensive interdisciplinary team care;
- geriatric philosophy, meaning a commitment to a holistic approach to care of the elderly, and focus, including a central role for the primary care physician;
- organized provider and clinical arrangements to achieve horizontal and vertical alignment;
- appropriate targeting (i.e. serving the right population and keeping the size of patient load within management limits); and
- mechanisms to pool funding streams to assure administrative and clinical flexibility.

Kodner and Kyriacou recommended that, to be effective, integrated models of care must ensure that the features listed above are supportive of each other. For example, provider arrangements should support intensive interdisciplinary case management and funding arrangements to ensure that the required package of care services can be provided. Lastly, the creation of a single accountable organization allows for optimal impact of the care model (Kodner and Kyriacou, 2000).

Subsequently, Kodner (2006) expanded his research outside of the American health care systems by comparing PACE with the Canadian SIPA and PRISMA models (the PRISMA model was not included above because, although it shows promising results, it has not been evaluated). Table 3 compares the key features of each of these models.

Table 3. Key Features of PACE, SIPA and PRISMA

PACE	SIPA	PRISMA
- Pooling of revenues - Case management, multidisciplinary team including primary care - Service delivery using day centre as focus - Focus on prevention, rehabilitation and supportive care	- Control over pooled funding - Case management with multidisciplinary team including primary care - Use of clinical protocols, intensive home care, 24-hour on-call availability and rapid team mobilization	- Inter- and intra-organizational coordination provided by joint governing board and a service coordination board - Single point of entry - Clinical management and service coordination through a team of case managers who work with providers, including physicians - Common assessment instrument - Clinical chart and service plan - Budgeting of services - Integrated information system

Source: Adapted from Kodner, 2006.

Kodner (2006) identified four key elements of these models:

- umbrella organizational structures to guide integration of strategic, managerial and service delivery levels; encourage and support effective joint/collaborative working; ensure efficient operations; and maintain overall accountability for service, quality and cost outcomes
- multidisciplinary case management for effective evaluation and planning of client needs, providing a single entry point into the health care system, and packaging and coordinating services (The team triages or allocates clinical responsibility among team members.)
- organized provider networks joined together by standardized procedures, service agreements, joint training, shared information systems and even common ownership of resources to enhance access to services, provide seamless care and maintain quality
- financial incentives to promote prevention, rehabilitation and the downward substitution of services, as well as to enable service integration and efficiency

In 2000, Chen et al. published a report prepared for the US Health Care Financing Administration on best practices in coordinated care. This study particularly looked at case-managed programs and disease management programs. Sixty-seven of 157 programs met the criteria for inclusion (had evidence of reductions in hospital admissions or total medical costs and were focused on services for Medicare enrollees with chronic conditions at risk for poor outcomes and expensive care). Twenty-nine projects were then selected for detailed study including detailed interviews.

The characteristics of care coordination programs that accomplished their goals include:

- comprehensive multidisciplinary assessment of medical, functional and psychosocial needs with ongoing follow-up of patients;
- coordination across providers;
- intensive health education and support for lifestyle modification; and
- monitoring of patients' progress between office visits.

Chen and his colleagues (2000) found that these steps could be implemented in current delivery systems without requiring organizational or structural change. Successful programs had existed for a number of years, care coordinators were nurses and all programs viewed care coordination as a preventive activity. These programs also used supportive services in the home and taught patients self-care skills as tools for maintaining health.

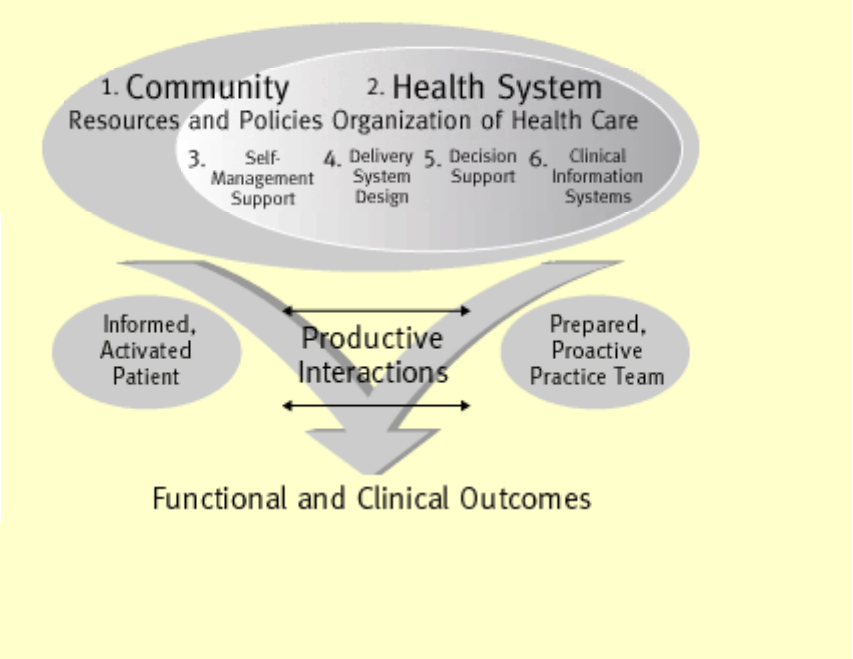
Chen concluded that incremental approaches to case coordination can be successful and made several recommendations about care coordination programs:

1) Programs should follow the three basic case management steps (Assess and Plan, Implement and Deliver, Reassess and Adjust) for all clients.
    a. Step 1 should conclude with a written plan of care.
    b. Step 2 should include the establishment of an ongoing care coordinator-patient relationship and the provision of excellent patient education.
    c. Step 3 should include periodic reassessment of patients' progress.
2) Programs should use a proactive approach to prevention of health problems and crises, and early problem detection and intervention.

Although models of integrated primary care or chronic disease are not the primary focus of this literature review (because these models do not generally address the continuum of health and social care), two systematic review articles were located that each contribute to the merging consensus about the features of integrated care models for the elderly. One of the most important reviews of the chronic disease literature (Bodenheimer, Wagner and Grumbach, 2002b) found that features of a chronic disease model developed by Wagner et al. (2001) were effective in a number of outcome domains. The Wagner model is germane to this review because it views chronic disease management as part of the larger health and social care delivery system. The model is composed of six interrelated pillars: community resources and policies, health care organization, self-management support, delivery system design, decision support and clinical information systems (Bodenheimer, Wagner and Grumbach, 2002a).

The chronic care delivery system model developed by Wagner et al. (2001) is depicted in Figure 1.

Figure 1. Wagner Chronic Care Model



Source: Wagner et al., 2001

In 2002, Bodenheimer, Wagner and Grumbach examined the effectiveness of the model (Bodenheimer, Wagner and Grumbach, 2002b). Thirty-two of 39 studies found that interventions based on the model improved at least one process or outcome measure for patients with diabetes. In 18 of 27 studies concerned with three chronic conditions (diabetes, asthma and/or congestive heart failure), the results showed either reduced health service use or reduced costs. There were methodological problems with some of the studies, the most important of which was that they were carried out under time-limited research conditions and not necessarily representative of ongoing health care practice. Nonetheless, the evidence indicates that the features of the Wagner model can be implemented in ways that support improved health care outcomes.

A systematic review of the care coordination literature that specifically included the primary care sector found that most experimental studies were concerned with three areas of health care: chronic diseases (cardiovascular disease, diabetes, asthma, COPD and AIDS/HIV); mental health, including substance abuse; and care of the elderly (Davies et al., 2006). With respect to care of the elderly, the review found that coordinated care could reduce hospital readmissions. The strategies that were used across the range of 85 primary studies included:

- communication among providers (68.2% of studies);
- use of systems to support the coordination of care (58.8% of studies);
- coordination of clinical activities (44.7% of studies);
- support for service providers (43.5% of studies);
- support for patients (20.0% of studies);

- relationships between service providers (42.3% of studies);
- joint planning, funding and/or management (7% of studies);
- agreements among organizations (3.5% of studies); and
- organization of the health care system (1.2% of studies).

In terms of health outcomes, the most successful strategies were those addressing relationships among providers, arrangements for coordinating clinical activities and use of systems to support coordination.

The results of this review led the researchers to suggest three main recommendations to Australian health policy-makers:

- Support coordination of clinical activities.
    - Develop service networks and arrangements for improved access to allied health and other community-based services for early intervention in emerging health issues.
- Strengthen relationships between service providers.
    - Strengthen general practice multidisciplinary teams including the role of practice nurses in chronic disease management.
    - Co-locate general practice and other services, and invest in the systems to support coordination of care between co-located systems.
    - Strengthen the link between patient and primary care provider, particularly for those with complex care needs.
    - Develop stronger networks of primary care providers.
- Use tools, instruments or systems to support coordination of care.
    - Further develop tools (common assessments, care plans, decision supports) that can be used by a range of providers across national and state-funded services and integrated in the care provided by different services.
    - Develop systems for communicating or sharing information between primary care and other service providers.
    - Support structures, particularly at the regional level, that are able to develop the coordination of systems of care.

In summary, although there are reasons to be cautious about drawing conclusions from review articles (different goals of the studies, features of the programs, measurement and evaluation of results), they add to the findings from the evaluated studies reported in Section 3.1. In effect, Kodner's identification of four overarching key elements of health and social care models (briefly: umbrella organizational structures, multidisciplinary case management team care, organized provider networks and targeted financial incentives) is congruent with the findings from the other review articles because the specific findings of Davies et al. (2006), Wagner et al. (2001) and Chen et al. (2000) can be grouped within his key elements.

3.3 Reports of Surveys of Features of Integrated Care Models

3.3.1 OECD Survey of Care Coordination

In December 2007, the Health Committee of the Directorate for Employment, Labour and Social Affairs at the OECD released a working paper entitled *Improved Health System Performance through Better Care Coordination* (see Hofmarcher, Oxley and Rusticelli, 2007). The purpose of the study was to assess whether and to what degree better care coordination can improve health system performance in terms of quality and cost-efficiency. In the study, the term *care coordination* was defined as "system-wide efforts and/or policies to ensure that patients – particularly those with chronic conditions – receive services that are appropriate to their needs and coherent across care settings and over time" (Hofmarcher, Oxley and Rusticelli, 2007: 12). This study included a review of the literature and information from a survey sent to 38 countries. Twenty-six countries, including Canada, responded to the survey.

Given the very diverse national health systems surveyed by the OECD, the findings focused on high-level results:

- Targeted programs appear to improve quality, but evidence on cost-efficiency is inconclusive.
- Care coordination would be facilitated by better information transfer and wider use of ICT (information and communications technology).
- The balance of resources going to ambulatory care may need to be reviewed.
- New ambulatory care models need consideration.
- Care coordination may benefit from greater health system integration.

3.3.2 European Union Survey of Integrated Care Approaches

The EU is supporting a project (PROCARE) examining the development of integrated care approaches across EU member states (Leichsenring, 2004). The first report of this project provided new information about different approaches to integration as well as structural, organizational, economic and socio-cultural factors that contribute to integrated care. Based on surveys from nine countries, the high-level findings from this project indicate that most countries are focusing their efforts on the needs of the acute care sector while the social care sector remains inadequately funded and less involved. This is similar to the conclusion reached by Hofmarcher, Oxley and Rusticelli, 2007), as noted above.

Although different countries frame the discourse about integration in various ways, the PROCARE survey data revealed a set of strategies being used to overcome "the bottlenecks at the interface between the health care and social care realms" (Leichsenring, 2004: 6). They are:

- case and care management;
- intermediate care strategies to improve the hospital/community care interface;
- multiprofessional needs assessment and joint planning;
- personal budgets and long-term care allowances;

- joint working or partnerships among health and social care sectors;
- admission prevention and guidance;
- moving toward the integration of housing, welfare and care;
- supporting informal (family) care;
- independent counselling;
- coordinating care conferences; and
- quality management as an instrument of mutually agreed outcomes.

Denmark was the most developed country in these terms, having nationally implemented four of the strategies and in the process of implementing five others. The least developed country was Greece. The United Kingdom was the only country in the process of implementing or testing all of the strategies.

Leichsenring (2004) concluded that, given the diversity among countries, it is unlikely that a shared vision and strategy to achieve integration will be developed within the EU. However, he came to the following conclusions about promising pathways to integration:

- Reforms that intend to integrate health and social care should be founded on pooled financing systems and overcoming institutional barriers, especially between outpatient and inpatient care, between professionals and informal care providers, and between health and social care services.
- Geriatric screening and multidisciplinary assessment are important tools for communication among providers and can be implemented without too much opposition.
- Demand-driven integrated care must increase clients' control over the care process through individual budgets that increase client decision-making.
- Innovative programs initiated by central governments can stimulate local and regional initiatives that cut across housing, health and social services.
- A central service point for advice, counselling and other forms of assistance is needed to support clients' understanding of their care needs and to improve coordination among local service providers.

Leichsenring commented on the lack of evaluation of most integrated care programs and recommended that funding be made available to appropriately measure the results of integration efforts.

These survey findings indicate that policy-makers in many countries are developing a shared consensus about the features of integrated health and social care models. In particular, the surveys indicate a number of similarities congruent with the findings from evaluated integrated care programs: for example, the importance of cross-sectoral and cross-professional linkages for collaborative care planning; the use of multidisciplinary case/care management supported by shared assessment information, information technology and decision support; and lastly, the development of appropriate financial and other incentives to encourage involvement of organizations and professionals in shared program goals.

3.4 Frameworks of Integrated Care

This literature review found only four frameworks for integrated care (Leutz, 1999; Hollander and Prince, 2008; Kodner and Spreeuwenberg, 2002; and Banks, 2004). They are discussed below.

However, before presenting the features of these frameworks, we discuss how Walter Leutz (1999) clarified thinking about integration in a way that laid the foundation for thinking about integration frameworks. Leutz developed five "laws" of integration based on the experience of reform efforts in the UK and the United States. They draw attention to the kinds of decisions that need to be made in developing new approaches to integrated care.

1. ***You can integrate all of the services for some of the people, some of the services for all of the people, but not all of the services for all of the people.***

As indicated earlier in this paper, Leutz distinguishes between linkage, coordination and integration. Table 4 illustrates how linkage, coordination and full integration operate with regard to seven operational domains for integration and how the levels of integration are differentially appropriate for individuals with varying levels of care needs. Thus, not all individuals need full integration, or even coordination.

Table 4. Levels of Integration and Key Operational Domains

Operations	Linkage	Coordination	Full Integration
Screening	Screen or survey population to identify emergent needs	Screen flow at key points (e.g. hospital discharge) to those who need special attention	Not important except to receive good referrals
Clinical Practice	Understand and respond to special needs	Know about and use key workers (i.e. discharge planners)	Multidisciplinary teams manage all care
Transitions/Service Delivery	Refer and follow up	Smooth transition between settings coverage and responsibilities	Control or directly provide care in all key settings
Information	Provide when asked, ask when needed	Define and provide items/reports directly in both directions	Use a common record as part of daily joint practice and management
Case Management	None	Case managers and linkage staff (e.g. an MD on the case management team)	Teams or "super" case managers manage all care
Finance	Understand who pays for each service	Decide who pays for what in specific cases and by guidelines	Pool funds to purchase from all providers and new services

Benefits	Understand and follow eligibility and coverage rules	Manage benefits to maximize efficiency and coverage	Merge benefits; change and redefine eligibility
Need Dimensions			
Severity	Mild/moderate	Moderate/severe	Moderate/severe
Stability	Stable	Stable	Unstable
Duration	Short to long-term	Short to long-term	Long-term or terminal
Urgency	Routine/non-urgent	Mostly routine	Frequent urgency
Scope of services	Narrow/moderate	Moderate/broad	Broad
Self-direction	Self-directed or strong informal care	Varied levels of self-direction and informal care	May accommodate weak self-direction and informal care

Source: Leutz, 1999

2. Integration costs before it pays.

To date, evidence from most integration efforts indicate that cost savings are hopes, not reality. The investments that have to be made in staff and support costs, services and start-up costs may outweigh the saving achieved from reduced hospital and/or long-term care admissions. Evidence from the United Kingdom and the United States indicates that, unless these investment costs are funded, integration may not occur. Staff may not participate in planning, smooth support systems will not be developed and inadequate training will hamper operations. If not compelled by strong policy or financial controls, providers will hold on to control of their budgets and services, and some will simply choose not to participate.

3. Your integration is my fragmentation.

Integrators need to be sensitive to the demands on clinicians, who are expected to acquire new knowledge, use new information and referral systems and adjust to time-consuming linkage, coordination and integration efforts at the same time as they are managing their current clinical load and increasing consumer demands. In particular, physicians need special attention to ensure that they can cope with new demands, especially if those demands involve only a small number of their patients.

4. You can't integrate a square peg and a round hole.

Underlying differences between health sectors have frustrated integration efforts. In Canada, for example, acute and primary care services are governed by the five principles of the Canada Health Act. But long-term care services, community health services and drug coverage are subject to provincial eligibility, service coverage and payment rules that vary from province to province. Hollander and Prince (2001) found that provincial integration efforts for those with needs cutting across health care sectors were stymied when providers were operating under different rules and regulations that prevented the smooth delivery of needed care. One of the biggest problems is the lack of control over varying service eligibility rules and coverage limits that prevent care from being delivered smoothly. In a different example of this law, in the United Kingdom, a major problem has been culture clashes between the goals of medical and health practitioners and those of social service providers.

5. The one who integrates calls the tune.

Leutz indicates that, to date, payers have usually left providers to develop integration initiatives. Many of the largest projects in Canada as well as in the United States have been in the area of long-term care because providers can see the ways in which non-medical services can improve care for clients and reduce costs. Also, it has been easier for non-physician leaders to emerge as project planners and managers (Leutz, 1999). This is an important point because expectations about physician roles have to be carefully managed. Early experience in the United Kingdom has also shown that physicians are interested in a narrow range of integration efforts and are less likely to include broader areas such as housing and social service eligibility issues, broader health policy, or medical/social care cultures (Leutz, 1999). More recent developments in the United Kingdom have carefully defined physician roles in the Primary Care Trusts and now the Care Trusts. The Trusts are in the process of becoming multidisciplinary local care networks.

In the first conceptualization of an integration framework, Leutz (1999) listed the means of integration as joint planning, training, decision-making, instrumentation, information systems, purchasing, screening and referral, care planning, benefit coverage, service delivery, monitoring and feedback.

In 2002, Kodner and Spreeuwenberg (2002) published a discussion paper on integrated care in which they presented a continuum of integrated care strategies, adapted from the literature (including from Leutz above). The strategies were organized into five domains (funding, administrative, organizational, service delivery and clinical) that influence each other. Table 5 lists the features of the framework, organized by domain.

Kodner and Spreeuwenberg's paper also identified two different approaches to integration. One is a "top down" process driven by the needs of funders or organizations to become more cost-effective and responsive to patients with continuing care needs. The other approach is "bottoms up" and takes the needs of patient groups in the context of existing systems to determine the features of integrated care.

Based on a review of the literature and data collected from Canadian jurisdictions, Hollander and Prince (2001; 2008) developed a framework for continuing care for people with disabilities (the elderly, those with mental illness, and adults and children with disabilities). The best practices component of the framework below was developed from 250 interviews with provincial policy-makers and service providers in Canada.

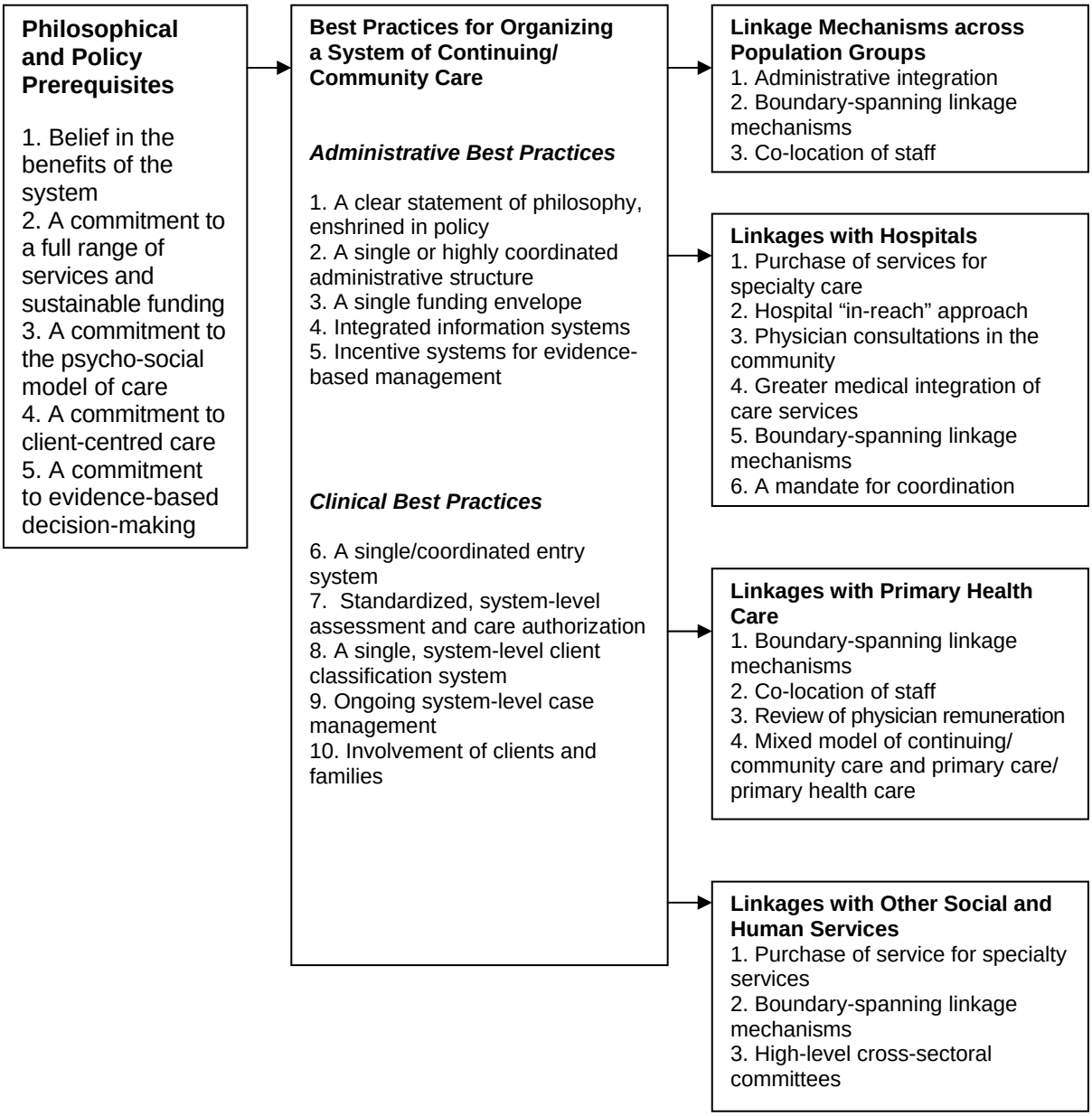
Table 5. Kodner and Spreeuwenberg Framework

Funding	Administrative	Organizational	Service Delivery	Clinical
Pooled funding at various levels	Consolidation/ decentralization of responsibilities	Co-location of services	Joint training	Standard diagnostic criteria
Prepaid capitation at various levels	Inter-sectoral planning	Discharge and transfer agreements	Centralized information, referral and intake	Uniform comprehensive assessments
	Needs assessment/ allocation chain	Inter-agency planning and/or budgeting	Care/ care management	Joint care planning
	Joint purchasing/ commissioning	Service affiliation or contracting	Multidisciplinary/ interdisciplinary network	Shared clinical records
		Jointly managed programs and services	Around-the-clock (on-call) coverage	Continuous patient monitoring
		Strategic alliances or care networks	Integrated information systems	Common decision support tools (practice guidelines, protocols)
		Consolidation, common ownership or merger		Regular patient, family contact and ongoing support

Source: Kodner and Spreeuwenberg, 2002.

The framework has three parts: philosophical and policy prerequisites that underlie ongoing support for integrated systems of care for those with disabilities; a set of best practices for organizing service delivery; and a set of mechanisms for coordination and linkage across the range of organizations and professionals involved in delivering continuing care services. Figure 2 (on the next page) presents the framework and the linkages across its features (Hollander and Prince, 2008).

Figure 2. Hollander and Prince Framework



Source: Hollander and Prince, 2008.

The Care Management of Services for Older People in Europe Network (CARMEN) is funded by the European Commission to advance ways in which integrated health and social care can be achieved in EU countries. One of the products of the Network was the development of a policy framework for integrated care for older people (Banks, 2004). In Europe, and in other developed countries, as indicated above, integrated care is seen as key to improving accessibility, quality and financial sustainability.

The framework developed by CARMEN includes the themes outlined in the following table:

Table 6. The CARMEN Framework

Themes	Clarification
Shared vision	A statement that guides policy
Underlying principles and values	Principles Older people are treated as individuals and are in control. Older people's views are central. Access to integrated care must be equitable and according to need. Solutions to integrated care must be sustainable.
Criteria for operational success	The integrated system offers: - flexible and innovative integrated services for older people - clarity about responsibilities and accountabilities - appropriately targeted integrated care
Coherence with other policies	Coherent funding systems Promotion of independence and well-being Support to family caregivers Integrated information
Active promotion and incentives for integrated care	Allocating sufficient resources Resourcing integration Awarding responsibilities to integrate services Introducing incentives and sanction Supporting shared learning Setting standards for joint working and integrated approaches Providing support to family caregivers
Evaluation and monitoring	Developing core evaluation requirements such as impact on the lives of older people and their family caregivers, changes in services and service outcomes, cost-effectiveness of whole system approaches and integrated services, and changes in processes and protocols to improve the integration of services
Regulation and inspection	Coordinate inspection and regulatory processes to avoid duplication.
Support for implementing policy	Provide such support for steps to involving older people, methods to effect cultural and organizational change, workforce development, leadership development, and technology and information system development.

These frameworks have many features in common, although they are organized differently. Using the Hollander and Prince framework as an organizing tool, the three frameworks can be compared in terms of their common features (Table 7).

Table 7. Comparison of Integration Frameworks

Hollander and Prince	Leutz	Kodner and Spreeuwenberg	Banks
Philosophical and Policy Prerequisites 1. Belief in the benefits of the system 2. A commitment to a full range of services and sustainable funding 3. A commitment to the psycho-social model of care 4. A commitment to client-centred care 5. A commitment to evidence-based decision-making	No mention	No mention	Yes
Administrative Best Practices 6. A clear statement of philosophy, enshrined in policy 7. A single or highly coordinated administrative structure 8. A single funding envelope 9. Integrated information systems 10. Incentive systems for evidence-based management	***6.*** No mention ***7.*** No mention 8. No mention 9. Yes 10 No mention	6. No mention 7. Yes 8. Yes 9. Yes 10. Common decision support tools	6. Not mentioned as such but implied 7. No mention 8. Coherent funding systems 9. Yes 10. Yes, incentives and sanctions
Clinical Best Practices 11. A single/coordinated entry system 12. Standardized system-level assessment and care authorization 13. A single, system-level client classification system 14. Ongoing system-level case management 15. Communication with clients and families	11. Yes 12. Yes 13. No mention 14. Yes 15. No mention	11. Yes 12. Yes 13. No mention 14. Yes 15. Yes	11. No mention 12. No mention 13. No mention 14. No mention 15. Support for caregivers
Linkage Mechanisms 16. Administrative integration 17. Boundary-spanning linkage mechanisms 18. Co-location of staff	16. No mention 17. Yes 18. No mention	16. Consolidation/ decentralization of responsibilities 17. Yes 18. Yes	16. No mention 17. No mention but implied 18. No mention

Hollander and Prince	Leutz	Kodner and Spreeuwenberg	Banks
Linkages with Hospitals			
19. Purchase of services for specialty care	19. No mention	19. Yes	19. No mention
20. Hospital "in-reach"	20. No mention	20. No mention	20. No mention
21. Physician consultations in the community	21. No mention	21. Jointly managed care services	21. No mention
22. Greater medical integration of care services	22. No mention	22. Jointly managed care services	22. Awarding responsibilities to integrate services
23. Boundary-spanning linkage mechanisms	23. Yes	23. Yes	23. No mention
24. A mandate for coordination	24. No mention	24. Strategic alliances or care networks	24. Awarding responsibilities to integrate
Linkages with Primary Care/ Primary Health Care			
25. Boundary-spanning linkage mechanisms	25. No mention	25. Yes	25. No mention but implied
26. Co-location of staff	26. No mention	26. Yes	26. No mention
27. Review of physician remuneration	27. No mention	27. No mention	27. Resourcing integration
28. Mixed model of continuing/community care and primary care / primary health care	28. No mention	28. Strategic alliances or care networks	28. No mention
Linkages with Other Social and Human Services			
29. Purchase of service for specialty services	29. No mention	29. Joint purchasing Commissioning	29. Resourcing integration
30. Boundary-spanning linkage mechanisms	30. No mention	30. Yes	30. No mention but implied
31. High-level cross-sectoral committees	31. Yes	31. Inter-sectoral planning	31. No mention

It can be seen that the Banks framework has been developed at a relatively high level and is less specific about features of integrated care. The Hollander-Prince and Kodner-Spreeuwenberg frameworks are clearer about the characteristics of integrated systems. They have many features in common and some differences. The major differences are that the Kodner and Spreeuwenberg framework does not include policy prerequisites or hospital "in-reach" and physician remuneration but does specify multidisciplinary teamwork and round-the-clock service coverage. These are minor differences and very likely implied in Kodner and Spreeuwenberg's framework but not spelled out. More substantially, Kodner and Spreeuwenberg include the possibility of capitated funding and consolidation, common ownership or merger of existing organizations, which are not mentioned by Hollander and Prince. The Hollander-Prince and Banks frameworks do not specifically mention joint or coordinated planning, which is a feature in the frameworks of Leutz and of Kodner and Spreeuwenberg.

4.0 Conclusion

This literature review found promising indications that some models of integrated health and social care for the elderly can result in improved outcomes, client satisfaction and/or cost savings or cost-effectiveness. A substantial and growing body of knowledge is developing about the features of projects that are successful in achieving at least one or more outcome measures. Four frameworks were located; some are more detailed than others and some, more comprehensive in their scope. Notwithstanding their differences, there is congruence across the frameworks in most of their key elements. Among the key elements of the frameworks and in the literature in general are four types of interventions that must be structured in ways that are supportive of each other (Kodner, 2006). These key elements are:

- umbrella organizational structures to guide integration of strategic, managerial and service delivery levels; encourage and support effective joint/collaborative working; ensure efficient operations; and maintain overall accountability for service, quality and cost outcomes
- multidisciplinary case management for effective evaluation and planning of client needs, providing a single entry point into the health care system, and packaging and coordinating services
- organized provider networks joined together by standardized procedures, service agreements, joint training, shared information systems and even common ownership of resources to enhance access to services, provide seamless care and maintain quality.
- financial incentives to promote prevention, rehabilitation and the downward substitution of services, as well as to enable service integration and efficiency

No single element of integrated models of care has been shown to be effective in and of itself. However, at a minimum, all successful programs of integrated care for seniors use multidisciplinary care/case management for seniors at risk of poor outcomes supported by access to a range of health and social services. The strongest programs also include active involvement of physicians. Decision tools, common assessment and care planning instruments and integrated data systems are commonly listed infrastructure supports for integrated care.

The next step in this research project is to anchor these findings within Canadian health policy. There will be a survey of Canadian provincial policy-makers as well as interviews with a range of policy-makers and providers in Denmark and the United Kingdom to identify which framework features are being implemented, to collect evidence of success and to describe the types of barriers and challenges being encountered along the road of health system reform. The final report will include a discussion of the policy implications of the findings.

References

Banks, P. 2004. *Policy Framework for Integrated Care for Older People*. London: King's Fund. London. Available at www.kingsfund.org.uk.

Battersby, M., and the SA HealthPlus Team. 2005. "Health Reform through Coordinated Care: SA HealthPlus." *British Medical Journal* Vol. 330 (March 19): 662-665.

Béland, F., H. Bergman, P. Lebel, and M. Clarfield. 2006. "A System of Integrated Care for Older Persons with Disabilities in Canada: Results from a Randomized Control Trial." *The Journals of Gerontology; Series A: Biological Sciences and Medical Sciences* Vol. 61A, No. 4: 367-374.

Bernabei, R., F. Landi, G. Gambassi, et al. 1998. "Randomised Trial of Impact of Model of Integrated Care and Case Management for Older People Living in the Community." *British Medical Journal* Vol. 316: 1348-1351.

Bird, S., W. Kurowski, G. Dickman, and I. Kronberg. 2007. "Integrated Care Facilitation for Older Patients with Complex Needs Reduces Hospital Demand." *Australian Health Review* Vol. 31, No. 3: 451-461.

Bodenheimer, T., E. H. Wagner, and K. Grumbach. 2002a. "Improving Primary Care for Patients with Chronic Illness." *Journal of the American Medical Association* Vol. 288, No. 14: 1775-1779.

Bodenheimer, T., E. H. Wagner, and K. Grumbach. 2002b. "Improving Primary Care for Patients with Chronic Illness: The Chronic Care Model, Part 2." *Journal of the American Medical Association* Vol. 288, No. 15: 1909-1914.

Brown, R., D. Peikes, A. Chen, J. Ng, J. Schore, and C. Soh. 2007. *The Evaluation of the Medicare Coordinated Care Demonstration: Findings from the First Two Years*. Reference No. 8756-420. Princeton, NJ: Mathematica Policy Research. Available at www.mathematica-mpr.com.

Chen, A., R. Brown, N. Archibald, S. Aliotta, and P. Fox. 2000. *Best Practices in Coordinated Care*. Reference No. 8534-004. Princeton, NJ.: Mathematica Policy Research. Available at www.mathematica-mpr.com.

Commonwealth Department of Health and Aged Care. 2001. *The Australian Coordinated Care Trials: Summary of the Final Technical National Evaluation Report of the First Round of Trials*. Canberra: Commonwealth of Australia.

Contrandripoulos, A-P., J-L. Denis, N. Touati, and C. Rogriguez. 2003. *The Integration of Health Care: Dimensions and Implementation*. Working Paper No 4-01. Groupe de researche interdisciplinaire en santé. Montréal: Université de Montréal.

Davies, G., M Harris, M. Roland, A. Williams, K. Larsen, and J. McDonald. 2006. *Coordination of Care within Primary Health Care and with Other Sectors: A Systematic Review*. Australia: The University of New South Wales. Australian Primary Health Care Research Institute.

Department of Health and Ageing (Australian Government). 2007. *The National Evaluation of the Second Round of Coordinated Care Trials: Final Report. Part 1 – Executive Summary*. Available at www.health.gov.au/.

Edwards, M., and C. Miller. 2003. *Two, Four, Six, Eight: How We Gonna Integrate?* Office of Public Management LTD. Available at www.opm.co.uk.

Gröne, O., and M. Garcia- Barbero. 2001. "Integrated Care: A Position Paper of the WHO European Office for Integrated Health Care Services." *International Journal of Integrated Care* Vol. 1 (April-June): e21. Available at www.ijic.org/.

Fischer, L., C. Green, M. Goodman, K. Brody, M. Aickin, F. Wei, L. Phelps, and W. Leutz. 2003. "Community-based care and risk of nursing home placement." *Medical Care* Vol. 41, No. 12 (December): 1407-1416.

Fisher, H., and S. McCabe. 2005. "Managing Chronic Conditions for Elderly Adults: The VNS CHOICE Model." *Health Care Financing Review* Vol. 27, No. 1 (Fall): 33-45.

Hofmarcher, M., H. Oxley, and E. Rusticelli. 2007. *Improved Health System Performance through Better Care Coordination*. Working Paper No. 30. Paris: OECD.

Hollander, M., and M. Prince. 2001. *Analysis of Interfaces along the Continuum of Care. Final Report: "The Third Way": A Framework for Organizing Health Related Services for Individuals with Ongoing Care Needs and Their Families*. Victoria, BC: Hollander Analytical Services Ltd. Available at www.hollanderanalytical.com.

Hollander, M., and M. Prince. 2008. "Organizing healthcare delivery systems." *Healthcare Quarterly* Vol. 11, No. 1: 44-54.

Kane, R. L., P. Homyak, B. Bershadsky, and S. Flood. 2006. "Variations on a Theme Named PACE." *The Journals of Gerontology: Series A: Biological Sciences and Medical Sciences* Vol. 61, No. 7: 689-694.

Kodner, D. 2006. "Whole-System Approaches to Health and Social Care Partnerships for the Frail Elderly: An Exploration of North American Models and Lessons." *Health and Social Care in the Community* Vol. 14, No. 5: 383-390.

Kodner, D., and C. Kyriacou. 2000. "Fully Integrated Care for Frail Elderly: Two American Models." *International Journal of Integrated Care* Vol. 1 (October-December). Available at www.ijic.org/.

Kodner, D., and C. Spreeuwenberg. 2002. "Integrated Care: Meaning, Logic, Applications and Implications – A Discussion Paper." *International Journal of Integrated Care* Vol. 2 (October-December). Available at www.ijic.org/.

Leatt, Peggy. 2002. *Integrated Service Delivery. Sharing the Learning: The Health Transition Fund*. Synthesis Series. Ottawa: Health Canada.

Leichsenring, R. 2004. "Developing Integrated Health and Social Care Services for Older Persons in Europe." *International Journal of Integrated Care* Vol. 4 (September-December). Available at www.ijic.org/.

Leutz, W. 1999. "Five Laws for Integrating Medical and Social Services: Lessons from the United States and the United Kingdom." *The Milbank Quarterly* Vol. 77, No. 1: 77-110.

Newcomer, R., C. Harrington, and A. Friedlob. 1990. "Social Health Maintenance Organizations: Assessing Their Initial Experience." *HSR: Health Services Research* Vol. 25, No. 3 (August): 425-454.

US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. National Registry of Evidence-Based Programs and Practices. (n.d.). *Intervention Summary: Program for All-Inclusive Care for the Elderly (PACE).* Accessed January 2, 2008, at www.nrepp.samhsa.gov.

Wagner, E. H., B. Austin, C. Davis, M. Hindmarsh, J. Schaefer, and A. Bonomi. 2001. "Improving Chronic Illness Care: Translating Evidence into Action." *Health Affairs* Vol. 20, No. 6: 64-78.

Woods, K. 2001. "The Development of Integrated Health Models in Scotland." *International Journal of Integrated Care* Vol. 1 (April-June). Available at www.ijic.org/.

Financial Support

Funding for this project was provided by:

- **Ontario Ministry of Health and Long-Term Care**

Financial support for CPRN has been provided by the following organizations:

Donations

Bell Canada
COGECO
Home Depot
Allan Markin
Power Corporation of Canada
Scotiabank
SNC-Lavalin Group Inc.
Laidlaw Foundation
J. W. McConnell Family Foundation
Wilson Foundation

Members of the Board of Directors, Campaign Committee and management team

Many *e-network* subscribers and friends of CPRN

Project Funding

Corporations

AstraZeneca Canada Inc.
Bell Canada
BMO Financial Group
CIBC
EKOS Research Associates Inc.
Manifest Communications
Social Housing Services Corporation
Sun Life Financial
Universalia Management Group

Federal Government Departments, Agencies and Commissions

Elections Canada
Financial Consumer Agency of Canada
Health Canada
Health Council of Canada
Human Resources and Social Development Canada
Public Health Agency of Canada

Provincial Governments

Alberta

- Alberta Advanced Education
- Alberta Employment, Immigration and Industry

Nova Scotia

- Nova Scotia Youth Secretariat

Ontario

- Citizens' Assembly Secretariat
- Democratic Renewal Secretariat
- Ministry of Education
- Ministry of Training, Colleges and Universities

Quebec

- Institut national de santé publique du Québec

Saskatchewan

- Saskatchewan Culture, Youth and Recreation
- Saskatchewan Health

Foundations

Laidlaw Foundation
Max Bell Foundation
RBC Foundation

Associations and Other Organizations

Adult Learning Knowledge Centre
Canadian Council on Learning
Canadian Labour Congress
Canadian Medical Association
Canadian Nurses Association
Canadian Public Health Association
City of Ottawa
D-Code Inc.
Parliamentary Centre of Canada
Saskatchewan Institute of Public Policy
Social Planning Council of Ottawa
University of Saskatchewan
Work and Learning Knowledge Centre
York University