Time for chronic disease care and management

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To manage the future costs and quality of care, a health strategy must move beyond the individual, acute care model and address the care of older people with chronic, and often multiple, diseases. This strategy must address the issue of care gaps, ie, the differences between best care and usual care. It should also embrace broad partnerships in which providers may be a cross-disciplinary team of nurses, physicians and pharmacists; the patient partners may include all patients in the community with a disease or group of diseases; and the system managers should work with all to seek improved long-term care and share the governance of interventions and resources. This partnership is activated by repeated and widely communicated measurements of actual practices and outcomes, facilitating rapid knowledge gain and translation, including unmasking the invisible wait list of unmeasured care gaps. It drives continuous improvement in practices and outcomes. The time is right for such care models. There is increasing evidence of their clinical and financial benefits. There is a clear and immediate opportunity to evaluate them as part of a health strategy for effective chronic care in our aging society. Things can be better.

Key Words: *Chronic care; Disease management; Knowledge translation; Measurement; Partnership*

WHERE ARE WE IN CANADIAN HEALTH CARE?

Concern for the quality and sustainability of health care is an issue for many people in our society. Although the system managers are more optimistic, or less pessimistic, than the public and professional providers, overall confidence is not very high.

HOW DID WE GET HERE?

There are three main drivers in our health care universe: cost, access and quality. They are inter-related and constantly competing for attention from the three major stakeholder groups: community, provider and system. At the policy or system level, cost control has consistently won the competition in the past two decades, with some unintended, but adverse, consequences. For example, because costs have been constrained by restricting access to efficacious products and services, a widespread sense has developed among providers and community-based stakeholders that quality of care and outcomes are decreasing.

Certainly, best care is not usual care. There are large gaps between best care, which is the level of care suggested by the results of large clinical trials, and actual care, which is the level of

Soins chroniques et gestion thérapeutique : Pourquoi ? Pourquoi maintenant ?

La gestion cohérente des coûts et de la qualité des soins exige une nouvelle stratégie qui aille au-delà du modèle de soins aigus individuels et tienne compte des soins efficaces aux patients plus âgés qui souffrent de problèmes de santé chroniques, souvent multiples. Cette stratégie doit répondre aux écarts thérapeutiques, à savoir les différences entre les soins optimaux et les soins couramment dispensés. La nouvelle stratégie doit aussi inclure un partenariat de soins élargi, au sein duquel les prestataires pourraient former une équipe interdisciplinaire composée d'infirmières, de médecins et de pharmaciens, et où les partenaires patients pourraient être l'ensemble des patients de la communauté présentant une même maladie, ou un groupe de maladies, ainsi que leur famille, et des gestionnaires de système; tous visant l'amélioration à long terme des soins et des résultats et partageant la mise en œuvre et la gouvernance des interventions et des ressources. Le partenariat est activé par des mesures répétées et largement diffusées des pratiques et des résultats concrets, facilitant ainsi une acquisition et une application rapides des connaissances, y compris la mise au grand jour de la liste d'attente invisible des écarts thérapeutiques. Cette formule stimule chez les prestataires de soins une amélioration continue des pratiques et des résultats cliniques des patients. Le moment est bien choisi pour de tels modèles de soins. Un nombre croissant de données montre leurs bienfaits cliniques et financiers. Il existe une opportunité évidente et immédiate d'évaluer ces modèles dans le cadre d'une stratégie de soins chroniques et efficaces dans notre société vieillissante. L'amélioration est possible.

care when measured in whole patient populations (Figure 1) (1). These gaps of access, diagnosis, prescription and adherence occur in all important diseases and are consistently greater among older patients. For heart disease, the greatest disease burden in our society, only 50% of patients consistently receive proven therapies. For osteoporosis, only approximately 25% of patients are being diagnosed and treated with an evidence-based approach.

From the viewpoint of a patient caught in a care gap, it is similar to being on a very insidious wait list, because unless practice patterns are measured, care gaps are invisible.

The real-world care gaps in diagnosis and therapy are not caused by a lack of physicians' knowledge of medical evidence. Rather, surveys indicate that physicians' level of knowledge of evidence and their intention to act on the evidence are very high; care gaps by intention-to-treat surveys average less than 5% (2). However, even within these high levels of intention to treat on evidence, there was less intention to prescribe proven therapy for older patients (2).

This intention and reality of treating older patients differently, with less application of proven therapies, does not make intellectual

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Figure 1) The continuum of medical therapy, from basic science discovery, to proof of efficacy in randomized clinical trials, to use in the real world. Care gaps occur when best care, as defined in efficacy trials, is not rapidly and widely applied to whole populations of patients. The primary consequence of care gaps is a missed opportunity; patients who can benefit from efficacious therapies do not. Reproduced with permission from reference 1

Figure 2) The chronic care model of disease management. The community, provider and system partners act together to achieve overarching goals. The arrows represent activating and sustaining communication, including measurement and communication of practices, outcomes and other relevant knowledge, to all partners

sense. Based on the evidence, older people are often the highest-risk patients in any disease population. In addition, efficacious therapy usually works best for patients at highest risk. Thus, some other factors are likely at play. For a society becoming progressively older, these large care gaps in older patients are of increasing concern.

TO MAKE THINGS BETTER – SOME ASSUMPTIONS

In the future, the demands on our personnel and fiscal resources are likely to increase because of the growing mismatch between our aging population, with its age-related chronic disease burden, and our relatively few and aging providers (3). We need to recognize that managing costs of care will necessitate the management of chronic diseases. We must seek and measure the gaps in access, diagnosis, prescription, adherence and age.

There are models available. Particularly attractive is the chronic care model of disease management, in which community, provider and system stakeholders perceive a common interest in working together, in a mutually beneficial partnership, to improve health care and outcomes (Figure 2) (4).

WHAT IS DISEASE MANAGEMENT?

In brief, disease management can be defined as a partnership-driven, intervention-focused and measurement-accounted integrated

TABLE 1
Comparison of key components of the Improving Cardiovascular Outcomes in Nova Scotia (ICONS) (7) and Vers l'Excellence dans les Soins aux Personnes Asthmatiques (VESPA) (8) disease management projects

Component	ICONS	VESPA
Patient population		
Disease/risk/demography	Acute ischemia, congestive heart failure/high/all	Asthma/varied/selected
Intervention target(s)		
Patient	+	+
Provider	+	+
System	+	+
Intervention content		
Patient	Education, feedback	Education
Provider	Education, feedback	Education, feedback
System	Education, feedback	Education, feedback
Intervention delivery		
Patient	Oral, written, electronic	Oral, written
Provider	Oral, written, electronic	Oral, written
System	Oral, written, electronic	Oral, written
Intervention environment		
Hospital	+	+
Community	+	+
Measured outcomes		
Clinical	Practices, survival, readmission	Practices, utilization
Fiscal	Economic impact; Rol	0

+ Presence of the component in a project; 0 Absence of the characteristic. Rol Return on investment

application of health resources to improve the care and outcomes of whole populations of patients. The underlying mantra is that care and outcomes can be better.

Modern disease management has several key components. These include collaborative partnerships, evidence-based and team-delivered interventions, measurement and communication of practices and outcomes, and patient self-care and empowerment. The involvement of patients as partners allows broader and more rapid knowledge translation, with consequent improvement in patient-centred outcomes than may otherwise occur (5).

Standardized taxonomy for disease management programs has recently been proposed by the American Heart Association (AHA) in an effort to facilitate inter-project comparisons (6). The AHA recommendations highlight the central role of interventions. This is well illustrated in Table 1, which uses the AHA criteria to compare two recent disease management projects, one on cardiovascular disease in Nova Scotia (7) and another on asthma in Quebec (8).

DOES DISEASE MANAGEMENT WORK?

Overall, the answer to this question is yes; however, views may vary. Providers may focus on improved prescription patterns (5,7). Community stakeholders, patients and their families may look for easier access, decreased need for rehospitalization or improved quality of life (5). Policy makers may be most concerned about ensuring an appropriate return for money spent (9). All are valid outcomes and can be assessed and improved in the chronic care model of disease management.

Although it sounds simple, repeated measurement and feedback of actual care are at the centre of what works. As indicated in

Figure 3) Temporal changes in prescription patterns of proven efficacious medical therapies for all patients with acute heart attacks admitted to hospital in Nova Scotia from 1997 to 2002 (by second and fourth quarters [2Q and 4Q, respectively]), during the Improving Cardiovascular Outcomes in Nova Scotia (ICONS) disease management project. The principal intervention was the measurement and feedback of care practices to all partners. ACEi Angiotensin-converting enzyme inhibitors; AP Antiplatelets; ARB Angiotensin receptor blockers; BB Beta-blockers. Reproduced with permission from reference 10

physician survey data, there does not appear to be a significant knowledge gap about the medical care or therapeutic evidence (2). Rather, the knowledge gap in real-world care is a lack of knowledge about the actual application of the medical evidence. It is a knowledge gap in performance. Measurement and translation of practice performance data are very powerful and positive stimuli for informed partners to generate continuous improvements in their practices (Figure 3) (5,7,10).

TODAY'S SITUATION – OPPORTUNITIES AND CHALLENGES

Opportunities

Recently, there has been a remarkable convergence of thought among the major components of the health care universe, including leaders in the policy and organizational parts of the system, as well as among professional providers, patients and the community. There is an increasing sense of opportunity for disease management to bring pragmatic changes in practices and outcomes at the population level for our most burdensome diseases. These opportunities are summarized below.

Opportunities in the system:

- Perhaps of greatest importance in the system arena is an increasing realization by governments that engaging providers as full partners in collaborative health care management is key to improving health and fiscal outcomes. The effective use of clinical outcome measures complements system input, or administrative, measures. Together, they fit very well with the evolving federal and provincial Auditors' General philosophy of quality management, in which value-for-money audits include assessment of the health care value returned for health care dollars spent.
- Several provincial governments are testing the community-based chronic care model of disease management. In Quebec, some regional health authorities, the Centres de Santé et de Services Sociaux and integrated group practices are also working toward implementation of the chronic care model. In fact, some of these local cross-disciplinary health

Figure 4) Comparison of traditional academic, or Mode 1, knowledge production with the less rigid Mode 2 knowledge creation and production typical of community and needs-based disease management partnerships. Partnership-measurement disease management projects provide a practical bridge in which the two knowledge production modes complement each other

care teams are developing 'groups of diseases', or comprehensive disease management. This represents a practical advance of the science of chronic care because groups of diseases are what patients have in the real world, particularly as they age.

- The Institute for Musculoskeletal Health and Arthritis of the Canadian Institutes of Health Research (CIHR) recently issued a request for proposals to create a community-based disease management alliance to address the demand for improved, networked care of patients with chronic pain. Transdisciplinary responses to these requests will include traditional academia and community-based partners, as well as patients and patient advocacy groups, and various levels of government.
- Universities, including the University of Montreal (Quebec), are forming groups to advance the science of health and disease management. They see community-focused alliances as practical bridges between the cultures of individual and public health, as well as between traditional knowledge production and translation and a newer, community-based knowledge industry (Figure 4) (11).

Opportunities among providers:

- Recently, as indicated above in the AHA recommendations, thought leaders from the individual health culture in the United States have begun to formally recognize, in editorials and policy statements, the value of bringing disease management to patient care (6).
- In Canada, Eldon R Smith, Editor-in-Chief of *The Canadian Journal of Cardiology* – the official journal of the Canadian Cardiovascular Society – has strongly advocated disease management as a feasible approach to deal with the increasing burden of aging cardiac patients, noting that this would require physicians and other cardiac care providers to work in teams (3). Dr Smith is also Chair of the newly launched Canadian Heart Health Strategy and Action Plan, which is sponsored by the federal government. Disease management is one of the targeted areas the strategy is exploring as a means to improve future care and outcomes of patients with heart disease.

- Similar support for working in teams and advancing population health has been expressed in the professional covenant of Alpha Omega Alpha Honor Medical Society, a very influential organization in the individual health culture in Canada and the United States. Traditionally, Alpha Omega Alpha has promoted professional excellence and leadership, particularly in patient care. The current covenant, published on the cover and discussed in an accompanying editorial in the summer 2006 edition of the Society's journal, *The Pharos*, continues to highlight the primacy of physicians' responsibility for the care of their individual patients. However, it goes on to add an additional duty: "I will work with others to promote health within broad populations" (12).

Opportunities in the community:

- The relationship between provider and patient in the traditional paradigm of health care can be characterized as uneven. The highly trained provider makes essentially unilateral decisions on diagnosis and therapy based on the available evidence and includes an assessment of risk and benefit. The decisions are passed to the relatively untrained patient, with the expectation that diagnosis and therapy will be accepted and adhered to. This older paradigm is shifting, driven, in no small measure, by the increasing access to medical knowledge by all stakeholders via the Internet and other media. Patients are more informed; they feel empowered to contribute to their care decisions and comfortable with comparing their care and outcomes with existing benchmarks.
- The evolution of patient-provider partnerships is also spreading in the academic world. For example, several years ago, the CIHR established knowledge translation task forces to foster the more rapid adoption of new knowledge into real-world practice. The members of these groups are investigators and administrators of the CIHR and lay persons from communities across the country.
- At the 2006 scientific sessions of the Canadian Arthritis Network, all major knowledge translation sessions were structured similarly. All presented the newest scientific data, from genetics and molecular biology to provider practices and community uptake patterns. The presenters crossed many disciplines: basic scientists and physician, nurse, pharmacist and physiotherapist providers, as well as patients and their community advocates. It was an impressive demonstration of broad partnerships driving rapid knowledge translation.
- Things can be better, and people from the community are ready to help.

Challenges

A big challenge is that we have two relatively separate cultures in health care – individual and public. In the individual care culture, the professional providers (nurses, doctors and other clinicians) are primarily concerned with the covenant between themselves and their individual patients. Their training is homogeneous; the principal competencies are diagnosing and treating individual patients. The primary focus in public health is to promote the health of populations; the core competencies are more heterogeneous: epidemiology, biostatistics, behavioural science, environmental science and policy.

Partnership and measurement-oriented disease management projects can provide, however, a practical bridge between the two cultures (5). When players from the individual health care culture begin to cross the bridge, they realize the value of the public

health skills in capturing the issues and opportunities of improving population health. As they cross the bridge, clinicians bring very important cultural assets – their inclination and commitment to intervene to make things better. Viewed from the public health end of the bridge, this intervention orientation of clinicians provides an energized army to practically implement broad health care policy initiatives.

However, there are very few providers, and even fewer members of the community, who have crossed this bridge or have been trained in the value and the 'how-to' of team-based, measurement-driven care. Perhaps even more challenging is the reality that few hospitals or community clinics routinely measure and communicate relevant clinical outcomes to all stakeholders; there are few data systems designed to serve such needs.

ON BALANCE

Briefly stated, our very large opportunity is the willingness, not heretofore seen, of many partners from the various cultures and disciplines of health care to work together to improve population health. The counterbalancing reality is our lack of training in transdisciplinary team care and the paucity of supporting clinical data systems. To put it another way, we have the right collective attitude, but risk frustration from inexperience and limited resources to intervene appropriately.

Thus, it is reasonable to think that things may get worse before they get better. We may have to begin by taking small, simple steps (13). However, we should realize that even if we have some partnership uncertainties and some messiness of processes, things can still be accomplished; innovation and attitude can prevail over lack of experience and resources (13). Things may, indeed, get worse before they get better. But things will be better.

RECOMMENDATIONS

In the short term, we should develop and test more partnership-measurement chronic care programs using the available resources and willing partners from our community, provider and system groups.

These can be on a variable scale; for example, partnership projects in the Centres de Santé et de Services Sociaux or an integrated clinic. These projects should measure patient-centred outcomes because they are the best way of ensuring that we are getting performance value for money spent, at least in the short term (5,9). The principles and processes of partnership and measurement can be applied to any disease state; they all have care gaps and the recipe will work in all.

In the long term, particularly if the results from the newer partnership projects are promising, we should consider how to better prepare the various partners to participate more successfully in such endeavours. Such a systematic approach may include cross- and transdisciplinary health care education in health science schools that teach bridging of individual and public health cultures. Perhaps we should even consider evaluating team-oriented criteria for acceptance to these new and broadly focused health science schools.

Above all, to paraphrase Goethe, it is no longer sufficient to know about care gaps in population health; we must do something to make things better!

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