

Framework for primary care organizations: the importance of a structural domain

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Abstract

Purpose. Conceptual frameworks for primary care have evolved over the last 40 years, yet little attention has been paid to the environmental, structural and organizational factors that facilitate or moderate service delivery. Since primary care is now of more interest to policy makers, it is important that they have a comprehensive and balanced conceptual framework to facilitate their understanding and appreciation. We present a conceptual framework for primary care originally developed to guide the measurement of the performance of primary care organizations within the context of a large mixed-method evaluation of four types of models of primary care in Ontario, Canada.

Methods. The framework was developed following an iterative process that combined expert consultation and group meetings with a narrative review of existing frameworks, as well as trends in health management and organizational theory.

Results. Our conceptual framework for primary care has two domains: structural and performance. The structural domain describes the health care system, practice context and organization of the practice in which any primary care organization operates. The performance domain includes features of health care service delivery and technical quality of clinical care.

Conclusion. As primary care evolves through demonstration projects and reformed delivery models, it is important to evaluate its structural and organizational features as these are likely to have a significant impact on performance.

Keywords: conceptual framework, organizational theory, performance measurement, primary care, quality of health care

Introduction

Primary care is in a state of evolution. Policy makers who were preoccupied with cost containment in the early 1990s are now overwhelmed by a crisis in accessibility to health care. Concerns about access, particularly with respect to primary care, are compounded by an aging health care workforce, the increased prevalence of chronic disease and the complexities of team-based contemporary practice. In response, many industrialized nations have begun to experiment with new models of primary care delivery designed to optimize comprehensiveness, integration and accessibility. Evaluation of the success of these models requires a comprehensive framework.

In this article we describe a framework to conceptualize the structure, organization and performance of primary care. The framework blends organizational theory with

existing concepts of service delivery and clinical care and can be used as a template for a systematic evaluation of primary care. It arose from a large mixed-methods evaluation of 35 practices in each of four different primary care delivery models in Ontario, Canada, the Comparison of Models of Primary Health Care in Ontario project (COMP-PC). Our work is oriented towards primary care, defined here as 'that level of a health service system that provides entry into the system for all new needs and problems, provides person-focused (not disease-oriented) care over time, provides care for all but very uncommon or unusual conditions and co-ordinates or integrates care provided elsewhere by others' [1]. Although we acknowledge the broader concept of primary health care, with its additional focus on education, community empowerment and population health, this paper is concerned with primary care and its delivery.

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Previous conceptual frameworks for primary care

Conceptual models of health care have evolved over the past four decades. Beginning in 1966 with Donabedian's now classic work on assessing the quality of health care, most such models of care have incorporated common elements of structure, process and outcome [2]. Guided by this framework, there have been a number of efforts to deconstruct the components of primary care over succeeding decades. The US Institute of Medicine both developed and refined definitions of primary care [3]. Its framework has been used as a template to plan primary care reform and as a base in the development of instruments used to evaluate the quality of primary care delivery [4, 5].

Despite its merit, Starfield [1] highlighted the failure of the Institute of Medicine's framework to recognize the characteristics of varied health service organizations. Her conceptual framework linked structure, process and outcome through core dimensions of capacity, performance and health status. Capacity involved elements such as personnel and facilities, the organization of services, financing and governance. She saw performance as being represented by four unique features of primary care service delivery (first-contact care, longitudinality, comprehensiveness and co-ordination of care) as well as five essential, but not unique features, e.g. medical record format and three derivative features, e.g. cultural competence.

Like Starfield, Campbell and colleagues [6] acknowledge the importance of differentiating between individual and population perspectives of quality. Their succinct conceptual model viewed individual perspectives of quality as oriented towards two dimensions, access and effectiveness, with effectiveness having subdimensions of clinical and interpersonal care. They viewed population perspectives of quality being measured primarily by equity and efficiency.

Subsequent frameworks have begun to identify the importance of structural or organizational features. Both Sibthorpe [7] in Australia and Watson *et al.* [8] in Canada have highlighted the wide range of organizational contributions from governments to support primary care. These provisions, such as fiscal, material and health human resources [8], affect the ability of primary care providers to deliver services from practice settings. These themes were continued in a recent primary care framework published by the Organization for Economic Co-operation Development (OECD) [9]. Although acknowledging core dimensions of quality, access and expenditure, the group illuminated the importance of broader dimensions of macro- and micro-efficiency and health care system design, policy and context. The consensus group found structural measures to be insufficient to assess safety and effectiveness, and hence excluded them from its final measurement framework. The OECD Health Quality Indicators project stressed the need for a framework that reflects the complexity of primary care to guide the selection of indicators [10].

Although many of these frameworks acknowledge the importance of major structural components of the primary

care system, only recently have important contextual influences recognized by Donabedian been seriously explored. Lamarche *et al.* [11] concluded a comprehensive evaluation of the influence of organizational models on primary care outcomes by suggesting that differences in output are fundamentally related to dimensions such as vision and the practice's environment context. This conclusion resonates with recent findings that features such as team size and financial incentives [12] may have independent effects on quality of care.

There is evidence that organizational factors partly explain major variations in demanded diagnostic tests [13], referrals to specialized services [14] and the frequency and timing of follow-up visits [15]. Investigators have explored the possible interrelations among medical practices, primary care outcomes and organizational structure [16], mode of remuneration [16], group style and peer pressure [17], organizational culture [18] and team cohesiveness [19].

Recent efforts to explain practice variations have tried to integrate multiple levels of analysis by considering individual and situational factors. Organizational science offers relevant concepts and definitions to facilitate this type of analysis. Contemporary definitions of 'organizations' have evolved from a closed-system perspective portraying them as isolated systems with no interaction with their environment [20] to an open-system perspective in which they are viewed as a system of interdependent activities 'linking shifting coalitions of participants embedded in wider material-resource and institutional environments' [21]. This open-system perspective encapsulates three distinct levels of analysis: sociopsychological (the behaviors of individuals), organizational structure (the structural features that characterize the organization) and ecological (the organization viewed as an entity operating in a larger system of relations). Such definitions and perspectives can enrich our understanding of primary health care models. This paper's central premise is that new concepts in organizational theory have much to offer in the understanding of systemic drivers towards quality primary care.

Aim

Our aim was to develop a comprehensive conceptual framework for primary care.

Methods

The framework was determined using an iterative process. The team (comprising a social scientist, a health program evaluator, two academic family physicians and a community health physician) used cycles of expert consultation, narrative literature review and regular group meetings. We began by designing a preliminary draft based on previous North American work [3, 1, 22]. The draft framework was expanded and refined through several concurrent processes:

- (i) Consultation with another group developing definitions for dimensions of primary care through a modified Delphi process and a face-to-face meeting [23].

- (ii) Search of MEDLINE and the Cochrane Database for English-language literature from January 1995 to January 2006 using the key words ‘conceptual framework,’ ‘analytical framework,’ ‘primary health care,’ ‘primary care,’ ‘delivery of health care,’ ‘quality of health care’ and ‘organizational theories.’
- (iii) Comprehensive literature review on each of the major dimensions from the original framework (e.g. access, comprehensiveness) and review of documents published by Health Canada and the Ontario Ministry of Health and Long-Term Care as well as current texts on primary care and organizational management.

Group meetings included a review of the most recent iteration of the framework and definitions, presentations by group members on aspects of the framework based on the literature and discussions leading to consensus on elements and structure of the framework and linked definitions. Following each meeting a revised version of the framework was constructed, and the process began again.

Conceptual framework for primary care

The conceptual framework is presented in Fig. 1.

Structural environment

The structural domain includes the organizational and environmental features likely to influence primary care service delivery [17]. This domain is divided into three main components: the health care system, defined as the policies, stakeholders (e.g. public agencies and professional associations) and factors at the system level that can influence primary care organizations and providers; the practice context, defined as the factors at the community level that can influence the organization of the practice and the delivery of care; and organization of the practice, defined as the structures and processes at the practice level. These structural attributes align with the individual and collective capacity to provide services.

Health care system. The health care system or institutional and resource environments, revolves largely around the influence of government bodies and professional associations. These institutions define the broad parameters guiding primary care service delivery. Government bodies exert influence through the provision of material and financial resources (e.g. payment methods, support for information technology) and through specified governance structures and legal frameworks (e.g. contracts specifying a mandatory basket of services and activity reports). Although there have been extensive studies of the relationships between physician remuneration methods and the delivery of primary care services [24], the issue of governance has received far less attention [25].

Even in highly organized health care systems, governance remains under the guardianship of professional associations. Their activities in defining codes of practice exert powerful influence over the work of primary care practitioners [26]. Both government and professional bodies promote specific visions and values about what should be considered ‘good’ delivery and quality of clinical care. Cohesiveness between

the goals, resources, values and governance structures can influence how well primary care organizations and providers respond to system level leadership.

Practice context. Studies comparing the work of primary care practitioners in different geographical settings provide solid evidence that context variables can have a profound influence on medical practices [27]. We see the primary care practice context as comprising the characteristics of the surrounding communities, the availability of other medical resources and whether or not the practice organization is part of a network with other services in the area. Although autonomous practice organizations from the same model share a number of core characteristics, each setting may be influenced by widely differing local factors.

Organization of the practice. The last component of the structural environment relates to individual practices and the internal factors that might affect performance. ‘Health and human resources’ relates primarily to the group composition and ‘internal’ demography specific to each practice. It refers to the aggregate characteristics of team members, such as age, sex, professional background and skill mix, as a potential determinant of organizational structure and performance [21]. For example, studies have shown that factors such as the ability of practice staff to participate in decision-making influences the delivery of preventive services in primary care settings [28]. The incorporation of the category ‘office infrastructure’ recognizes the potential of different material and technical elements (such as electronic medical record systems) to influence the delivery of services [29].

Finally, ‘organizational structure and dynamics’ refers to how team members’ co-ordinate and collaborate to perform key tasks. There is accumulating evidence that (inter) professional collaboration in primary care organizations influences the delivery and quality of services [30]. We included the culture of the organization under the umbrella of ‘organizational structure and dynamics’ as a bridging concept between how work is carried out versus how it should be carried out. Organizational culture is recognized as an important factor influencing the cost and quality of health care [31].

Performance of primary care

The performance domain is divided into two main components: health care service delivery, defined as the manner by which health care services are delivered and technical quality of clinical care, defined as the degree to which clinical procedures reflect current research evidence and/or meet commonly accepted standards for technical content or skill [23].

Health care service delivery. Like Starfield [1], we acknowledge the importance of four unique features of primary care service delivery: access, continuity, integration and comprehensiveness. Each is provided a separate subcomponent in the framework. Similarly, we recognize the fundamental importance of the patient–provider relationship (through the concepts of patient–provider communication, awareness of the whole person and the family and broader appreciation of the patient’s culture). Our inclusion of a separate element of trust reflects the increasing acknowledgement of its role in, e.g., promoting

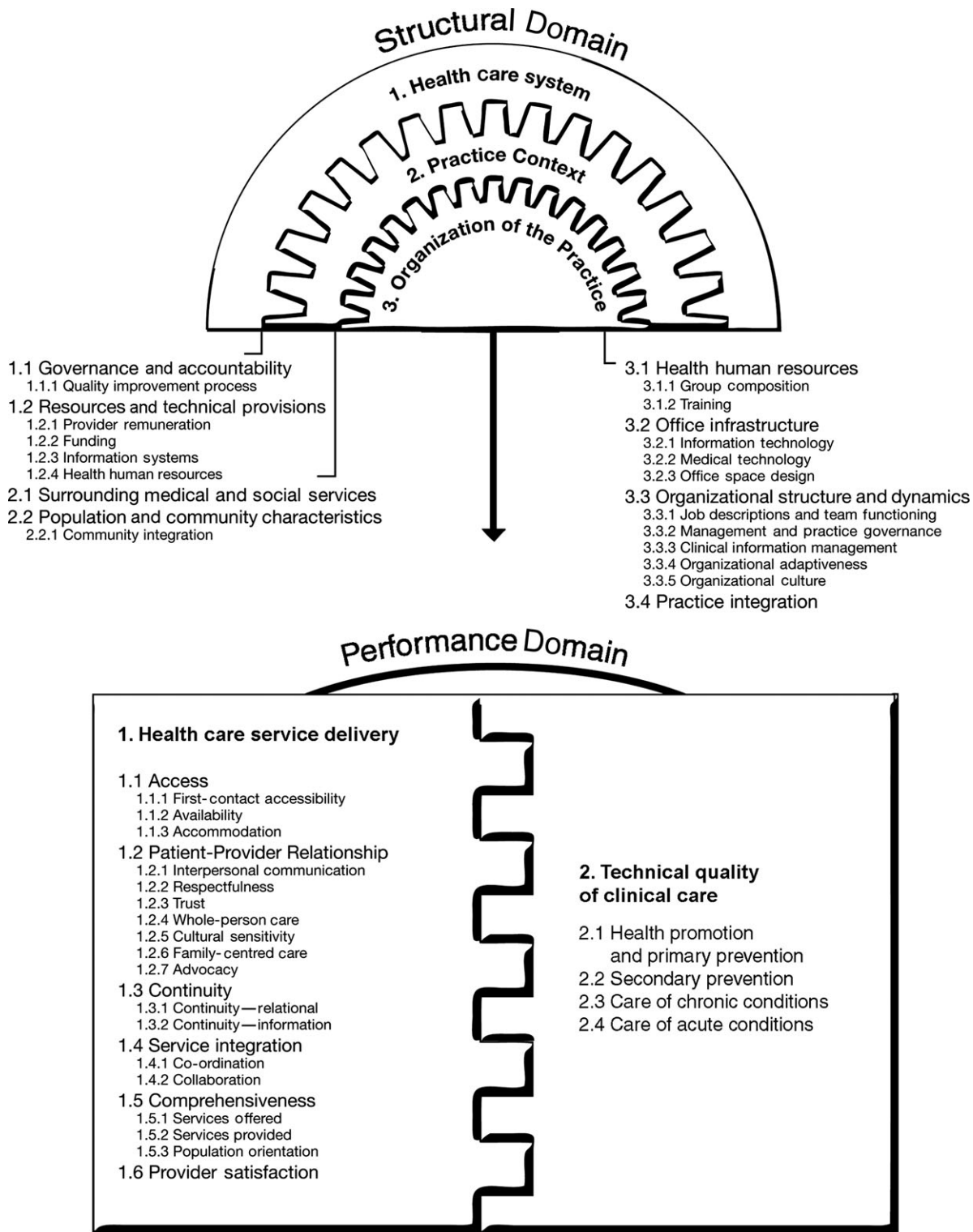


Figure 1 Conceptual framework for primary care organizations.

patient satisfaction [32] and adherence to clinical advice [33]. The importance of relational continuity in improved preventive care, reduced hospital admissions [34] and reduced costs [35] is recognized, as is the importance of informational continuity in a complex health care system [36].

Recent evidence links integration of primary care with positive health outcomes [37] and its role in facilitating the positive effects of other components of primary care [1]. In our framework, service integration has two elements, co-ordination and collaboration. The former is the ability of a

practice or provider to co-ordinate and synthesize care received from external sources, such as specialists and other health care providers from non-health sectors [4]. In contrast, collaboration has to do with a similar process of linkages between different providers within a health care organization.

Comprehensiveness remains a critical issue for primary care, especially in light of recent evidence of declines in services offered by primary care physicians [38] with accompanying reductions in the delivery of whole-person and holistic care [4]. We recognize the core feature of comprehensive primary care is its ability to ensure the tailoring of services to health care needs [1]. Our definition comes from the perspective of patient need for services and recognizes the importance of representing the twin elements of services offered and services provided [4]. Finally, we include a separate subcomponent of provider satisfaction, which in recent studies has been linked to performance [39].

Technical quality of clinical care. The technical quality of clinical care component has four subcomponents: health promotion and primary prevention, secondary prevention, care of chronic conditions and care of acute conditions. Although not an exhaustive list of activities performed in primary care, these broad categories reflect the traditional scope of clinical primary care [3]. Clearly, within these subcomponents are numerous discrete clinical activities. Tasks associated with some clinical areas cover several subcomponents. For example, mental illness can be both acute (as in an acute psychosis) and chronic (as in the ongoing care of a patient with schizophrenia).

Discussion

Conceptual frameworks are by their nature artificial. Our framework for primary care builds on four decades of work in health service evaluation. We have sought to blend evolving perspectives of organizational theory with established concepts of service delivery and clinical care. The framework has been developed at a time when many researchers and policy makers remain focused on detecting variations in adherence to evidence-based guidelines, politicians are preoccupied with access to care, and the quality movement is concentrating on safety. Notwithstanding the importance of these specific dimensions of quality, primary care demands examination through a lens of system theory. Our framework highlights the importance of incorporating an emerging understanding of the influence of organizational factors on variations in health care service delivery.

Other conceptual frameworks for primary care have tried to blend population and individual perspectives. We take Campbell *et al.* viewpoint that the critical domain of quality is quality of individual care [6]. Our primary focus on individuals and primary care organizations is made at the expense of a population-level framework because we believe it is likely to be of most value to payers, patients and providers. It encourages policy makers to look beyond aggregated measures of quality collected through administrative databases to the contextual and individual dimensions of care.

Although we initially consulted with others with an interest in health care evaluation, we chose to develop our framework iteratively, informed by ongoing narrative reviews and emerging qualitative themes from the COMP-PC project. Further consultation with professional and community interest groups would strengthen the framework. Finally, our framework is conceptual, not analytic. Although economic concepts of technical, allocative and cost efficiency can be incorporated into an economic analysis of primary care, we believe that they are not fundamental to the framework, grounded as it is in theoretical concepts rather than actual measurements. We therefore do not discuss the outcomes of performance on the population, payers, providers or patients.

Conclusion

A comprehensive conceptual framework is fundamental to the valid evaluation of primary care. This framework adds a new perspective to a complex field. Greater understanding of the structural domain provides opportunities for informed system change. Past experience suggests a lag between the articulation of concepts of quality and the development of valid instruments and political determination to allow robust measurement of health care systems [6]. Our framework challenges researchers to develop instruments and analytical techniques to understand those areas of the framework for which tools have yet to be developed. The framework provides policy makers a more comprehensive view of primary care quality and, in combination with relevant evaluation methods, assists in decision-making about health resource allocation and quality improvements.

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