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Research Article

THE ROLE OF PRIMARY CARE PHYSICIAN IN CHRONIC DISEASES¹Dr Ashraf Ali Jafrani, ²Dr Tahir Mahmood, ³Dr Wajid Iqbal¹MBBS, MRCP Int. Liaquat University of Medical and Health Sciences Jamshoro,²Demonstrator Physiology at Sahara Medical College Narowal, ³Frontier Medical College Abbottabad.**Article Received:** March 2019**Accepted:** April 2019**Published:** May 2019**Abstract:**

In this article, we describe an evidence-based stepped care approach to improving the care of chronic illness in organized health care systems. A primary care physician's goal is to deliver the care that's right for patient not employ a one-size-fits-all approach. Tailored health care is easier when patient has meaningful relationship with his/her healthcare physician.

A primary health care physician is responsible for screening all major health-related conditions. If patient already has a chronic condition, patient's primary helps manage it and improve the quality of life. Primary health care physicians are part of an expert team that can meet patient's exact needs. These teams are commonly comprised of physicians, nurse practitioners, physician assistants, registered nurses, patient access staff and patient care associates. Contributing unique perspectives, the team approach provides patients with well-rounded health care.

We review the common principles that have been found to improve the management and outcomes of patients with major depression, asthma, diabetes, and congestive heart failure. These population-based methods to improve care of chronic illness require reorganizing the roles of specialists and primary care physicians.

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INTRODUCTION:

Recent health care reforms in the globe have focused on reducing costs. Mechanisms such as capitation, gate keeping, pre-referral authorization, and practice profiling have resulted in primary care physicians providing a broader array of services and reduced use of specialists. These cost-control strategies have resulted in frustration among primary care physicians, specialists, and patients. For instance, approximately one-quarter of primary care physicians report that the scope of care they were expected to provide was greater than it should be, and 35% of specialists reported that the severity of patients' conditions at time of referral to them was greater than it should be. Although reduced access to specialty care has precipitated dissatisfaction, it doesn't necessarily follow that the quality of care can be increased simply by increasing access to specialists.

Important gaps in quality of care for chronic conditions predated the rapid growth of managed care. Many of these gaps in quality of care (such as annual diabetic foot or retinal exams) are not the target of managed care restrictions. Prior to the advent of managed care, multiple studies found delays in diagnosis of asthma, hypertension, Type 2 diabetes, and major depression.

When detection occurred only approximately 25 to 50% of patients adequately adhered to medication and self-management activities (such as monitoring peak flow, diet change, weight loss, exercise and behavioural activation programs) in order to lower airway resistance, blood glucose, blood pressure, or depressive symptoms to recommended levels. Surveys regularly report that systems of care fail to comply with guidelines for key aspects of care for patients with chronic conditions. Chronically ill patients often receive brief infrequent visits, which leaves the primary care practitioner or specialist with limited time to understand and monitor the patient's explanatory model of illness, adherence to self-management, barriers to adherence and how well the patient is functioning. This results in a lack of recognition of functional deficits and lack of appreciation of the need for rehabilitative, supportive and educational services. Prior to the managed care era, primary care physicians and specialists usually worked in separate systems with limited communication.

Patients with comorbid chronic illness were often treated by multiple specialists with limited

communication among them and no physician coordinating overall care. Active follow-up to ensure adherence to treatment regimens among patients with conditions such as asthma, congestive heart failure, diabetes and depression was the exception rather than the rule. For many less serious conditions, ambulatory care provided by specialists was more expensive with little evidence of better outcomes than for primary care. In both primary care and specialty settings, the roles of highly skilled nurses and other allied health professionals did not take full advantage of their potential contributions to patient care. Simply increasing access to specialty care would not address these fundamental problems in the quality of ambulatory health care for major health problems.

METHODS:

Literature searches were performed in PubMed using the following key search terms: primary care (also general practice, family medicine) and quality, performance, health outcome, and health equity. The search was limited to English language journals. The titles and abstracts of all papers identified by the electronic search were inspected. Papers that failed to satisfy the inclusion criteria were discarded. The resulting references were required to be related to primary care quality and outcome studies. Articles focusing on clinical procedures were excluded since the focus of this paper was on the general characteristics of primary care. Additional important articles were subsequently located by examining the bibliographies of the retrieved articles. The content areas to be reviewed include the following: primary care definitions, primary care measurement, primary care practice, primary care and health, primary care and quality, primary care and cost, primary care and equity, primary care and health centres, and primary care and healthcare reform.

2.1. Primary Care Definitions:

The terms "primary care" and "primary healthcare" describe two different concepts. The former, primary care, refers to family medicine services typically provided by physicians to individual patients and is person-oriented, longitudinal care. Primary healthcare, in contrast, is a broader concept intended to describe both individual-level care and population-focused activities that incorporate public health

elements. In addition, primary healthcare may include broader societal policies such as universal access to

healthcare, an emphasis on health equity, and collaboration within and beyond the medical sector.

Primary care plays a central role in a healthcare delivery system. Other essential levels of care include secondary and tertiary care, which encompass different roles within the health spectrum. Compared to primary care, secondary and tertiary care services are more complex and specialized, and the types of care are further distinguished according to duration, frequency, and level of intensity. Secondary care is usually short-term, involving sporadic consultation from a specialist to provide expert opinion and/or surgical or other advanced interventions that primary care physicians (PCPs) are not equipped to perform. Secondary care thus includes hospitalization, routine surgery, specialty consultation, and rehabilitation. Tertiary care is the most complex level of care, needed for conditions that are relatively uncommon.

Typically, tertiary care is institution-based, highly specialized, and technology-driven. Much of tertiary care is rendered in large teaching hospitals, especially university-affiliated teaching hospitals. Examples include trauma care, burn treatment, neonatal intensive care, tissue transplants, and open-heart surgery. In some instances, tertiary treatment may be extended, and the tertiary care physician may assume long-term responsibility for the bulk of the patient's care. It has been estimated that 75% to 85% of people in a general population require only primary care services in a given year; 10% to 12% require referrals to short-term secondary care services; 5% to 10% use tertiary care specialists.

Since its introduction in 1961, the term primary care has been defined in various ways, often using one or more of the following categories of classification. These categories include the following.

- i. The care provided by certain clinicians, the Government of Pakistan Health Policies, for example, specified primary care as family medicine, general internal medicine, general aemoglobin, and obstetrics and gynecology. Some experts and groups have also included nurse practitioners and physician assistants.
- ii. A set of activities whose functions act as the boundaries of primary care—such as curing or alleviating common illnesses and disabilities.
- iii. A level of care or setting—an entry point to a system that also includes secondary care (by local Pakistani hospitals) and tertiary care (by Special Medical Units and teaching hospitals).

- iv. A set of attributes care that is accessible, comprehensive, coordinated, continuous, and accountable—or as defined by Starfield care that is characterized by first contact, accessibility, longitudinally, and comprehensiveness.
- v. A strategy for organizing the healthcare system as a whole such as Government Basic Health Units, which gives priority and resources to community-based healthcare while placing less emphasis on hospital-based, technology-intensive, and acute-care medicine.

Definitions of primary care often focus on the type or level of services, such as prevention, diagnostic and therapeutic services, health education and counselling, and minor surgery. Although primary care specifically emphasizes these services, many specialists also provide the same spectrum of services. For example, the practice of most ophthalmologists has a large element of prevention, as well as diagnosis, treatment, follow-up, and minor surgery. Similarly, most cardiologists are engaged in health education and counselling. Hence, according to some experts, primary care should be more appropriately viewed as an approach to providing healthcare, rather than as a set of specific services.

The World Health Organization (WHO) describes primary care as essential healthcare based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community by means acceptable to them and at a cost that the community and the country can afford to maintain at every stage of their development in a spirit of self-reliance and self-determination. It forms an integral part of both the country's health system (of which it is the central function) and a main focus of the overall social and economic development of the community. It is the first level of contact for individuals, the family, and the community with the national health system, bringing healthcare as close as possible to where people live and work, and constitutes the first element of a continuing healthcare process.

Others define primary care as the health services rendered by providers acting as the principal point of consultation for patients within a healthcare system. This provider could be a primary care physician, such as a general practitioner or family physician, or

(depending on the locality, health system organization, and the patient's discretion) a pharmacist, a physician assistant, a nurse practitioner, a nurse (as is common in the Pakistan) or an Ayurvedic or other traditional medicine professionals (such as in remote parts of Pakistan) Depending on the nature of the health condition, patients may then be referred for secondary or tertiary care.

Optimal Role of Primary Care Physicians:

Research suggests that the optimal roles for primary care physicians in improving patient adherence and outcomes include the following:

- 1- Primary care physicians would make the initial diagnosis, initiate treatment in less-complex cases, and ensure overall continuity of care;
- 2- Primary care physicians provide education, monitoring of treatment adherence and outcomes, counselling and support for behaviour change, and active follow-up and outreach to patients to improve treatment adherence; and
- 3- Specialists provide consultation services to primary care physicians in managing more-complex cases, supervision of nurse or case managers, "collaborative care" or co-management for patients in the primary care clinic not responding to initial primary care-based treatment and ongoing specialty care for the most severe or complicated cases.

Because the "complexity" of a case and the need for specialist involvement is often determined by a lack of response to first- (and second-) line treatments, stepped care approaches can play an important role in determining when and to what degree specialists are involved in patient care In stepped-care models, these interventions are either applied to patients with persistent problems despite usual primary care approaches or to patients with complications at initial presentation.

Von Korff et al. have described the following three major assumptions of stepped care models:

- 1- Different people require different levels of care;
- 2- Finding the best level of care depends on monitoring outcomes; and
- 3- Moving from lower to higher levels of care based on observed outcomes can increase effectiveness while lowering overall costs.

Although stepped-care principles are guided by outcomes, they can be tailored to patient preferences and initial clinical complexity and severity, so the first line treatment is not always the least expensive and intensive. Four levels of intensity of services in stepped care for patients with chronic medical illness have been defined (Table 1)

- Level 1 care includes screening and diagnostic services for specific conditions, preventative services, outcome monitoring, and patient education regarding effective self-management. An example would be the education and lifestyle changes (increasing exercise, losing weight) for initial diagnoses of borderline hypertension or hyperglycemia in a middle-aged person.
- Level 2 involves active treatment in primary care. This may involve an allied health professional (such as a nurse) at the critical stage of diagnosis or relapse in order to provide education and support for self-management.
- Level 3 involves specialty consultation in the primary care setting for patients with persistent illness after initial (Level 2) care, or patients with complications at initial presentation.
- Level 4 involves referral to the specialty setting for highly complex cases and those with poor outcomes at Level 3.

Table 1.
Levels of intensity of service in stepped-care models

Step-care levels	Type of problem	Health care practitioner roles
Level 1	Preventative services and diagnosis of subclinical disorders	Primary care physician provides screening, diagnosis, preventative services, and patient education, as well as monitors outcomes.
Level 2	A newly diagnosed disorder or relapse or exacerbation of chronic disorder	Primary care physician provides diagnosis and prescription of medication and recommends lifestyle changes. Allied professional helps with increasing frequency of contact, monitoring symptoms and side-effects, support for self-management activities (i.e., exercise, diet change, checking blood glucose) and referral back to primary care doctor for adverse outcomes. Specialist supervises caseload of allied health professional.
Level 3	Patients with adverse outcomes in Level 2 care	Specialist consults with patient and primary care physician and recommends changes in medication and/or lifestyle alterations; specialists may provide several visits, preferably within primary care.
Level 4	Patients with adverse outcomes in Level 3 care	Specialist takes over care for patients with adverse outcomes despite Level 3 care or those with higher initial levels of complexity.

The Specialist as a Consultant to the Primary Care Physician:

For patients with persistent symptoms consultation and brief guideline-based treatment with a specialist may be helpful. Specialty consultation services that provide enhanced patient education, brief treatment based on guidelines, close monitoring of outcomes and side effects and integration of specialty services

into primary care have been shown to improve outcomes of major depression compared to usual primary care.

On the other hand, consultation services to primary care that provided only “assessment” and recommendations for care have not improved outcomes. For instance, Katon et al. reported a study

in which depressed patients were randomized when the primary care physician initiated antidepressant treatment to either usual primary care or an intervention in which a psychiatrist provided two to three visits in primary care to help with patient education and psychopharmacologic management. This intervention resulted in improving rates of response from 40% in usual primary care to 75% in the intervention patients.

Ayanian and colleagues found that cardiologists had significantly higher use of guideline recommended cardiac medications compared to generalists in a study of 1,620 Medicare patients hospitalized with myocardial infarction. However, consultation and brief treatment by a cardiologist for patients managed by a primary care physician, significantly decreased differences in the use of effective cardiac medications in patients with myocardial infarction cared for by cardiologists versus generalists.

Although most patients can be effectively managed in the primary care setting, given well-organized care management services and a collaborative working relationship with specialty care, there is likely to remain a significant subset of patients who are more efficiently and effectively managed in specialty care. Research is beginning to shed light on when specialty care is more effective than primary care and when it is not. Specialists are likely to show better outcomes in patients with complex, severe and persistent illness. Even among primary care physicians, research has shown that patients who received AIDS care by a primary care physician with the most experience with this chronic illness had a 31% lower risk of death than patients cared for by physicians with the least experience.

A second study also showed that patients cared for by AIDS specialists compared to those cared for by generalists had a significantly lower rate of hospitalization after diagnosis and significantly longer survival. Intensive, multidisciplinary specialty interventions in patients with severe asthma have been shown to be associated with improved pharmacotherapy, fewer emergency department visits and reduced admission rates, shortened hospital stays and lower medical costs.

Zeigler and colleagues randomized 309 patients with asthma who presented to the emergency department to asthma specialist care versus continued management by generalist physicians. Specialty

treated patients had a 75% decrease in the percent of patient with night-time awakening from asthma, a 50% reduction in emergency room use for asthma and a greater use of inhaled aemoglobin ids (all highly significant compared to patients treated by generalists). These studies showed that allocating more resources to educate patients and improving provider and allied health professional availability by telephone and in clinic for minor relapses of asthma resulted in better disease control.

Three studies that compared the quality of care and outcomes between cardiologists and generalists in patients with acute myocardial infarction found that patients under the care of cardiologists were more likely to receive guideline concurrent care, and two of the three studies reviewed found improved mortality rates in cardiologist-treated patients.

DISCUSSIONS:

A Cochrane review analysed data from five studies, in which diabetic patients free of significant diabetic complications who were treated by specialists were randomized to continued specialist care, routine general practice or general practice with a “centralized prompting system” that ensured adherence to return visits and enhanced monitoring of outcomes. Specialist-treated patients tended to have less adverse outcomes than routine general practice patients. However, in those trials utilizing a “prompting system” for general practitioners, there were no differences between specialists and general practitioners in mortality and there was a trend toward lower HbA1C levels in prompted general practitioner practices. Losses to follow-up were also significantly lower in prompted general practitioner practices.

This research and the other studies covered above suggest that specialty care has the following two advantages:

- 1- More organized treatment with systematic care and active follow-up and
- 2- Higher levels of specialized knowledge and experience. It appears possible in the treatment of less complex patients to replicate the former with prompting systems and care managers. There is no substitute for the latter skill, which is especially important with more complex patients.

The Medical Outcome Study was completed before guideline development and found that the only

difference in health outcomes of patients with diabetes between specialists and primary care physicians was that endocrinologists achieved better foot ulcer and infection outcomes compared to generalists. A more recent study found more marked differences in quality of care and outcomes for patients with diabetes between endocrinologists, internists, family physicians, and general practitioners.

Overall, the patients of endocrinologists had higher utilization of glycosylated hemoglobin testing (76% vs. 32%), ophthalmologic screening (67% vs. 42%) and lipid testing (77% vs. 59%) than patients of primary care physicians. Compared with family physicians, patients of endocrinologists and internists had more medical comorbidity and diabetic complications, but had similar health perceptions and functioning. The authors concluded that the older patients of endocrinologists had higher utilization of diabetes guideline recommended specific processes of care and had similar functional status despite more diabetic complications.

Unresolved Issues:

Improving care will require reorganization of the way services are delivered and investment in realigning practitioner roles. Incentives by insurers for quality of care and enhanced outcomes in patients with chronic illness would certainly help stimulate this change. Research efforts are needed that shed light on how to economically realign the roles of primary care physicians, allied health professionals and specialists.

A new Robert Wood Johnson initiative will test new economic models between employers, insurance companies and systems of care to incentivize improved disease management in primary care. There has been interest in “carving out” disease management of many chronic illnesses to a specialized disease management industry.

These carve outs have the most research support in improving outcomes of the most severe illnesses such as chronic mental illnesses, such as schizophrenia, and complex medical illnesses, such as AIDS. However, these “disease management” carve outs for common less severe illness run the same risk that originally moved medicine towards centralized primary care management, specifically high expense, poor communication among multiple specialists, and no one professional responsible for managing the patient’s overall health care. Given the high level of

medical and psychiatric comorbidity (e.g., diabetes and depression), these carve out models are likely to be even less efficient.

Models of care that we have described in this review need to be tested in patients with comorbidity (e.g., depression and diabetes or diabetes and heart disease), where they may have their largest economic impact. Primary care systems cannot afford to have a different allied health professional help manage patients with each chronic illness. However, many of the skills required generalize well to management of multiple illnesses. Research is needed that tests the ability of care managers to manage a range of chronic conditions. A possible approach might be to have care managers handle “clusters” of chronic conditions that tend to co-occur and that have overlapping issues in management.

CONCLUSION:

We have described an evidenced-based approach for health care systems to pursue the goal of cost-effectively lowering the burden of chronic medical illness in defined populations in organized health care systems. Primary care providers evaluate, diagnose, and determine whether active treatments and/or lifestyle changes (diet, exercise) are needed and ensure continuity of care.

Primary care supports the patient with the time and frequency of contacts needed to enhance patient self-management and activation, and to monitor outcomes. Specialist supervision of the caseload of these allied health professionals may help improve outcomes. Specialists work more closely with primary care than is now the case, with the focus of care on the more complex cases. This approach allows primary care physicians, allied health professionals and specialists to each do what they do best. This approach fits with the perceived needs of patients. Studies have shown that the majority of patients acknowledge the importance of having a primary care physician integrate their overall medical care and most patients prefer to initiate treatment for a new illness with that primary care physician. However, patients also clearly want access to specialty care when it is needed. These goals can be achieved by organizing the roles of the primary care physician, allied health professional and specialist as a coordinated team.

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