CHAPTER 2

Innovative Care for Chronic Conditions

Building Blocks for Action

GLOBAL REPORT

Noncommunicable Diseases and Mental Health
World Health Organization
This report was produced under the direction of JoAnne Epping-Jordan, Health Care for Chronic Conditions. It is the first key component of a three-pronged WHO strategy to improve the prevention and management of chronic conditions in health care systems. This strategy is overseen by Rafael Bengoa, Director, Management of Noncommunicable Diseases, and Derek Yach, Executive Director, Noncommunicable Diseases and Mental Health.

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- Improving Adherence (managed by Eduardo Sabaté)
- Primary Health Care for Chronic Conditions (managed by Rania Kawar)

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“Health care system” has been defined as that system which encompasses all the activities whose primary purpose is to promote, restore, or maintain health (World Health Report 2000). Thus, “systems” are remarkably expansive and include patients and their families, health care workers and caregivers within organizations and in the community, and the health policy environment in which all health related activities occur.

A Brief History of Health Care Systems

Historically, acute problems, such as certain infectious diseases, were the principal concern for health care systems. Advances in biomedical science and public health measures over the past century have limited the impact of many communicable diseases in most developed countries. And, while some infectious diseases continue to be a threat and an important consideration for health care systems in many developing countries, these systems now must respond to an additional set of health problems.

Because current health care systems developed in response to acute problems and the urgent needs of patients, they are designed to address pressing concerns. For example, testing, diagnosing, relieving symptoms, and expecting cure are hallmarks of contemporary health care. Moreover, these functions fit the needs of patients experiencing acute and episodic health problems. However, a notable disparity occurs when applying the acute care template to patients who have chronic problems. Health care for chronic conditions inherently is different from health care for acute problems, and in this regard, current health care systems worldwide fall remarkably short. Health care systems have not kept pace with the decline in acute health problems and the increase in chronic conditions.
In fact, health care systems have not noticeably evolved beyond the conceptual approach used in diagnosing and treating acute conditions. The acute care paradigm is pervasive and now permeates the thinking of decision-makers, health care workers, administrators, and patients. The acute care model drives the organization of care throughout the world even today, even in the most economically developed countries.

To address the rising rates of chronic conditions, an evolution in health care systems is imperative, and they have to advance beyond the acute care model. Acute care will always be necessary (even chronic conditions have acute episodes), but at the same time health care systems must embrace the concept of caring for long-term health problems. Patients, health care organizations, and decision-makers have to recognize the need to expand systems to include new concepts. Decision-makers are instrumental in facilitating a shift in thinking about health care.

**What are the Current Problems? Micro-, Meso-, and Macro-Levels**

One strategy to organize thinking about health care systems is to divide these complicated networks into strata or levels. Micro-, meso-, and macro-levels provide a reasonable framework and refer to the patient interaction level, the health care organization and community level, and the policy level, respectively. Each of these levels interacts with and dynamically influences the other two. For example, consider the levels as linked by interactive feedback loops in which events at one level influence actions and events at another level, and so on. In this scheme, patients respond to the system in which they receive care, and health care organizations and communities are responsive to policies that in turn influence patients. And, the feedback loops perpetuate.
When micro-, meso- and macro-levels work effectively within themselves, and successfully function in relation to each other, health care is efficient and effective; patients experience better health. Dysfunction within and among the levels creates waste and ineffectiveness. Unfortunately, concerning health care for chronic conditions, dysfunction in the health care system is typical.

Delineation between micro-, meso-, and macro-levels is not always clear. For example, when health care personnel are not prepared to manage chronic conditions because of training deficiencies, the problem could be considered a micro-level problem because it affects patients. Training deficiencies could be considered a meso-level problem because it is the responsibility of the health care organization to ensure providers have the expertise and tools to care for patients. Alternatively, training could be considered a macro-level issue because a policy decision could alter medical training curricula or continuing education requirements to meet population demands.

**Micro-Level: Patient Interaction Problems**

Within the micro-level of health care, problems are evident. Systems fail to recognize the extraordinary importance of patients’ behaviours and the value of quality interactions with health care workers in influencing the outcomes of health care. There is ample scientific evidence regarding efficacious strategies for the micro-level (e.g., interventions for changing patient behaviours, techniques for increasing medication adherence, or methods for improving health care worker communication); however, this evidence is not integrated into daily clinical practice. Two common problems at the micro-level are the failure to empower patients to improve health outcomes and the lack of emphasis on quality interactions with health care personnel.

**Failure to Empower Patients**

Chronic health problems are enduring, necessitating a care strategy that reflects a protracted time frame and clarifies for patients their roles and responsibilities in managing their health problems. Appropriate clinical care is necessary; however, it is not sufficient for optimal health outcomes. Patients have to make changes in their lifestyles, must develop new skills, and must learn to interact with health care organizations to successfully manage their conditions. They no longer can be viewed as, nor see themselves as, passive recipients of health care services.

Patients have to participate in their care and health care personnel must support their efforts. In fact, there is substantial evidence from more than 400 published articles that interventions designed to promote patients’ roles in the management of chronic conditions are associated with improved outcomes. What patients do for themselves on a daily basis (e.g., adhere to medication regimens, exercise, eat properly, sleep regularly, interact with health care organizations, and cease tobacco use) influences their health far more than medical interventions alone. Unfortunately, patient behaviour that could prevent many chronic conditions, and improve their management once they occur, often is overlooked in current health care.

Health care workers report awareness of the importance of patient behaviour, but they state they are ill-prepared to offer behavioural interventions to improve patients’ self-management
and adherence abilities. Health care workers also relate that they are too time-pressured to address the educational deficits and psychosocial needs of patients and families.


There is substantial evidence (from over 400 studies of self-management) that programmes providing counselling, education, information feedback, and other supports to patients with chronic conditions are associated with improved outcomes.

*Center for the Advancement of Health, 1996.*

**Failure to Value Patient Interactions**

It becomes imperative that patients develop quality relationships with health care personnel and that these relationships persist across time. Health care workers must ensure that patients have adequate information and skills to manage their chronic conditions. For this to occur, patients need a context in which they can freely ask questions, and they need an environment that initiates and supports their self-management behaviours. The quality of communication between the patient and the provider is known to affect health outcomes across a variety of chronic conditions, including cancer, diabetes, hypertension, headaches, and peptic ulcer disease.

Unfortunately, health care systems have failed to create an environment that promotes quality interactions and partnerships with patients, and there is evidence that health care workers do not collaborate with patients on a variety of topics. Self-management, medication adherence, functional abilities, knowledge, or personal responsibilities are rarely discussed in the clinical context.


**Meso-Level: The Problems with the Health Care Organization and its Links to the Community**

The health care organization coordinates the delivery and evaluates the quality of the services provided. The organization has a responsibility to unite health care personnel, provide them with the expertise and tools they need to perform their roles in managing patients with chronic problems, and link to community resources. Below are some examples of problems at the meso-level.
Failure to Organize Care for Chronic Conditions

Health care organizations are designed to address acute problems. They use discrete, face-to-face visits with health care workers whose purpose is to diagnose and treat a patient’s presenting complaint. There are obvious problems with the application of this typical visit format to chronic conditions. One problem is the discrete nature of the interactions, which belies the importance of promoting a continuous, thoughtful, and high quality relationship between patients and health care workers. Clearly, chronic conditions are not a series of disconnected complaints.

Health care organizations should emphasize treating the patient who has diabetes, not treating the diabetes.

Health care organizations have not created a planned programme of care across time. This simply is unjustified as complications and the eventual outcomes of poorly managed chronic conditions follow a known and predictable course. (For instance, neuropathy and amputation are typical outcomes of uncontrolled diabetes.) The risks and complications associated with every chronic condition are reasonably calculable and in many cases can be delayed, if not prevented entirely. However, this requires health care that is proactive and organized around the concepts of planning and prevention. As health care happens now, complications or symptoms prompt patients to visit their health care workers.

Health Care Workers Lack Tools and Expertise

Current health care organizations employ a workforce that is trained in acute care practice models. This training strategy is appropriate for health care workers who diagnose and treat acute health problems; however, acute care skills are necessary, but not sufficient, for managing chronic conditions.

Specialized knowledge is available for managing chronic problems, and for changing patient behaviour associated with self-management. For example, there are tools and techniques that enhance medical management by helping patients with adherence and other self-management strategies. Health care workers are not exposed to these skills or to skills that enable them to effectively collaborate with patients and function within health care teams.

Practice is not Informed by Scientific Evidence

Guidelines based on the available scientific evidence for the management of many chronic conditions are well established. Unfortunately, this important information does not systematically reach health care personnel; thus, interventions known to be effective for many chronic problems are not provided routinely. Moreover, medications, diagnostic equipment, and laboratory services that are necessary to follow guideline protocols are not always available. The failure to provide care informed by evidence results in sub-optimal patient outcomes and waste. Without evidence to guide care, effective interventions are at risk of exclusion, and patients continue to be exposed to interventions known to be ineffective.

Stockwell, DH, et al. The determinants of hypertension awareness, treatment, and control in an insured population.

2. Current Systems Are Not Designed for Chronic Problems


**Failure to Address Prevention**

Most chronic health problems are preventable, yet health care workers fail to seize provider-patient interactions as opportunities to inform patients about health promotion and disease prevention strategies. Given information about making appropriate choices, patients and their families have the option to act to improve their health. With the help of health care personnel, patients can engage in behaviours that prevent the onset of chronic conditions, or delay complications of conditions they have already developed. However, they need knowledge, motivation, and skills to cope with substance abuse, to change hazardous work environments, to stop using tobacco products, to practice safe sex, to get immunizations, to eat healthy foods, and to engage in physical activity. Prevention and health promotion should be part of every health care encounter, but this is far from routine clinical care.

**Information Systems are Not in Place**

Information systems are a prerequisite for coordinated, integrated, and evidence-informed health care. They can be used to monitor health trends, birth and death rates, the implementation of standards and regulations, and clinical processes of care, among other things. In the case of chronic conditions, a patient “registry” can serve a reminder function for prevention and follow-up services, and it can assist in monitoring patient behaviours such as adherence to treatment regimens or other important health changes over time.

Without a monitoring system, health care workers are reactive rather than proactive when it comes to the needs of patients with chronic conditions. The failure to use a strategy to monitor chronic conditions allows problems to develop instead of being delayed or prevented.

**Failure to Connect with Community Resources**

Health care organizations rarely integrate community resources into the care of patients with chronic conditions leaving a broad array of consumer groups, patient advocates, and non-governmental agencies virtually untapped. Community resources are critical in every country, but they have the potential to leverage significantly the health care in low-income countries where basic primary health care services may be thinly stretched. Community resources can fill the gap in services that are not provided in health care organizations to greatly enhance the care of patients with chronic conditions, yet formal connections are rarely established.

**Macro Level: Policy Problems**

Much inefficiency in current systems of health care can be traced to the macro- or policy level. This is the level where overall values, principles, and strategies for health care develop,
and where decisions concerning resource allocation occur. Without overall coordination at this level, health services are likely to be wasteful and fragmented.

Despite the importance of health policies, a recent WHO survey revealed that in most parts of the world, governments do not have policies for preventing or managing noncommunicable diseases (see figure below). Similarly, the WHO ATLAS study (2001) on mental health has revealed that:
- Over 40% of countries do not have a mental health policy;
- Over 30% of countries do not have a mental health programme;
- Around \( \frac{1}{2} \) of countries do not have a mental health budget. Among those that do, around \( \frac{1}{3} \) spends less than 1% of its total health budget on mental health.

Among the countries that have policies and plans directed at one or more chronic conditions, problems are common. Below are examples of some typical problems at the policy level.

**A Legislative Framework is Lacking**

With globalization and expanding private sector interests in health care, the need for a coherent legislative framework is increasing. Legislation can, among other things, define entitlements of people to health care, promote the protection of human rights for patients, define appropriate roles for private industry in influencing the choice of interventions, and impose safety regulations on health care workers outside the formal health system. Despite its wide-ranging potential benefits, in many parts of the world law making remains a neglected tool for enhancing the quality of health services.

**Health Policies and Plans are Outmoded**

Because of the double burden of infectious and noncommunicable diseases, governments face a pressing demand for efficiency in their management of chronic conditions. However, in many cases, policies and plans inadvertently perpetuate outmoded models of health care, by relying on out-of-date epidemiological data, using a singular biomedical focus, and emphasizing cost-containment at the expense of broader health objectives. Instead of integrated, population-based care that emphasizes patients’ needs, policies and plans often promote models of acute, episodic care, which result in fragmentation and waste to the system.

**Governments are not Investing Wisely**

In many parts of the world, governments and health systems are investing in the wrong priorities for the management of chronic conditions. This is due to multiple factors, including donor-driven agendas and the undue influence of private industry and professional groups. The result is failure to allocate resources according to the disease burden and the existence of cost-effective interventions. Health care services do not benefit from rational planning according to population needs, and there is little emphasis on capacity building in terms of either human resources or infrastructure. Biomedically focused interventions, which often favour solely the use of medical technology and pharmaceuticals, are emphasized at the expense of low-tech strategies. Training health care workers and public health personnel in self-management strategies and adherence to enhance biomedical interventions, increasing educational
campaigns to increase health promotion awareness, and creating opportunities for patients to be more physically active may be worthwhile investments.

**Financing Systems are Fragmented**
In many systems of care, financing is fragmented across several budget lines, with different people responsible for different aspects of care. For example, capital expenses may fall under a different financing system than provider training, creating the unthinkable situation in which expensive medical equipment is purchased, but no one is trained to use it. Inpatient care may fall under the budget of a hospital administrator, whereas outpatient care may be the responsibility of a different clinic manager. With fragmentation such as this, it is difficult to provide consistent, coordinated care for chronic problems.

**Provider Incentives are Misaligned**
Despite financing systems establishing incentives for providers to deliver evidence-based and efficient care, problems abound. The retrospective reimbursement of providers without regulation (e.g., fee for service arrangements) is typical in many health systems. Unfortunately, it creates contexts whereby health care workers favour expensive, high-tech interventions over inexpensive, low-tech interventions, regardless of their relative cost-effectiveness. Indeed, when health care workers are reimbursed proportionate to the volume and cost of services they deliver, they are effectively economically “punished” for engaging in innovative, health promoting clinical practice.

**Percent of countries by WHO Region with national policies, plans and legislation for NCD prevention and control**

![Graph showing percent of countries by WHO Region with national policies, plans and legislation for NCD prevention and control](image)
Standards and Monitoring are Insufficient
The assurance of quality in health care has not met even reasonable expectations. Consequently, health care is at risk of being substandard and frequently based on the personal preferences of health care workers, or at best, what health care workers learned during their professional education. Accreditation, monitoring, and quality assurance are tools at the disposal of health care systems and governments, yet they rarely are applied fully. Inefficiency and waste are the results.

Continuing Education is Lacking
Despite the benefits of continuing education, many countries have no requirement or mechanism for health care workers to participate in educational activities after finishing formal training. Subsequently, there is no built-in system for disseminating new information, and there may be a lack of interest by health care workers to attend training courses if they are not required to do so. Therefore, it often takes decades (if it happens at all) before a new discovery gains widespread awareness and acceptance in the health care community.

Intersectoral Links are Overlooked
Comprehensive care for chronic conditions extends beyond the formal health sector, to include community groups and nongovernmental organizations, as well as governmental non-health sectors such as housing, agriculture, transportation, and labour. Integrated legislative frameworks are rare. Without this level of coordination at the sector level, the quality and coherence of services diminishes. Duplication of care is also common, resulting in resource waste for the system.
Summary

Health care systems have evolved around the concept of acute, infectious disease, and they perform best when addressing patients’ episodic and urgent concerns. However, the acute care paradigm is no longer adequate for the changing health problems in today’s world. Unfortunately, but perhaps because of its remarkable success, the acute care model now permeates the thinking of patients, health care workers, organizations, and governments. It is pervasive across all levels of the health care system, and perpetuated by out-dated health care training curricula. Health care systems have to evolve by moving toward a model of care that incorporates both acute problems and chronic conditions. Without advances, countries can anticipate increasingly inadequate care and waste of precious resources.

Micro-, meso-, and macro- levels of the health care system are not discrete entities, rather their boundaries blur and they dynamically interact with and influence each other. Evolution is necessary within each stratum. Increased attention to patient behaviours and health care worker communications is paramount for improving care for chronic conditions. Care has to be coordinated for chronic conditions using scientific evidence to guide practice. Community resources must be integrated in order to make significant gains. Health care organizations must streamline services, upgrade the skills of health care workers, focus on prevention, and establish information tracking systems to provide planned health care for predictable complications. Governments need to make informed decisions for their populations and set standards for quality and incentives in health care. Financing must be coordinated and inter-sectoral links must be strengthened.

Without change, health care systems will continue to grow increasingly inefficient and ineffective as the prevalence of chronic conditions rise. Both high and low-income countries spend billions of dollars on unnecessary hospital admissions, expensive technologies, and the collection of useless clinical information. Health care expenditures will continue to escalate, but improvements in populations’ health status will not. As long as the acute care model dominates health care systems, it will effectively undermine health outcomes that otherwise could be accomplished.