

Family Physician Corner

Chronic Conditions Management- How Can We Make It Better?

Abeer Al Saweer, MBBS, Arab Board*

Chronic conditions management remains to be a great obstacle facing health professionals and patients. Not only the big surging of chronic conditions that mandated the revision of the current management strategy but also the growing evidence of the importance of adopting a rather different management approach to improve the outcome. Though evidence is in favor of adopting different management, working health institutes are still largely implementing the classical method of chronic conditions management. This may be due to several reasons among which lack of skilled workers, lack of integration of different health sectors and failure to forecast the growing problem by decision makers.

In Bahrain, we are still among the nations adopting the classical method of management. Sporadic non-governmental medical organizations in Bahrain are trying to adopt more evidence-based approach to management of chronic conditions.

Building on the available resources in the local primary care in Bahrain, this paper opted to develop a framework to improve the management of long-term conditions in Bahrain based on best practice and evidence.

The Nature and Perception of Chronic Disease Management

Chronic diseases are those that "...occur across the whole spectrum of illness, mental health problems and injuries. Chronic diseases tend to be complex conditions in how they are caused, are often long-lasting and persistent in their effects and can produce a range of complications¹".

The Middle Eastern region is experiencing the global transition of high prevalence of long-term conditions and combating these conditions has become one of the healthcare priorities in the region². In Bahrain, chronic disease accounted for 82% of all deaths in 2006. Table 1 depicts the top leading causes of death in 2005 and 2006. Health statistics in Bahrain, though scientifically questionable, show a trend of increased long-term conditions prevalence, mortality and complications³.

* Consultant Family Physician
Ministry of Health
Kingdom of Bahrain

Table 1: Leading Causes of Death in Bahrain²

Causes of Death	2005	2006
Rates per 100000 population		
Circulatory system	59.9	60.5
Endocrine, Nutritional and metabolic disorders	32.3	46.3
Accidents and Injuries	28.3	36.6
Neoplasms	36.8	34.1
Respiratory Disorders	19.7	17.1

The bulk of chronic disease management in Bahrain, as in everywhere else, falls to primary care sector. Many patients have multiple chronic diseases and prefer not to visit separate specialists. They prefer primary care physicians who can manage their multiple problems⁴. Primary care physicians are more readily accessible and available in Bahrain than specialists⁵. The major stakeholders for chronic disease management are governmental primary care providers and secondary care providers⁶. The private sector has minor role, if any, in chronic disease management⁶.

Barriers to chronic care delivery include non-compliance with the different guidelines that regulates the regular goal-oriented monitoring of chronic diseases and the improper office and community setting to accommodate the overwhelming increase in chronic diseases prevalence⁷.

Limited office timing allocation for chronic disease renders physician assessment incomplete and inefficient⁸. Lack of proper documentation poses a great barrier to our service in Bahrain.

Many Bahrainis are not receiving recommended health care service for chronic diseases. Despite the existence of established clinical guidelines, which are expected to facilitate more consistent and effective medical practice and improve health outcomes, Bahrainis receive less services for preventive and chronic disease care^{7,8}. Chronic disease care should be priority because of the overwhelming rise in their prevalence.

The Principle Issues of Managing Chronic Diseases

The greatest challenge facing medical care for the chronically ill is the complexity and multiplicity of their diseases⁸. The daily pharmaceutical regimen for most of the chronically ill patients could be very complicated and confusing. The day-to-day decisions that the patient had to take render the care for patients with long-term conditions frustrating and cumbersome. The patient has to undergo a long list of appointments, instructions and medication interactions⁹.

The "on demand" care is not improving the quality of service. Surveys and audits have revealed that many patients with chronic diseases are not receiving evidence-based treatment, have uncontrolled status of their disease, and are unsatisfied with their care¹⁰.

Randomized control trials show that structured and goal-oriented chronic disease management can optimize the disease control¹¹.

Self-Management

The patient's self-empowerment and management are going to be high priority in the management of chronic disease. The contact between health personnel and patients with chronic disease is limited. It is the role of health personnel to empower the patients with the necessary tools to share responsibility for their own health. The health services have an obligation to, and should see it as a task to support the patient's own efforts in the best way possible¹².

The chronic disease model developed by Ed Wagner puts emphasis on supported self-management¹².

The patients are fully aware of signs and symptoms of their diseases, informed about signs of complications and informed about the process of the disease to make their own decisions¹².

In this way, patients' health personnel take responsibility in disease management with the result of well-informed and empowered patient. Documentation of such process helps strengthen the procedure.

Self-empowerment to Bahraini patients is a concept that is rarely appreciated or even recognized among the health professionals, as well as, the patients in our region. It is rather an individual initiative adopted by some physicians and patients with no well structured or goal oriented format. The more educated and younger the patients, the more capable of interacting and taking charges of their diseases¹³.

For the patients to be empowered, they have to be well informed and prepared to deal with their conditions on a day-to-day basis. For this to take place, trained health workers should be assigned for training people with long-term conditions in a structured and systematic manner. The appropriate media should help in achieving such goal. There should be well prepared educative material to assist in the process. Proper database is necessary to grant this continuous project sustainability and productivity¹⁴.

In the chronic disease management setting in Bahrain, the health educator and the diabetic nurse in each of our 22 primary care health centers may be assigned such job under the supervision and monitoring of the chronic disease steering committee.

The Role and Effect of Organizational Issues in Chronic Disease Management

The demands for an overall improvement of efforts for patients with chronic diseases are vast, that it does not suffice to increase the efforts within the existing framework – you have to change the assumptions to such an extent that it makes it reasonable to talk about a model shift¹.

In the present system of care for patients with long term conditions in Bahrain, the patient first is seen by the primary sector in fixed sporadic intervals intervened by short visits in an on-demand basis. During the long initial phases of the disease, the patient is mainly followed up in primary care sector. The lack of proper documentation at this stage renders the management of patients non-standardized and scientifically non-comparable.

The patient is referred to secondary care unit due to lack of further diagnostic procedure, lack of advanced therapies and of appropriate expertise or emergence of complications. The patient may be referred back to primary sector when he is stabilized.

It is during the initial phase of the disease where patient is seen in primary care sector that the process of integration between primary and secondary care should take place¹⁵. Family physicians with subspecialties in chronic disease managements should play a pivotal role in such interphase, facilitating the accessible and available care at the primary care¹⁶.

This would lead to an improved quality of care. Studies have shown that family physician with special interest can act effectively in the management of patients in many disciplines including patients with chronic disease and can interact efficiently as a bridge with the secondary care sector¹⁷.

To help achieve such goal of what is called "Intermediate service" between primary and secondary care, there should be an effective and continuously updated patient recording and database. This database is of vital importance in identifying patients with long-term conditions.

There should be a model shift in which the patient assumes the central role. The shift must include exchanging of information between the concerned parties regarding treatment and progress of disease. There should always be clear tasks of the concerned parties and structured goals to be achieved. This change may take effort to accustom the health service and to involve the patient and the community¹⁸.

The "Chronic disease registry" that is launched in the primary care sector in Bahrain in 2008 will help identify patients. It will help in identifying the severity and complexity of individual cases. It will not also help in ascertaining the real burden of long-term conditions in terms of incidence and prevalence.

Shared Care

'Shared care' implies a comprehended integrated approach across the spectrum of care in relation to patient management. Shared teams should have clear and definite tasks of patient management¹⁹.

Bridging between secondary care efforts and the primary care sector will yield definite results as seen in many examples.

This joint responsibility should have a steering committee regulating its tasks and monitoring performance. The committee should delineate tasks for both secondary and primary care putting into account the vast majority of patients and in the same time allowing for individual case management. The tasks distributed should be evidence-based, standardized, achievable, culture-accustomed and utilizing the existing resources. Flow and exchange of patient information is essential part to the success of such discipline¹⁹.

Care and Case Management

The majority of chronic conditions are managed in the primary care sector see Figure 1. Nevertheless, many chronic patients are in need of coordinated care between primary and secondary care. The Lack of continuity of care between primary and secondary care had proven to be the main reason for poor outcome of chronic diseases management. Proper patient case evaluation is the central part of treatment²⁰. This necessitates a goal-oriented plan designed for every individual. The case manager is responsible for the coordination of efforts, for continuous contact with the patient and with those parts of the health services to implement such plan^{19,20}.

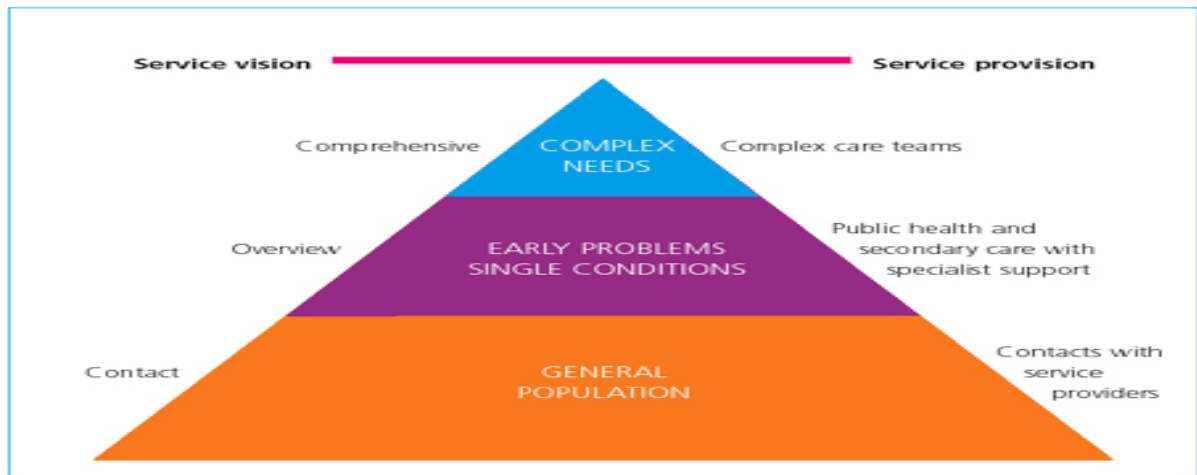


Figure 1: Levels of Care in Chronic Disease Management¹⁹

The case manager is responsible for making appointments, for planning in accordance with the fixed treatment plan. The manager monitors and accordingly supports each patient's active contribution and task performance. The importance of regular and continuous exchange of information between the patient, hospital, family physicians, and other caregivers involved in the management plan is emphasized. Identifying patients in need for case management in the community is the hallmark of this management approach. This requires a very efficient and updated data base²¹.

In Bahrain, the primary care section, community health nurses, school health nurses and geriatric health nurses can perform such task with the appropriate treatment plan. The major barriers to the case manager concept are its originality, lack of appropriate skills among the assigned nurses and deficient patient registry system especially in chronic disease.

The chronic disease registry currently running cannot identify patients in need of case management. The community nurses, the geriatric health nurses and the social workers can identify patients in need for such service.

The principles of evidence-based medicine in CDM

Evidence-Based approaches grew to be an important aspect in the care of patients with long-term conditions. Standardizing and monitoring the chronic care are expensive, cumbersome and difficult to master and control²².

Clinical trials show that better clinical practice can be achieved and fewer complications will be expected with lesser cost if evidence-based clinical guidelines are properly observed. Because of the high prevalence of chronic diseases in Bahrain, irrational

demand on the service, the lack of collaborative efforts between concerned health parties and the community, the improper documentation of monitoring and lack of health care standardization, chronic diseases remains to be a national threat that calls for national collaboration²³.

Evidence-based in chronic disease management is about standardizing care, ability to improve clinical quality indicators and proper documentation of the monitoring. Monitoring program is usually made of three main elements: the measurements, the interval(s) and the action plan.

There should be a prospect of improvement in those three areas. Improvement could be made by patient self-monitoring and self-adjustment, with the appropriate educative tools and staff²⁴.

The Principle Issues for Health Professionals in Managing People with Chronic Disease - Comprehensive System Change

Decision makers in the field of care for chronic diseases feel that it is about time to change the current medical care offered for those patients^{1,16,18}.

Disease specific care management is performed by qualified family physicians in the general clinic. No privileged time or extra time is given to chronic disease management. The concept of multidisciplinary team is vivid only in “Diabetes Care Management” while other chronic diseases are left for the discretion of the clinicians^{1,6,14,16,18}.

Care for chronic disease patients has to be shifted from the disease-oriented approach to the patient-need approach that is a paradigm shift to the well-informed and active patient - that is from hospitals to the community. The service needs to be co-shared between all major providers and assigned health professionals should coordinate this process. It needs to be focused at the community level^{1,6,14,16,18}.

The main barriers to such interventions in Bahrain are lack of commitment at the management level, lack of trained personnel and shortage of manpower.

Ed Wagner model of chronic care management implies that healthy patient-provider encounter will yield a better outcome in health care systems that possess the ability to make change in the care through incentives and well-designed processes; ensures a firm support for self-management of the patient; reorganizes the chronic team resources to meet the chronically ill patients' needs; develops and regularly updates evidence-based guidelines and monitor their implementation; develops data base informatics to ensure monitoring, quality purposes and reminders^{1,6,14,16,18}.

Infrastructure	Delivery Method	Outcome
*Data Base	*Case Management	*Informed and oriented patients and families
*Trained Personnel	*Interval Follow ups	
*Community Nurses	*Guided self care	*Less unexpected visits
*Elderly care centers	*Interval contacts	*Less secondary care visits
*Health Centers		
*NGOs		

The chronic conditions management in Bahrain is facing a new era of increased prevalence and diversity of the chronic conditions, failure of the existing system to adapt and shortage of skilled health personnel to deal with this situation. Old school still emphasize on the sole magical role of tablets and the powerful role of the physician in solving such problem. This will not last long and the community is calling for more aggressive share in the management of chronic conditions. This mandates a review of the existing system.

The current health care system in Bahrain is poorly prepared to manage patients with long-term conditions and cannot accommodate patients with multiple chronic conditions. The "on demand" care model focuses on reacting to patients immediate symptoms and does not provide continuity of care to its users. It views the patient in a single encounter fashion and the whole systems centers around symptoms rather than patient's need. This system fails to identify and thus manage patients with multiple medical problems. We learned from this system that treating and managing multiple conditions entails a "longitudinal care" rather than a sporadic isolated encounters. Such care must be standardized and coordinated, among different care provider in order to achieve common goals. This longitudinal care responds to changing individual patient need over time. It should be able to handle acute encounters and deal with the patient pre and post encounters.

In order to improve the chronic conditions care it is not enough to enforce minor adjustment to the existing system. To optimize the care for chronic condition patients, a different model of care should be implemented. This model of care utilizes and builds upon the existing resources and infrastructure. It will overlay the existing fragmented system with more comprehensive and patient-oriented system. The new model will forecast many aspects of the patients' needs including the social, psychosocial and behavioral dimensions of illnesses.

My vision to the prospect of chronic disease management in the primary care sector in Bahrain is adopting the chronic care model proposed by Wagner with modification to suit the existing resources in both the government and the community. Figure 2 depicts the Bahraini chronic care model. Family Physicians with subspecialties in chronic disease management, diabetic educators, community health nurses, school health nurses should form a transitional team that shifts the patient from primary care to secondary care expertise.

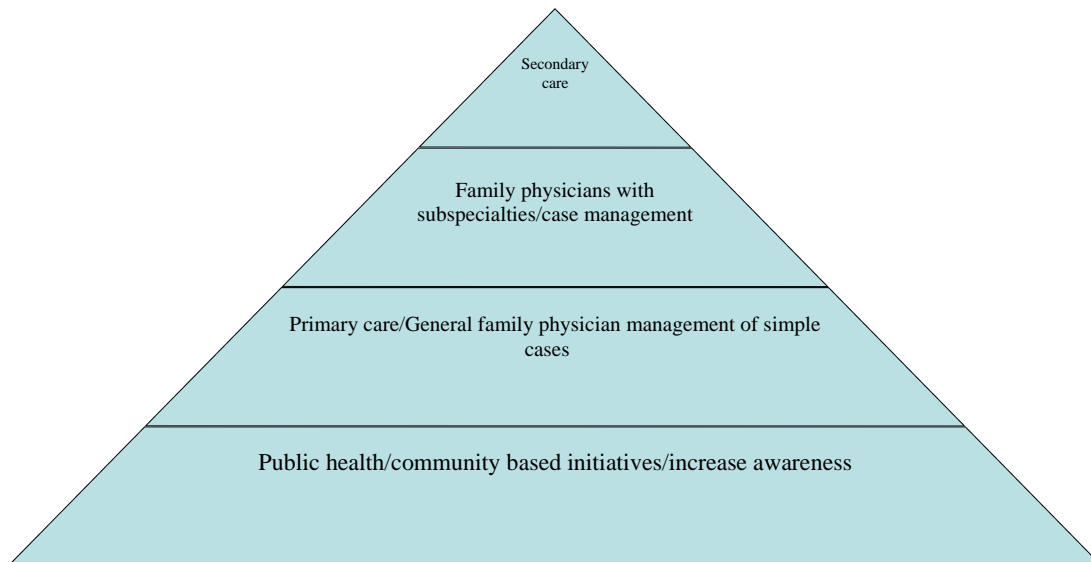


Figure 2: Suggested Levels of Care in Long Term Conditions Based on Specialty

In my local institute, we use the stepped care approach in the management of diabetic patients. Health education is first directed to the public with high risk factors (first step). General family physicians manage patients with controlled diabetes and with no complications (second step). Uncontrolled diabetic patients or patients with certain mild complications are managed in my team-oriented clinic according to standardized clinical guidelines (third or intermediate step). The patients are shifted to the secondary care via the chronic care team for evidence-based guideline-oriented reasons (final step).

In summary, the following points should be remembered when developing chronic conditions management in Bahrain:

- **To improve chronic disease management in Bahrain, a new system should be developed.**
- **The community with its NGOs should be a major stakeholder in caring for patients with long term conditions.**
- **Clinical practice guidelines (CPG) have proven without doubt its validity in improving outcome for the patients. CPG should be put into action and methods to monitor its implementation should be optimally applied.**
- **Deficiency of medical resources remains to be one of the greatest barriers to efficient chronic conditions management.**
- **The proposed chronic care model for the Bahraini population implies a stepped care approach where majority of patients needs simple care first and more sophisticated interventions are tried later to improve outcome. Family**

physicians with sub specialties should form the intermediate step in care management.

- **Stepped care provides a framework for achieving professional support for chronic illness that is cost-effective and is based on patients' observed response to treatment.**
- **"At the end of the day, it is up to the individual to choose what treatment and management is best for them".**

REFERENCES

1. WHO. Preventing CHRONIC DISEASES a Vital Investment 2005. Available from: URL: http://www.who.int/chp/chronic_disease_report/en/index.html. Accessed on 10.18. 2008.
2. Khatib O. Non-communicable Diseases: Risk Factors and Regional Strategies for Prevention and Care. East Mediterr Health J www.emro.who.int/Publications/EMHJ/1006/Noncommunicable.htm. Accessed on 10.16.2008.
3. "Health Statistics Report", Ministry of Health. Kingdom of Bahrain (2005, 2006).
4. Hoffman C, Rice D, Sung HY. Persons with Chronic Conditions: Their Prevalence and Costs. JAMA 1996; 276: 1473-9.
5. Yarnall KS, Pollak KI, Ostbye T, et al. Primary Care: Is There Enough Time for Prevention? Am J Public Health 2003; 93: 635-41.
6. WHO. Country Case Study-Bahrain Health Care Financing 2008. Available from: URL:<http://www.gis.emro.who.int/HealthSystemObservatory/.../Health%20Care%20Financing/Mapping%20Health%20Care%20Financing%20%20Bahrain>. Accessed on 10.27.2008
7. AlSaweer A. Chronic Disease Management in Bahrain: A Word of Truth. Bahrain Medical Bulletin 2008; 30 (1): 1-7.
8. Von Korff M, Gruman J, Schaefer J, et al. Collaborative Management of Chronic Illness. Ann Intern Med 1997; 127: 1097-102.
9. Say RE, Thomson R. The Importance of Patient Preferences in Treatment Decisions – Challenges for Doctors. British Medical Journal 2003; 327(6): 542-5.
10. Nishtar S, Bile KM, Ahmed A, et al. Process, Rationale, and Interventions of Pakistan's National Action Plan on Chronic Diseases. Prev Chronic Dis 2006; 3: A14.
11. Murray M, Berwick DM. Advanced Access: Reducing Waiting and Delays in Primary Care. JAMA 2003; 289: 1035-40.
12. Norris SL, Engelgau MM, Narayan KM. Effectiveness of Self-management Training in Type 2 Diabetes: A Systematic Review of Randomized Controlled Trials. Diabetes Care 2001; 24: 561-87.
13. Beasley JW, Hankey TH, Erickson R, et al. How Many Problems Do Family Physicians Manage at Each Encounter? A WReN study. Ann Fam Med 2004; 2: 405-10.
14. Oldroyd J, Proudfoot J, Infante F, et al. Providing Healthcare of People with Chronic Illness: the Views of Australian GPs, MJA 2003; 179(1): 30-3.
15. Casolino L, Gillies RR, Shortell SM, et al. External Incentives, Information Technology, and Organized Processes to Improve Health Care Quality for Patients with Chronic Diseases Journal of the American Medical Association 2003; 289(4): 434-41.

16. Wagner EH, Austin BT, Von Korff M. Improving Outcomes in Chronic Illness. *Managed Care Quarterly* 1996; 4: 12-25.
17. Salisbury C, Noble A, Horrocks S, et al. Evaluation of a General Practitioner with Special Interest Service for Dermatology: Randomized Controlled Trial. *BMJ* 2005; 331: 1441-6.
18. Jones R, Rosen R, Tomlin Z, et al. General Practitioners with Special Interests: Evolution and Evaluation. *J Health Serv Res Policy* 2006; 11: 106-9.
19. Bonomi AE, Wagner EH, Glasgow RE, et al. Assessment of Chronic Illness Care (ACIC): a Practical Tool to Measure Quality Improvement. *Health Services Research* 2002; 37(3): 791-820.
20. Gabbay RA, Lendel I, Saleem TM, et al. Nurse Case Management Improves Blood Pressure, Emotional Distress, and Diabetes Complication Screening. *Diabetes Research and Clinical Practice* 2006; 71(1): 28-35.
21. Wilson C, Curtis J, Lipke S, et al. Nurse Case Manager Effectiveness and Case Load in a Large Clinical Practice: Implications for Workforce Development. *Diabetic Medicine* 2005; 22: 1116-20.
22. Development and Validation of an International Appraisal Instrument for Assessing the Quality of Clinical Practice Guidelines: the AGREE project. *Qual Saf Health Care* 2003; 12: 18-23.
23. Shortell SM, Zazzali JL, Burns LR. Implementing Evidence-based Medicine: The Role of Market Pressures, Compensation Incentives, and Culture in Physician Organizations. *Medical Care* 2001; 39 (7): I62-78.
24. McGlynn EA, Asch SM, Adams J, et al. The Quality of Health Care Delivered to Adults in the United States. *N Engl J Med* 2003; 348: 2635-45.