

# A review of certain recent advances in primary health care

Dr Marilyn BALDACCHINO, Dr Glorianne BEZZINA,  
Dr Anne Marie SCERRI and Dr Mario R SAMMUT

## ABSTRACT

### Background

A strong primary health care system is the keystone of health care and helps patients manage their health conditions in the community, whilst also providing disease prevention services. Primary care is a continuously evolving specialty, with recent exciting innovations, aiming to improve all aspects of care and to meet people's needs and expectations.

### Method

A search for articles focusing on the specific aspects of recent advances in primary health care was done using internet search engines. Articles were selected from primary and secondary literature sources, which included original research articles, review articles and other epidemiological studies.

### Results

Recent advances in information technology, services and access, dealing with multimorbidity, academic family medicine, equity and outcome measures have all made an impact on the primary health care system and on meeting the ever-increasing challenges of modern society.

### Conclusion

Primary health care is of extreme importance in having an efficient and effective health care system. As primary health care improves with recent advances, a positive effect is seen on the population's health, cost savings and health care disparities.

## INTRODUCTION

The WHO Declaration of Alma-Ata represents a major step in the worldwide attention for primary care. This declaration highlighted the importance of developing, implementing and maintaining primary health care throughout the world, particularly in developing countries (World Health Organization, 1978).

The world has been changing since the Alma Ata Declaration of 1978. By contrast with the financial optimism of developing nations in the 1970s, the days of straightforward concerns and priorities have vanished. The pattern of disease, care and treatment options are changing (World Health Organization, 2007). Infectious diseases (such as, for example, tuberculosis or malaria) are no longer the only problems effecting only the poor (Frenk, 2009; Brundtland, 2005) during 1995-2000, the overall tuberculosis rate in Malta increased mainly due to the large influx of migrants from high-prevalence countries and to the increasing ratio of migrant to Maltese TB cases (Pace-Asciak, Mamo and Calleja, 2012).

At a time of financial and economic turmoil, health care needs and demand for public services will increase, colliding with austerity measures and privatisation policies (Kondilis et al., 2013). There are no easy solutions to create health care sustainability across and beyond Europe (Mamo, 2012). In view of these emerging public health challenges, decision makers are looking for solutions to achieve more cost-effective and better-coordinated care. One possible solution is implementing and maintaining high-quality primary care (QUALICOPC Consortium, 2012; Schäfer, 2013).

## METHOD

A search for articles focusing on the specific aspects of recent advances in primary health care was done using the internet search engines PubMed, Medline Plus and Google Scholar. The keywords used while searching were 'recent advances', 'primary care', 'information technology', 'services and access', 'dealing with multimorbidity', 'academic family medicine', 'equity' and 'outcome measures'. Articles were selected from primary and secondary literature sources, which included original research articles, review articles and other epidemiological studies.

## RESULTS

Primary health care has been facing major challenges including changing demographics, increasing demands and expectations, and rising health care costs. National and international strategies to address population health at primary care level are becoming increasingly important. Several studies have demonstrated that strong primary care systems and practice characteristics such as community orientation, co-ordination, comprehensiveness and continuity of care are associated with improved population health and lower costs (Delnoij et al., 2000; Kringos, 2012; Liss et al., 2011; Macinko et al., 2003; Starfield, 1994). In view of these emerging public health challenges, decision makers are looking for solutions to achieve more cost effective and better-coordinated care. One possible solution is implementing and maintaining high-quality primary care through the use of information technology, providing innovative services, dealing with multimorbidity, ensuring equity, strengthening the academic side of family medicine and measuring outcomes (QUALICOPC Consortium, 2012; Schäfer, 2013).

### Information Technology

Information Technology (IT) has become an integral part of the health care system. Advances in IT improve quality and safety by:

- a) improving access to reference information (e.g. through the use of mobile apps)
- b) increasing adherence to guidelines due to easier accessibility
- c) enhancing disease surveillance
- d) reducing medication errors through the use of legible and complete computerised prescriptions, as well as calculation aids
- e) using programmes that alert abnormal results (e.g. mobile alerts) and
- f) improving primary and secondary preventive care (Bates & Gawande, 2003; Chaudry et al., 2006).

The main programmes available for use in primary health care in Malta are:

- a) iSoft Clinical Manager, which is a computer program also used at Mater Dei Hospital as an electronic medical record, to send orders for laboratory tests and medical imaging, and to receive results of the laboratory tests and reports on the medical images
- b) Picture Archiving and Communications System (PACS) which enables viewing of medical images taken at Mater Dei Hospital and Health Centres

- c) Electronic Case Summary which enables viewing of discharge letters done at Mater Dei Hospital
- d) myHealth which is the Government of Malta's portal for online access to health records. The myHealth portal is a service available to all those who have a Maltese e-ID card and they, together with the doctors of their choice, can access health data through this site. As from 2008, the data accessible is the Electronic Case Summaries, Current Pharmacy of your Choice medicine entitlement, laboratory results and medical image reports, and appointments at Government Hospitals and Health Centres. There is also the possibility to set up e-mail notifications or sms reminders for appointments through this portal.

IT systems that were intended for professionals are now being adopted to be used at home by patients. Software is being designed to help patients clarify values and to provide computer-based decision aids, helping them to make informed choices. Electronic health records that are made available to patients empower them and can be used to tailor health information to their specific needs. Internet is a source of education for both patients and professionals, and there is the development of 'cyberlicensed professionals' who are specially trained to counsel patients online, while practice is monitored for quality (Eysenbach, 2000). Electronic referrals are a cheaper and more efficient way of handling outpatient services.

General practitioner (GP) teleconsulting with specialists results in managing problems in primary care instead of referral to secondary care, and this is especially useful to decrease the burden on secondary care and to prevent unnecessary travel in elderly patients. Teleradiology, where specialist opinion is obtained by transmission of digital x-ray images to a radiologist, is being used in primary health care (Wootton, 2001).

### Services and Access

There has been a development in the number and types of services offered in primary care. These include minor surgery, radiography, orthopaedic services (including application of plaster), chronic disease follow-up clinics by a multi-disciplinary team (e.g. diabetes clinic), mental health clinics, physiotherapy, podology, ultrasound including echocardiograms, health promotion and prevention and home visits. The 'Patient Access' system (Longman, 2011) was developed for GP practices in the United Kingdom where getting access

to a GP was becoming increasingly difficult. The aim of this system was to transform access to medical care, and the technology used is the telephone. This starts with the patient calling the practice, where the receptionist is trained in taking calls. If the question is an administrative one, the receptionist will deal with it; the receptionist can also advise the patient to visit the practice to be seen by the nurse or else will pass on the details to the GP who will in turn contact the patient within a short time. The GP may then give advice over the phone, or advise the patient to come and see the GP or the nurse. This system was found to be time-saving for patients, who are encouraged to choose the GP to speak to, with more than 80% seen on the day. For doctors this resulted in reduced stress, flexible appointments, fewer 'did not attends' and more control over their working day. Accident & Emergency attendance is reduced by about 20% since it is easier to get access to medical care in the community (Longman, 2013).

### **Dealing with Multimorbidity**

Non-communicable diseases are on the rise and multi-morbidity is becoming more the rule and no longer the exception. Older patients with multiple chronic conditions are at a higher risk of receiving poorer overall quality of care compared to those with single or no chronic conditions. Disease-management programmes may have difficulty to achieve comprehensive, personalized care in view of competing guidelines, the burden of numerous recommendations and the difficulty in implementing treatments for multiple conditions (Min et al., 2007). Therefore, a paradigm-shift from 'problem-oriented' towards 'goal-oriented' care is needed, reorienting the care towards the goals formulated by the patient. By doing so, we will avoid care that may lead to 'inequity by disease' (De Maeseneer & Boeckxtans, 2011).

### **Academic Family Medicine**

Family Medicine is a discipline that has only recently joined the academic arena. Medical schools are known to suffer from challenges, mainly that they do not relate to the problems of the modern world. It has largely been argued that the introduction of academic family medicine can solve some of these challenges. One of the main contributions of family medicine is in the innovative methods of education that family medicine can offer. The hallmark is the one-to-one teaching in practice, and other methods include role-playing and small group teaching

(Svab, 2012). Local barriers to undertake training were found to be similar to those in UK and include shortage of staff, lack of time and other commitments. UK professionals mentioned time, cover for people to attend, costs and access or locality (Sammut, Bombagi and Cachia Feame, 2012). Both family medicine and the medical school have a lot to benefit from mutual cooperation (Svab, 2012).

### **Equity**

Whitehead describes equity in health care as the provision of fair means by which each person can access health care services, irrespective of their geographic location, financial means or cultural provenance (Whitehead, 1992). The two governing principles arising from this statement are that health provisions must particularly be made for individuals who are most vulnerable, and individuals who have equivalent needs must all have equal access to health care services (Culyer and Wagstaff, 1993).

An example of equity in our national health system is the presence of Health Centres of particular catchment areas in such a manner as to facilitate access to health care services, which provide not only teams of doctors, but also nursing services, mental health teams, podiatrists, speech language pathologists, physiotherapy services, social workers, visiting consultant services for internal medicine, ophthalmology, orthopaedics and diabetes management. This is an example of decentralisation of services, as well as ease of access to medicines through the option of collecting free medicines from a patient's pharmacy of choice and the provision of ambulatory services such as home visits by doctors, nurses and social workers. The option of attending a local health centre free of charge helps ensure that even the poorest members of a local community are able to access health services through the availability of salaried professionals and care co-ordinators.

The availability of salaried GPs working in a health centre, should lead to an increased focus on personalized care rather than the provision of services which are determined by how much a patient is ready to pay, a shift in focus from the purse to the person (Campbell, Charlesworth and Gillett, 2001). Of particular concern is the immigrant population, whose care is not usually as good as that of individuals born in a particular country even if they have equal access to health care services (Muggah, Dahrouge and Hogg, 2012).

In 2010, the European QUALICOPC study was designed to provide information regarding the delivery of primary care in Europe. Its much awaited results will provide information regarding quality of care, financial issues, as well as issues of equal access to care (Schäfer et al., 2011).

Equity issues often involve issues of age, race, literacy, gender, stigmatised groups, disability, sexuality, social class and income groups amongst others, as well as differences between urban and rural populations. Evidence shows that patients living in rural areas significantly experienced more difficulty in accessing out-of-hours care as opposed to those in urban areas (Bezzina et al, 2013). In these situations, one must ensure the provision of a number of 'core' provisions, as well as services aimed at the specific needs of the particular community (Carey et al., 2013). An aspect to be commended is the involvement of all stakeholders, including the patient, in processes of quality assurance and planning at an organizational level.

### **Measuring Outcomes**

Outcome measures provide a standard means of measuring and comparing the results of primary care services. These help us evaluate current practice, work towards improved services, make comparisons between the outcomes of different centres so that they can learn from one another and work towards the optimization of services and service delivery (Green et al., 2012; Reed et al., 2011). They also provide an evidence base for the provision of specific services and are a measure of their performance, especially within the context of the health care reform, where such studies can inform the decisions of policy-makers (Furler et al., 2008). These studies involve the use of administrative data, written and electronic patient records, observational studies, surveys, audits, quantitative and qualitative data.

Individual patient outcomes can be measured by means of standardised scales (eg. 'Patient-Specific Functional Scale', 'Kessler Psychological Distress Scale', 'Visual Analogue Scale') and validated questionnaires which are useful in the prevention, diagnosis and management of disease. Regular audit is essential to monitor the performance of a health centre, as well as studies that make use of standard validated tools and

performance scores, which account for a variety of care models. Such scales account for a variety of factors including health promotion, disease prevention and management of chronic illness, as well as accessibility, service utilisation, cultural sensitivity, family orientation, communication and development/maintenance of rapport (Dahrouge et al., 2011), whilst taking different primary care models into consideration.

One must also bear in mind the importance of considering the patient's quality of life, which can be more difficult to measure, and where more often a qualitative approach is required, which seeks to encompass the patient's experience of the healthcare system. A number of countries provide incentives for community practice groups to work towards improved outcomes.

A recent innovation in primary care has been the development of telemonitoring systems, particularly for the improved care of patients whose chronic illnesses make them house-bound, e.g. patients with chronic heart failure or chronic lung disease requiring chronic administration of oxygen. This demands a relatively high degree of patient motivation to carry out self-monitoring of vital parameters, input the data, which is then transferred electronically to a centralised system to provide monitoring of the patient. There is also the provision of telephone contact with the GP or practice nurse, home visits by members of the primary team, who can also liaise regularly with secondary care, in order to optimise management and reduce the number of hospital admissions (Martin-Lesende et al., 2011).

### **CONCLUSION**

This review demonstrates the importance of appropriate resource allocation and optimisation directed towards the changing demands and needs of patients. Recent advances in the system can help to improve the provision of accessible, equitable and comprehensive care in an ambulatory setting to patients.

The available literature provides an evidence base showing that primary health care is a continuously-evolving specialty, with recent exciting innovations. Prioritising the strengthening of primary health care is an important part of the answer to address the emerging public health challenges in a globalising world.

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**Dr Marilyn BALDACCHINO MD**  
GP Trainee  
Email: marbaldacchino@gmail.com

**Dr Glorianne BEZZINA MD MSC**  
GP Trainee  
Email: glorianneb@gmail.com

**Dr Anne Marie SCERRI MD**  
GP Trainee  
Email: anne-marie.scerri@gov.mt

**Dr Mario R SAMMUT MD, DIPHC, MSCH,**  
MSCPC&GP(Ulster), MMCFD  
*Specialist & Lecturer in Family Medicine*  
Email: mrsammut@rocketmail.com