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This paper presents evidence from research into health system challenges of cardiovascular disease (CVD) and diabetes in four Eastern Mediterranean countries: the occupied Palestinian territory, Syria, Tunisia and Turkey. We address two questions. How has the health system in each country been conceptualised and organised to manage the provision of care for those with CVD or diabetes? And what were key concerns about the institutional ability to address this challenge? Research took place from 2009 to 2010, shortly before the political upheavals in the region, and notably in Syria and Tunisia. Data collection involved a review of key documents, interviews with key informants and brief data collection in clinics. In analysing the data, we adopted the analytical schema proposed by Walt and Gilson, distinguishing content, actors, context and process. Key findings from each country highlighted concerns about fragmented provision and a lack of coordination. Specific concerns included: the lack of patient referral pathways, functioning health information systems and investment in staff. Regarding issues underlying these 'visible' problems in managing these diseases, we highlight implications of the wider systemic pressure for reform of health-sector finance in each country, based on neoliberal models.

Keywords: health policy; NCD; Middle East; Turkey

Introduction

The rapid increase in the prevalence of non-communicable diseases (NCDs) in the Middle East and North Africa (MENA) has been widely noted in recent years (Ben Romdhane, Husseini, & Jabbour, 2012; Jabbour, 2003; World Bank, 2011), as has the attendant burden on the health systems of the region, hitherto under-equipped for the challenges such long-term ill health poses (Akala & El Saharty, 2006; Jabbour, Giacaman, Khawaja, & Nuwayhid, 2012; Maziak, 2006, 2009; World Health

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Organization [WHO], 2005). While there is a growing literature on challenges facing different components of the health systems in the region (El-Jardali et al., 2010, El-Jardali, Lavis, Ataya, & Jamal, 2012; El-Jardali, Lavis, Ataya, Ammar, & Raouf, 2012; Jabbour et al., 2012), there is still a paucity of comparative qualitative research to illuminate the complexities of specific health policy environments, or the organisational frameworks necessary for the management of NCDs.

We address this gap by presenting evidence from a qualitative study of the organisation of health care for managing cardiovascular disease (CVD) and diabetes in four Eastern Mediterranean countries: the occupied Palestinian territory (oPt), Syria, Tunisia and Turkey. While Badran and Laher (2012) cite 'comparative diabetes prevalence' in these particular countries ranging from 8.1% in Turkey to 10.1% in Syria [based on International Diabetes Federation (IDF) 2011 estimates], other analyses suggest that levels may be considerably higher in places such as Syria (Al Ali et al., 2013). The same may be said in relation to CVD (Maziak et al., 2007; Murray et al., 2012). We posed two main questions in each national context. First, how was the health system *conceptualised* and *organised* to manage the care of those in the population with CVD or diabetes? Second, what were key concerns about the *institutional capacity* to address this increasing challenge?

A body of critical literature exists on the health systems of both Turkey and oPt. By comparison, much less has been written on the Tunisian health system, and very little on the Syrian one. In Turkey, major changes have been transforming the health system under the Health Transformation Programme (HTP), attracting growing commentary (Adar, 2007; Akdag, 2009; Baris, Mollahaliloglu, & Aydin, 2011; Ergor & Oztek, 2000; Savas, Karahan, & Saka, 2002). For the oPt, analyses of the health system present a broadly consistent picture (Giacaman, Abdul-Rahim, & Wick, 2003, Giacaman et al., 2009; Hamdan, Defever, & Abdeen, 2003; Mataria et al., 2009). While research on the health system in Tunisia has been limited, the challenges of managing CVD risk factors, as well as health care finance, have received attention (Abu-Zaineh, Arfa, Ventelou, Ben Romdhane, & Moatti, 2013; Ben Romdhane et al., 2004; Ben Romdhane & Grenier, 2009;). For Syria, Sen and al Faisal (2012) provide the first published analysis of the health system and health care finance.

The data in this paper are drawn from a 'situation analysis' conducted by researchers in the four countries between December 2009 and August 2010 as part of a larger European Commission (EC)-funded project, Mediterranean Studies of Cardiovascular disease and Hyperglycaemia: Analytical Modelling of Population Socio-economic transitions (MedCHAMPS). For details of design see Bowman et al. (2012) and Maziak et al. (2013). In each case, the situation analysis aimed to produce a national overview of policy and organisation relevant to the management of CVD and diabetes. This was supplemented by a city region-specific account of organisation and practice, based on Izmir in Turkey, Aleppo in Syria, Ramallah in the West Bank of oPt and Tunis in Tunisia. It will be apparent from the dates of data collection that our research took place at a critical historical juncture, immediately prior to the political crises and upheavals in the region (and in Syria and Tunisia in particular) beginning in 2011. It would have been impossible to undertake this research a few months later in Syria and Tunisia.

Methods

The situation analysis involved three levels of data collection. The first was an analysis of official documents, published and unpublished, which provided details of each country's health system. These covered organisation, policy and planning, with a specific focus on NCDs in general, and CVD and diabetes in particular. The number of documents

reviewed varied (8 in Tunisia, 16 in Turkey, 19 in oPt and Syria). Selection was determined by each team, following common guidelines. The second level involved semi-structured interviews with key informants, defined as those with major responsibilities for the health system as a whole, and for CVD and diabetes within it, at a national and regional level. The number of key informants interviewed ranged from 11 (Tunisia and Turkey) to 17 (oPt and Syria). The third level entailed case studies based on brief fieldwork undertaken in four clinics in each country, which were selected to include examples of public and private, urban and rural, as well as primary- and secondary-level facilities and some specialist diabetes clinics. The case studies involved interviews with staff, patients and care givers; observations of clinic practice; and an audit of facilities and equipment. Our aim was to obtain insight into local practices and circumstances alongside data from stakeholder interviews and documents, and to provide a more rounded perspective on gaps between theory and practice. Sampling of interviewees in clinics was necessarily opportunistic, as this was the only feasible way given the circumstances. We draw here on findings from all three levels, with primary reliance on interviews with key informants, supplemented by interviews with clinic staff.

Research tools were designed by adapting those developed by Unwin and colleagues (1999). These were translated from English into Arabic (in oPt, Syria and Tunisia) or Turkish (in Turkey) for use. Analysis was started using ATLAS.ti to identify common cross-national codes that we supplemented with country-specific ones. A particular challenge for a primarily qualitative study was that the pool of qualitative researchers in the medical field in these countries was extremely small, and the use of such methods not widely known or understood. Considerable effort, therefore, went into the training and explanation of the rationale behind the choice of methods. In each national context, formal approval for this research (as part of MedCHAMPS) was sought and received from appropriate ethical review bodies; consent procedures for interviewees were agreed upon and then followed.

Results

We synthesise our findings by adapting a well-known framework for health policy analysis (Walt & Gilson, 1994), which models the interplay between four concepts: content, actors, context and process. One important virtue of this model lies in distinguishing structure and process, and making explicit the interplay of actors and interests within specific political – institutional contexts. The four categories also correspond broadly to the what, who, why and how of health policy analysis; in our version of this model, the first three (content, actors, context) interact to generate and inform the dynamics of the system (process), which in turn feeds back in a continuous transformation [see Figure 1, which differs from Walt and Gilson's triangular depiction (1994, p. 354)]. Under each heading, we present findings country by country (summarised in Table 1).

Content

In oPt, there is now official recognition that NCDs place the biggest burden on the health system; their management is one of the four strategic objectives of the Palestinian National Authority's Ministry of Health (MoH) and other health care providers. This recognition is recent, and evident for the first time in the latest Strategic Health Plans (Palestinian National Authority Ministry of Health [PMoH], 2010a, 2010b). Moreover, nationally representative data on specific NCDs, including CVD and diabetes, also

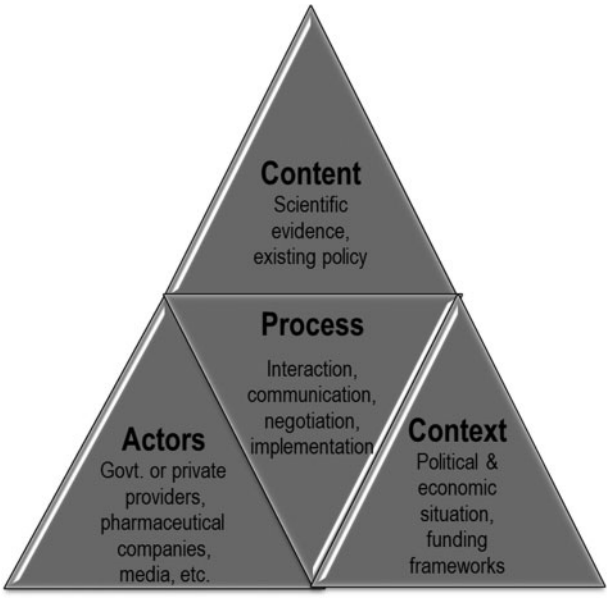

Figure 1. Health policy interactions.

became available recently (Palestinian National Authority Ministry of Health [PMoH] & World Health Organization, 2012). A ban on smoking in public places was enacted in 2005; however, as the MoH acknowledges, 'the law has never been enforced' (PMoH, 2010a). Protocols for screening, diagnosis and treatment exist for CVD and diabetes; the problem is one of proliferation, with different health providers producing their own protocol.

In Syria, recognition by the government of the growing problem of NCDs is recent (Syrian State Planning Commission, 2006). The MoH now includes a Department of Chronic Diseases responsible for Cardiovascular Prevention and National Diabetes Programmes. Programmes within the MoH focus on physical activity and nutrition, and Syria adopted a ban on smoking in public places in 2010. However, specific policies for prevention and monitoring of CVD and diabetes did not exist; while protocols for treatment did exist, these were not widely distributed.

In Tunisia, the impact of CVD and diabetes on national economic life and population health had been widely recognised over the previous decade, even if awareness has been uneven at the district level. A five-year national health plan has shaped the programmes of the MoH. Single-purpose disease-prevention and control programmes have constituted the major approaches used by the national government to tackle public health priorities. A NCD Management Unit within the Department of Primary Health Care developed and coordinated national programmes for hypertension and diabetes. Implementing this strategy has been the responsibility of an NCD Coordinator in every district (including protocol and treatment guidelines, as well as staff training). A CVD and diabetes strategy has been developed within this context, as has a national obesity strategy. A law banning smoking in public places came into force in Tunisia in 2010.

In Turkey, strategies for prevention and management of CVD and diabetes have been developed for a longer period than in the other three countries. Several divisions within the MoH are responsible for planning provision, and both diseases were featured

Table 1. Summary of results in four countries.

Country	Content	Actors	Context	Process
Palestine	• Scale of NCD challenge recognised recently, in Strategic Plan 2010. • Representative national data on NCDs available in 2012. • Proliferating protocols from different providers. • Public smoking ban in 2005.	• Complex set of providers: MoH overall responsibility; UNRWA prominent; relatively large NGO sector; growing private sector. • UNRWA and NGOs liaise with MoH; private sector rarely does. • International donors have powerful influence.	• Israeli occupation. • Dependency on international donors skews provision and priorities, creates fragmented service, and results in infrastructure funding at expense of operating funding. • Heavy out-of-pocket costs, and c. 40% uncovered by insurance.	• Fragmentation hampers strategic priority setting and sustainability of provision, crucial for CVD and DM care. • Absence of viable health information system compounds fragmentation. • Problems of staff skills, training and retention.
Syria	• NCD recognition since c2006. • MoH emphasis on healthy lifestyles through special programmes. • Specialist diabetes clinics introduced in some areas. Treatment protocols exist. • Public smoking ban in 2010.	• Several ministries run hospitals and other health care facilities, coordinated by MoH. • Private sector growing steadily till 2011 crisis, including hospitals, but only in biggest cities, as state provision reduced. • Major pharmaceutical industry till 2011 crisis.	• Government funding devolved to governorates. • Recent shift (till 2011) from tax funding towards copayments and insurance, with high out-of-pockets costs. • Hybrid public–private health care model developing, hospitals permitted more control of budgets.	• Institutional framework for NCD management inadequate. • Lack of coordination a major problem: no referral framework between primary and secondary care, no follow-up and no health information system. • Severe skills shortage; nursing stigma hampers recruitment.

Table 1 (*Continued*)

Country	Content	Actors	Context	Process
Tunisia	• NCD burden recognised at central level for several years. • National programmes on hypertension and diabetes. • Gaps in implementation of these programmes. • Public smoking ban in 2010.	• MoH with key planning and delivery responsibility. • Growing private sector provision in main cities, including small hospitals. • In theory regulated by MoH; in practice autonomous.	• Tax-funded health system with high (over 80%) social insurance coverage. • 1990s reforms strengthened social protection, but increasing out-of-pocket costs in public provision. • Growth of private sector. • Regional and social inequalities exacerbating health inequalities.	• Coordination deteriorating, with growth of private sector and a parallel health economy. • Fragmentation and duplication in cities arises from competing interests. • Strategic partnerships for NCDs not being created; no multi-sectoral action.
Turkey	• Prevention and management strategies in place longest. • CVD and DM prominent in 2010–2014 Strategic Plan. • Lack of framework for monitoring at province level, and lack of reliable data. • Public smoking ban in 2009.	• Strong public and private sectors, with MoH responsible for strategy and planning. • SSI has key role in health care finance, which has boosted private sector. • Important pharmaceutical industry.	• Importance of Health Transformation Programme. • Health sector funded by MoH from taxation and through insurance. • But out-of-pocket expenses still increasing. • Introduction of Family Health Centres in 2006.	• Coordination and integration seen as major problems: within MoH, between centre and provinces, primary and secondary care, and public and private sectors. • Health information systems still in early stages. • Rural primary care still focuses on infectious diseases.

prominently in the 2010–2014 strategic plans (Turkey Ministry of Health, 2010a, 2010b). Yet a lack of reliable data on NCDs was noted as a constraining factor, despite the introduction of new health information systems. A framework for early detection through screening was also lacking. Other developments, however, indicate the change in national-level awareness of the scale of the challenge. Turkey implemented a Tobacco Control Programme in 2007, and a ban on smoking in public places and advertising in 2009. Nutrition and physical activity have also been highlighted as national public health priorities, with the introduction of programmes to address rising obesity. Nonetheless, Provincial Health Units, which have major strategic planning and delivery responsibilities, still lack divisions with a specific NCD remit; thus, no framework exists for organising and monitoring CVD and diabetes provision.

Actors

In oPt, four main health providers exist. The Palestinian MoH has the primary responsibility for provision. The United Nations Relief and Works Agency (UNRWA) also has a powerful voice in Palestinian health policy formulation. In addition, there exists a large non-governmental organisation (NGO) sector, and a small but growing private sector. In an unstable political environment, the Palestinian MoH seeks to maintain the role of a state in setting strategies for health, translating these into policy and action and providing health care. However, the Palestinian authority lacks influence over crucial national resources and control of its borders. While UNRWA and the NGO sector work in relatively close liaison with the MoH, the private sector does not, and is largely unmonitored. All these providers supply services for those with CVD and diabetes, though the private sector remains outside efforts to formulate a common approach. International donors are also key actors. Finally, Palestinian academics are now playing an increasing part in policy formulation for NCDs.

In Syria, the key health providers before 2011 were the government and private sectors, with a gradual shift taking place from the former towards the latter. Within government, the MoH sponsored health care facilities that fell directly under its jurisdiction (e.g., public hospitals, local health departments and directorates, primary care services). It also coordinated with other ministries that provided health care facilities (e.g., the Ministries of Defense, Interior and Education). The private sector, which had a strong presence in major cities, notably Damascus and Aleppo, had in recent years been expanding in response to a combination of increased demand from the growing middle class, a shrinking public sector and the provision of tax exemptions for health care facilities and equipment. Private clinics had proliferated (which many doctors were running in addition to jobs in the public sector), and new private hospitals and diagnostic/treatment centres were emerging. Syria's pharmaceutical industry had also grown considerably since the 1980s (although production has been crippled since 2011).

In Tunisia, the MoH has been the key strategic and delivery institution, overseeing the governance of the health sector, including the planning and provision of most health services. A growing private sector exists in the main urban centres, offering diagnostic services and specialist clinics, while private polyclinics have recently been established, functioning as small hospitals. These are in principle regulated by the MoH, but were said to function in practice with increasing autonomy. While the growth of a private sector was characterised as benefiting the urban middle class, it has accentuated urban–rural disparities, and was argued to be drawing staff away from the public sector, attracted by better pay and conditions. NGOs play virtually no role in providing health care.

In Turkey, the MoH has primary responsibility for making health strategy, implementing health programmes and directly delivering health services from the primary to tertiary level. There is also a strong and rapidly expanding private health care sector, with around 500 private hospitals in the country. The other key institutional actor is the Social Security Institution (SSI), which has a pivotal role in health care finance, because social security insurance pays for health care. This has boosted the private sector, extending its reach beyond the middle class, because insurance covers treatment by private providers. The financial strength of the SSI was said to make for an uneasy partnership with the MoH, which has the leading strategic role but not the same financial resources as the SSI. Other important actors include the universities, the pharmaceutical sector, professional associations and, increasingly, the media. Turkey has a substantial pharmaceutical industry, which sustains its influence through funding much clinical in-service training.

Context

In oPt, the MoH inherited neglected health services from the Israeli government after 1994, coupled with a high dependency on international donors. One consequence of this dependency has been that the health infrastructure was viewed as better supported than operational costs, where funding shortages were evident. The MoH and UNRWA were both seen by informants as strongly centralising organisations, and the latest national health plan (PMoH, 2010a) called for decentralisation as an important goal. However, a bigger problem identified was the fragmentation of the health system. Fragmentation was seen to have three main causes: the multiplicity of providers, the differing aims and priorities of donor organisations and the difficulties caused by the political separation of the West Bank and Gaza. While international aid was seen as essential, it was also regarded as accentuating problems of coordination and sustainability. Nearly 40% of the population was covered by the government health insurance scheme, 15% by UNRWA entitlement and 8% had other insurance; but nearly 40% lacked protection for health costs (Mataria et al., 2009). Even when people were protected, informants acknowledged that families did not always trust public health care and opted for private facilities. The Palestinian health system relies on funding from multiple sources, mirroring its organisation: from taxes, health insurance, copayments and other out-of-pocket payments, international aid and a variety of local community donations. Out-of-pocket payments make up the largest proportion of this funding, and this proportion is rising (41% in 2010, outstripping government funding of 36%) (Palestinian Central Bureau of Statistics [PCBS], 2012).

In Syria, the bulk of central government funds devoted to health care was distributed to governorates. In public clinics and hospitals, certain costs had long been carried by patients (e.g., advanced diagnostic tests, medications). However, in recent years, the Syrian health system had been shifting from funding by taxation towards copayments, insurance (government and private) and other out-of-pocket payments. A hybrid public–private health delivery model had emerged, with certain MoH hospitals being given more autonomy and control over their budget and fee-setting. Thus, although some free care for the poorest still existed in 2010, health care costs were increasingly being carried by families. Moreover, the relative proliferation of new health facilities and services in the biggest cities had not been replicated elsewhere. Several key informants indicated that within the MoH there was a growing conviction that state funding for health was unsustainable, particularly because of the heavy long-term costs of NCDs. Private

insurance, though still relatively novel in Syria, was viewed as likely to cover an increasing portion of health care costs (in accordance with the advocacy of international bodies).

In Tunisia, the health system up to the time of the revolution in 2011 had not faced such an acute funding crisis as was evident in Syria. Tunisia's health system has been based on funding through taxation, with social insurance covering a high proportion of the population (over 80%) since reforms had been introduced to strengthen social protection in the 1990s. While informants saw Tunisia as having the institutional capacity to regulate the quality and availability of health services, in reality, monitoring of health services was seen as weak and largely unenforced. This applied particularly in the private sector, where, for example, MoH treatment guidelines for NCDs were rarely observed. Further, the level of out-of-pocket spending, particularly at times of crisis, was having profound effects on household budgets. 'Cost-sharing' for services that were nominally free of charge has been routine.

In Turkey, funding for health has come from three main sources: through the MoH from taxation, through insurance and as out-of-pocket expenses. Over the last decade, the proportion of total health costs paid by the government has increased slightly from 70% to 73% (2002–2009); yet out-of-pocket expenses have also risen, from 16% to 26% (2003 – 2009) (OECD, 2011; Yardim, Cilingiroglu, & Yardim, 2013). Nonetheless, out-patient and most in-patient treatment are largely free to patients, with costs covered under various insurance schemes. A major consequence of the HTP has been to increase total health expenditure by four times in the seven-year period to 2009 (from 12.4 billion to 51.5 billion USD Purchasing Power Parity [PPP]), much of that coming from the dramatic expansion of the private sector. This has been supported by the government through tax incentives and, above all, through the insurance system. The reorganisation of primary care has also undergone major changes. The introduction of a Family Doctor system (in 2006) has led to new Family Health Centres replacing the previous primary health care system. However, preventive and curative services have not been integrated in the new system, nor has a referral system been introduced to link primary- and secondary-level treatment. The introduction (in 2010) of staff payment by 'performance' in hospitals (with plans to extend that in time to primary care) is also said by some informants to have potential implications for NCD treatment in particular, for critics argued that 'results'-based payment may perversely reduce incentives to treat NCD patients for whom 'results' are hard to show.

Process

In oPt, four main problems were seen to compromise the capacity of the health system to address the increase in CVD and diabetes. First, the fragmentation of the health system and its reliance on external donors hampered the capacity of policy-makers to translate strategic priorities into sustainable policies and action. Second, and linked, was the absence of viable health information systems. Data on numbers of patients with specific conditions, and their treatment, referral and complications, were scarce, and there was no larger system within which they can be integrated. UNRWA and some NGOs provided relatively good patient data, but the different parts of the health system did not share this patient information, which had serious implications for the management of the challenge of chronic and complication-prone conditions like CVD and diabetes. Equally, routine financial data were lacking to monitor the use of financial resources. Third, the Palestinian health system had considerable problems regarding staff retention, particularly

of doctors. Training needs, severe skill shortages, career opportunities and the need for teamwork in the care of patients with chronic conditions were commonly identified as vital but neglected areas. Finally, while curative care consumes 64% of expenditure on health, just 7% is used for preventive public services (PCBS, 2012, p. 16); this is indicative of the political difficulty in signalling the vital long-term importance of prevention in managing NCDs.

In Syria, despite acknowledgement that CVD and diabetes posed a major challenge, few informants believed that an organisational framework was in place to respond to this challenge. The weakness of patient information systems had been widely remarked upon, for both patient monitoring and system-wide planning. This was seen as symptomatic of an under-developed health delivery system, and a lack of coordination among different parts of the health care system. There was almost no system for patient referrals between primary and secondary care, and the concept of patients' follow-up was weak (although seen as better in the private rather than the public sector). Patient records were widely acknowledged to be lacking, particularly in rural areas. Several factors were cited to demonstrate the erosion of public provision in the health sector, and people's diminished trust in it: a severe shortage of skilled staff outside the major cities; the loss of doctors, nurses or other specialists to the better-paid private health care sector; the dual public – private practice by doctors; and, in rural areas, the lack of commitment by doctors to provide a service. All of these factors were seen as critical for the management of CVD and diabetes. Furthermore, nursing as a career seems to have been particularly stigmatised in Syria, adding to problems of nursing recruitment as families discouraged their daughters from such a career.

In Tunisia, a framework for managing CVD and diabetes existed. But coordination was an increasing problem, with the emerging private health care sector seen by some informants to be almost a parallel health economy. This mattered precisely because NCDs were, in the words of one informant, 'an abyss of money'. Mechanisms to monitor or enforce health-related legislation were reckoned to be weak, especially in relation to the private sector. Moreover, fragmentation or duplication, often a consequence of competing interests, impeded national efforts to manage NCDs. Strategic partnerships around NCDs had not been fostered, and policy-makers were still seen as reluctant to consider NCD management as part of a larger socio-economic development strategy. Most policy-making efforts, moreover, were focused on health care, with little public health emphasis on prevention. Hence, engagement of non-health sectors in intersectoral action to influence health was judged by informants as minimal. Health information needs were also seen to be hampering coordination: the main needs concerned the integration of patient data and disease-specific population data. There were also concerns about the loss of staff from the public to the private sector. Finally, concerns were voiced that the failings of the health system were helping to intensify growing coast-interior inequalities. The importance of this insight became apparent with time, as public anger about health care proved to be one factor in the 2011 revolution.

In Turkey, coordination and integration were also major preoccupations – within the divisions of the MoH itself, between the MoH and the provinces, between primary and secondary health tiers and between public and private health providers. The new Family Health Centre framework was seen to present contradictory characteristics. On the one hand, the HTP reforms assigned a significant role to primary health for prevention, diagnosis and treatment, partly in order to relieve pressure on hospital services. On the other hand, diagnosis or monitoring of chronic diseases like CVD and diabetes remained weak, and staff had little familiarity with treatment protocols (which, moreover, were not

widely disseminated). Taken together with the continued lack of a referral system, these were seen as weakening the institutional hopes vested in the new family doctor system. Moreover, both patient monitoring and a referral framework imply an effective health information system for tracking patients, and such a system was still in its infancy. Equally, it was widely held that staff in rural areas remained more attuned to the demands of infectious diseases than 'newer' conditions like CVD or diabetes. What was unique to Turkey was the extent of commentary on the consequences of a decade of health sector reforms. Key informants took differing views on benefits and drawbacks, weighing whether greater efficiency, improved access to good quality treatment for patients and the extension of social insurance coverage of the population were at the expense of a health system ever more driven by the market.

Discussion

This paper is, we believe, the first to use a qualitative approach in a comparative cross-national context to explore the preparedness of Eastern Mediterranean health systems to manage the challenge posed by these two major NCDs: CVD and diabetes. Our evidence indicates important similarities in stakeholders' diagnosis of major weaknesses in health system preparedness across these national contexts – including Turkey, with its substantially more developed health system – and it is the parallels that we concentrate on here. Before doing so, however, it is vital to register the impact of political events since we undertook this research. The profound transformations in the region, which started in Tunisia, mean that, in the case of Tunisia and Syria, our data from 2010 have a premature historical quality. Our analysis refers to structures and practices which we cannot assume continue, particularly in Syria. The best information as we write suggests that in parts of Syria some elements of the health system continue to function, with severe disruption (WHO, 2013). In Aleppo, however, where our research took place, the reality is especially bleak: civil society and physical infrastructure, including the city's health system, have been almost completely destroyed in many neighbourhoods. The consequences for public health are predictably devastating (Coutts, McKee, & Stuckler, 2013; Coutts et al., 2013b).

Even prior to the profound political transformations in the region beginning in 2011, each of the health systems analysed here was in organisational flux. One crucial factor was precisely the pressing need to grapple with the implications for cost and care of NCDs such as CVD and diabetes. Key to the accounts we heard was the repeated use of words like 'integration', 'coordination', 'disjointed' and 'fragmented' to describe deficiencies in the organisation and delivery of health care for CVD and diabetes. In each country, this was seen as seriously hampering national efforts for prevention and control of such diseases. The lack of referral pathways, for example, consistently resulted in an overreliance on secondary or tertiary treatment at the expense of primary health and community care. Another example was the repeated concern about the lack of functioning (or indeed any) health information systems. A further issue concerned health sector investment in staff: staff shortages, availability, training needs, commitment and teamwork were all identified as pressing matters that related specifically to the challenges of providing long-term coordinated management of NCDs. Each of these was an aspect of the wider problem of achieving a measure of integration in the health system, which effective CVD or diabetes care necessitates.

Thus, we can summarise a set of major concerns which emerge from this comparative study:

- The need for much greater integration and coordination of different elements of the health system, and health care provision, were shared concerns. A sense of fragmentation was felt most acutely in Palestine.
- The growth of the private sector enhances treatment and treatment options for the urban middle class, but it is one factor driving growing inequity in provision and access to health care, and it exacerbates problems of integration and coordination.
- One key to coordination and integration, vital for NCDs, is the urgent necessity of creating viable health information systems.
- Another key is to create effective referral pathways and follow-up mechanisms. Without such reform, primary health care is too often bypassed, and secondary-level facilities overwhelmed.
- Health sector investment in staff and teamwork is vital for managing chronic conditions like CVD and diabetes: the draining of skilled staff, particularly abroad (in Palestine) or to the private sector is a major problem.

Underlying these concerns were issues related to health sector finance. Several informants acknowledged that the link between the increase in NCDs and structural reform of health system finance was not a coincidental one. The economic implications of rising NCD levels were recognised as adding urgency to the search for alternative financial models of health care. Moreover, in practice, the models being introduced in each of these countries have been variants of neoliberal models of health system finance now found globally: that is, put simply, the conjunction of policies emphasising market solutions to providing 'public' services, in which the role of the state as a provider is reduced, the role of the private sector enhanced, and an expectation of payment by results established. The Turkish Performance Based Payment System, designed to influence the behaviour and practice of health staff, is the prime example. Even in Syria, where the government's Health Sector Modernisation Programme was at a much earlier stage prior to the current political crisis, the reform programme had extended significantly the role of private provision in health care, as public spending on health had declined (Hinnebusch, 2012; Sen & al Faisal, 2012). In Palestine, the role of external donors pushes in the same direction. Arguably, this process had until recently been least evident in Tunisia; but the rapid growth in the private sector lately is indicative of change occurring in the same direction there also.

In the recent landmark publication *Public health in the Arab world*, Jabbour and Rawaf (2012) stress two points about the crucial role of the state in public health, at a time when state provision of services is increasingly called into question: first, the shift required by governments to transform health systems from the solely curative function of 'sickness systems' towards an expanded focus on prevention, and second, the challenge of entrenched attitudes within government across the Arab world, where health provision is too readily seen as 'gifts handed by the state' (2012, p. 359). Our analysis suggests some of the mechanisms on which such a remodelled state role is predicated. But we also highlight fundamental pressures that are serving to reduce governments' role in this arena.

It is helpful to place these structural changes and pressures within a broader frame of understanding. A valuable tool, in this context, is J. C. Scott's concept of 'legibility'. In his influential book *Seeing like a State*, Scott (1998) analysed how modern states of all persuasions have sought to make their populations more 'legible' to government. Scott defined 'legibility' as the techniques through which governments would map, monitor and manage their populations. Health systems and public health provide an exemplary

laboratory for observing such state-led efforts to make populations and practices more 'legible', above all through bureaucratic procedures that aim to classify and standardise people and procedures. Many of the policy priorities identified by our key informants – for health information systems, referral pathways, and treatment protocols – can be understood not only as aids to improve health care, but also as familiar governmental techniques for creating 'legible' populations.

However, there are also powerful new pressures on national health systems, which suggest that the pressure for greater 'legibility' is intensifying. Here, the surge in the incidence of diseases like CVD and diabetes is a crucial part of the story. The spiralling cost of managing these chronic diseases gives urgency to devising new techniques of governance, through which to track and monitor patients and the costs of their care. Where there is little or no monitoring of patients or costs, the patient population and the health care system both become 'illegible'. Moreover, as neoliberal models are introduced, and private sector health providers enter health care markets, the necessity for 'legible' populations and health systems is extended beyond national government. The gradual withdrawal of the state from the management of the health sector in favour of the market does not lessen the surveillance 'legibility' entails. Supra-state institutions – the World Bank, World Health Organisation, European Union – and multinational companies engaged in the health sector increasingly demand 'legibility' also. The transformations that have been taking place in the health systems of these four countries provide illuminating examples of the pressure for health sector 'legibility', and also convey the significant obstacles frustrating such pressures – even though such a long-term process is obscured and indeed arrested by the political convulsions currently experienced in Tunisia and Syria.

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