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ORIGINAL ARTICLE

Health system challenges for the management of cardiovascular disease and diabetes: an empirical qualitative study from Syria

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Abstract

Objectives To explore through empirical qualitative data health system barriers to effective management of cardiovascular disease and diabetes in Syria before the crisis, and how such analysis can inform the building of a post-crisis system.

Methods Data were collected through document review, semi-structured key informant interviews, and fieldwork in clinics.

Results Institutional commitment to address the increasing burden of CVD and diabetes in Syria was limited and uncoordinated. Challenges included an increasingly split healthcare system, with private provision for those who could afford it, and a residual state health sector for the majority. Public trust in the system had been declining.

Conclusions We conclude that lack of effective management of CVD and diabetes indicated weaknesses of the state and its retracting role in providing effective healthcare. Such weaknesses that existed before the crisis are now compounded by new challenges resulting from wide destruction of the health system due to the ongoing war. The rebuilding of post-conflict heath care system may benefit from insights into the structural problems of the pre-crisis system.

Keywords Health system · Syria · Aleppo · Cardiovascular disease · Diabetes · Qualitative study

Introduction

Much has been written recently on the growing burden of the non-communicable diseases (NCDs) epidemic and its risk factors, as well as the lack of preparedness of health systems in the Arab World to prevent, manage and control them (World Health Organisation 2011; Ben Romdhane et al. (2012); Abdul Rahim et al. 2014; Alwan 2014; Mokdad et al. 2014). The limited epidemiological picture of NCDs in Syria, prior to the present conflict, conforms to the larger regional pattern.

Most published empirical research on NCD epidemiology and risk factors in Syria comes from the work conducted by the Syrian Centre for Tobacco Studies (SCTS) in Aleppo (2nd largest city in Syria with a population of approximately 3 million in 2011). Its analyses indicate that cardiovascular disease (CVD) and Type II diabetes mellitus (DM) were main contributors to morbidity and mortality: CVD had become the second cause of morbidity and responsible for half of the overall mortality (Rastam et al. 2012), with half of all CVD deaths in Syria occurring before the age of 65 (Maziak et al. 2007). A recent modelling study predicted that diabetes prevalence

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would double in about 20 years from the baseline year of 2003 (Al Ali et al. 2013). As in other countries, much of the burden of CVD in Syria is attributed to adverse trends in risk factors such as smoking, obesity, blood pressure, cholesterol and diabetes (Rastam et al. 2012; Al Ali et al. 2013). There is as yet limited evidence of socioeconomic variations in some risk factors for CVD and DM in low and middle income countries including countries in the Mediterranean region (Ramahi et al. 2010; Hosseinpoor et al. 2012).

The limited capacity of the Syrian healthcare system to respond to the needs of many Syrians for treatment and healthcare after the crisis in 2011 has been noted by several commentators (Barmania 2012; Al-Khaled 2013; Coutts and Fouad 2013; Fouad 2013). In this article, we explore the anatomy of the healthcare system prior to the crisis in 2011 and its effectiveness in managing two key NCDs, CVD and DM. Our data are based on an original qualitative 'situation analysis', focused on Aleppo, undertaken in 2009–2010 as part of a qualitative component of a larger European Commission (EC) funded project: 'Mediterranean Studies of Cardiovascular disease and Hyperglycaemia: Analytical Modelling of Population Socioeconomic transitions (MedCHAMPS)'. For details of the project and its design see (Bowman et al. 2012; Maziak et al. 2013).

Methods

The situation analysis was designed to identify gaps in organisation, policy, and service provision relevant to the management and treatment of CVD and DM. We sought to link different 'levels' of the health system, from central government policy-making (through institutional organograms and policy initiatives to protocols for treatment) down to the level of local practice. The aim was to track what gets lost in translation between ministry and clinic, a particularly novel idea in the Syrian context. To accomplish this, we identified three 'levels' for data collection: document analysis to identify official policy frameworks; key informant interviews to identify perceptions and knowledge of policy and gaps in policy; and direct clinic observation, including interviews with staff and patients, to gain some understanding of on-the-ground realities (Maziak et al. 2013). This article draws primarily but not exclusively on the first two levels.

Data collection took place between October 2009 and August 2010. A total of nineteen documents were selected and analysed to explore the current health situation in Syria, including Ministry of Health (MoH) action plans and annual reports, strategy, policies and guidelines related to NCDs. Document selection was a continuous process as we identified or learned from key informants about relevant documents. We obtained most documents from the MoH in Damascus. Some others we obtained from the health directorates in individual cities, and others were available on the internet. There were also unpublished studies prepared for the MoH and World Health Organisation (WHO).

Seventeen semi-structured interviews were conducted with government and non-government policy makers and programme implementers, clinical specialists in NCDs, pharmaceutical company representatives, and directors of health facilities (including public and private, district and national). Respondents were recruited by an expert in healthcare management who helped to identify appropriate individuals with broad range of experience in various rural and urban contexts.

Interview schedules were designed by adapting those developed by (Unwin et al. 1999), and then translated into Arabic. Observational fieldwork was conducted in six health facilities (rural/urban; private/public) relating to provision of healthcare for both CVD and DM. These brief case studies entailed interviews with staff ($n = 12$) and patients ($n = 24$), observations of clinic practice, and an audit of facilities and equipment. Data collected were transcribed by the SCTS research team. All other forms of data collection were primarily conducted by two researchers (FF and ME). Data analysis was aided by the use of ATLAS.ti software, designed for eliciting themes and patterns in qualitative data. Ethical approval for this study was obtained from the Institutional Review Board of the Syrian Society against Cancer. All participants provided verbal consent (Phillimore et al. 2013).

No statement of methods can fully do justice to the novelty of this kind of research in the context of Syria in 2009–2010, and the challenge it posed in a country where research, particularly qualitative, was scarcely known and had no legitimate status (a rare exception is Mershed et al. 2012). This massive challenge was accentuated because researchers themselves also lacked familiarity with qualitative methods of enquiry. Considerable effort, therefore, went into the training and explanation of the rationale for these methods.

Results

This article follows (Phillimore et al. 2013) in adapting a widely used framework for analysis of the health policy process (Walt and Gilson 1994). We present our findings around the four categories proposed by Walt and Gilson: Content, Actors, Context and Process. In our adaptation of this framework, the first three (content, actors, context) interact to generate and inform the dynamics of the system (process).

Content

In comparison with the long-established prominence given to communicable diseases, Syria's Ministry of Health (MoH) in 2010 was in the early stages of grappling with scale and rapid increase in NCDs. The first official recognition of the NCD challenge had come in the 10th Five-Year Plan in 2006. The State Planning Commission noted a target of "reducing by a third the prevalence of the three main risk factors, namely, smoking, obesity, and malnutrition which contribute to the burden of non-communicable diseases in Syria"(State Planning Commission 2006, page 745) and signalled that "New programmes meeting the population health needs such as programmes for controlling heart disease, cancer, diabetes, accidents and psychological illnesses will be added" (State Planning Commission 2006, page 751). Organisationally, a department within the MoH was established for NCDs within the Environmental and Non-Communicable Disease Directorate; while various NCD programmes had been introduced, chiefly with the WHO, including a National Diabetes Programme (NDP) as far back as 1995.

Yet several key informants countered that these official pronouncements, and the limited initiatives introduced, did not amount to a national strategy for NCD prevention and control. Comments from a variety of senior figures inside and outside the MoH are included in Table 1.

The relatively early identification of diabetes as a public health concern meant that standard treatment protocols for DM had been published (i.e., The Practical Guideline for the Management of Diabetes in Syria). The National Diabetes Programme had expanded since 1995 to provide free services (diagnosis, counselling, education and medication) for diabetic individuals in all governorates, and one informant was in no doubt that "diabetes has become the disease of the century". Yet despite some established infrastructure for diabetes management, most informants reported that diabetes guidelines were not widely distributed among medical practitioners, particularly outside the main cities. Moreover, whatever the limitations concerning diabetes, there was less still for CVD, with no national clinical guidelines, and no professional body to advocate and promote appropriate treatment.

Table 1 Views of key informants in the Ministry of Health (MoH) in relation to non-communicable disease (NCD) national strategies, Syria, 2010

"There is no national strategy in the MoH regarding CVD and diabetes"
"Up till now cardiac diseases are still not considered as much a threat as the other diseases are"
"Chronic diseases compose at least 60 % of the disease burden all around the world, including Syria, but there is not enough interest, especially since chronic diseases need long-term and different-level interventions. Policies and action plans for these programmes are not available in a final form"

Smoking, on the other hand, had received attention. The 10th Five-Year Plan in 2006 had called for legislation to improve population health through "development of: anti-tobacco laws—such as imposing higher tobacco taxes and banning tobacco advertising and smoking in public places" (State Planning Commission . 2006, page 749). In 2009, a smoking ban (of cigarettes or water pipe) in public places was implemented, including a prohibition on the sale of cigarettes to minors. Yet the smoking legislation offered a glimpse into wider public attitudes, for the *Syria News* website (http://www.syria-news.com) elicited public reaction to the ban, with comments such as: "Commissioners in charge of implementing will not commit to it and will take bribes", or "The question is will there be a ban on VIPs and doctors from smoking in their offices?", and "Impossible to implement in Syria, due to pulling strings, lack of supervision or follow-up".

Actors

In 2010, the longstanding prominence of the government as funder and provider of virtually all healthcare was changing with the emergence of an increasingly important private healthcare sector. This has particular importance for NCD treatment. Within government, the MoH was not the only key ministry. While the MoH has always provided the largest number of medical facilities, at all levels, a wide range of medical services were also provided in at least three major ministries (Defence, Education, Interior, and Social Affairs and Labour) which each ran hospitals or provided health services. Primary healthcare was the responsibility of the MoH.

By 2010, the private sector offered a wide range of ambulatory and secondary healthcare services in nearly 400 small hospitals and more than 12,000 pharmacies and clinics. Small private practices, which had operated for many years were being supplemented—and overshadowed—by newer corporate entrants to the field, some with external partners. Predictably, the private sector was expanding fast in major cities, above all Damascus and Aleppo, where private clinics were proliferating for the growing middle class. In rural areas or informal neighbourhoods around the main cities, there was no similar presence of the private sector. A key development of the period up to 2010 was the introduction of public–private partnerships in the hospital sector. As part of this programme, up to 20 % of major public hospitals were transformed after 2008 into 'autonomous organizations', with some degree of independence from MoH control (Dashash 2009, page 10). A number of specialised autonomous cardiac hospitals also opened in the four major cities in Syria as part of the same process.

Other key actors included the pharmaceutical industry and non-governmental organisations. Syria's pharmaceutical industry has grown substantially over the last quarter of a century, providing an alternative to costly imports and increasingly, an important export earner within the wider MENA region. At a population level, this has had clear benefits; for a middle class increasingly alert to differences in treatment quality, comparisons were often made between Syria's own drugs and imported alternatives. In the words of one official:

"Some drugs made by the local pharmaceutical company are not of high quality, but, on the other hand, they are 35 % cheaper than imported drugs."

NGO key actors pointed to inadequate coordination between the MoH and other ministries such as Ministry of Higher Education, especially in NCD prevention. They also pointed to their role in developing clinical guidelines such as those for DM management.

Context

Under the Syrian constitution, the provision of healthcare is a state responsibility, implemented in large part through the 14 governorates to which funding and organisational responsibility was devolved. However, in recent years, the government has been reducing its role in the funding and provision of health and medical services allowing growth in the private sector. As a result, an emerging private sector was attracting new institutional actors, largely home-based, but with the growing likelihood that external corporate players in this field might enter in the years ahead. That process came to a halt in 2011.

In 2009, for example, government expenditure on health amounted to just 2.9 % of GDP, which was low by international standards (Kherallah et al. 2012). According to one key policy document, we analysed "the primary sources of funds for the healthcare system are general tax revenues, households and external resources by donors" (Dashash 2009, page 22). This overlooks the role of health insurance, but in 2010 that still remained a relatively minor part of the healthcare–finance landscape. While advocated by international organisations, there was no national insurance provision in Syria. Small schemes covered particular occupational groups, and were more in evidence in sections of the new middle class than the general population. Not surprisingly, insurance was least evident among the poor (Ahmad and Sudermann 2012; Mershed et al. 2012).

The effects of the transition we have noted have been to increase substantially the healthcare costs falling on households. In the words of Mershed et al. (2012) "out-of-pocket payments represent the dominant source of health financing, constituting about 61 % of the total expenditure on health in 2008" (Mershed et al. 2012, page 168). Much of this is spent on private treatment. A WHO report noted that "Households' health expenditure goes overwhelmingly to private providers" (WHO-EMRO 2008, page 38). That distinction between public and private needs qualifying, however, for the new breed of public–private autonomous hospitals has started to blur the once-clear cut line between state and private care. The autonomy of these new hospitals was based on their new freedom to introduce charging mechanisms for particular services or forms of treatment. Specialised CVD autonomous hospitals had introduced a complex user-fee system (for inpatients and outpatients), and were able to determine what proportion of patients they would admit at reduced fees. In such a hospital in Aleppo, for example, care to CVD patients was made possible at three levels of payment. A free-of-charge service was limited to 20 % of patients, but required a lengthy wait for treatment; a second band covered 30 % of patients, paying reduced fees; while full costs were required from 50 % of patients. Patients could choose according to their ability to pay.

This shift noted towards an increasing private sector role to fill the gap vacated by public funding was in part fuelled by an agreement with the EU to modernise the health sector, introduced in the 10th Five-Year Plan (2006–2010). This envisaged an increased role for the private sector coupled with an expansion of health insurance (Sen and Al-Faisal 2013). Not all key informants spoke about health system finance, but of those who did, most indicated that within the MoH there was growing conviction among senior personnel that state funding for healthcare was becoming unsustainable on account of the rise in NCDs, given the long-term nature of the costs involved. We were told that the increasing role being given to private providers was itself an indirect acknowledgement of the severity of the burden NCDs were set to bring. For the same reason, the upper echelons of health policy making saw no realistic alternative to some kind of insurance model, in which the state role was reduced to a safety net (Mershed et al. 2012).

One consequence of these changes had been to accentuate the gap between the healthcare available to the growing urban middle class and the rest of the population in the years up to our research. The multitude of new clinics opening in a city like Aleppo was certainly enhancing choice and quality of care for those who could afford it. But for the majority, there were invidious choices to be made, between increasingly run-down state services, deprived of investment, particularly in primary healthcare, and better treatment for which limited household funds had to be allocated. Most key informants acknowledged the undesirability of a polarisation they largely saw as inevitable, and recognised the diminishing popular trust in public services, which was a consequence. One or two were outspokenly critical: “Patients suffer enormously due to the bad economic situation. There are a lot of patients who cannot obtain any treatment … either you pay or die” (Pharmaceutical company director).

Process

Few key informants believed that an adequate organisational framework had been put in place to respond to the increased burden of DM and CVD. Informants admitted systemic weaknesses, particularly stemming from the relative decline of the government’s healthcare budget, and individuals reflected on the shift towards a growing role for private healthcare in a country where that had not been the norm previously. Critical comments moreover highlighted the reasons why official pronouncements and policy intentions too rarely or slowly got implemented. We state two comments. The first comes from someone outside the MoH. The latter was someone from inside (see Table 2).

Nonetheless, there was a limit to how much informants were willing to talk critically of a system which they were part of a system which it must be remembered still looked remarkably well entrenched at the time of our research in 2010. It is not surprising, therefore, that the issues our informants drew attention to in evaluating provision and preparedness for managing CVD and diabetes were matters which they considered potentially remediable and realistic, or which pointed towards general issues within Syrian society at large. We single out three issues, which were widely discussed in interviews: the first related to health information systems; the second concerned staff shortages, skills, training and morale; the third concerned the lack of clinical standards of quality.

Almost all key informants noted the lack of reliable heath data, whether of a clinical or financial kind. The most routine health data on patients were lacking in many public facilities, and information sharing between primary and secondary or tertiary facilities was non-existent. This militated against effective referral patterns, which in any case largely do not exist. At government level, one MoH informant insisted that an “information system registry for mortality” was a top MoH priority. Generally, however, we heard little to suggest there was much will to push this as a government priority; while consequently at local level there was no incentive to improve data collection, let alone to share it. Addressing these basic issues has to precede the creation of any kind of national surveillance system that might then assist effective policies on NCDs and healthcare planning. As one informant in the MoH admitted:

> Public hospitals, as well private hospitals, and all the public medical centres all over Syria, provide [data on] only the number of services that are provided for patients, but not the real number of cases/patients. Hence we cannot verify actual numbers.

A further problem was the lack of qualified staff to create functional health information systems (see Table 3). Study participants commonly spoke of the difficulties in providing suitable healthcare within the limitations of current staffing and skills. The difficulty is most severe in rural or peripheral areas.

Within the MoH also there was some awareness of problems relating to training. One MoH official was concerned about “too many cases of diabetic foot amputation in Syria”. He went on:

> “The problem is that surgeons taking care of the diabetic foot have poor skills at treating infections. Therefore, they go with the easier solution, which is amputation instead of treatment, especially as there is no accountability.”

Limited pay and incentives for healthcare workers in the public sector were seen as compounding problems of skill and training. Public sector salaries in Syria have been low, encouraging a climate in which medical staff combines working in both public and private facilities to make ends

Table 2 Key informant views on the growing role for private healthcare providers, Syria, 2010

“Individuals in charge of writing health policy and strategies are specialised doctors working in the morning in an administrative capacity at different departments of MoH, while they attend to their own business at private clinics [later in the day]. Some of them even hold a third job in hospitals or health professional associations. With all these responsibilities, how they would be able to develop any policies or strategies”
“There are a number of drafts and individual efforts. All these scattered fragments are waiting in drawers, either for approval or completion. No follow-up is ordered, resulting in unfinished work remaining as it is. In addition, all data collected or projects started to freeze when that individual moves to a different position”

Table 3 Key informant views on the lack of qualified staff, Syria, 2010

“Employees in charge of data entry or computer operation were appointed to their position with no previous training. Time and effort is spent training them, and as soon as they are qualified, most of them are transferred to different jobs and locations” (MoH)
One participant from outside the MoH bemoaned:
“There are no endocrinologists, neurologists or cardiologists within most of the diabetic clinics, primary or secondary health centres; only the GP, internal and family doctors. And even for those who work within the NDP, there is a decline in the numbers of doctors who work in the diabetic centres due to work stress”

meet. Doctors working in public sector hospitals or health centres were allowed to have their own clinics or work in private hospitals. This dual working reinforced an already severe shortage of medical personnel in rural areas, and was indicative of the low morale most informants acknowledged in public facilities. Furthermore, the stigma attached to nursing as a career makes it hard to recruit nurses, particularly in rural areas where their presence could make a major difference to the quality and acceptability of care, as many informants noted. In the words of one:

> "Nursing is a dilemma. Husbands do not allow their wives to work in the night shifts. Even increasing the salary would not really help because the problem is in society's cultural outlook."

While both the factors discussed above were seen to hamper adequate healthcare, a third factor also led to uneven standards, namely the perceived lack of clinical standards or guidelines. Variable patient outcomes were seen as an inevitable corollary. On the other hand, some saw this as an instance of doctors jealously preserving their clinical judgement:

> "Specialists have studied in different hospitals around the world, and each doctor follows the methodology taught at that hospital, resulting in a variety of procedures and prescriptions. Only a few doctors prefer to have standardized procedures."

Yet this goes beyond doctors alone, and has repercussions for the way that the Syrian public viewed the increasingly market-led character of Syria's health system on the eve of the present crisis. A doctor's insistence on his clinical judgement too readily obscured an 'anything goes' ethos, in which those delivering services to rural populations or through the state primary health system were neither regulated nor answerable, just as those charged with planning and implementing national health provision have not been answerable or accountable. Into this vacuum, the private sector had begun to move, further complicating the question of standards and accountability.

Discussion

This article is, among the first studies from Syria to collect original data to assess pressures on the country's health system—in this case, the challenges to management and control of CVD and diabetes. We have already referred (i.e., in the "Methods") to the path-breaking nature of a qualitative study such as this in Syria, focused on the workings of a key arena of state intervention in the lives of citizens—public health. Our findings point to many institutional limitations that hindered the capacity of the health system to meet effectively the growing burden of NCDs. Many of these weaknesses have been identified in health systems across the Arab world (Maziak 2009; Jabbour and Rawaf 2012; Phillimore et al. 2013), while these findings also confirm the findings of Sen and Al-Faisal (2012, 2013) on the pressures facing Syria's health system.

We summarise here several of the most important challenges—all linked—that are apparent in our data. First, the neglect and low reputation of primary healthcare was striking. Few key informants gave it much prominence, echoing its low status in the health system at large. This went hand-in-hand with an underestimation of the significance of prevention in any long-term NCD strategy. Syria had built up a large network of government-funded primary health centres, and until the last decade these were presented as the cornerstone of achievements in population health. Yet whatever their past achievements, by the time of our research there was widespread frustration with the quality of care available in public clinics.

One consequence has been over reliance on secondary and tertiary care for CVD and DM patients, which key informants admitted posed problems for the health system. Not only has this shift led to escalating healthcare costs overall, it has also fostered increasingly unequal access. For as the state role in funding and providing services had steadily been declining in the decade leading to our research, the vacuum was being filled by a variety of private providers, alongside new hybrid models of public–private partnership—'autonomous hospitals'. The withdrawal of the state may have widened the options for the more affluent, with the emergence of better services in some of the private facilities, but for the majority of the population this process has meant higher and higher out-of-pocket costs. The tier fee structures introduced in autonomous hospitals and the dominance of private provision in CVD care was steadily turning the public service to a service for the poor (Palmer et al. 2002; Janes et al. 2006). Inequities in service provision and access were apparent especially in rural areas, or in the peripheral areas of cities to which the rural poor have migrated in recent decades (Hinnebusch 2012).

The main challenge to our study has been the novelty of qualitative research in Syria and lack of experience using qualitative research methods. The very word 'research' was potentially threatening, for either it implied government information seeking or it suggested something subversive. We also acknowledge that we might have overlooked or been denied sight of relevant documents, since we relied on stakeholders for access. That said, a benefit of Walt and Gilson's conceptual framework for health policy analysis is that it assists identification of gaps in knowledge about national health systems.

Implications for the current crisis and beyond

Obviously, the situation we document here has changed dramatically by the conflict and vast destruction that has left Aleppo one of the most divided and physically destroyed cities in the world since WWII. Not only is there a question to be asked about relevance of such data, but more importantly what such data can contribute to understanding of some of the wider structural factors that may have contributed to the reported poor response of the state to meet the pressing health needs of many Syrians at a time of crises (Al-Khaled 2013; Coutts and Fouad 2013). Any answer has to proceed with caution here, since the scope of such analysis focused on NCD during time of peace. Notwithstanding, we still believe that our analysis offers some insights that can guide the build-up of a new healthcare system with clear structural mechanisms to ensure accountability and responsiveness to people's need rather than subjugation to political agendas.

In the broader sense, we would argue that diminishing popular trust in the social contract between state and citizens in Syria was deepening due to a mix of factors. Paradoxically, there has been overwhelming state control of people's lives in some spheres coupled with steady withdrawal of the state from the public services which are seen as the state's responsibility. At the healthcare system level, our analysis indicates that constraints to change are the results of a deeply centralised system that lacked any mechanism for accountability to the people it served, or for impartial evaluation of its services. The poor performance of this system was re-enforced by the lack of routine data and surveillance systems that made it impossible to monitor and audit quality of care. Even if such data were collected, our findings suggest that poor reporting, documentation and lack of skill in analysis and dissemination made the data collected of little use. Change in this system happened mostly because of political decision, that rarely reflected performance metrics, and health indicators were unreliable and part of the big political propaganda game (Maziak 2006). Cumulatively, these structural weaknesses (within and outside the healthcare system) contributed to the decline of public trust in such system, a mistrust that was deepened during the crisis and the politicisation of healthcare. Within the constraints of interviewees' hesitancy about speaking openly, it was apparent that public trust or its absence was a thread throughout our data.

The health system cannot be envisaged as autonomous, or examined in isolation, for it reflects the broader structures and systems in which it is embedded (Jabbour 2012). One of the challenges in the post-conflict period is to build up public trust in the state and its institutions, and a healthcare system with a clear mandate to deliver good quality healthcare to all citizens (Jabbour and Rawaf 2012). More challenging will be to have structural checks and balances for a transparent and accountable system, underscored by an active civil society, free press, and impartial and effective judicial system.

Amidst the mounting health needs of the internally and externally displaced populations at the time of writing, this analysis provides a rare glimpse into features of the Syrian healthcare system on the eve of the crisis. Our analysis builds on the perceptions of problems and weaknesses inherent in the system articulated by those working within it. It is our hope that such insights can contribute to the emergence of a post-conflict system that is decentralised, transparent, and most importantly accountable to the people it serves.

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References

Abdul Rahim HF, Sibai A et al (2014) Non-communicable diseases in the Arab world. Lancet 383:356–367

Ahmad B, Sudermann Y (2012) Syria's Contrasting neighbourhoods: gentrification and informal settlements juxtaposed. St. Andrews Papers on Contemporary Syria, Boulder

Al Ali R, Mzayek F et al (2013) Forecasting future prevalence of type 2 diabetes mellitus in Syria. BMC Public Health 13:507

Al-Khaled M (2013) Responding to priority health challenges in the Arab World. Lancet 381(9873):1179

Alwan A (2014) Responding to priority health challenges in the Arab world. Lancet 383:284–285

Barmania S (2012) Undercover medicine: treating Syria's wounded. Lancet 379(9830):1936–1937

Ben Romdhane H, Husseini A et al (2012) Non-communicable diseases—II: focus on cardiovascular diseases. In: Jabbour S, Giacaman R, Khawaja M, Nuwayhid I (eds) Public health in the Arab World. Cambridge University Press, Cambridge, pp 164–177

Bowman S, Unwin N et al (2012) Use of evidence to support healthy public policy: a policy effectiveness—feasibility loop. Bull World Health Organ 90:847–853

Coutts A, Fouad FM (2013) Response to Syria's health crisis—poor and uncoordinated. Lancet 381(9885):2242–2243

Dashash M (2009) Mapping of health financing in Syria: MoH and WHO

Fouad MF (2013) The Health Sector and Civil Society. In: Kawakebi S (ed) Syrian voices from pre-revolution Syria: civil society against all odds. Humanist Institute for Co-operation with Developing Countries

Hinnebusch R (2012) Forward: urban divergence under neoliberalism. In: Ahmad B, Sudermann Y (eds) Syria's contrasting neighbourhoods. Gentrification and informal settlements juxtaposed. University of St Andrews Centre for Syrian Studies, Fife

Hosseinpoor AR, Bergen N et al (2012) Socioeconomic inequalities in risk factors for non-communicable diseases in low-income and middle-income countries: results from the World Health Survey. BMC Public Health 12:912

Jabbour S, Rawaf S (2012) Seeing the trees, not missing the forest. In: Jabbour S, Giacaman R, Khawaja M, Nuwayhid I (eds) Public health in the Arab World. Cambridge University Press, Cambridge, pp 357–361

Janes CR, Chuluundorj O et al (2006) Poor medicine for poor people? Assessing the impact of neoliberal reform on health care equity in a post-socialist context. Global Public Health 1(1):5–30

Kherallah M, Alahfez T et al (2012) Health care in Syria before and during the crisis. Avicenna Med J 2(3):51–53

Maziak W (2006) Health in the Middle East: no one's priority, everyone's problem. Br Med J 333(7573):815–816

Maziak W (2009) The crisis of health in a crisis ridden region. Int J Public Health 54(5):349–355

Maziak W, Rastam S et al (2007) Cardiovascular health among adults in Syria: a model from developing countries. Ann Epidemiol 17(9):713–720

Maziak W, Critchley J et al (2013) Mediterranean studies of cardiovascular disease and hyperglycaemia: analytical modelling of population socio-economic transitions (MedCHAMPS): rationale and methods. Int J Public Health 58:547–553

Mershed M, Busse R et al (2012) Healthcare financing in Syria: satisfaction with the current system and the role of national health insurance-a qualitative study of householders's views. Int J Health Plann Manag 27(2):167–179

Mokdad AH, Jaber S et al (2014) The state of health in the Arab world, 1990–2010: an analysis of the burden of diseases, injuries, and risk factors. Lancet 383:309–320

Palmer N, Mills A et al (2002) A new face for private providers in developing countries: what implications for public health? Bull World Health Organ 80:292–297

Phillimore P, Zaman S et al (2013) Health system challenges of cardiovascular disease and diabetes in four Eastern Mediterranean countries. Global Public Health 8(8):875–889

Ramahi T, Khawaja M et al (2010) Socio-economic disparities in heart disease in the Republic of Lebanon: findings from a population-based study. Heart Asia 2:67–72

Rastam S, Al Ali R et al (2012) Explaining the increase in coronary heart disease mortality in Syria between 1996 and 2006. BMC Public Health 12:754

Sen K, Al Faisal W (2012) Syria: neoliberal reforms in health sector financing: Embedding unequal access? Soc Med 6:171–182

Sen K, Al-Faisal W (2013) Reforms and emerging noncommunicable disease: some challenges facing a conflictridden country—the case of the Syrian Arab Republic. Int J Health Plann Manag 28:290–302

State Planning Commission (SPC) (2006) The tenth five-years plan 2006–2010. Health sector Damascus, Syria

Unwin N, Mugusi F et al (1999) Tackling the emerging pandemic of non-communicable diseases in sub-Saharan Africa: the essential NCD health intervention project. Public Health 113:141–146

Walt G, Gilson L (1994) Reforming the health sector in developing countries: the central role of policy analysis. Health Policy Plann 9:353–370

WHO-EMRO (2008) Health system profile: Syrian Arab Republic. R. H. S. O. EMRO, WHO Publications

World Health Organization, R. O. f. t. E. M. (2011) Plan of action for the prevention and control of noncommunicable diseases in the Eastern Mediterranean Region, WHO