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Integration of non-communicable diseases into primary health care: a snapshot from Eastern Mediterranean region

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November, 2014



INTEGRATION OF NON-COMMUNICABLE DISEASES INTO PRIMARY HEALTH CARE:

A SNAPSHOT FROM EASTERN MEDITERRANEAN REGION

Case Studies from Iran, Jordan, Morocco, Oman, and Pakistan



AGA KHAN UNIVERSITY

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This study contributes towards a Regional Situation Analysis of Integration of Non-Communicable Diseases into Primary Health Care Systems. It provides a scoping regional desk review as well as five in-depth country case studies drawn from high, middle and middle-low income member states of the Eastern Mediterranean Region.

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ACRONYMS

AKU	Aga Khan University
BHUs	Basic Health Units
BRFSS	Behavioural Risk Factor Surveillance System
CA	Cancer
CAD	Coronary Artery Disease
CBI	Community Based Initiatives
CCM	Chronic Care Model
CCS	Country Cooperation Strategy
CDC	Centres for Disease Control
CHCs	Comprehensive Health Centres
COPD	Chronic Obstructive Pulmonary Disease
CSOs	Community Social Organizers
CVD	Cardio Vascular Diseases
DM	Diabetes Mellitus
FHSP	Essential Health Services Package
EMPHNET	The Fastern Mediterranean Public Health Network
EMPO	Fastern Mediterranean Pagional office
ENIKO	Eastern Mediterranean Regional office
CDR	Gross demostic product
CP	General Practitioner
	Unantitia D. Vinua
	Hepaulus D virus
HLMD	High Level Meeting Declaration
HMIC	High and Middle Income Countries
HMIS	Health Information Management and Systems
HPV	Human papillomavirus
HIN	Hypertension
JPMC	Jinnah Post Graduate Medical Center
LMIC	Low and Middle Income Countries
MeSH	Medical Subject Heading
MIS	Management Information System
MNCH	Maternal Newborn and Child
MOH	Ministry of Health
MOHME	Ministry of Health and Medical Education
MPOWER	M=Monitor, P=Protect, O=Offer, W=Warn, E=Enforce, R=Raise Taxes On Tobacco
NCD	Non Communicable Diseases
NCDEG	National Centre for Diabetes, Endocrinology and Genetics
NCDSS	Non Communicable Diseases Surveillance Survey
NGO	Non-Governmental Organization
NHHFSC	National High Health and Food Security Council
OGTT	Oral Glucose Tolerance Test
PHC	Primary Health Care
PPP	Public Private Partnership
STGs	Standard Treatment Guidelines
UNRWA	United Nations Relief and Works Agency
USAID	United States Agency for International Development
WHA	World Health Assembly
WHO	World Health Organization
WHOLIS	World Health Organization Library Information System

EXECUTIVE SUMMARY

Non communicable diseases (NCD) result in premature adult mortality, lifelong disability, curtailed life expectancy and have a major economic impact on health system (Alwan, MacLean et al. 2010). Diabetes, Hypertension, Chronic Obstructive Pulmonary Diseases and Cancers are the largest contributors of mortality and morbidity in majority of the countries in the EMR and together contribute to over 57% of annual deaths in the EMR in 2012 (WHO-EMRO 2014).

WHO has played a leadership role in advocating for NCD control and providing policy targets, frameworks and tools for incorporation of NCDs into national planning. These include a Global Action Plan for Prevention and Control of NCDs; the outlining of 9 process indicators to be met by 2015 and National NCD targets for 2025. Additionally WHO-EMRO has developed a Regional Framework of NCDs Control outlining key interventions in four priority areas: Governance, Prevention and Control of Risk Factors, Surveillance, Monitoring & Evaluation, and Health Care.

In this study we specifically focus on the Health Care aspect of the Regional Framework, looking into the extent of NCD integration into PHC, and underlying synergies and challenges. An exploratory study was conducted to provide insights across five countries from different income brackets in the EMR: Oman (high income), Jordan, Iran, Morocco (middle income) and Pakistan (middle-low income). While previous assessments were conducted through poll surveys of Ministries of Health, this study involved desk review, country visits and meetings with a diverse set of stakeholders and facility visits.

Efforts towards NCD integration into PHC services have started off in all countries however there is wide variation in terms of progress and countries also vary in terms of specific innovations made for NCD Control. There are also certain common challenges faced across countries.

The expansion of NCD services at PHC level has mainly been in terms of curative services. A concerted strategy for promotive care, communication and outreach services is additionally required.

While most countries have made a solid beginning with integration of NCD conditions into primary care services, moving towards consolidation requires expansion to include CVD, COPD, and cost effective cancer screening. Further depth of diagnostic services and drugs also need to be added to presently offered Diabetes services in most countries.

Cost effective best buys for the four NCD tracers need to be shared across countries. Funding for substantial research needs to be provided for assessment of in-country initiatives so as to provide local contextual best buys for the region.

Additional funds required for provision of meaningful depth of services can be mobilized from improving efficiency of existing funding and harnessing of additional revenues from sources other than health budgets, such as syntax and general sales tax as seen in Iran. A number of important health reform measures shave started off in different countries and NCD integration needs to close dialogue and working with health reform stakeholder to effectively capture these opportunities. Some examples are the Urban Family Practice Model in Iran, purchasing insurance services from private sector in Morocco and Regulatory commission set up recently in Pakistan. Benefit plans for insurance and private sector contracting, changes to provider payments, re-looking essential drug pricing and medicine price capping, and getkeeping are certain cost efficiency measures.

Institutionalization of family practitioners, increased posts of nutritionists, pharmacists and health educators, will be required as well as a standardised training plan for existing general practitioners. Team management approach needs to be adopted at PHC approach to offset increasing workload on general practitioners.

At present, with the exception of Oman, there is little gate-keeping between primary and hospital level. Patients can freely access hospitals for NCD frontline care that may be dealt with at PHC facilities, leading to cost inefficiencies.

While MIS systems in all countries have incorporated NCD indicators, there is still need for periodic independent assessments of health facilities and services required to assess functionality and quality of NCD services. There is also need for NCD related Essential Drug Surveys to assess rational use, availability and affordability of a basket of key NCD drugs.

Besides strengthening of public sector services as discussed above, there remain two other weak areas in moving ahead: private sector harnessing and community based action.

NCD care takes place both within public and private sector particularly in Middle and Low income countries. It is important for NCD Unit and Reform units to work closely together to mainstream NCD services and preventive care within frontline clinics of the private health sector through regulation, contracting out and insurance packaging options.

Community Action requires a more forward thinking plan moving from awareness sessions to a concerted behavioural change strategy for early screening and lifestyle changes, a self-management support and rehabilitative services at the community level. It also requires strong coordination across different outreach platforms of ministry of health and other relevant ministries such as Youth, Social Welfare, Social Protection, Local Government etc.

Finally, countries that have made significant progress have had political championing to mobilize the extra funding required for effective integration, and reaching beyond Health need for multi-sectoral action. Generation of research statistics may be used to mobilize legislature, executives, and senior bureaucracy. Coalitions of academics, civil society representatives and government experts need to be built for advocating NCD services in primary care networks and reduce inefficient spending on tertiary specialist services.

Cross-country sharing of initiatives, periodic independent and standardised quantitative assessments of NCD services, provision of technical and leadership support to less resourced countries, and promoting close dialogue between national policy sub-sets involved with health reform and those involved with NCDs, are suggested areas for future support by the WHO and other development partner.

1

SECTION 1: BACKGROUND & METHODS

1.1 THE ENCROACHING MARCH OF NCDs IN THE EMR

Non communicable diseases (NCD) have multifaceted effects on the health of individuals and have a major economic impact on health system (Alwan, MacLean et al. 2010). Non communicable diseases mainly including Hypertension, Diabetes Mellitus, Cancers and Chronic Respiratory Diseases pose a global threat to health and economy (Bloom, Cafiero et al. 2012).

Global Burden of NCDs

More than 36 million people die annually due to non-communicable diseases, which constitute 63 per cent of the total global deaths (WHO 2010). Principally among NCDs cardiovascular (48%), cancers (21%), chronic respiratory (12%) and diabetes (4%) are accountable for global deaths (WHO 2010). NCDs are responsible for 80 % of deaths in low and middle income countries and about one third of these deaths occur at the age of 30-70 years(WHO 2008). Majority of these premature deaths occur in Low and Middle income countries estimating in cumulative losses of USD 7 trillion over the next 15 years (WHO 2010).

Burden of NCDs in EMR

Among six WHO regions, Eastern Mediterranean Region (EMR) has the highest cardiovascular disease mortality rate (EMRO 2013), (WHO 2008). Cardio Vascular Diseases (CVD), cancer, chronic respiratory diseases and diabetes are the largest contributors of mortality and morbidity in the majority of the countries in the EMR (EMRO 2013). NCDs attribute to over 57% of annual deaths in the EMR in 2012 (WHO-EMRO 2014). The four main groups of disease, i.e. cardiovascular diseases, cancer, chronic respiratory diseases and diabetes, were responsible for 77% of deaths due to Non Communicable Diseases (NCDs) and 44% of all deaths in the region (WHO-EMRO 2014). Data suggests that 25% of the adult population in the EMR are hypertensive (WHO 2011). Coronary Artery Disease (CAD) in Pakistan is highly prevalent, 26% in male compare to 30% in women (Jafar, Jafary et al. 2005). Additionally Bahrain, Kuwait, Egypt, Saudi Arabia, Oman and United Arab Emirates are included in the ten highest diabetes prevalent countries in the world (Boutayeb, Boutayeb et al. 2013).

Future projection of NCDs Burden

The global data shows significant increase in NCDs global burden in forth coming decade. Globally the projected increase in deaths due to NCD is 15% (2010-2020), however in EMR, Africa and South East Asia the projected rate of NCDs deaths will be increased by 20 % (WHO 2010). WHO estimates that the highest number of deaths due to NCDs will occur in Africa followed by EMR in next 10 years (WHO 2010). Additionally the upraising burden of NCDs in low and middle income countries (LMIC) is not only augmented by population ageing but the adverse effects of globalization, sedentary life style, and unplanned urbanization in the region is fire fuelling the issue (EMRO 2013).

Risk Factors for NCDs

The prevalence of smoking, obesity and overweight along with other risk factors for NCDs is alarming in nine countries of the region including Kuwait, Bahrain, Egypt, Lebanon, Jordan, Tunisia, Libya, Syria and Occupied Palestine territory (WHO 2010; Rahim, Sibai et al. 2014). The prevalence of obesity among adults population in the EM region ranges from 25% to 81.9% (Musaiger 2011). The prevalence of smoking in the region has reached up to 50% in males, while up to 10% in female, the situation has become even more worsen for youth of the both sexes (Bank 2011). Among the WHO regions EMR shares the highest prevalence of low physical activity with America, where 50% of women and 36% of men were insufficiently active (WHO 2014). Although information about alcohol consumption in the region is inadequate however the adult per capita consumption of alcohol is at the lowest among all regions of WHO (WHO 2011).

Socio-Economic Impact of NCDs

NCDs impose substantial economic burden on global economy (Gheorghe, Griffiths et al. 2013). The four tracers of NCDs including Hypertension, Diabetes, Cancers and Chronic Respiratory Diseases will cause estimated 47 trillion USD losses to global economy in next two decades (Bloom, Cafiero et al. 2012). NCDs are disproportionately affecting the lower social positions among low and middle income countries. NCDs and poverty creates a vicious cycle, where poverty exposes the individuals to behavioural risk factors (i.e. use of Tobacco) while in returns the resulting NCDs drive them to catastrophic spending on health and impoverishment (Engelgau, Rosenhouse et al. 2011). NCDs require costly and prolonged treatment and care which leads to social and economic consequences that not merely affect the individual but the whole family and society. Global data shows that sickness and injuries are the most frequent triggers for economic downfall (Narayan-Parker and Patel 2000). NCDs contribute to 20 million productive life years loss annually (Epstein, Farthing et al. 2008).

1.2 INTEGRATION OF NCDS INTO PRIMARY HEALTH CARE: POLICY LANDMARKS

Global Landmarks

The World Health Assembly (WHA) 53rd session in May 2000, endorsed the Global Strategy for Prevention and Control of Non-Communicable Diseases which encompassed three main components: surveillance, prevention and management of NCDs. This was followed by the Framework Convention on Tobacco Control (FCTC) in 2003, the Global Strategy on Diet, Physical Activity and Health 2004 and the Global Strategy to Reduce Harmful Use of Alcohol 2009(WHO 2010). In order to translate the strategy into concrete action plan, at the 61st WHA, Member States endorsed the Global Action Plan

for Prevention and Control of NCDs (2008-2013). WHO Global Monitoring Framework on NCDs tracks implementation of the NCD Global Action Plan through reporting on attainment of the 9 global indicators for 2015 that have been set against a baseline of 2010. Members States are signatory to i) set National NCD targets for 2025 based on national circumstances ii) Develop multi-sectoral national NCD plans to reduce exposure to risk factors iii) Measures results taking into account the Global Action Plan (WHO-EMRO 2011).In 2011 UN High Level Meeting Declaration (HLM-Declaration) on Prevention and Control of Non Communicable Diseases was held for a coordinated global response to NCDs (WHO 2011).

Regional Landmarks

Closely following on global landmarks, the Regional Framework of NCDs Control at EMRO was developed to which Member States are signatory (WHO 2011). The Regional Framework outlines the key interventions in four priority areas; governance, prevention and control of risk factors, surveillance and monitoring and evaluation, and health care organization specifically NCD integration into PHC.





Health System Challenges In EMR Countries Combating NCDs

The health systems in the EMR states are not uniform as there is a huge variation in health service delivery in the region. In High and Middle Income Countries (HMIC) public sector is the dominant face of health system except for Lebanon where private sector is the leading source (Kronfol 2012). However in Low Middle and Low income EMR states service provision is led by private health sector and there is significant out of pocket spending, governments are yet to exercise an effective stewardship role(World Health 2010). Provision of care and resource generation is shared between two sectors, however governance and stewardship of the health system remains with the public sector in majority of the EMR countries. There is a wide variation in hospitals availability and existence of primary health care facilities (WHO 2011). The high income countries in the region have adequate number of hospitals, diagnostic centres and primary health care facilities whereby the low income countries lack the basic health infrastructure (or infrastructure present but functionality of the services is weak) and face dearth of skilled human resources and funding for service provision (Kronfol 2012).

Besides inadequate spending on health, fragmentations of health services further worsen by lack of inter-sectorial collaboration which is the key for prevention of chronic diseases. Chronic nature of the NCDs demand sustained continuum of care, evidence based interventions, appropriate technologies and accessible health facilities. These efforts need support through effective public policies to revert the threat of NCDs. However a majority of countries in the region have fragile health systems that are not only underfunded but also need structural and policy reforms to tackle the NCDs (Samb, Desai et al. 2010).

In this report we focus on Health Care delivery aspects of the Regional Framework examining the integration of NCDs into the PHC system. WHO has proposed the operational definition for NCD integration into primary health care as "*Provision of comprehensive services for the prevention and control of all non-communicable diseases by or through primary health care, together with other primary health care services*".

1.3 THE STUDY PURPOSE & METHODOLOGY

This Study

In this study we specifically focused on the Health Care aspect of the Regional Framework, looking into the extent of NCD integration into PHC and underlying challenges. An exploratory study was conducted to provide country evidence on progress on NCDs integration into Primary Health Care (PHC) across countries from different income brackets in the EMR. It also attempts to capture synergies and constraints in integrating NCDs within PHC networks in these countries.

While previous assessments including the WHO Country Capacity Survey 2013 on Non-Communicable Diseases (NCDs) (CCS 2013) were conducted through poll surveys of Ministries of Health, this study involved provided greater depth by undertaking a desk review, country visits, meetings with a diverse set of stakeholders and facility visits. The limitation of this study is that it cannot provide quantitative assessment of NCD services which would require a crosscountry survey with adequately large sample size. However that was not the objective of this study, as it provides information on a wider policy landscape for NCD integration into PHC.

Objectives of the Study

- 1. To conduct a regional situational analysis assessing the existing practices among selected EMR member states with regards to the integration of NCD in primary health care, addressing the progress, challenges and best practices.
- 2. To develop pragmatic, contextualized and actionable policy recommendations in health system strengthening to allow better management and integration of NCDs at PHC level across the Eastern Mediterranean Region.

Methodology

Five Member States were selected with WHO-EMRO support, drawing upon high income (Oman), middle income (Iran, Jordan, Morocco) and middle-low income states (Pakistan).

Diabetes, Hypertension, Asthma, and Cervical and Breast cancer were taken as 'tracer' conditions to examine NCD integration into frontline services. Tobacco Control as a risk factor for most disease was also included in terms of provision of facility level services. A triangulated approach was taken combining desk review, key informant interviews and health facility visits to provide required information.

We looked at the breadth of NCD services being covered i.e. whether all four tracer conditions of Hypertension, Diabetes, Breast & Cervical Cancer and COPD & Asthma are being covered. We also explored depth of services offered for each of these tracer conditions in terms of diagnostics, management and drugs being offered and the ensuing challenges

A triangulated approach was taken combining literature review, key informant interviews and health facility visits to provide required information.



Conceptual Framework for the Study

With WHO-EMRO consultation and extensive literature search regarding NCD prevention and management, a conceptual framework was developed for the study. The Conceptual Framework provided the over-arching basis for the collection and analysis of information for all three levels. Domains listed in the Conceptual Framework provided guidance for tool development. See Figure 2

Our proposed Conceptual Framework adopts an approach based on

- 1) WHO health system building blocks of Governance Financing, Service Delivery, Human Resources, Drugs and MIS
- Service delivery organization for NCD management based on Chronic Care Model (CCM) which aims to provide people centered services through high quality care at the service delivery level and active extension of services into community to support selfcare (MacColl 2012).

3)

Figure2. Study Conceptual Framework



Policy Landscape

NCD Agenda, Plans and Target setting

Governance

Structures & focal programs

Integration with existing health system

• Existing health care system

• Public private partnership

Financing

- Internal budgetary support
- verticalizationVS integration

Information system

- National health survey
- Registry & surveillance system

Multi-sectoral support for risk control

- Multi-sectoral platforms
- Legislation
- Advocacy program

Heath Care Organization

- Programing for NCDs
 - Depth vs breadth of activities
 - Service delivery outlets
 - Log frame and planning
- HR capacity
 - Decision support guidelines & protocols
 - Expanding scope of health services
 - Team management approach
 - Availability of Essential drugs
 - Presence of NCD drugs in the EDL
 - Availability of drugs at PHC
 - Procurement
- Diagnostic services
 - Range of services provided
 - Screening points within health
- system Information system
 - Indicators in the existing MIS
 - Use of indicators
 - Data pooling from private sector

NCD integration into PHC

Strengthening Community

Actions

• Early detection for better control

0

- Self-management and rehabilitative support to the patient
- Multi-sectoral prevention programs

Methods

i. Literature Review: Regional literature review was carried out as well as specific to individual countries. The thrust of the review was to retrieve published or unpublished information on NCD integration into PHC for the EMR member states. It included online review through different search engines as well as active solicitation of documents during course of country field visits. A total of 74 documents were reviewed. See Table 2.

ii. Country case studies

For in-depth situation analysis of the NCDs integration into PHC, five country visits were carried out. With WHO-EMRO consultation respective five countries were selected from High, Middle and Low income countries including Iran, Jordan, Morocco, Oman and Pakistan. Data were collected through three methods;

a. <u>Key informant Interviews:</u>

Interview guides were developed to interview officials from Ministry of Health – including both lead person for NCD Control and for Ambulatory/ PHC services, private experts, health service delivery providers and WHO country focal person for NCD in respective countries. The interview guides varied slightly across different stakeholders. A total of 40 interviews conducted including 5 in Oman, 11 in Jordan, 4 in Iran, 7 in Morocco and 13 in Pakistan. Key informant interviews particularly looked into policy, financing, governance, public private partnerships and community engagement sections of the Conceptual Framework. It also delved more broadly into health care delivery from programmatic, monitoring perspectives and constraints/ opportunities faced. See Table 1 and See Annex 2.

b. Solicitation of data during country visits:

During country field visits, documents related to respective countries' NCDs plan of action, strategies for NCD and or tracer conditions (diabetes, hypertension, Ca Breast and COPD and asthma) prevention and documents related to NCD risk factors control were retrieved.

c. <u>Health Facility Visits:</u>

A separate close ended, structured tool was developed for facility assessment. This had detailed sections for each of the health care delivery domains listed in the conceptual framework. A total of 19 facilities were visited, with 4 in Oman, 4 in Iran, 3 in Morocco, 2 in Jordan and 6 in Pakistan. See Table 1

Country's Name	Numbers of KIs	# of Facility Assessment
Oman	5	4
Jordan	11	2
Iran	4	4
Morocco	7	3
Pakistan	13	6
Total	40	19

Table 1: Number of key informants interviews and Facility assessments in respective countries

<u>Ethical Consideration</u>: Ethical approval was taken from Aga Khan University Ethical Review Committee (AKU-ERC). Informed consent was taken prior to visits and interviews and confidentiality of respondent's identities was ensured in analysis and write-up.

2



SECTION 2: LITERATURE REVIEW

2.1 LITERATURE REVIEW: PROCESS AND METHODS

The review process employed two strategies to gather the literature regarding status and efforts pertaining to integration of NCDs into PHC in the EMR region.

- 1. Online literature search using systematic search strategy and methods.
- 2. Solicitation of documents from stakeholders within the 5 EMR member states namely Iran, Jordan, Oman, Morocco and Pakistan included in the study as case studies. The stakeholders included amongst others the ministry of health officials, healthcare providers and practitioners in the public and private sector as well as the ministry of health officials and the key policymakers. In total, 13 documents were retrieved through country visits and interviews with the stakeholders.

Online Literature Search: Strategy and Methods

Types of Documents Considered

We reviewed all the available published and grey literature on integration of Noncommunicable diseases that were focal to the study -- hypertension, diabetes, asthma, breast/cervical cancer -- into primary health care that met the study parameters and inclusion criteria outlined below. Policy documents (Legislations, Strategic Frameworks, and Plans of Action), research studies, meeting minutes, donor country strategies and reviews were also included in the pool of the literature reviewed.

Due to paucity of literature, the research studies were not narrowed by study design. Also, the literature search and retrieval was not limited by any specific time period thus allowing for wider coverage of literature and published evidence in the wake of literature that was already quite scarce. Likewise, as assessing the evidence on the effectiveness of particular NCD interventions was beyond the scope of this review, therefore, such studies too were not considered for the review purposes.

Inclusion Criteria

Peer-reviewed articles and the grey literature were included in the review if they:

1. Presented survey results or qualitative findings on the existing programs addressing NCDs at PHC level.

- 2. Described patients' and communities' experiences receiving regarding NCDs related care and provision of services at PHC
- 3. Reported on new interventions to strengthen primary health systems through intervention trials.

Exclusion Criteria

The retrieved literature was excluded from the final review, if the articles and grey literature:

- 1. Dealt solely with the burden of NCDs and were largely population-based epidemiological and prevalence studies.
- 2. Discussed the effectiveness of interventions for NCDs at the PHC level
- 3. Dealt with the NCD conditions other than the tracer conditions focus of the study i.e. hypertension, diabetes, asthma and COPD, breast and cervical cancer
- 4. Reported findings from the countries not included in the EMR region

Online Databases

The systematic search was made through different search engines and databases including indexed databases for peer-reviewed articles and grey literature databases. The following eight databases were used for review:

- PubMed
- POPLINE
- LILAC
- WHO–EMRO Database
- WHOLIS
- ELDIS
- GREY Literature
- SAGE

The representative websites for the Ministry of Health and other relevant government's websites of the EMR member states were also accessed to search for and retrieve the historical and current data on NCD programs and strategies.

Search Strategy

We used the following strategy to extract the relevant articles of interest from the databases mentioned above.

- 1. Retrieval of articles and other types of documents using keywords and MeSH Terms
- 2. Manual screening of bibliography and references specifically from the systematic reviews as well as from other review articles aligning with the topic of interest i-e., NCDs care at PHC
- 3. We also manually searched for the publications by the key figures in the EMR region who have been known to publish on NCDs
- 4. The articles and the relevant documents were selected by reviewing the titles of the documents and papers and those addressing NCDs policies, programs and practices; NCDs relevant strategies as well as NCDs related health system reforms and innovations were included in the final review.

Search Terms

The keywords and MeSH (Medical Subject Headings) terms used included:

Non-Communicable Diseases OR Diabetes OR Hypertension OR Asthma OR Chronic Obstructive Pulmonary Diseases (COPD) OR Breast Cancer OR Cervical Cancer

AND

Health care organization OR health service delivery OR health systems OR selfmanagement OR support OR patient care OR primary health care OR policy OR community actions OR Financing OR quality

AND

Eastern Mediterranean Region OR Northern Africa OR Arab Countries OR United Arab Emirates, OR Saudi Arab OR Oman OR Qatar OR Kuwait OR Bahrain OR Iran OR Iraq OR Libya OR Syria OR Jordan OR Egypt OR Lebanon OR Tunisia OR Palestine OR Sudan OR Somalia OR Djibouti OR Yemen OR Pakistan OR Afghanistan

Search Results

The following table presents the number of articles, papers and/or reports retrieved from each of the aforementioned databases as well as the number of documents selected in the final pool of literature for the purpose of desk review

Literature Databases	Number of Articles Identified	Number of Articles Selected for Review
PubMed	185	53
POPLINE	109	3
WHOLIS	45	27
ELDIS	57	21
WHO-EMRO Database	368	177
LILAC	55	5
Grey Literature	9	15
SAGE	189	7
Total number of articles identified	1017	308

Table 1: Hits and Selection	n from the	Primary	Search
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The initial search yielded 1017 titles. Two members from the research team selected 308 articles for initial review after screening the titles of the documents. The pool was further narrowed down to 101 documents with the full-text availability. Finally, 74 documents including peer-reviewed articles as well as grey literature documents were selected after reviewing the full text for the purpose of reporting findings. The following schematic diagram illustrates the process of literature search and the relevant strategy.

Fig 3: Literature Search Strategy



2.2 COMPOSITION OF FINAL POOL OF DOCUMENTS

By Document Types

Of the 74 documents included in the final review and reporting; 33 were research articles out of which 7 articles were retrieved through manual bibliography search and by searching for the publication of regional experts on NCDs; 11 WHO annual meeting and technical reports; 11 Country Cooperation Strategies (CCS); 17 program documents (Action Plans for NCDs; NCDs Prevention and Control Guidelines; Essential Package for Health Services) of which 13 were retrieved during the country visits; 1 was a tobacco survey. One report analyzing health system in Iraq with significant focus on NCDs was also included in the review.

On line search					Documents retrieved during country visits		
Peer- Reviewed Articles Retrieved through Primary Search	Peer- Reviewed Articles Retrieved through Bibliography	Country cooperation strategies	Guidelines for prevention and control of NCD/Health Information in Iraq	Action plan	Tobacco Survey	WHO Annual meeting report, technical reports	Action plans, Diet and Physical Activity, Essential package of health services
26	7	11	2	3	1	11	13

Table 2: Number a	and Types o	of Documents	included in	the Study
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Peer-Reviewed Articles: Breakup by Study Designs

Of the 33 peer- reviewed articles), most were cross sectional (n=11) followed by non-systematic reviews (n=8) surveys (n=4), retrospective cohort (3), (RCT n=3); program evaluation studies (3) and a qualitative study (n=1).





Peer-Reviewed Articles: Breakup by EMR Countries

Of the 33 peer-reviewed articles, four articles focused on multiple states of EMR. The first of these provided an overview of strategies for tobacco control in EMR members'

states (Heydari, Talischi et al. 2012). The second article focused on the palliative care for chronic patients at PHC level at EMR (Murray and Osman 2012) while the third focus was about scaling up of the primary health care capacity for NCD intervention in Sudan and Syria (Mendis, Al Bashir et al. 2012). The fourth and final article discussed the availability and affordability of medicines for chronic care in 36 countries of the world including EMR countries (Cameron et al.



2009). Two articles included in the study solely focused on health system of Arab world (Kronfol 2012). Of the single country studies, the most common setting was Pakistan (n=9) followed by Oman (n=4) and Iran (n=3). While 2 articles for each country Kuwait, KSA, and Sudan. One article from each country; Bahrain, UAE, Egypt, Tunisia and Syria were included in the study.

Peer-Reviewed Articles: Breakup by Tracer NCDs Conditions Studied

Figure 6 provides the summary of distribution of peer-reviewed articles in relation to the tracer NCD conditions that were focus of the review and this study. Most articles included in the studies addressed issue related to diabetes (n=9), followed by cancer and nonspecific NCD (n=6). Diabetes and Hypertension (n= 3), Hypertension (n=3) and Asthma (n= 2), tobacco and other risk factor control (n=2) and general health system at PHC level (n= 2)



Fig 6: Number of Articles relevant to Tracer NCD Conditions

Data Extraction

Data from each of the 74 documents included in the review were analyzed and abstracted into a thematic grid which consisted of the following categories (Please refer to Annexure 3):

- 1. Name of Author
- 2. Year of publication
- 3. Type of Document
- 4. Study Design (if applicable)
- 5. Objective of the Study (if applicable)
- 6. Name of the Country where the study conducted
- 7. Focal NCD Condition
- 8. Focal Health System's Component
- 9. Key Findings
- 10. Recommendations/Lessons learnt

The headings assigned to each of the articles/documents and the key findings extracted were reviewed by two members of the research team to counter mis-assignment and for the sake of conformation of findings on part of the research team.

2.3 LITERATURE REVIEW: KEY FINDINGS

Coverage of Health Systems Topics and Components

As presented in Table 3 below, following health systems relevant topics were addressed in peer-reviewed journal articles as well as the documents collected at the time of country visits.

Table 3: Health system component	addressed in	included	peer review	articles
	۰.			

Health system component	#of Articles			
Quality care/service delivery				
Screening and prevention				
Program initiatives				
Clinical management				
Infrastructure and HR				
Health financing				
Drugs availability and prescription				
Health Care Organization				
Documents retrieved through country visits				
Service delivery				
Diet and physical activity				
NCD prevention				
Breast cancer				
Elderly health				
Tobacco control				

Collectively, twelve (12) studies focused on service delivery and provision. Of these, 7 studies had PHC as their prime focus. On the contrary, topics such as human resources, clinical care and community action were thinly addressed (3 out of 12 studies). There was very little documentation on health information systems and self-management.

As can be seen from the above table, literature was not widely available for all the constituent domains of the conceptual framework of the study. Most of the literature dealt with epidemiological studies which was not relevant to the purpose of this study. We have organized and presented our findings as per the main themes of the Conceptual Framework of this study, but there is negligible literature for several areas of the framework.

I. Policy

1. National Agenda, Policies and Targets

There is a dearth of available literature on policy analysis relating to NCDs in the EMR. A recent country capacity online survey conducted by WHO-EMRO in 2013 reveals some categorical information. Majority of the countries have included NCD in their national health plan and national development agenda. Close to fifty percent of the regional countries have operational NCD action plans(Iran, Bahrain, Oman, Qatar, Saudi, Jordan, Iraq and Sudan), while a quarter of all countries still lag behind in terms of development of NCD integrated plans (Country Capacity Survey 2013).National policies, strategies and/or action plans exist for cancer in 13 countries; for diabetes in 11 countries; for other NCDs in 11 countries; for cardiovascular diseases in 8 countries and for chronic respiratory diseases in 6 countries (Country Capacity Survey 2013).

However evidence gap still remains in terms of i) drivers behind success and failure of NCD policies; and ii) effectiveness of policies in improving NCD services and outcomes.

2. Financing

In majority of the countries of the region, the NCD care budgets are embedded within the existing health budget; some countries have additional funds for NCD care through taxation income from tobacco and soft drinks (CCS- Iran 2014, Egypt 2014, and Sudan 2013). Although information on overall spending on health is available however disaggregated data on NCD expenditure by public sector and by households is not available. Furthermore equity analysis of household expenditure by income groups and catastrophic expenditure on NCDs are other areas of evidence gap.

There is some data on essential medicine pricing and affordability for NCDs from WHO supported Essential Medicine Survey in the mid-2000s. A study involving 36 countries of the WHO regions, EMR states had the lowest Median Price Ratio of 1 or lower than international reference price index (Sudan had lowest of all countries =0.09). However, the MPR for originator brands was substantially high with a MPR of 7.0 as compared to international average of 3.0 (Cameron 2009). Medicines accounted for 20% - 60%, of health spending in LMICs as compared to 18% spending in developed countries (Cameron, Ewen et al. 2009).

3. Service Coverage: Regional and National Diversities

The region is richly varied in terms of providing health service delivery, which also poses challenges in devising regional strategies for strengthening service delivery mechanisms (Kronfol 2012). While some of the EMR member states such as Oman, Bahrain appear to have an established functioning PHC system with optimal coverage and utilization

(Asadi-Lari, Sayyari et al. 2004), the others report underutilization of the PHC systems due to multiple reasons including limited standardization in terms of infrastructure, staffing and service delivery(WHO-EMRO 2011), (CCS- Somalia 2012, Djibouti 2009, Pakistan 2012).

There is again little literature specifically to NCD services. Two studies report on differentials in utilization and functionality of NCD services. Differences in diabetes care between well-established PHC system in rural Iran as compared to urban areas has been reported(Farzadfar, Murray et al. 2012). Similarly, one of the papers documenting the utilization of PHC services by different population groups in Gaza, Palestine, report high levels of utilization of services by the elderly, the affluent and current smokers (N.M. Kronfol 2012).

4. Surveillance

Burden of disease surveys have been carried out in most countries, although some require updating. There has been less attention to setting up of surveillance systems. A beginning is usually made towards surveillance systems through setting up of cancer registries. Many of the EMR countries have yet not taken the steps to document cancer cases by establishing a population based surveillance mechanisms and cancer registries, despite breast cancer being the most common of the cancers in EMR region. ((WHO-EMRO 2009-2013). In four countries, Egypt, Lebanon, Iraq and Jordan, a review of the breast cancer information database and its feasibility has been initiated(WHO-EMRO 2012). Issues of capacity building in regard to maintenance and functioning of registries have been raised. An Iranian study reported that cancer registry staff had insufficient knowledge about the cancer registry, emphasizing the need for enhanced and ongoing training of cancer registry personnel (Kazem Zendehdel 2013). Similarly, a paper from Lebanon raised the need for a standardized, proactive and sustainable approach for NCD risk factor detection across the Primary health centers in Lebanon (Yassoub, Hashimi et al. 2013).Evidence from Pakistan points to greater effort required for maintenance of registries as existing registries only tap into a handful of tertiary public and private hospital based registries but have little feeding in from MIS systems of secondary and primary care facilities(Bhurgri, Bhurgri et al. 2006).

5. Multisectoral Risk Factor Control

National policies, strategies or action plans exist have been developed in 17 countries for including tobacco use; in 8 countries for unhealthy diet (salt, fat, sugar; low fruit/ vegetable), in 7 countries for overweight / obesity and physical inactivity; and in 2 countries for harmful use of alcohol (CSS 2013).

According to the same online survey, multi-sectoral coordination mechanisms exist in 13 countries; are operational in eight countries, and are under development in five countries. Those mechanisms and relevant strategies also address the NCDs Risk Factor Control issue.

Apart from this source the coverage of literature on implementation of risk factor control is scarce. A study on assessing six major policy actions related to MPOWER measures for tobacco control showed that Iran, Jordan and Egypt were the only three countries in the region scoring higher than 50 out of 100 while the mean total score in EMR was 29 compare to Europe 47.2 (Heydari, Talischi et al. 2012). In a study conducted in Saudi

Arabia on examination of barriers for physical activity, there was reporting of insufficient resources, political will and social support especially for women (AlQuaiz and Tayel 2009).

II. Health Service Delivery

6. Quality of Services

Clinical guidelines of care for chronic conditions including Diabetes, Hypertension, Asthma and Cancer, have been formulated in Oman, Jordan, Kuwait, Iran, Saudi Arab and Morocco (WHO-EMRO 2008).With the exception of Oman there are very studies evaluating the quality of services.

In Oman, 61% of the patients attending a primary health care center for hypertension management failed to control their blood pressure despite hypertension control having been integrated at the PHC level (Al-Saadi, Al-Shukaili et al. 2011). Similarly, gaps were found with diabetes management calling for focal areas of improvement in the diabetes control program. Insufficient provision of educational material as well as delay in performing diagnostic tests at PHC were linked with an increase in the number of patients with uncontrolled diabetes in the country (Al-Lawati, Barakat et al. 2012). Another study from Oman identified delays in the follow up process, lack of continuity of care, unavailability of educational material about diabetes in waiting areas, delays in laboratory report provision and long waiting time for ophthalmologist as underlying factors affecting quality of NCD care at the PHC level (Al-Azri, Al-Azri et al. 2011).

7. Human Resources

Existing literature identifies gaps regarding human resource capacity especially regarding drug prescriptions, appropriate physical and laboratory screening and patient communication. Some of the evidence is part of a wider assessment of PHC clinical services with human resource deficiencies as one of the contributing factors, while other studies are more specifically directed at capacity gaps of health facility staff.

Capacity gaps were reported as a common issues across both high and low income countries. A study from Oman identified inadequate physician to patient communication and sub optimal involvement of dieticians in patient management as factors undermining patient follow up care for diabetes (Al-Azri, Al-Azri et al. 2011). Another study from Oman also emphasized poor communication to patients pointing to lack of Arabic speaking nurses (Al-Lawati, Barakat et al. 2012). One of the study reported that in Oman, 43% patients attending PHC didn't receive any formal education about glucose control, while 11% reported no adherence to dietary advice, and 63% mentioned that they occasionally follow their diet (Al-Sinani, Min et al. 2010). A study from Bahrain reported capacity gaps in clinical management with inadequate treatment and deficient care practices for diabetes and hypertension at PHC centres with more than 37% of the patients were reported to be on mono-therapy regime for uncontrolled hypertension (Al Khaja, P Sequeira et al. 2005).

Similarly, inappropriate management skills are reported from Pakistan with only 38% of the general practitioners found to be using the correct level of fasting glucose measurement as the cut off for diagnosis of diabetes (Shahpurwala, Sani et al. 2006).

Health practitioners also did not provide key self-care messages to patients such as on exercise, weight reduction, foot care and timely referral for specialist opinion (Shahpurwala, Sani et al. 2006). A study on hypertension found that very few general practitioners were using the appropriate first line therapy for hypertension control (Jaffar et al).

A couple of studies show improvement through programmatic interventions, but these are very few and do not follow standardised study designs. An evaluation study from Kuwait about diabetes care program documented significant improvements in the use of smoking assessment, fundus and foot examination as part of care for NCDs (Yassoub, Hashimi et al. 2013). Another study conducted in Pakistan showed that simple education package for general practitioner resulted in improved adherence to guidelines related to prescribing antihypertensive drugs (Nudrat Noor, Qureshi et al 2007).

8. Diagnostic Services

There is some literature on availability of equipment and diagnostics in the EMR states, and shows considerable variations in the offering of diagnostic tests at the PHC level. However the major concerned is lack of standardization in terms of tools and sample sizes across different countries.

The most comprehensive assessment is from Sudan and Syria where performance of diagnostics were seen to not only vary across country but also within the country for different NCDs. Conduction of tests at PHC facilities for urinary ketones was 58% for Sudan and 75% for Syria, conduction of blood sugar testing was 33% and 79% respectively, and cholesterol14% and 93% respectively (Mendis, Al Bashir et al. 2012). A study from Pakistan reported lack of availability of diagnostic equipment for chronic respiratory care at PHC facilities whereby spirometer and peak flow meters were only available in in few tertiary care hospitals of larger cities (Yusuf 2009).

Evidence from better-resourced countries is more positive, although there are areas for improvement. A study from Oman showed that more than 70% of the patients had their blood pressure, fasting blood glucose and HbA1c level measured, however much fewer of these patients achieved internationally accepted goals for all 6 diabetes related factors namely, HbA1C, Blood pressure, total cholesterol, HDL and LDL cholesterol, and triglycerides (Al-Mandhari, Al-Zakwani et al. 2009). Delay in performing diagnostic tests at PHC facilities in Oman has been documented to be one of the factors contributing to increase in the number of patients with uncontrolled diabetes (Al-Lawati, Barakat et al. 2012). An evaluation study from Kuwait about diabetes care program found significant increase in the six of the diabetes relevant diagnostic tests including urinary micro albumin, serum creatinine, HbA1c, total cholesterol, triglycerides, HDL-C, and LDL-C levels was also reported(Al-Adsani, Al-Faraj et al. 2008). Similarly, in Tunisia, increased use of fasting blood glucose and cholesterol levels has been reported. (Alberti, Boudriga et al. 2007). Interestingly, a study conducted in Lebanon while documenting availability of CVD, Asthma, COPD and cancer related basic diagnostic equipment and medicines reported that 80% had poorly responsive services (Yassoub, Hashimi et al. 2013).

There is less available in terms of rollout and uptake of cancer screening services. A descriptive study from Saudi Arab highlights a community based mammography program for age group 35-60 years(Akhtar, Nadrah et al. 2010) while another publication from Sudan generally reports parameters of its cancer control program (Hamad 2006).

9. Essential Drugs

Drug availability issues have been reported from middle and low income countries. In Sudan and Syria, essential drugs were sub optimally available at PHCs with the availability of injectable insulin at 29% and 21% for Sudan and Syria respectively (Mendis, Al Bashir et al. 2012). Similarly, another study documented unavailability of Metformin, an essential drug for diabetes at accredited PHC centres in Lebanon (Yassoub, Hashimi et al. 2013). Generic drug availability for key NCD conditions was assessed to be low in both public and private sector in Pakistan (Network 2002).

Inappropriate prescription and use of drugs has been reported for NCDs across high middle and low income countries. A bibliographic review from Pakistan documented the irrational drug use for chronic conditions including diabetes and hypertension(Zaidi and Nishtar 2012), and similar findings were reported from a regional bibliographic review (Rashidian et al 2013).Shortcomings related to drug dispensing, labelling, and prescriptions have been reported from Kuwait (Awad and Al-Saffar 2010).

10. Information Systems

There are a few studies that report on MIS for NCDs, however country cooperation strategies of WHO provide greater detail on progress that EMR countries have made in this regard.

The review of Country Cooperation Strategies by WHO revealed that high income countries in EMR have a well-established MIS for health but inclusion of chronic conditions in existing MIS in these countries is rudimentary (WHO-EMRO 2010). A study from Tunisia compared the record keeping for communicable diseases to chronic conditions and found communicable diseases to have better availability of records (85%) as compared to over chronic diseases (70%) (Alberti, Boudriga et al. 2007). In Oman, lack of documentation was observed at PHCs about variables related to diabetes care such as BP measurement and Albumin and Creatinine levels (Al-Lawati, Barakat et al. 2012). Another study from Oman conducted an audit of electronic medical record and management of hypertension at PHC showing sufficient record of patients' age, gender, blood pressure, renal function tests and lipid level but the smoking status was poorly recorded. Despite appropriate recordkeeping, adequate blood pressure control could be ascertained in more than half of the patients (Al-Shidhani, Bhargava et al. 2011). A descriptive study from United Arab Emirates highlighted successful implementation of chronic care model including that of MIS for reporting the progress on the quality of care indicators(Baynouna, Shamsan et al. 2010).

II. Community Action

There is less literature about effectiveness of community based health activities for NCD control, knowledge of preventive screening amongst at risk population and residual barriers in the community for uptake of community targeted activities.

A study from Jordan reported that only 13% of adult females have accurate knowledge about the appropriate age for seeking breast screening(Othman, Ahram et al. 2014).

Effectiveness of community health workers is reported on by a study from Iran which did not show positive impact on mmHg reduction in systolic blood pressure, however the study concluded that the increasing prevalence of diabetes in urban population in Iran could effectively be managed through CHWs when a specified role and well-established guidelines are provided (Farzadfar, Murray et al. 2012).

A randomized control trial from Pakistan assessed the cost effectiveness of Home Health Education accompanied by trained general physician versus trained general practitioners only, and found combination of home health education with trained general practitioners to be more cost effective (Tazeen H. Jafar, et al 2007).

Case study descriptions of Oman's Nizwa Healthy Life program and Iran's Isfahan Healthy Heart initiative have been published underscoring community participation and awareness building as drivers for early screening (Belal and Al-Hinai 2009) (Sarraf-Zadegan, Sadri et al. 2003).

3



SECTION 3: COUNTRY CASE STUDIES:

POLICY LANDSCAPE: ACTION PLANS, GOVERNANCE, FINANCING, INFORMATION, RISK FACTOR CONTROL

3.1 NCD AGENDA, ACTIONS PLANS AND TARGETS

Iran

Non Communicable Diseases were introduced as a priority agenda as early as 1989 and implementation was kick started through the Isfahan Healthy Heart Program. A number of initiatives continued to control the rise of chronic diseases. The National Plan for Diabetes Control and Prevention was initiated in 1997 and implemented in 1999 as a large scale pilot in 25 provinces. It has since been expanded to focus on all three levels of Preventive, Promotive and Rehabilitative care and implemented across all of the urban population and being extended to major cities. Diabetes control has been integrated into the Fifth Five Year Development Plan and current 20 year vision. Legislative initiatives have also been taken for salt reduction and use of Trans fatty acid in commercial foods. In 2007 a comprehensive National Action Program for Cancer Prevention was adopted and subsequently Action Plans for Asthma, COPD and Physical Activity have been formulated but not yet implemented.

Technical committees involving the public and private sectors are in place. These include a National Committee for Palliative Care and Pain Control of Cancer Patients and National Diabetes Committee. Urban Family Practice Program largely focusing on NCD control in cities areas is in place in rural areas with extension now to urban areas. A new model has been piloted in one province integrating Mental Health Nutrition and Physical Activity, Social Health care unit, Communicable Care Unit, Mother & Child Care Unit, Oral Health Unit, Community Participation & Self-Care unit and Health Protection Unit with plan to implement in 31 provinces.

Jordan

The NCD policy focus started with diabetes becoming a priority agenda in Jordan in 1996 and resulted in formation of the National Centre for Diabetes, Endocrinology and Genetics (NCDEG) in order to provide quality health care, education and training in the fields of diabetes, endocrinology and genetics. Jordan was the first Middle Eastern country that established Behavioural Risk Factor Surveillance System (BRFSS) in 2001mainly focusing on NCD and related risk factors. Disclosure of findings of Jordan Behavioural Risk Factor Surveillance Survey in cooperation with the WHO and Centres for Disease Control (CDC) of USA, led to firm establishment of NCDs as a policy priority agenda.

This was followed by a Family Medicine Plan to build the expert human resources capacity through certified family physicians. In 2011, a national NCD strategy implementation committee was formed with members from both public and private health sectors RMS, University hospitals, Awqaf ministries and other related organizations. In 2013 a National Committee for Metabolic Syndrome was formed and recently Mental Health has been integrated into PHC as part of NCD.

Morocco

Historically, NCDs came onto the policy agenda around 5 decades ago when the government expressed commitment to ensure prevention and control of NCDs during the First International Forum for Epidemiology and Disease Control. This commitment has been reaffirmed through various policy initiatives and involvement of the Royal Family, especially of the First Lady who established a foundation dedicated to Cancer Control. Most notably, the constitutional act on Right of Access to Health passed in year 2011 explicitly mentioned the right to access NCDs control and prevention services. A National Action Plan for NCDs is in place with defined targets for 2018 and being updated to make it consistent with the Regional Framework on NCDs Prevention and Control. Action Plan for Diabetes Control is in place; those for Cancer Control and Tobacco Control are in process of development while Hypertension and Cardiovascular Disease strategies are already a part of the larger National Action Plan. Also, the NCDs have been included into the package of essential health services offered at the PHC level.

The most recent initiative is development of a Multi-Sectoral Plan for Prevention and Control of NCDs that has been agreed upon with the sectors of Education, Sports, Water and Sanitation, Population planning, and Finance. The proposal is pending approval from for budgetary allocation but development of such a plan itself is quite a distinct achievement compared to other States within the region.

Oman

Historically, the NCDs Prevention and Control came onto the policy agenda in the early '90s when it was realised that the burden of Diabetes was increasing among Oman's population at a very rapid pace. It was at this time that the 'Diabetes Program' was established at the Primary Health Care level to curb the diabetes prevalence increasing prevalence. Diabetes therefore has been the impetus for policymakers and received priority status in the Fifth Health Development Plan (1996-2000) and led to formulation of 'National Plan for Improving Diabetes Services' later on (WHO EMRO Cairo Meeting 2014).

In the last two decades, the country has taken significant steps to establish several other programs like Hypertension and Asthma along with making legislative efforts in the area of NCDs for e.g., instituting national policies to limit saturated fatty acids and industrial trans fatty acids in the food supplies. NCDs are one of the core issues outlined in recently launched 'Health Vision 2050'. Oman has also endorsed the Global Action Plan for NCDs Control and Prevention and the National Policy is expected to be finalized in 2014 with assistance from WHO. NCDs Control and Prevention strategies have been included into the Eighth Five-Year Plan for Health Development (2011-2015) under implementation.

NGOs such as Oman Respiratory Society, Oman Cancer Association, Oman Diabetes Society, and Anti-Tobacco Association have been active in bringing NCD issues on policy agenda.

Pakistan

Pakistan has a number of promising policy initiatives for primary health care integration of NCDs however these are yet to be effectively translated into implementation. The National Action Plan for Prevention and Control of NCDs was developed in 2003, with facilitating and support provided to the Ministry of Health by a local think tank Heart file and the WHO Country Office. This was followed by the National Action Plan for Prevention and Control of Cardiovascular Diseases. However the momentum was not sustained and these have yet to be translated into operational plans for implementation. Pakistan is signatory to MPOWER and a Tobacco Control Plan 2008-2012 is in place.

In 2011, a Breast Cancer Task Force was established by a female legislator, supported by the Pink Ribbon Alliance and Higher Education Commission of Pakistan with funding from a pharmaceutical manufacturer of Tamoxifen, but the society largely remains inactive. A WHO Collaborative Centre for Diabetes is present with a focus on Diabetes advocacy and awareness, and has conducted trainings of general practitioners on diabetes management.

"Our health" system is weak and is not prepared in the best manner to come to terms with the concept of such integration'; secondly, the *<i>curative* approach' at the service level and in population behaviour is a major hurdle"

There are very few advocates for NCD Control and these belong mainly to the academic sector, while both government and private sector priorities have been tilted towards tertiary care NCD specialty schemes.

Health has since been devolved in 2011 to the four provinces to align with the constitutional earmarking of Health as a provincial subject. In addition, 16 other ministries have been devolved to the provinces along with an increase in fiscal space through enhanced provincial share of tax revenues. The eight year Post Devolution Health Sector Strategy formed in each of the four provinces (2012-2020) and the subsequent 3-4 year Health Sector Operational Plans include NCDs as a special area of focus, mention activities and financial outlays.

3.2 GOVERNANCE: STRUCTURES AND FOCAL PROGRAMS

Iran

A separate department for Non Communicable Diseases (NCD) exists in the Ministry of Health and Medical Education (MOHME) run by a Focal Person for Non-Communicable Diseases. National Managers are in place for the different section within NCD Department namely for Tobacco Control, CVD, Diabetes, Musculoskeletal, Oral Health and Neonatal Hypothyroidism Screening Program. Alcohol control is organized within a separate Mental Health Department. The NCD Department also liaises with other departments like Ministry of Labour, Ministry of Energy, Ministry of Welfare & Social Security, Ministry of Education and municipalities. These initiatives are administered by other ministries with MOHME having a technical role, and coordination is through the National Health Policy Unit. Although there have been a growing number of initiatives with other government entities, coordination is challenging and there is absence of a higher level cross-sectoral NCD platform for steering direction across different ministries.

Jordan

At the MoH level, there is a Directorate for Non Communicable Diseases Prevention and Control headed by a focal person for NCDs. The directorate having further three sections: Cancer control, Cardiovascular Diseases and congenital and genetic diseases. Jordan cancer registry and national End Stage Renal Diseases (ERSD) registry also in placed under the directorate. The directorate works on integrating NCDs prevention and care into PHC alongside the Directorate of PHC Administration Wing. Moreover, each governorate provides a forum for engaging most of the civil society organizations and stakeholders and provides them a platform to discuss and inform the governorate authorities regarding the needs of the communities. Funding for NCDs programs and operational expenses however can be made more robust and mostly comes through donors with government budgets only supporting salaries of the staff.

Morocco

At the Ministry of Health (MoH), there is a dedicated NCDs Division that has been fully functional since 1995, and works under the Directorate for Epidemiology and Disease Control. The NCD Division has the following sub-divisions: CVD, Endocrine Diseases including DM, Cancer, Healthy Lifestyle, Oral Health, Mental Health, Occupational Health and Tobacco Control. Healthy Lifestyle and Tobacco Control share a common director so as to synergize efforts and resources. The NCD Division liaises with other Ministries for implementation of the Multi-Sectoral Plan for NCD Control.

NCD control efforts are not organized as a vertical program instead the plans formulated at the NCD Division get consolidated within regional and district unit plans and are onward implemented through district health delivery system.

Oman

A well demarcated planning and monitoring department is in place at the MOH called the 'Non-Communicable Disease Surveillance and Control' having further four sections: Priority Diseases Control (DM, CVD, Cancer, Renal); Specific Diseases Control (eye, ear); Mental Health and Psychotropic Section; and Tobacco Control. These sections are well staffed by mid-level program managers responsible for making area specific plan with increasing emphasis on a single collaborative plan for maximising efficiency of funding.

Recently, the Directorate General of Health Affairs has been split into two directorates; one dealing with the PHC affairs and the other one with the socialized care including secondary and tertiary care services. The NCD department falls under the umbrella of Directorate General of Primary Health Care. The NCD department has a technical role and works closely with other departments in the Directorate of PHC including Nutrition, PHC, School Health, Family and Community Health, Health Promotion and Community Based Initiatives. This reorganization signifies the steps taken by the MoH to better integrate several departments working on similar agendas including the control and

prevention of NCDs. The well-structured NCD department having sections with assigned program managers as well as the overall Head of NCDs – the focal person – signals the greater recognition of issue on the policy horizon.

Pakistan

Despite development of NCD Plan in 2003, NCD Control was never institutionalized within the federal Ministry of Health. However a National NCD Commission was informally set up in 2009, spearheaded by the Director General Health who belonged to an academic background and drew in private and public academics based on volunteerism. The Commission's legal establishment process came under question and could not be taken forward. Pakistan has very recently in October 2014 introduced the NCDs and Mental Health Unit at the federal level and is in process of developing similar units within the provincial ministries to devise a consensus National Action Plan NCDs by coalescing the inputs from respective units from the provincial ministries of health.

Post devolution 2 provinces Punjab and Khyber Pakhtunkhwa provinces have moved ahead with appointment of provincial NCD focal persons while Punjab has also appointed a Provincial NCD Task Force. However even within Punjab there is as yet suboptimal coordination between the provincial NCD structures, the PHC network led by the provincial Director General Health and the provincial Reform Units led by the Health Secretariat. The Sindh Post Devolution Strategy provides support for a Provincial NCD Commission comprising public and private sector and a NCD focal at the provincial Ministry but is yet to be notified.

3.3 INTEGRATION WITHIN EXISTING HEALTH SYSTEMS

Iran

Post revolution, Iran has maintained a major policy emphasis on reaching the rural poor for health and social services. The public health care delivery system is the predominant source of care, providing services to 80% of the population, especially the rural population, while private sector is an important source for the urban population. Health care services are administered by different public and private universities under a unique arrangement with the MOPH. Hence the academic sector is a strong stakeholder in the health care system. The Primary Health Centre in Iran is the basic structural and functional unit of the public health services. Ministry of Health and Medical Education (MOHME) is responsible for providing health care facilities to the general population through Health houses in Rural areas, Health post in Urban areas, Primary Health Care centers, District hospital and tertiary care teaching hospitals.

Service delivery for NCD is horizontally integrated into the existing vast networks of urban and rural PHCs centres. NCD integration started with rural clinics assisted with Behvarz health workers for outreach community services. There is however no evaluation of the rural experience. NCD services in urban centres started later and are in place in 24 cities. There is an on-going policy initiative to replace general practitioners with family physicians but these are in short supply especially in rural centres.

Jordan

45% of the Jordanian population utilizes public sector (WHO-EMRO 2013), with private sector use being considerably high as compared to the regional average, and underscores the importance of involvement of private sector in NCD delivery. Private sector presence is mainly in three major cities of Jordan including the capital Amman. 85% of the population is covered by health insurance, with refugees being the main under-covered group (WHO 2008-13). Access to primary health care is better with 97% of the population having access to health facilities. In 2005, a national agenda for health sector reform was launched in order to achieve i) universal health coverage; ii) efficiency and quality of public health services focusing on preventive medicine and primary health care; iii) emergency medical services and human resources for health. These potentially provide important entry points for NCD integration into frontline primary health care as part of benefit plans, better quality of services and more spending on control.

NCD implementation is horizontally integrated within the health facility network and implementation is through the administrative units of the 12 Governorates of Jordan. The Royal Society for Health Awareness leads the CSO Alliances for community education and action on priority health issues including NCDs and lifestyle changes.

Morocco

48% of the Morocco population utilize public health sector for outpatient services whereas for the in-patient services predominantly 80% of the population utilizes public sector facilities (WHO 2010). At the PHC level, there are three basic types of government facilities: 1) Rural Primary Health Care Centre 2) Extended Primary Health Care Centre and Referral/Diagnostic Centres.

The private sector mainly comprises of nearly 5800 physicians in general practice as well as private hospital and laboratories.

NCD services are integrated into the existing government health system. These are provided through a network of more than 2600 public sector primary health care facilities, whereas the role of private sector is largely confined to the o health promotion and behaviour change communication campaigns. Only qualified NGOs, whose programs and activities conform to the government's NCD Action Plan, are permitted to run population level health promotion campaigns. The private sector is



Morocco: Information

Brochure regarding RAMED

active in the areas of cancer management and provision of dialysis services as part of 'Public-Private partnership' and shares data with the government.

Oman

Oman's healthcare system is largely dominated by government services used by 85% of the population, with private healthcare providers mostly accessed by expatriates working and residing in the country (WHO-EMRO 2013). The government has 6 tertiary

hospitals, 8 secondary care hospitals and an extensive PHC network of 241 facilities that include Outpatient clinics only (Type A), clinics with beds for short stays (Type B), polyclinics (Type C), 50 bedded Wilayat hospitals (Type D) and 30-100 bedded District Hospitals (Type D). The Community Service Organizations (CSOs) and NGOs are largely involved with the health education and awareness initiatives and play a little role in the clinical services delivery.

Service delivery for NCDs is horizontally integrated into the existing government primary care infrastructure. NCD frontline care has grown with expansion of the PHC structure. A good range of services is offered from primary management, risk factor screening, self-help support and rehabilitation in certain services. There is an effective system of gate keeping as patients cannot directly access hospital for NCDs unless referred to by the frontline facilities.

Pakistan

In Pakistan public health facilities are utilize by 18% of population for OPD purposes, despite government having the largest primary health care infrastructure (WHO 2010). The PHC network comprises of Dispensaries (mostly urban based), Basic Health Units and Rural Health Centres as well as Lady Health Workers who cover 60-65 % of the target population (MoH 2010; Hafeez, Mohamud et al. 2011). In urban areas, the government PHC network is much smaller with outpatient care usually provided by tertiary government hospitals or by private practitioners and philanthropic centres.

NCD Action Plan has as yet not been integrated in front line facilities nor been mainstreamed into the community health worker program. Pakistan has a well-entrenched private medical sector providing curative services including for NCDs on a fee for service basis. There is also a well-established market of large and medium sized NGOs but most have not as yet entered into NCD control and are often reliant on international donor funding which has yet not moved been earmarked for the NCD area in Pakistan. Regulatory Authorities have recently been set up in all four provinces for accreditation of private and public facilities, and can serve as entry points for NCD standard setting, data collection and capacity development. Additionally two large initiatives of contracting out government primary and secondary health facilities to NGOs have started out in districts having low service access in the provinces of Khyber Pakhtunkhwa (donor supported) and in Sindh (government supported) and are an opportunity for effective implementation of designed NCDs.

3.4 FINANCING

Iran

The government provides 42% of the total health expenditure with private expenditure forming the major share (WHO-EMRO 2013), Health consumes 7.8% of the GDP and health spending is one of the highest in the region. Important health coverage related reforms have recently taken place that also affects NCD care provision. A comprehensive insurance plan was introduced in 2009 to provide basic coverage to all Iranians. Insurers are an important stakeholder for leveraging NCDs in the service package, providing quality services and reporting on NCD cases. Different governmental and Para Governmental insurance schemes provide coverage to 73% of the population (WHO-EMRO 2006). There has also been a change in payment modalities towards performance
based systems for physicians, and can be an entry point for introduction of explicit NCD targets into the work of both government staff and private providers.

Jordan

Service delivery for NCDs is horizontally integrated into the existing government primary care infrastructure and. There is no specific fund earmarked for NCD. A very nominal allocation is from the share that the total Primary Health Care gets. The total allocation for PHC is not more than 30% of the total budget for Health.

The private sector contributes majority of health expenditure with government financing 41.6% of total health expenditure (WHO-EMRO 2013). Total expenditure on health is one of the highest in the region at 10.5% of the GDP. NCDs care is financed through the insurance system which is funded by the civil agencies, Military, private sector and UNRWA. Central Health Insurance covers the major costs at public sector facilities with only nominal payments charged for medicines. Private health insurance funded by private corporations' funds for employees' health care at private facilities. Partial funds for cancer support are additionally contributed by the Middle Eastern Countries Cancer Support Forum. Development partners involved with NCDs include the WHO and USAID and provide technical assistance mainly through training and STG development. NGOs are eligible for some level of supplementary support from government for NCD control activities and special funds for the CSO Alliance have been provided by Queen Rania.

Morocco

The government provides close to half of sector wide spending amounting to 46% of total health expenditure while the rest comes from private financing through out of pocket payments and insurance contributions (WHO-EMRO 2006). Health spending is moderately high at 5.8% of GDP (WHO 2010); Morocco Health Accounts, 2010).

The government provides the main bulk of service delivery expenses for NCDs. WHO provides technical assistance whereas there is some level of philanthropic funding channelled through NGOs, especially Lalla Salma Foundation and is geared towards cancer prevention and control services.

The Moroccan health system is Francophonic, heavily reliant on insurance mechanisms and distinctive from health systems in other EMRO States. The government in last decade introduced mandatory health insurance for public and formal private sector employees Le'Assurance Maladie Obligatoire (AMO), and another parallel scheme Regime d'Assistance Medicale (RAMED) on access to health services for poor through publicly funded insurance system. The population eligible for RAMED benefits totals 8.5 million (28.4% of the population) including 4 million with absolute poverty (13. 4% of the general population). NCD services are provided through these two insurance schemes. All consultations, diagnostics and medicines are provided free of charge to the patients.

The NCDs funding is not organized as a dedicated vertical program but rather aim to provide such services through routine primary health care level health facilities. The plans and budgets formulated at the central NCDs Division get operationalized through regions and district units which consolidate those budgets with their region specific health services delivery operational budgets, hence, giving providing horizontal flow of NCDs control and prevention efforts.

Oman

The government is the predominant financier of health care, financing 90% of total health expenditure (WHO-EMRO 2013) while out-of-pocket expenditures account for 10% of the health expenditure (CCS Oman 2010). The insurance mechanisms are largely non-existent. This amounts to 2.5% of GDP on health care and. The Health Ministry's budget is entirely financed from public sector budget and incrementally increased based on recommendations from the NCD Unit. Activity plans and their budgetary costs are prepared by the NCD Unit and after approval are integrated into the PHC budget and operationalization.

Pakistan

Out of pocket payments contribute to nearly 64% of total health expenditure (NHA 2009). Patient expenditure is incurred at both private as well as government facilities to pay for unavailable drugs and diagnostics. Social security schemes contribute to only 2-3% of total health expenditure and there is at present an absence of a social protection scheme for health care. Private philanthropies funded through Zakat contributions and citizens donations are emerging in urban areas as an important source of curative care including for NCD curative care. While Essential Health Service Packages have been announced incorporating some elements of NCD care, the funding for additional drugs and supplies still needs to be adjusted in future rounds of budgetary cycle.

Extent of horizontal integration of budgeting varies across provinces. In Punjab, a verticalized NCD program is being designed for flow of budgetary and technical support but is paradoxically in contrast to Punjab's reform drive to integrate the growing number of vertical programs. In Khyber Pakhtunkhwa and Sindh the NCD posts and Commission are designed as being essentially technical in nature while budgetary support for extra services, supplies and medicines will flow through the existing system.

3.5 HEALTH SECTOR REFORM

Jordan

In 2005, a national agenda for health sector reform was launched in order to achieve i) universal health insurance ii) efficiency and quality of public health services focusing on preventive medicine and primary health care iii) emergency medical services and human resources for health. Jordan has nation-wide primary health care coverage with 97% of the population having access to the primary health care facilities. The public financing of health insurance with along with expansion of primary care facilities has resulted in people's ability to access those services on the basis of need rather than ability to pay. NCD implementation has been integrated through the administrative units of the 12 Governorates of Jordan. Jordan has established 4 Comprehensive Health Centres (CHCs) in the capital Amman and two other larger cities. A number of NCD services are provided through the Comprehensive Health centres and more limited services through the Basic Health Centres. Additionally, the 'Family Medicine Plan' aimed at enhancing and strengthening the pool of family physicians has also been started which mandates the trainee family physicians to spent time at the primary health care centres as per the plan procedures of the programme.

Iran

Important health coverage related reforms have recently taken place that also affects NCD care provision. A comprehensive insurance plan was introduced in 2009 to provide basic coverage to all Iranians. There has also been a change in payment modalities towards performance based systems for physicians, and can be an entry point for introduction of explicit NCD targets into the work of both government staff and private providers. There is an on-going policy initiative to replace general practitioners with family physicians but these are in short supply especially in rural centres. The recent reforms in PHC services organisation and family practice model have resulted in Ministry of Health and Medical Affairs (MOHME) emerging as a provider organisation. The Medical Services Insurance Organization (MSIO) under the Ministry of Welfare and Social Service acts as the purchasing organization using the funds allocated through national budget. Thus a provider-purchaser split now exists with funds now being paid to through MSIO. Moreover, contractual agreements with Family Physicians (FPs) involving partial capitation payment system have resulted in up to three-fold increase in physicians' payments compared to before when the FP programme was not in place. The FP model also emphasises on team approach with FP as the team manager and the nurses, midwives and other staff as constituent team members. At the population level, FP programme allowed for increased access and referrals to secondary care through FPs.

Morocco

The government in last decade introduced mandatory health insurance for public and formal private sector employees Le'Assurance Maladie Obligatoire (AMO), and another parallel scheme Regime d'Assistance Medicale (RAMED) on access to health services for poor through publicly funded insurance system.

In recent years, the government has established 22 'Integrated Care Centres' at the PHC level dedicated to NCDs with specialised care and patient education programmes . These are dedicated NCD care centres providing the spectrum of services from preventive and screening services to diagnostic and curative services. The medical specialists are available for the consultation and most of the advanced diagnostic services not available at the basic centres also being made available. There are focused patient education programmes whereby trained health educators raise the awareness regarding risk factors and preventive strategies like lifestyle changes pertaining to NCDs.

Pakistan

Essential Health Services Packages for government frontline health facilities have been designed by the provinces, which also include NCDs. These are now to be streamlined into the provincial health budgets. In addition, two large initiatives of contracting out government primary and secondary health facilities to NGOs have started out in districts having low service access in the provinces of Khyber Pukhtunkhwa (donor supported) and in Sindh (government supported) and are an opportunity for effective implementation of designed NCDs.

Private practitioners have a particularly large presence in urban Pakistan and need to be co-opted for NCD control. Regulatory Authorities have recently been set up in three of the four provinces for accreditation of private and public facilities, and can serve as entry points for NCD related targets, standard setting, data collection and capacity development.

3.6 INFORMATION AND SURVEILLANCE

Iran

Five rounds of national surveys on risk factors of non-communicable disease based on the recommendation of WHO has been implemented in 2004,2006,2008,2009 and 2011. The Global Youth Tobacco Survey in 2003 and 2007, Global Health Professional Student Survey (GHPSS) in 2007, and Global School Personnel Survey (GSPS) in 2007, STEPs survey in 2004, 2006, 2007, 2008, 2009, 2010 and 2011 have been conducted in Iran so far. Four national surveys on oral health (1995, 1998, 2001, and 2004) on 5-72 Years old have been conducted.

Since 2004, a national pathology-based cancer registry was established and gradually it was upgraded to the population-based cancer registry, since 2012 screening and early detection for breast cancer in 10 provinces has been launched. In 2008, Iran has established MI and diabetes registry and is in the process of expanding it to include CVD registry. Five rounds of CASPIAN (NCD risk factors for students) Survey was carried out. Additionally, 25 NCD indicators with other social determents of health have been defined for Health Equity Monitoring System, and has been piloted in 400 distracts. Evidence shows that there has been a 3% drop in hypertension, increase by 3% in fruit and vegetable serving's intake, and decrease by 31% in saturated oils consumption.

Jordan

Two STEP wise surveys were conducted to estimate the prevalence of diabetes in 2004 and 2007. The evidence generated fed into the National Strategy and Plan of Action for Diabetes which has embedded strategies for risk sharing conditions hypertension, cardiovascular, dyslipidaemia and obesity. Jordan was the first Middle Eastern country that established the Behavioural Risk Factor Surveillance System (BRFSS) in 2001mainly focusing on NCD and related risk factors. BRFSS is a US nationwide telephone health survey that collects data on the six individual-level behavioural health risk factors associated with the leading causes of premature mortality and morbidity among adults: 1) cigarette smoking, 2) alcohol use, 3) physical activity, 4) diet, 5) hypertension, and 6) safety belt use. Two STEP wise surveys have been conducted to estimate the prevalence of diabetes and pre diabetes in 2004 and 2007. An expert committee was formed by the minister of health to review the findings of the surveys. On the basis of survey results, the national strategy and plan of action against diabetes was formulated which extends to other risk sharing conditions hypertension, cardiovascular, dyslipidaemia and obesity. In 2011, a national NCD committee was formed to implement the NCD strategy.

A population based Cancer Registry was established in 1996 with collaboration of National Cancer Institute of USA, which collect information from all health facilities including hospitals and pathological laboratories across the country. Recently, an NCD Registry has been instituted at the Directorate which collates reporting on Diabetes Mellitus, Hypertension, Asthma and Breast Cancer cases reported across private and public sectors.

Morocco

The World Health Survey 2003 and Global School-Based Student Health Survey 2010 documented the prevalence of NCDs and behavioral and lifestyle risk factors pertaining

to NCDs respectively. Population-based national registries for Cancer are in place at Casablanca and Rabat, reporting to the registries through both the public sector and private facilities. The other NCDs registries seem to be non-existent though in the country.

Oman

Oman has conducted multiple surveys to document the prevalence and risk factors for NCDs. They include three surveys at the national level: National Diabetes Survey, 1991; National Health Survey, 2000; and the Oman World Health Survey, 2008. Additionally, two rounds of the Global School Health Survey (2005 and 2010) and the Global Youth Tobacco Survey (2003 and 2007) have been conducted alongside other tobacco related surveys. Community-based surveys in Nizwa (2000 and 2010) and Sur (2006) based on the WHO STEP wise methodology have also been conducted. Discussions are underway to conduct the National NCD Survey as well as a National Nutrition Survey.

A National Cancer Surveillance Registry is in place maintained by the Department of NCDs Surveillance and Control at the federal MoH. Additionally, the registers for 'Diabetes' and 'Hypertension' are maintained at each of the PHC centres, the data from which then is relayed to the NCDs Department at the federal MoH while the regional and wilayat level NCDs units acting as an intermediaries in that information transfer. However, the country has no NCDs surveillance and monitoring system in place to enable reporting against the nine global NCDs targets (WHO 2014).

Pakistan

The National Health Survey 1994 was the first and only survey in Pakistan that reported on the prevalence of NCDs. It subsequently has not been followed by other nationally representative studies nor has there been effort to mainstream NCDs into the periodically undertaken national Demographic Health and Social Indicator Surveys in Pakistan. The Karachi Cancer Registry set up by local oncologists through philanthropic funding provides data pooled from different institutions on cancer cases. Additional hospital based cancer registries of Shaukat Khanum Hospital (Lahore) and Aga Khan Hospital (Karachi) also exist but are restricted to tertiary facility data and information while collected is not publically available. There are no other registries or surveillance systems.

3.7 RISK FACTOR CONTROL

Iran

Tobacco Control

Iran was the first country of the EMR to ratify the WHO Framework Convention on Tobacco Control and was ranked as the highest scoring country on MPOWER implementation. Major legislative steps have been taken to control tobacco use and include prohibition on smoking in public spaces, on tobacco advertising and tobacco promotion, and heavy taxation on tobacco products. These are backed by major funding commitment with 1% of the 8% syntax on cigarettes earmarked for the Tobacco Control Program. The FCTC has been implemented



Iran: Health promotion material regarding Obesity and Nutrition

through multi-sectoral approach with the help of Health, Law Enforcement and Environmental Agencies. There are 160 smoking cessation clinics, most of which run as spate entities and some are integrated with the network of PHC facilities.

Other risk factors

The National High Health and Food Security Council (NHHFSC) have adopted strategies for Salt reduction and use of Trans fatty acid in food through involving different sectors including Health, Education, Planning and Regulation. Community level screening program have been organized and almost 30% of the urban adult population and more than 80% of the rural population have been screened for chronic condition like hypertension, diabetes and related risk factors including obesity and hyperlipidaemia, however it is unclear whether there will be regular and periodic screening (WHO 2005).

Jordan

Tobacco control

Jordan has ratified the WHO-FCTC and regulation for smoking has been instituted however all components of MPOWER package are yet to be implemented. There is a tobacco national committee for advocacy and policy formulation in the country. Separate tobacco cessation clinics have been started but no national targets have been set for tobacco control.

Other risk factors

A Healthy City Program cross-sectoral program has been introduced in the country focusing on obesity control, Road Traffic Accidents and programs for migrants. Strategy for Health Promotion and Healthy Life Style 2009 is being implemented from 2009 within built targets such as for physical exercise etc. For health promotion and healthy life style there are Health Committees with intersectoral participation. Most of the areas CSOs are represented at the committee along with the public sector functionaries and representatives.

Morocco

Tobacco Control

Tobacco Control Program is a recent initiative and is jointly headed by the Chief of the Healthy Lifestyle Sub-Division. Work on a National Strategy for Tobacco Control is already underway while the larger National Action Plan for NCDS is being updated for enforcement article 14 of FCTC that deals with the measures relevant to demand reduction measures and also for provision of services pertaining to tobacco cessation. An NGO, Lalla Salma Foundation, supported by the First Lady of Morocco, runs campaigns to raise awareness regarding the harmful effects of tobacco use. Prevention services at health facilities are yet to be started. Likewise, the MPOWER measures are yet to be formally inducted into the National Action Plan.

Other risk factors

The formation of 'Multisectoral' technical committee involving other sectors like health, education and sports is one of the major recent initiatives to strengthen the services for control of risk factors for NCDs at the community level. Likewise, 'Healthy Lifestyle' sub-division within NCDs division organizes community level health promotion campaigns and programs with assistance from different NGOs. These campaign also

highlight the importance of preventive measures pertaining to NCDs particularly health diet and physical activity.

The screening facilities are available for DM and HTN at the Rural and Extended Health Centres and for Breast and Cervical Cancers at Extended Health Centres as well as 'Reproductive and Family Health Centres/Referral Centres for Reproductive Health'. However, there is little clarity whether such services are mostly opportunistic rather than structured.

Oman

A Multi-Sectoral Action Committee has been set up to work on the National Strategy for NCDs Prevention and Control and is headed by the 'Under-Secretary of Planning' but is based within the Ministry of Health rather than a higher planning or economic ministry, hence raising questions of legitimacy of leverage over other sectors. One of the prime example and success stories of community based health education programs is 'NIZWA Healthy Lifestyle Project' that has demonstrated reduction or control of conditions like diabetes and dyslipidaemia over the course of 10 years compared to national averages that have climbed high in the same period. Likewise, initiatives like School Health Strategy, Health Promoting School Initiative and several programs and campaigns run by CBI (Community Based Initiatives) department aim to control the risk factors for NCDs and have proven to be quite effective. Also, a 'Diet, Physical Activity and Health Strategy' was drafted back in 2010 but could not be implemented.

Additionally, a national multi-sectoral nutritional strategy is under development discussing aspects of promotion of healthy diet; the MoH has also developed the Oman Food-based Dietary Guidelines.

Tobacco Control

In terms of implementing WHO MPOWER interventions, Oman has banned the indoor smoking. Similarly, legislation is in place in regard to 'Sheesha' use but enforcement is still a challenge. Likewise, tobacco Advertising has been banned but no

"Tobacco Control is still not high on the agenda. It is still a small fraction of what we do at the PHC level"

active marketing is being done to warn the population regarding dangers. In terms of cigarette packaging, pictorial labels are mandatory on the packs. However, no intervention has been made in regard to raising taxes.

Pakistan

Tobacco Control

Main movement in NCD risk factors has been in the area of Tobacco Control advocacy and initiatives. Pakistan has 2 key governance structures - a National Tobacco Control Task Force and dedicated Tobacco Control Cell established in 2007 at the federal ministry, supported by the WHO country office. Linkages with the Federal Bureau of statistics have produced annual survey reports on tobacco use and taxation. Important achievements have been pictorial warnings and recent increase in 2014 on Tobacco tax by the government, however cheap branded cigarettes are still affordable for population. Legislation for smoking in public places is in place through laws enacted in 2002 and 2009, but weakly enforced and requires coordination across Health and Local Government. A Tobacco control pilot is being designed with the help of WHO and Bloomberg University for 21 districts of Punjab and Khyber Pakhtunkhwa. However, Tobacco control services through counselling and replacement products at the health facility are still missing, as both public and private practitioners are untrained on smoking cessation counselling and nicotine replacement therapeutic agents are not on the essential drug list.

Other risk factors

There has been no movement as yet on control of other risk factors such as diet, physical activity, weight reduction and disease awareness, although the NCD National Action Plan of 2003, and more recent Health Communication and Promotion Strategies developed in each of the provinces post devolution present important entry points for implementation.

4

SECTION 4: COUNTRY CASE STUDIES: SERVICE DELIVERY AT PHC LEVEL

4.1 **PROGRAMMING OF NCDS**

The first section of this chapter provides a narrative on number of NCD tracers that have been integrated into frontline health systems and the depth to which they have been integrated.

Iran

NCDs services offered at the PHC level include screening and management of Diabetes, Hypertension and COPD. There are specific Diabetes Clinics in most health facilities with dedicated nurses for counselling. COPD related rehabilitation measures such as breathing exercises, relaxation techniques, and self-management for acute attack have been introduced at healthcare facilities but extent of implementation is yet to be fully ascertained. Screening for breast, cervical and colonic cancer is in place in 31 provinces while in other facilities patients are directly referred to hospitals for screening. HBV vaccine coverage is present in some but not all facilities, while HPV has not been introduced. Palliative control is provided in 17 hospitals. Tobacco Cessation services are provided through separate 160 clinics across the country and integrated services within PHC facilities are offered only in some cases. Outreach community services through Behvarz workers and their Health Houses include screening, early referral and health education for Hypertension, Diabetes and Hypothyroidism.

Patients can directly access hospitals for outpatient NCD care making it difficult to standardize frontline care. Programming and log frames for NCDs are periodically updated with addition of new services, however on going health reforms related to insurance and urban family practise while providing opportunities for NCDs also make coordination of programming across initiatives more challenging.

The latest initiative involves an integrated public health package introduced at 4000 urban centres and 3000 rural centres. Patients receive a score-card based on integrated risk factors screening and CVD risk predictions. Screening is carried out for Asthma, COPD, Depression/ Anxiety, Hypertension, Diabetes Mellitus and Obesity. Screening for

breast cancer, cervical cancer and colonic cancer has also been introduced but is limited to fewer facilities.

Jordan

Jordan provides services for three tracer conditions at frontline facilities while all four NCDs services are covered in some measure at higher PHC facilities. Services offered at the Basic Health Centres include screening and management of Diabetes, Hypertension and Asthma. Dedicated clinics for Diabetes and Hypertension have been set up at the government Comprehensive Health Centres. Mammography screening has been started to pick up early stage breast cancer and one mammography point clinic per governorate has been established. Country capacity survey 2013 shows 41% availability of Pap smear at public centres and 45% at private centres in group 2 countries including Jordan however HPV services are not provided Mental Health clinics are presently being integrated into the CHCs. Separate clinics have been established for Tobacco Cessation. The referral system is managed from GPs to family physicians and then to specialists. Due to gate keeping system, a patient cannot self-refer for high level. Service expansion takes through periodic update to programming and log frame development and has been guided by technical support from WHO and supplemented by USAID.

Morocco

The focus has largely been on hypertension and diabetes services at the PHC level. A CVD risk stratification strategy is being implemented with Diabetes and hypertension screening offered at frontline health centres while the higher PHC centres offer greater depth of services for both these conditions. The Rural PHC Centres provide routine outpatient with general practitioners NCDs and offer basic screening including blood pressure measurement for HTN and blood glucose measurement with glucometer. The extended diagnostic services and consultation with the specialists are only available through Extended PHC centres. Screening for breast and cervical cancer is referred to referral Reproductive Health Centres. There are no dedicated Tobacco Cessation Clinics at the PHC level and the tobacco related activities at the PHC centres are largely dependent upon initiative taken by heath centres and not specifically planned organized by the ministry/NCDs department. Programming for NCDs is periodically undertaken and is a challenging exercise due to the different insurance systems in place.

Oman

Focus of PHC services is mainly on Diabetes and Hypertension included under Priority Diseases, while cancers are referred to the Royal Hospital. COPD is less well integrated due to low smoking and lung disease levels in the population. There is a well-established system of prior screening and filtration of less complicated cases by PHC facilities before referral to hospitals and is backed by a cross-referral from hospitals to PHC facilities for onwards management. Drugs are sent by hospital to primary facility for cases that are referred back.

So far service expansion for NCDs has followed an incremental pace with addition of new services on recommendation of WHO accompanied by log frame planning but Oman does not have a costed service package due to less compunction of resource availability. Basic Primary Health Care Centres provide routine services for the priority diseases through Hypertension and Diabetes and in at least one governorate have expanded to set up Asthma services. Tobacco Cessation Clinic pilot has been set up in an Extended Primary Health Care Centre in NIZWA and is to be rolled out to other Extended PHC centres. The programs for heart failure and pre-diabetes are in pilot phase at the moment. The Elderly Care Program offers rehabilitation services for ageing and debilitated patients at their doorsteps.

Pakistan

NCD services currently offered in government PHC facilities include Diabetes and Hypertension at Basic Health Units while Rural Health Centres also offer some level of care for COPD. CVD Risk factor screening is currently not offered. Patients directly access the hospitals for both routine and advanced management, and there is an absence of system for gatekeeping. Tobacco cessation, breast and cervical cancer control are also not offered but included in the newly approved Essential Health Service Packages for Rural Health Centres. The major preventive activity is Hepatitis B vaccination for both adults and children offered free of cost at government PHC facilities and being extended to private facilities. There are no rehabilitative services or organized systems of hospital referrals and back-referrals. Programming for NCDs has not been started and is expected to take off in 2015 with launch of NCD Unit at the Federal Ministry and supported by focal persons in each of the four provinces.

A trial on effectiveness of a Hypertension-CVD package in selected urban private health facilities in Punjab is being implemented led by an NGO called COMDIS-HSD in collaboration with Department of Health Punjab.

4.2 HUMAN RESOURCES

This section discusses staff availability for handling NCDs in the PHC network, capacity building of staff through training and treatment guidelines, and use of multidisciplinary teams in management of NCDs.

Iran

Iran similar to other Member States is facing a shortage of particularly certified family physicians as it expands the number of NCD services. There is also shortage of allied staff such as pharmacists, nutritionists and specialized nurses. Existing staff also face an increasing workload due to NCDs and compromises effective care, particularly patient counselling, home care support and monitoring of follow up. The reformed Family Physicians Program involves CVD risk factor screening at Urban Health Posts followed by referral to a Family Physician of those found to be at risk, supported by mental health experts, nutritionist, self-care expert and social health expert.

Iran has standard treatment updated protocols are available for DM, Hypertension, Hyperlipidaemia, COPD and Breast and cervical Cancer developed by the MoPH and the Universities. Certain level of training has been provided for all the focal NCDs, and those for Tobacco Control have been linked to accreditation. Having University involvement in service provision provides a ready resource for STG updates and in-service trainings.

Jordan

Specialist human resources involving certified Family Physicians are usually present in the urban based CHCs as part of the Family Medicine Plan, while PHC centres in the remote regions are mostly served by General Practitioners and face shortage of Family Physicians. Paramedical staff such as nurses, pharmacists, laboratory technicians, support administrative staffs is also in sub-optimal numbers at Basic Health Centres and staff strength varies across centres. Psychiatrists supervise the Mental Health Clinics while services are provided family physicians general bv or practitioners.

National Guidelines for NCDs Prevention and Control at the Primary Health Care level have been developed and capacity building training have been conducted of



Jordan: Clinical Guidelines for Family

the GPs, nurses and Para-medical staff with assistance from the USAID Health System Strengthening Project. Standard Treatment Guidelines are available at the PHC level for DM, HTN, Asthma and COPD. The MoH takes technical advice from different stakeholders including medical universities and concerned medical/professional groups for STGs formulation. Trainings are supported by donors but there is lack of a regular schedule of skill updating.

Morocco

The PHC network is mainly comprised of Rural Health Centres and these are staffed by General Practitioners while replacement by Family Physicians has not been initiated as yet. Numbers of nurses, pharmacists, and laboratory technicians are sub-optimal, with a particular shortage of nutritionists. The Extended PHC Centres are fewer in number and staffed by specialists and addition to general practitioners. There are capacity issues in terms of diagnosis and classifying the severity of the disease amongst general practitioners; and counselling and supportive care at the level of nurses.

STGs are available for PHC level management of NCDs, most notably CVDs/ Hypertension and Diabetes. Most of the trainings are informal and non-accredited while periodicity and training plans are yet to be built in. Recently new guidelines have been introduced for Rural Health Centres to enhance the training standards of GPs working at these facilities. Estimates suggest that only 60% of the physicians comply with the guidelines pertaining to CVDs whereas the updated guidelines on management of DM have just recently been introduced and the compliance estimates are not available. The non-compliance is most notably seen among the specialist cadre whereby they prefer to use their own training and judgment rather than relying on the STGs.

Oman

PHC facilities are served by General Practitioners while certified Family Physicians are yet to be deployed in all PHC Centres and are clustered mainly in urban Governorates.

All the PHCs centres are well staffed by nurses' support Para medical staff like pharmacy staff. There is however scarcity of trained nutritionists across the board with most of them only being based at regional hospitals and extended PHCs at the best. The Ministry's target is to have one family physician per centre, there continues to be a shortage of available Family Physicians despite recruitment from neighbouring South Asian countries. Initial start-up training of 1-2 weeks on NCDs is given to general practitioners on appointment. There is also an established practice of six monthly credential based training for Diabetes organized by the government.

A number of Standard Treatment Guidelines (STGs) have been developed with WHO assistance and in certain instances with collaboration of the Royal College. Standard therapeutic protocols are available for DM and HTN and there is effort to update protocols.

Pakistan

Inadequate planning of health work force in the country has caused disproportionate doctor to nurse ratio, and a dearth of pharmacists and nutritionists. Hence while there are adequate numbers of general practitioners there is a lack of allied staff for a multidisciplinary team approach. Another issue is of absenteeism of appointed doctors from rural PHC centres leading to under-utilization of government PHC network. Over the last decade contracting out of government Basic Health Units have started which has improved staff retention. The numbers of Family physicians have grown in the country and are supported by a Family Medicine Association. However due to an absence of government posts for Family Physicians, the existing numbers work in the private sector and there is on-going attrition to Gulf States.

Provision of NCD clinical care guidelines and counselling material are generally lacking in both public and private sector. NCD training to a limited extent is on offer in major cities for individual practitioners through the Diabetes Association, the College of Physicians and Surgeons and independent academic entities but there is no compulsory training plan in place either in government or private sector. Studies indicate poor frontline management of diabetes and hypertension by licensed doctors in major cities (Jafar et al 2009). While substantial funds for capacity building in the area of MNHC and communicable diseases have been built in through donor support, these have not been extended to NCDs.





Source: Key informant interviews and health facility assessment



Fig 7: Proportion of PHC Staff Reporting Availability of Standard Treatment Guidelines (STGs)

Source: Key informant interviews and health facility assessment

4.3 DIAGNOSTIC SERVICES

This section explores breadth of first line screening in terms of availability for the four tracer conditions of DM, HTN, COPD and breast/ cervical cancers. It further looks at depth of diagnostics offered for each tracer condition.

Oman

Availability of diagnostics and screening at the PHC level varies across different NCD conditions – there is full range of screening tests for diabetes. A structured 'Above 40 Screening Programs' is in place through annual opportunistic screening of patients visiting PHC centres for disease and complications, while annual eye exams and neuropathy check-ups for registered diabetic patients are referred to the ophthalmologists at the tertiary facilities. Hyperlipidaemia testing is available for CVDs, however, peak flow measurement for COPD although in principle available and is yet to be in place across all facilities. Mammography services for breast cancer are found at occasional facilities, mostly governorate hospitals, while routine Pap smear screening is largely not offered at the PHC level. Hepatitis B vaccine is routinely provided in all facilities however there has as yet been no initiative for provision of HPV probably due to low incidence of cervical cancer.

Jordan

Availability of screening and diagnostics varies across different NCD conditions. Basic diagnostics for Diabetes such as Fasting Blood Glucose, BP screening and Hepatitis B vaccination is present across all PHC Centers. Some PHC Centers also provide Pap smear testing and annual breast exam. Focal dedicated clinics offer a more comprehensive range of screening. This includes more advanced DM tests such as HbA1C and Oral Glucose Tolerance Test (OGTT), serum total cholesterol for CVD screening, peak flow measurement for COPD, and mammograms for breast cancer.

Iran

Similar to other member states, the availability of screening and diagnostics differs across different NCD conditions. BP measurement for primary hypertension screening is offered at all PHC facilities supported by laboratory tests including Sodium, Potassium,

Creatinine and BUN as second line tests. Fasting Blood Glucose, Glucose Tolerance Test are provided for diabetes screening and serum cholesterol are offered for at risk CVD patients. An Integrated Risk Factor Control for CVD screening has just been initiated through a pilot in 2014 whereby a Health Card testing on CVD risk factors will be provided through Urban Health Posts and referral of at risk cases to general practitioners.

Screening for COPD includes sputum test and X-Ray for patients with Asthma or cough but is not available at all PHC centres. Pap smear and annual breast exam are limited to PHC centres of 31 provinces. A recent initiative involves provision of Health Certificates specifying Pap smear and mammography testing and is expected to create demand for screening amongst clients.

Morocco

Fasting blood glucose measurement for DM and blood pressure measurement for HTN are available at the Rural Health Centres that form the most basic level of PHC facilities. However, the advanced diagnostics such as HbA1C, Total Cholesterol and fundoscopy are only available at the Extended Health Centres. Mammography is only available at the Reproductive Health Referral Centres. Peak flow measurement for Asthma and COPD, are not present at primary health care facilities. As yet there is no compulsory screening program for population above 40 years of age.

Pakistan

Some level of screening is in place but less as compared to again with considerable variation across tracer conditions. Diagnostics are limited to Blood Glucose testing for Diabetes, while BP measurement and chest auscultation are the standard screening for Hypertension and COPD respectively but are not backed up with any laboratory or radiology. Breast exam, mammography, Pap smear and HPV vaccinations are not offered. The major preventive activity for cancer is Hepatitis B vaccination is extensively offered free of costs as part of the immunization program across public facilities and also being extended to private sector facilities. Risk factor screening is not offered.

4.4 AVAILABILITY OF ESSENTIAL DRUGS

This section reports availability of drugs for the four tracer conditions of DM, HTN, COPD & Tobacco Control and pain management for breast/ cervical cancers. It looks into whether drugs for NCD frontline management area available on essential drug formularies for PHC facilities, actual availability at facilities, and broad funding support.

Iran

NCD drugs on the national formulary for frontline health facilities include Glucophage and Insulin for DM; Beta-blockers, Diuretics, ACE Inhibitors and Calcium Channel blockers for Hypertension; and Corticosteroids, Prednisolone and long acting B Agonist for COPD. NCD drugs included in national formulary are largely available in frontline health systems and are centrally procured. Nicotine replacement agents are present in at least 50% of PHC health facilities. Patients purchase drugs from pharmacy outlets within government health facilities or from the market and are covered by insurance in estimated 90% of prescriptions while 10% of prescriptions involve out of pocket payments. The only monitoring of drug prescriptions is by insurance companies. There is generally irrational prescription prevalent within the private health sector (Rashidian et al 2013) however there is less specific information on the NCD basket of drugs.

Jordan

The National Drug Formulary includes a comprehensive range of WHO recommended medicines for Diabetes, Hypertension and COPD. These include Insulin, Metformin for Diabetes; Beta-blockers, Diuretics, ACE Inhibitors and Calcium Channel blockers for Hypertension; Corticosteroids, Prednisolone and long acting B Agonist for COPD. Most of drugs listed are amply available at the PHC centres. The essential medicines are provided through the Central Store to Governorate Store that is delivered to the health centres according to their requirements, with occasional delays due to centralised procurement system. Cancer pain relief medications and Nicotine replacement therapy for tobacco control are not available at the PHC level. Jordan has a substantial private sector, however there is lack of data on rational use of essential NCD medicines within the private health sector (Bataineh, Kofahi et al. 2011) and concomitant out of pocket spending on medicines by patients (WHO-EMRO 2012).

Morocco

NCD medicines on the Essential Drug List and available at the PHC facilities include Glucophage and Insulin for DM; Beta-blockers, Diuretics, ACE Inhibitors and Calcium Channel blockers for Hypertension; and Corticosteroids, Prednisolone and long acting B Agonist for COPD. Lipid/cholesterol control agents, such as statins, are only available at the Extended PHC centres. Nicotine replacement agents and patches are not available as the Tobacco Control Program has had a recent start. The procurement of medicines is centrally managed whereby the administrative units route their medicine requirements through the Regional Unit to the NCDs Division at the MoH. There is a substantial private sector, with accompanying issues of medicine rational use and affordability in private sector.

Oman

The national formulary includes essential drugs for DM and HTN for use at the PHC level. Drugs included on the national formulary are generally well stocked and available at health facilities, and are fully supported by public sector budget. Drugs provided at PHC facilities include Oral Hypoglycaemic Agents and Insulin for DM; and Betablockers, ACE inhibitors and Calcium Channel Blockers for HTN. However, there has been limited introduction of nicotine replacement therapy due to probably lower levels of smoking in the population as compared to other Member States. Patients treated at hospitals include complicated DM, CVD, COPD and all cancer patients; however patients after tertiary treatment are back referred to PHC facilities or continued care and medicines flow back from hospital to health facility. The private sector in Oman is small; however there is lack of data on rational use of essential NCD medicines by patients.

Legend			1					
++++ Full Coverage		+++ Moderate to High Coverage						
++ Low to Moderate Coverag		+ Limited Coverage						
 No Coverage 	1					I		
	OMAN	JOR	DAN	IRAN	MOROCCO	PAKISTAN		
DIABETES MELLITUS	1	1						
Fasting Blood Glucose	++++	++	++	++	++++	+++		
OGTT	++++	-	_	++		+		
Regular Foot Exam	++++	-	_	_	—	—		
Regular Eye Exam	++++	++	++	++	++	<u> </u>		
Metformin	++++	++	++	++	+++	++		
Other Oral Hypoglycaemic	++++	++	++	++	++	++		
Insulin	++++	++	++	++++	+++	—		
Counselling (Diet + Physical	++++	++	++	++++	++++	_		
Activity)								
HYPERTENSION		-		-				
Blood Pressure Measurement	++++	++	++	++++	++++	++++		
Total Cholesterol	++++			++	++	_		
Aspirin	++++	++++		+++	+++	+++		
ACE Inhibitors	++++	++++		++	+++	++		
Beta Blockers	++++	++++		++	++	++		
Thiazide Diuretics	++++	++	++	+++	+++	++		
Statins	++++	++	++	++	++	_		
ASTHMA & COPD								
Chest X-Ray	++++	+	+	++	++	++		
Spirometry	++	-	_	_	_	_		
Peak Flow Measurement	++++	-	_	_	_	—		
Beta 2 Agonists	++++	++	++	++	++++	++		
Inhaled Steroids	++++	++	++	++	++++	++		
CANCER								
Clinical breast examination	++++	++	++	+	++++	_		
Mammography	+++	+	+		++	—		
Pap Smear	++++	++	++	+	++	1 —		
HPV Vaccine		_	_			_		
Counselling (Breast Self-	++++	++	++	+	+++	_		
Examination)								
TOBACCO CESSATION								
Nicotine Replacement	+	_	_		+	_		
Therapy/Patches								
Counselling and awareness	+	-	_		—	_		
about early sign and								
symptoms								

Table 3: The Breadth and Depth of NCDs Services Coverage

Pakistan

The national drug formulary has medicines for DM, HTN and COPD for use at PHC facilities. These include Thiazide Diuretics, B-blockers and ACE Inhibitors for Hypertension; Oral Hypoglycemic and Insulin for Diabetes; Beta 2 Agonists and Oral Steroids COPD. Medicines for cancer pain management and nicotine replacement products are not included in the formulary. The full range is recommended for Rural Health Centers and a smaller range for the Basic Health units. Procurement involves pre-approved tenders at the Provincial Departments of Health with purchasing taking place within the districts. However drug stock-outs are an issue in government-run PHC facilities. Drug availability has improved in the Basic Health Units that are being managed by a contracting out arrangement across most districts but there are issues of

compliance with formulary and STGs in contracted facilities. Pakistan has an extensive private health sector and irrational prescription and low knowledge of STGs is seen for NCDs amongst general practitioners. Medicine for NCDs is unaffordable even with generic drugs and several folds more expensive with use of originator brands.

4.5 INFORMATION SYSTEMS

This section looks into inclusion of NCDs within existing Health MIS, computerised or manual entry, reporting relationships and use of MIS indicators for NCD planning at the Ministry level and clinical decision making at health facility.

Iran

Systematic record keeping is maintained in every center with reporting on Diabetes, Hypertension, Cancer, Tobacco and COPD. It records patient information, consultations and referrals data and is available for clinical and managerial decision making like procurement of medicines and equipment as well as logistics. Reporting flows back to the MoPH and used for further planning, however reporting is manual and shift to a computerized system has not taken place hence slowing down the compilation and use of data. Iran, as seen also in other regional states, yet does not have a practice of independent assessments of functionality of NCD services at health care facilities.

Jordan

The National Health Statistical Information System (NHSIS) at the MoH is the focal point for MIS in the country. Systemic record keeping is maintained at each facility with reporting on DM, HTN, COPD and Asthma, Cancer, and Tobacco use. The information is manually reported by Rural Health Centers and collated at the Directorate of Information at the MoH and finally to corresponding departments of the Ministry. The Comprehensive Health Centres are connected through integrated information systems and can actually see the records online. Regular information is received at the Directorate of NCD however link between use of this information for service improvement or national level action plan has been challenging.

Morocco

Patients have their own dossier of visits, diagnostics and prescriptions, and similar record is also kept at the PHC facilities. This helps provide essential detail for clinical decision making and the data is used by the facilities for inventory management and requisition of supplies. The record keeping is manual and as yet there has been no shift to computerization that can speed up compilation and use for planning. Information pertaining mainly to DM and HTN is shared with the regional units which subsequently pass on the information to the NCD Division at the MoH. NCD reporting is only through public sector facilities with the exception of cancers where private facilities share the information with the population-based national registries for Cancer at Casablanca and Rabat. The NCDs division uses the data for performance management of the PHC facilities and administrative units as well as program and policy planning.

Oman

PHC centres report monthly on Diabetes and Hypertension and is included in the national MIS system. The information system has been updated to a computerised system that is connected across facilities. It records patient information, consultations and referrals data and is available for clinical and managerial decision making like procurement of

medicines and equipment as well as logistics. The information is also available with the NCD Unit at the MoH for clinical decision making. However reliance for planning is mainly on reported data and there is no system of system of independent supervisory visits to assess the functionality of services and extent to which quality guidelines are being followed.

Pakistan

Pakistan has a computerized District Health Information System with flow back from health facility to district, provincial and national levels. The DHIS reports on COPD, Asthma, Hypertension and Diabetes Mellitus, through 9 indicators. The expansion of NCD indicators within the DHIS is a recent exercise. Information on number of cases reported is supposed to use for forecasting for drugs but data is sub-optimally utilized for facility supplies procurement. There is no system of information provision to patient through slips or dossiers nor is there a follow up tracking system to aid decision making. At the planning level there is generally low utilization of DHIS that in turn has led to lack of diligence in reporting of data for NCD as well as other diseases, hence raising questions of data validity.

Availability	of	Tracer	NCDs	conditions	integrated	in	existing	MIS	system	&	Cancer
Registry											

a	Tracer condition					
Country	Diabetes	Hypertension	COPD &	Cancer	Tobacco	Cancer
Name	Mellitus		Asthma			Registry
Iran						
Jordan						
Morocco						
Oman						
Pakistan						

Source: Key informant interviews and Facility assessment

4.6 COMMUNITY ACTION

This section looks into early detection for better control, self-management support to the patient, rehabilitation services and multi-sectoral prevention programs. It also attempts to capture the mechanism through which community action is being implemented such as through partnerships with NGOs, outreach workers or partnerships with other sectors.

Iran

Existing efforts through Behvarz and Cultural Health Houses is on awareness rising for screening. Although this has an extensive outreach through the Behvarz network, key area of support for home based care and rehabilitation need to be designed, and measures supplementary to the Behvarz network need to be designed for rolling these out. Oxygen and nebulization support for COPD home care is also provided but has to be covered through insurance or self-payment. However pain relief for cancer, management of diabetes, and support for CVD cases is as yet lacking in insurance packages.

The recent self-care strategy and the family physician reform putting more emphasis on community involvement are important entry points for piggybacking NCD care at community level. Initiatives from other department of the MoHME are also in place with varying coverage level in the community, namely related to Nutrition, Tobacco, Mental Health and Alcohol Abuse, but the proliferation of initiatives also creates coordination challenges.

Jordan

There is no specific NCD community action in place however a number of opportunities exist that can be tapped for community support. The Directorate of the Health Education and Awareness has an outreach health promotion and healthy life style program. Each Governorate provides a forum for engaging key civil society organizations and stakeholders, to discuss and inform the Governorate regarding the needs of the communities. An ample number of health committees are present, with intersectoral participation for health awareness and healthy life style promotion. Most of the areas CSOs are represented at the committee along with the public sector functionaries and representatives. Existing efforts through community support is limited to health awareness about healthy diet, healthy life style and importance of screening for chronic conditions including DM and HTN. Less work has been done for self-management support at households, early detection and referral, and rehabilitative services for NCDs are as yet not in place at the community level. Furthermore, concerted beginning is yet to be made at the community level for risk factor control.

Morocco

Community action in Morocco is mainly confined to health promotion activities while expansion into other areas such as early detection, self-management support and rehabilitation has not been made as yet. Health awareness activities are provided by certain NGOs through approval of the MoH. However, in recent years, one of the NGOs called the Lalla Salma Foundation under the patronage of First Lady of Morocco has done significant work in regard to raising awareness about cancers, most significantly, the breast cancer. Morocco has an extensive insurance based system which can be reformed to provide greater provision of community based care and inclusion of important community based outlets such as pharmacies for providing some of the elements of care.

Oman

Community based health awareness sessions for early detection and lifestyle support are designed by health educators placed at the governorate level through community based volunteers .Community Support Groups are voluntary and linked to every health facility. A Community Based Initiative Department in the MoH provides support for Health Education Fairs through community volunteers and helps with logistics support, key activities and community based fund raising campaigns for self-help. The CBI initiatives are also intended for developing a healthy life style environment such as through establishing walking paths, promotion off healthy foods, etc. CBI initiatives are overseen by an Inter-Sectoral Committee led by the respective area's administrative head. One of the success stories in regard to health education and promotion is aforementioned NIZWA Health Lifestyle Project that studies indicate has resulted in the significantly reduced or stagnant figures for prevalence of DM and obesity in the particular region whereas the same figures have risen at the national levels.

CSOs such as Oman Respiratory Society and Oman Heart Society and the National Committee for Tobacco Control are active in terms of awareness raising in the community however evidence is needed on effectiveness of awareness raising and devising of strategies to expand coverage. Rehabilitation services are in place for the elderly at household level through an Elderly Care Program led by the MoH. In addition, home-based services are provided by nurses through the MoH's Department of Nursing, and an Elderly Support Program for assistance with home management of Diabetes supported by the Ministry of Social Affairs. While Oman has a number of entry points at the community level, the plurality of initiatives also makes it challenging to have a unified and synergistic plan.

Pakistan

There are as yet no measures for awareness building for prevention or screening of NCDs or for supporting self-care at home. A number of CSOs and Lady Health Workers also operate in Pakistan supporting priority health activities and can be an important resource for community awareness.

5



SECTION 5: CHALLENGES TO PHC INTEGRATION & RECOMMENDATIONS

All countries in the EMR are signatory to adopting the Regional Framework for NCD Control. Efforts have started off in all countries and there are some common challenges faced, however there is wide variation in terms of progress and countries also vary in terms of specific innovations made for NCD Control.

Section 5 brings together key challenges for integrating NCDs into the PHC systems based on triangulation from our review of country case studies, literature review, and direct questions to country respondents on underlying challenges. These are followed with recommendations for bridging residual gaps for more meaningful integration of NCDs into health systems.

5.1 CHALLENGES: A REGIONAL PERSPECTIVE

A. Perspectives of Key Informants: Regional Challenges

Interviews with policy makers and health facility across the five countries identified key challenges. Responses on perceived challenges have been emerged across the five countries. In perception of policymakers, inadequacy of funding was the major constraint reported across the four countries, with the exception of Oman. Provision of lesser focus on preventive NCD services as compared to curative care expansion was also an overarching issue. Two of the identified issues relate to human resources, in terms of weak capacity and demanding workload on PHC staff. The last issue related to weak inter-sectoral support for NCD Control.



Fig 9: Major Health System Challenges for NCDs Integration into PHC identified by Policy makers

Source: Key informant interviews

Fig 10: Health System Challenges for NCDs Integration into PHC identified by PHC Facilities' Staff



Source: Health Facility Assessment

Responses from health facility staff on key challenges, highlighted human resource issues as the key challenges followed by the identification of lesser focus on preventive NCD services as opposed to curative services. Insufficient structure for screening and management was another key issue identified, followed by lesser facility funds for NCD budget.

B. Triangulated Findings: Regional Challenges Political Ownership

The agenda of mainstreaming NCD control Primary Health Care systems faces the dual challenges of i) a shift from high end specialist care towards primary care network that are less well perceived by both patients and policymakers; and ii) expansion from more

historical agendas of MNCH-FP and Communicable Diseases. Extent of political ownership varies considerably across member states. Countries that have made considerable inroads such as Oman had high level of political ownership from the executive level; Jordan and Morocco have had some patronage from monarchy, while Iran has had the benefit of a pro-poor health system and university involvement in its administration. Pakistan has had the lowest level of political commitment, and is tied in to lukewarm support generally for primary health care.

Funding

Asides from Oman, funding is a constraint for expansion of NCD services in all countries. This is a complex issue in countries such as Jordan, Iran and Morocco are spending significant amount on health sector in general and need to look into ways to improve efficiency of existing funding rather than extensive reliance on new funding. Pakistan, has lowest level of governmental spending, and needs to mobilize supplementary funding. Iran so far is the only country, where there is flow back of tobacco sin tax for NCD Control, with need for similar arrangements in other countries.

Programming of Services

There is partial integration of NCD services into routine health systems. Countries largely offer some level of services for Diabetes, Hypertension and Asthma/ COPD, however greater breadth is needed to include Tobacco Control, Breast and Cervical Cancer services for which are either patchy or non-existent at the frontline level. Depth of services needs much more attention. There is need to work on expanding depth of NCD services. Oman leads in terms of depth of services for Diabetes, Hypertension and Asthma / COPD in comparison to other countries, with Pakistan having the lowest rating. For Diabetes there is good depth of services offered in Oman and Jordan followed by Morocco, for Hypertension there is fairly good depth in Oman, Jordan, Iran and Morocco while for COPD/ Asthma services need further additions in most countries.

Human Resources

Insufficient skilled human resources are a cross-cutting issue across all countries. There is dearth of family physicians in all countries as well as of key allied staff such as pharmacists, nurses and nutritionists. At present there is increasing workload on general practitioners, leading to quality issues with existing services and a constraint for expansion of further services.

Diagnostics

Member States are yet to fully integrate diagnostics for the four tracer conditions at frontline health facilities. There is presently unevenness in terms of breadth and depth of diagnostic services offered for the four tracer conditions. Diabetes screening is better in all states however screening for COPD and CVD is patchy. There is little attention to breast cancer and needs to be a joint area across NCD and Reproductive Health planning entities of the MOH. HBV vaccination is a cost effective measure but again not routinely provided in all countries. Risk factor screening for those 40 years and above or those at high risk needs is missing in most except one member states.

Drugs

Drugs for the three tracers of DM, HTN and COPD are relatively well covered in national formularies but not unevenly provide across the full range of PHC facilities. Lipid control agents and Nicotine replacement products are less well provided. High and middle

income countries do not have issues of drug availability but low income countries such as Pakistan suffer from drug stock outs. There is less known about compliance with STGs for drugs use across public and private sector, and studies indicate high level of irrational prescriptions. Affordability of drugs therapy for NCDs is inadequate in middle and low income countries and requires coverage through pre-paid schemes, drug vouchers or through well stocked government health care centres.

Quality Assurance

There has been a substantial investment in development of STGs and communication materials in most countries, often backed up with training. However there is an absence of on the ground monitoring of the extent to which STGs and training are being utilized in PHC facilities. Information systems are geared towards reporting on patient volume and disease statistics but process evaluation needs concerted attention for quality assurance.

Referrals

At present, with the exception of Oman, there is little gate-keeping between primary and hospital level. Patients can freely access hospitals for NCD frontline care that may be dealt with at PHC facilities, leading to cost inefficiencies. Patients often also loose contact with PHC facilities after referrals to hospitals and there is lack of continued contact and follow up of referred patients.

Harnessing Private Sector

There is a substantial private sector in Jordan, Morocco and Iran, and an extensive one in Pakistan. Harnessing of private sector for NCD frontline services remains an under looked area. Possible measures include accreditation with training and STG support; regulation; contracting out and purchasing services for national insurance schemes.

Coordination Challenges

There has been recent expansion of NCD control initiatives offered both through various programs of Ministry of health as well as other Ministries such as Local Government, Social Welfare etc. The most number of independent initiatives are seen in Iran followed by Oman. This has also created coordination challenges and programs need to fall into a unified framework having common beneficiaries, common timelines and joint M&E targets.

Community Action

Community action is at a nascent stage in most countries. None of the member states have a concerted strategy in place for community action. Activities are often sporadic and lack a concerted strategy and are at best focused on awareness creation, while other areas such as support for home based care, timely follow ups and rehabilitative services are areas needing attention. Depth of community work is mainly confined to raising awareness rather than other areas of early referral, self-management, and rehabilitation. Furthermore, awareness raising mechanism adopted is that of seminars through CSOs or volunteer forums, however the trickle-down effect to households is uncertain. Iran and Pakistan through their existing health outreach programs have the most potential to roll out such services, while other countries that do not have health workers are reliant on initiatives of Social Welfare and other relevant ministries community outreach activities

5.2 CROSS CUTTING REGIONAL RECOMMENDATIONS

Policy

- NCD services at the PHC level need to expand to include CVD, CoPD, and cost effective cancer screening. Further depth of diagnostic services and drugs also need to be added to presently offered Diabetes services in most countries.
- The expansion of NCD services at PHC level has mainly been in terms of curative services. A concerted strategy for promotive care, communication and outreach services is additionally required.
- The introduction of cost-effective services at health facilities need to be supported through larger policy level multi-sectoral control though Food, Media, Occupational Health etc.
- Cost efficiency measures are needed to enhance spaces for NCD control within existing resource envelope. Such measures may involve introduction of cost effective services into insurance benefit plans, changes to provider payments, re-looking essential drug pricing and medicine price capping. Taxes on tobacco, carbonated drinks etc. can be mobilized as supplementary revenues.
- Planning needs to be developed to direct funding towards under covered groups and those more at risk.
- Generation of research statistics may be used to mobilize legislature, executives, and senior bureaucracy. Coalitions of academics, civil society representatives and government experts need to be built for advocating NCD services in primary care networks and reduce inefficient spending on tertiary specialist services.

Organization of Services

- Cost effective best buys for the four NCD tracers need to be shared across countries. Funding for substantial research needs to be provided for assessment of in-country initiatives so as to provide local contextual best buys for the region.
- Production and institutionalization of a dedicated cadre of family physicians while in less resourced countries task shifting from family physicians/ specialists to general practitioners is required. Team approach need to be adopted for shift of certain services from doctors to paramedics.
- Quality Assurance systems need strengthening with on ground supervision of health facilities, independent assessments of quality of services, and a training plan for periodic and mandatory skill updating.
- Referral System needs reinforcement through introduction of gate-keeping and measures for cross referral back to frontline facilities for continued management.
- NCD Essential Drug Surveys are needed to fill evidence gaps on availability, rational use and affordability of a basket of Essential NCD drugs. Such surveys need to be conducted on a periodic basis to provide information on policy effectiveness.
- Public private partnerships are needed in middle and low income countries having a significant private sector. Such partnerships can involve a range of interventions such as accreditation training, standard setting, regulation, and information sharing. Insurance mechanisms and contracting of privates sector services are also important entry points for introduction of NCD packages and targets.
- Advance planning and financial support are needed to counter frequent humanitarian crisis in the EMR Region. NCDs need to be included in service package offered through government, philanthropic and UN agencies, and can be assisted with use of WHO tools for assessing readiness of health facilities.

Community Action

- Community Action requires concerted planning and target setting plan across different program of health ministries and those of other relevant ministries such as Social Welfare, Social Protection, Local Government, Youth etc.
- Program need to expand from provision of awareness sessions to phasing in of early screening, follow up visits, home based care and rehabilitation, through use of country specific local platforms.
- A higher multi-sectoral body headed by Economic Affairs or Planning Departments needs to oversee and combine community action for NCDs through different ministries, focusing on common beneficiaries and joint indicators.

5.3 CHALLENGES AND RECOMMENDATIONS BY HIGH, MIDDLE AND LOW INCOME COUNTRIES

HIGH INCOME COUNTRIES: CASE STUDY FROM OMAN

High income countries have had a solid start to mainstreaming NCD control in PHC services. Sustained and adequate funding, well defined governance structures for steering NCD Control and prevention, and well-functioning health care systems have resulted in advances in NCD integration at PHC level.

Oman started early with a timely political backing and vision and followed a pathway of horizontal integration with the PHC systems managed by the governorates. There is provision of services for 3 tracers however, greater depth of services are offered for diabetes and similar depth of attention is now required for other NCD tracers. There are efforts at quality assurance and continuing expansion of NCD related initiatives. Particularly noteworthy is the gate-keeping system introduced to improve cost efficiency tackling frontline NCD problems. However certain challenges remain that need to be addressed for further effectiveness.

Human Resources

There are persistent challenges in regard to skilled human resources. Certified Family Physicians are in short supply even after import of doctors from South Asian states, with the exception of the urban governorate where better amenities has led to induction of trained family physicians. Few of the facilities are not staffed with nurses, and there is general shortage of nutritionists and pharmacists.

Coordination

With a number of separate NCD control programs in place there are also challenges for coordination across programs. Single reporting systems, single manuals for frontline health facilities and combined quality assurance can help in steering efforts across programs.

Community Action

While there have been concerted efforts at health awareness and early screening and some efforts at patient support at home, the area of home based support and rehabilitations needs strengthening.

Preventive Focus

Rapids inroads have been made in terms of primary care service provision for NCDs, risk factor control is a key area that will need to be addressed through multi-sectoral policy initiatives aimed at Food regulation, dietary awareness and increase opportunity for physical activity, as well as strong community based pilots.

Expatriate Workforce

Coverage to the expatriate worker population is a larger heath systems issue that will need to be addressed by providing insurance -that includes NCDs- to the expatriate workforce through a combination of pooling from state, employers and beneficiaries.

MIDDLE INCOME COUNTRIES: CASE STUDIES FROM IRAN, JORDAN AND MOROCCO

Middle Income Countries in the EMR have come up with visible initiatives for NCD control through frontline services but considerable challenges remain to bring this to scale. These countries visible governance and steering platforms for NCDs, important policy level initiatives, concerted attempts underway for rolling out of NCD through the existing health care systems, and multi-faceted risk control initiatives. However there are still certain constraints that need to be tackled for making further inroads.

All four NCD tracers need to be covered in PHC systems while at present only 2-3 tracers are being covered. Greater depth of services also needs to be added in terms of diagnostics and drugs offered for each of the tracer conditions. Health systems preparedness, funding and coordination across different NCD related initiatives comprise the larger over-arching issues that need to be addressed. Some specific challenges and recommendations are discussed below:

Sustained Funding

Middle incomes countries are providing sustained financing of NCD through own resources and are not reliant on international donor funding. Another point of strength is that the NCD funding is mainstreamed through operational budgets for the PHC system. Providing access to entire population to existing NCD diagnostics and drugs, and or expanding the NCD services to existing covered population will require additional funding. Existing NCD services are not covered by health facility budgets in all countries and require insurance or out of pocket payments by patient, posing danger of partial therapy or discontinuation during treatment. Health spending is already fairly high in these countries therefore there is need to firstly look into better efficiency of existing funding and secondly mobilize resources outside of the health budgets.

Efficiency may be built in through costed NCD packages and stronger gate-keeping at PHC level. The present insurance system can benefit with re-examination of benefits packages, and tie in cost effective targets for cost curtailment. Further funding commitment is required for medicines and diagnostics particularly as greater depth of NCD services are introduced. Insurance provides an important vehicle for collective financial inputs for the system however inequities resulting from lower pay offs by rural populations will need to be addressed by financial resources mobilized from syntax, general services tax and other such revenues as seen in the case of Iran.

Human Resources Capacity

Limited numbers of family physicians, nurses, nutritionists and pharmacists will constrain rapid advances for rolling out of NCDs at service delivery level. Much of the reliance will in foreseeable years will continue to be on generalists. Task shifting from family physicians to general practitioners can successfully cover the basic health centres but family physicians will still be required for the CHC level. At the same time increasing workload on existing PHC staff is a constraint that needs to be considered and balanced with existing demands of MNCH and communicable diseases. Training has been provided but unevenly and shift to a standardized training planning is necessary on DM, HTM, Cardiovascular diseases, COPD and cost effective screening of common cancers. Iran in contrast to other middle income counties has the advantage of the Behvarz network however the capacity of Behvarz and their supervisory system will need to be built for effective mainstreaming into the outreach program.

Private Sector

Most middle income countries have a sizeable private sector however potential of the private sector has not been fully realized for NCD Control. Important opportunities within health sector reform initiatives are present and require strong coordination between NCD Units and health reform planners. Some partnerships have already begun as in the case of Iran for purchasing GP services in Urban Family Practice Model and in Morocco in the area of cancer control. Effective harnessing calls for purchasing of services from private sector for insurance schemes or government funded family practice models. It also calls for better regulation of NCD management skills in private sector through Regulatory Bodies, supplemented by training and accreditation systems that reach out to both public and private sectors. The private sector can also be an important stakeholder to provide home based care at community level.

Coordination

Middle Income Countries has a number of curative and preventive care NCD programs in place that have proliferated overtime, however coordination and integration needs further improvement to have be integrated into a single common plan, common beneficiaries and a joint monitoring and evaluation framework. Multi-sectoral initiatives have been made through various ministries but coordination responsibility often rests with the Health Ministry rather than larger Planning or Economic Affairs Ministries that can more effectively bring different ministries together for coordinated action.

Community Action

With the thrust of current efforts directed at service delivery expansion, community support will require more concerted efforts. Current health awareness and screening efforts are mainly directed towards one off seminars and health fairs. Although these are the starting point for most community engagements, these will be insufficient and require a concerted strategy on follow up care at home, self-management and channels for provision of medicines and rehabilitation support. Each country has a diverse resource base to serve as an entry point for offering these services. Some countries have community based welfare structures run by other government ministries while others have a community based health workers programs and still others have a certain level of CSOs presence.

Influx of Refugees

Given the political context of the Middle East, several middle income countries are prone to influx of refugees from troubled borders. This makes the health system fragile and requires advanced planning with UNHCR and other UN bodies for assistance. NCDs need to be included alongside with communicable diseases in emergency planning.

LOW INCOME COUNTRIES: CASE STUDY FROM PAKISTAN

Low Income Countries in the EMR have come up with visible initiatives for NCD control through frontline services but considerable challenges remain to bring this to scale. These countries are as yet in the process of establishing visible governance platforms for NCDs, and rolling out of programming, hence concerted attempts underway for rolling out of NCD through the existing health care systems, and multi-faceted risk control initiatives. These countries also face considerable challenges in terms of weakly functioning health care systems and inadequacy of health spending. Furthermore with majority of the population utilizing the private health sector in low income countries as, there is also a formidable challenge of harnessing the private sector towards NCD control.

In Pakistan at present only 2 tracers namely DM and HTN are being covered and services provided are cursory requiring further diagnostic and drug support along with necessary skilled human resources, STGs and well established systems for referral. A number of health system reform initiatives aimed at packaging of health services, strategic purchasing and setting up of regulatory structures provide opening for mainstreaming NCDs into frontline health systems. However a number of key bottlenecks need to be understood and are as follows: Some specific challenges and recommendations are discussed below:

Adoption into the Policy Agenda

NCDs are yet to be firmly anchored onto the policy agenda of low income countries. Primary care agendas have been typically driven by international donors with attention to HIV/AIDS, MNCH and Nutrition while government funding priorities have historically tilted towards infrastructure development. There has been an absence of ready statistics and information on NCDs to mobilize public opinion and policy maker's interest, as has been practiced in the case of MNCH-Nutrition. CSOs while active in the MNCH area have not moved into NCD control.

Financing

Pakistan spends less per capita than other countries in the region. However another issue facing it is efficiency of existing funding, as although post devolution health allocations as proportion of public sector budgets have risen considerably NCD related initiatives are focused toward specialty services and primary care remains historically underfunded. While Pakistan has made a beginning with the Essential Health Service Package it needs to commit operational funds for increase in drugs, supplies and diagnostics, as well as capacity building of existing staff. There is as yet marginal donor contribution towards NCDs as governments have been the primary source of NCD initiatives. In less resourced countries any future tapping of donor assistance should be negotiated towards technical assistance such as for capacity building, program design, quality assurance and information systems, rather reliance on drugs, supplies and staff salaries.

Human Resources

Investment is needed for investment and institutional absorption of a dedicated family medicine cadre for services at more upgraded PHC centers and for overseeing task shifting to general practitioners in the basic PHC centers. Greater absorption of pharmacists, nutritionists and counsellors as part of district based focal teams is needed for dedicated support to frontline health centres. Pakistan has a number of medical associations, academic centres and institutes working in the NCD area and joint working needs to be established for STG development and training across both public and private health sectors.

Private Sector

Private sector utilization is mainly due to inadequate government services and can be partly rectified through building up strong services for NCD in government PHC networks. However additional measures will also be needed specifically to harness the private health sector towards NCDs. In Pakistan a number of recent PPP initiatives have recently started in an attempt towards UHC however target setting for NCDs is currently missing within these initiatives. NCD control targets, standardised NCD service packages and inclusion in trainings and STGs offered by NCD Units at the ministry are key essential options that need to be rolled out to the private sector through a mix of regulation and strategic purchasing.

Community Support

The existing services for NCDs are focused towards curative care, and there is as yet no planning for community based awareness for screening and lifestyle changes, nor for cross-sectoral risk factor control through Food, Local Bodies and other relevant sectors. A beginning needs to be made with awareness provision for early screening and lifestyle changes, and then built towards home based support. Pakistan has a number of entry points for health awareness including a large workforce of lady health workers, a market of NGOs, and a rapidly expanding M-Health technology especially relevant for urban low income communities.

5.4 CONCLUSION

Efforts towards NCD integration into PHC services have started off in all countries however there is wide variation in terms of progress and countries also vary in terms of specific innovations made for NCD Control. However there are some common challenges faced.

WHO has played a leadership role in advocating for NCD control and providing policy targets, frameworks and tools for incorporation of NCDs into national planning. This study was undertaken with EHO-EMRO support as an exploratory study to provide information about country progress, key common challenges and issues peculiar to country income sub-set. While previous assessments were conducted through poll surveys of ministries of Health, this study involved desk review, country visits and meetings with a diverse set of stakeholders and facility visits. The limitation of this study is that it cannot provide quantitative assessment of NCD services which would require cross-country survey with adequately large sample sizes.

While most countries have made a solid beginning with integration of NCD conditions into primary care services, moving towards consolidation requires greater depth of services for CVD, CoPD and Cancers. Additional funds required for this needs to come from improving efficiency of existing funding and mobilization of additional revenues from sources other than health budgets such as syntax and general sales tax. Institutionalization of family practitioners, increased posts of nutritionists, pharmacists and health educators, will be required as well as a standardised training plan for existing general practitioners. While MIS systems in all countries have incorporated NCD indicators, there is still need for periodic independent assessments of health facilities and services are required to assess functionality and quality of NCD services. There is also need for NCD related Essential Drug Surveys to assess rational use, availability and affordability of a basket of key NCD drugs Besides strengthening of public sector services as discussed above, there remain two other weak areas in moving ahead: private sector harnessing and community based action.

NCD care takes place both within public and private sector particularly in Middle and Low income countries. It is important for NCD Unit and Reform units to work closely together to mainstream NCD services and preventive care within frontline clinics of the private health sector through regulation, contracting out and insurance packaging options. Community Action requires a more forward thinking plan moving from awareness sessions to a concerted behavioural change strategy for early screening and lifestyle changes, a self-management support and rehabilitative services at the community level. It also requires strong coordination across different outreach platforms of ministry of health and other relevant ministries such as Youth, Social Welfare, Social Protection, Local Government etc.

Finally, countries that have made significant progress have had political championing to mobilize the extra funding required for effective integration, and reaching beyond Health need for multi-sectoral action. Generation of research statistics may be used to mobilize legislature, executives, and senior bureaucracy. Coalitions of academics, civil society representatives and government experts need to be built for advocating NCD services in primary care networks and reduce inefficient spending on tertiary specialist services.

Cross-country sharing of initiatives, periodic independent and standardised quantitative assessments of NCD services, provision of technical and leadership support to less resourced countries, and promoting close dialogue between national policy sub-sets involved with health reform and those involved with NCDs, are suggested areas for future support by the WHO and other development partner.

ANNEXURE 1: LIST OF STAKEHOLDERS

Oman

- Director, Community Based Initiatives
- Director, Private Health Establishments
- Director, Dept. of Nutrition
- Program Manager, Cancers + Senior Specialist, Community Women Health Department
- Elderly Care Program, MoH
- Director, Primary Health Care
- Program Manager, Diabetes Program
- NCD Focal Person, Nizwa Governorate Directorate
- Program Manager, Asthma Program
- Director/Focal Person for NCDs at Federal Ministry
- Director, Cancer Surveillance/Registry
- Health Information Systems/Al-Shifa
- Program Manager, CVD and Hypertension Program
- Advisor Tobacco Program
- Focal person at selected primary health care centers

Jordan

- Directorate of NCD at Ministry of Health
- Head of CVD section, Directorate of NCD
- Cancer prevention department, Ministry of Health
- The Eastern Mediterranean Public Health Network (EMPHNET)
- Director Cancer Control, King Hussein Cancer Center
- Department of Family Medicine, Amman Medical University/ Hospital
- Amman Health Governorate, Jordan
- Director General of Primary Health Care Administration
- Program Director, Royal Health Awareness Society (RHAS)
- Tobacco Control, Ministry of Health
- Department of Nutrition and Physical Activity, Ministry of Health
- Focal person at selected primary health care centers



Iran

- Ministry of Health & Medical Education Center for Non-communicable Diseases Control
- Department of Human resource, Health Network Management
- Oral Health Bureau NCD-Unit, Ministry of Health & Medical Education Tehran, IR-Iran
- Manager, Musculoskeletal Program
- Substance Abuse Prevention and Treatment Office Mental Health, Social Health and Addiction Department
- National Tobacco Control program
- Focal point Nutrition Program, International Affairs at Under Secretary of Public Health
- Health Information System Unit, MOHME
- DM Control & Prevention Program
- CVD Prevention & Control Program
- National Cancer Control Program
- Asthma & COPD Program NCD Center
- Focal person at selected primary health care centers

Morocco

- Ministry of Health, Morocco Epidemiology and control diseases Directorate
- Prevention and control of Non Communicable Diseases, MoH
- Cancer Prevention and control Unit
- Cardiovascular Diseases Unit
- Metabolic and Endocrine Diseases Unit
- Healthy Life Style Unit: A Sub -Division of NCD
- Tobacco Control and Prevention Unit
- Primary health care Division Hospitals and Ambulatory care Directorate
- Population Directorate
- RAMEED Division (Insurance scheme)
- Focal person at selected primary health care centers

Pakistan

- Director General Ministry of National Health Services, Regulation and Coordination
- NCD focal person WHO- Pakistan
- Tobacco focal person WHO-Pakistan
- Department of Chest and Respiratory Diseases, Jinnah Post Graduate Medical Center (JPMC), Karachi
- Oncology Department, Aga Khan University Hospital (AKUH), Karachi
- Department of Cardio Vascular Diseases, Fatima Memorial Hospital Lahore, Punjab
- Department of Chest and Respiratory Diseases, Services Hospital Lahore, Punjab
- Diabetes Institute Lahore, Punjab
- Non Communicable Disease Unit, Department of Health, Government of Punjab
- Provincial Strategic Planning Unit, Government of Punjab
- Office of Director General of Health, Punjab
- Non Communicable Diseases Unit, Department of Health, Government of Khyber Pakhtunkhawa
- Health Sector Reform Unit, Department of Health, Government of Khyber Pakhtunkhawa
- Director Health, Services Department of Health, Baluchistan
- Office of Director General of Health, Sindh
- Health Sector Reform Unit, Department of Health, Government of Sindh
- Focal Persons at selected Rural Health Centers (RHCs)
- Focal Persons at selected Basic Health Units (BHUs)

ANNEXURE 2: REFERENCES

Akhtar, S. S., H. M. Nadrah, et al. (2010). "First organized screening mammography programme in Saudi Arabia: preliminary analysis of pilot round." <u>EMHJ</u>16(10).

Al-Adsani, A., J. Al-Faraj, et al. (2008)."Evaluation of the impact of the Kuwait Diabetes Care Program on the quality of diabetes care."<u>Medical Principles and Practice</u>**17**(1): 14-19.

Al-Azri, M., H. Al-Azri, et al. (2011)."Factors Affecting the Quality of Diabetic Care in Primary Care Settings in Oman: A qualitative study on patientsâ€TM perspectives."<u>Sultan</u> <u>Qaboos University medical journal</u>11(2): 207.

Al-Lawati, J. A., M. N. Barakat, et al. (2012). "Control of Risk Factors for Cardiovascular Disease Among Adults with Previously Diagnosed Type 2 Diabetes Mellitus: A Descriptive Study from a Middle Eastern Arab Population." <u>The open</u> <u>cardiovascular medicine journal</u>**6**: 133.

Al-Mandhari, A., I. Al-Zakwani, et al. (2009). "Quality of Diabetes Care: A crosssectional observational study in Oman." <u>Sultan Qaboos University medical journal</u>9(1): 32.

Al-Saadi, R., S. Al-Shukaili, et al. (2011)."Prevalence of uncontrolled hypertension in primary care settings in Al SeebWilayat, Oman."<u>Sultan Qaboos University medical</u> journal11(3): 349.

Al-Shidhani, T. A., K. Bhargava, et al. (2011)."An audit of hypertension at university health center in Oman."<u>Oman medical journal</u>**26**(4): 248.

Al-Sinani, M., Y. Min, et al. (2010). "Effectiveness of and adherence to dietary and lifestyle counselling: effect on metabolic control in type 2 diabetic Omani patients." <u>Sultan Qaboos University medical journal</u>**10**(3): 341.

Al Khaja, K. A. J., R. P Sequeira, et al. (2005). "Evaluation of drug therapy and risk factors in diabetic hypertensives: a study of the quality of care provided in diabetic clinics in Bahrain*." Journal of Evaluation in Clinical Practice11(2): 121-131.

Alberti, H., N. Boudriga, et al. (2007). ""DammSokkor―: Factors Associated With the Quality of Care of Patients With Diabetes A study in primary care in Tunisia." <u>Diabetes Care</u>**30**(8): 2013-2018.

AlQuaiz, A. M. and S. A. Tayel (2009). "Barriers to a healthy lifestyle among patients attending primary care clinics at a university hospital in Riyadh." <u>Annals of Saudi</u> <u>medicine</u>**29**(1): 30.

Asadi-Lari, M., A. A. Sayyari, et al. (2004)."Public health improvement in Iranâ€"ilessons from the last 20 years."<u>Public health</u>**118**(6): 395-402.

Awad, A. and N. Al-Saffar (2010). "Evaluation of drug use practices at primary healthcare centers of Kuwait." <u>European journal of clinical pharmacology</u>**66**(12): 1247-1255.
Alwan, A., D. R. MacLean, et al. (2010). "Monitoring and surveillance of chronic noncommunicable diseases: progress and capacity in high-burden countries." <u>The</u> <u>Lancet</u>**376**(9755): 1861-1868.

Bank, W. (2011). "Regional Summary for the Eastern Mediterranean Region."

Beaglehole, R. and D. Yach (2003). "Globalisation and the prevention and control of non-communicable disease: the neglected chronic diseases of adults." <u>The Lancet</u>**362**(9387): 903-908.

Bloom, D. E., E. Cafiero, et al. (2012). The global economic burden of noncommunicable diseases, Program on the Global Demography of Aging.

Boutayeb, A., S. Boutayeb, et al. (2013). "Multi-morbidity of non communicable diseases and equity in WHO Eastern Mediterranean countries." Int J Equity Health12: 60.

Baynouna, L. M., A. I. Shamsan, et al. (2010). "A successful chronic care program in Al Ain-United Arab Emirates." <u>BMC health services research</u>**10**(1): 47.

Belal, A. M. and H. G. Al-Hinai (2009). "Community-based initiatives for prevention of non-communicable diseases: Nizwa Healthy Lifestyle Project planning and implementation experience in Oman." <u>Sudanese Journal of Public Health</u>**4**(1): 225-228.

Bhurgri, Y., A. Bhurgri, et al. (2006). "Pakistan-country profile of cancer and cancer control 1995-2004." Journal of the Pakistan Medical Association **56**(3): 124.

Boulos, S., M. Gadallah, et al. (2005). "Breast screening in the emerging world: high prevalence of breast cancer in Cairo." <u>The Breast</u>**14**(5): 340-346.

Cameron, A., M. Ewen, et al. (2009). "Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis." <u>The Lancet</u>**373**(9659): 240-249.

EMRO, W.-. (2013). "Chapter 2: NCDs and developmentpdf, 205kb."

EMRO, W. (2013). "NON COMMUNICABLE DISEASES."

Engelgau, M., S. Rosenhouse, et al. (2011). "The economic effect of noncommunicable diseases on households and nations: a review of existing evidence." <u>Journal of health</u> <u>communication</u>16(sup2): 75-81.

Epstein, J., B. Farthing, et al. (2008). <u>Working Towards Wellness: The Business</u> <u>Rationale</u>. Geneva, Switzerland: World Economic Forum.

Farzadfar, F., C. J. L. Murray, et al. (2012). "Effectiveness of diabetes and hypertension management by rural primary health-care workers (Behvarz workers) in Iran: a nationally representative observational study." <u>The Lancet</u>**379**(9810): 47-54.

Gheorghe, A., U. K. Griffiths, et al. (2013). "The economic burden of non-communicable diseases (NCDs) in low-and middle-income countries (LMICs): a systematic review."

Hamad, H. M. A. (2006). "Cancer initiatives in Sudan." <u>Annals of oncology</u>17(suppl 8): viii32-viii36.

Heidari, K., S. A. Sajjadi, et al. (2012). "Establishment of health clinics as mass screening and referral systems for chronic non-communicable diseases in primary health care." International journal of preventive medicine**3**(3): 173.

Heydari, G., F. Talischi, et al. (2012). "Comparison of tobacco control policies in the Eastern Mediterranean countries based on tobacco control scale scores." <u>EMHJ</u>18(8).

Hafeez, A., B. K. Mohamud, et al. (2011). "Lady health workers programme in Pakistan: challenges, achievements and the way forward." JPMA-Journal of the Pakistan Medical Association61(3): 210.

Jafar, T. H., F. H. Jafary, et al. (2005). "Heart disease epidemic in Pakistan: women and men at equal risk." <u>American heart journal</u>**150**(2): 221-226.

Kazem Zendehdel, M., PhD (2013). "Evaluation of Standards and Coverage of Population Based Cancer Registry (PBCR) in Iran." Kronfol, N. M. (2012). "Historical development of health systems in the Arab countries: a review." <u>EMHJ18(11)</u>: 1151-6.

Kronfol, N. M. (2012). "Historical development of health systems in the Arab countries: a review." <u>EMHJ</u>18(11): 1151-6. MacColl, c. c. m. (2012). "The Chronic Care Model : Improving Chronic Illness Care."

from www.improvingchroniccare.org/index.php?p...Chronic_CareModel&s.

Musaiger, A. O. (2011). "Overweight and obesity in eastern mediterranean region: prevalence and possible causes." Journal of obesity **2011**.

Narayan-Parker, D. and R. Patel (2000). <u>Voices of the poor: can anyone hear us?</u>, World Bank Publications.

Rahim, H. F. A., A. Sibai, et al. (2014). "Non-communicable diseases in the Arab world." <u>The Lancet</u>**383**(9914): 356-367.

Samb, B., N. Desai, et al. (2010). "Prevention and management of chronic disease: a litmus test for health-systems strengthening in low-income and middle-income countries." <u>The Lancet</u>**376**(9754): 1785-1797.

Mendis, S., I. Al Bashir, et al. (2012). "Gaps in capacity in primary care in low-resource settings for implementation of essential noncommunicable disease interventions." International journal of hypertension**2012**.

Murray, S. A. and H. Osman (2012). "Primary palliative care: the potential of primary care physicians as providers of palliative care in the community in the Eastern Mediterranean region." <u>EMHJ</u>18(2).

Othman, A., M. Ahram, et al. (2014). "Knowledge, Attitudes and Practices of Breast Cancer Screening Among Women in Jordan." <u>Health care for women international</u>(ahead-of-print): 1-15.

Sarraf-Zadegan, N., G. Sadri, et al. (2003). "Isfahan Healthy Heart Program: A comprehensive integrated community-based program for cardiovascular disease prevention and control." <u>Acta cardiologica</u>**58**(4): 309-320.

Shahpurwala, M. M., N. Sani, et al. (2006). "General medical practitioners in Pakistan fail to educate patients adequately about complications of diabetes." <u>Practical Diabetes</u> International**23**(2): 57-61.

Yassoub, R., S. Hashimi, et al. (2013). "Responsiveness of Lebanon's primary healthcare centers to non $\hat{a} \in \bullet$ communicable diseases and related healthcare needs." <u>The</u> International journal of health planning and management.

Yusuf, M. O. (2009). "Systems for the management of respiratory disease in primary care–an international series: Pakistan." <u>Prim Care Respir J18(1)</u>: 3-9.

MoH (2010). "National Program for Family Planning and Primary Health care " The Lady Health Workers Program in Pakistan ".

MoH (2010). "National Program for Family Planning and Primary Health care " The Lady Health Workers Program in Pakistan ".

Pakistan, G. (2010). "PDF]National Program for Family Planning and Primary Health care " The Lady Health Workers Program ".

WHO-EMRO (2006). "Health care financing and expenditure - What is GIS

WHO-EMRO (2013). "Demographic, Social and Health Indicators for Countries of the Eastern Mediterranean Region ".

WHO (2010). Health services utilization and out-of-pocket expenditure at public and private facilities low-income countries.

WHO-EMRO (2011). Plan of action for the prevention and control of ...

WHO-EMRO (2014). "WHO-EMRO Technical Paper".

WHO (2008). "Global Burden of Disease - World Health Organization."

WHO (2010). "Global status report on Non communicable diseases ".

WHO (2011). Global Action Plan for the Prevention and Control of NCDs.

WHO (2011). "Plan of action for the prevention and control of noncommunicable diseases in the Eastern Mediterranean Region."

WHO (2011). Strategic directions to improve health care financing in the .

WHO (2011). WHO | United Nations high-level meeting on control and prevention of NCD

WHO (2011). "WHO Global Status Report on Alcohol and Health 2011."

WHO (2014). "WHO | Prevalence of insufficient physical activity."

World Health, Organization. (2010). <u>World health statistics 2010</u>, World Health Organization.

WHO-EMRO (2008). WHO EMRO | Technical consultation of the NCD integration into PHC in EMR www.emro.who.int/.../ncd.../technical-consultation-integration-non-com..

WHO-EMRO. (2009-2013). "Strategy for cancer prevention and control in EMR ", from <u>www.emro.who.int/dsaf/EMRPUB_2010_1278.pdf</u>.

WHO-EMRO. (2010). "Country Cooperation Strategy for WHO and Oman 2010–2." from www.who.int/countryfocus/cooperation_strategy/ccs_omn_en.pdf.

WHO-EMRO (2011). Country Cooperation Strategy for WHO and Somalia 2010.

WHO-EMRO (2011). Iraq health information system review and assessment.

WHO-EMRO. (2012). "First coordination meeting on the regional comparative ...", from www.emro.who.int/.../meeting-breast-cancer-research-january2012.html.

WHO-EMRO (2006). "Health care financing and expenditure - What is GIS

WHO-EMRO (2013). "Demographic, Social and Health Indicators for Countries of the Eastern Mediterranean Region ".

WHO (2005). "STEPwise approach to chronic disease risk factor surveillance."

WHO (2008-13). Country cooperation strategy-Jordan.

WHO. (2010). "Health services utilization and out-of-pocketexpenditure at public and private facilities low-income countries." from www.who.int/healthsystems/topics/.../healthreport/20public-private.pdf.

WHO (2005). "STEPwise approach to chronic disease risk factor surveillance."

WHO (2008-13). Country cooperation strategy-Jordan.

Zaidi, S. and N. A. Nishtar (2012). "Rational prescription & use: a snapshot of the evidence from Pakistan and emerging concerns." <u>therapy</u>19: 20

Annexure 3:

Data Extraction Form

Author(s)Name And Year of Publication	Study design	Study aims/scope	Focus country	Type of NCD	Health system component	Recommendation/lesson			
Medicine and Drug prescription at PHC									
Khalid A. et al (2004)	Retrospective cohort study	To evaluate control of blood pressure (BP) and diabetes and the associated risk factors in diabetic hypertensive treated by diabetic clinic primary care physicians	Bahrain	Blood pressure and Hypertension	Drugs prescription/in appropriate medication	Intensive antihypertensive and anti -diabetic complementary combination therapy should be encouraged. Continuous professional education of diabetic clinic physicians and expert-supervised diabetic clinics are desirable.			
AbdelmoneimAwad et al (2010)	Cross sectional study	The aim of this study was to investigate current prescribing and dispensing practices at primary healthcare centers in Kuwait and compare them with those reported in other countries.	Kuwait	Nonspecific Chronic diseases	Drugs prescription at PHC	Irrational and inappropriate drug prescriptions along with dispensing errors were observed at PHC level in Kuwait. Cost-effective, multifaceted interventions to improve current prescribing and dispensing practices are needed. Drugs should be properly labeled and stored			

- 2

Mendis et al 2007	Cross sectional survey	To assess the availability and affordability of medicines used to treat cardiovascular disease, diabetes, chronic respiratory disease and glaucoma and to provide palliative cancer care in six low- and middle-income countries	Pakistan	Nonspecific Chronic diseases	Drugs prescription	Context-specific policies are required to improve access to essential medicines. Generic products should be promoted by educating professionals and consumers, by implementing appropriate policies and incentives, and by introducing market competition and/or price regulation. Improving governance and management efficiency, and assessing local supply options, may improve availability. Prices could be reduced by improving purchasing efficiency, eliminating taxes and regulating mark-ups
Community Action	n and Risk Factor Control			Ι		
Aljoharah M. AlQuaiz, (2007)	Cross sectional	To identify barrier to physical activity and healthy eating among patients attending the primary health care clinics in Riyadh City.	KSA	Nonspecific Chronic diseases	Prevention/service delivery	Improvements in the physical environment and infrastructure are needed with more access to affordable healthy food choices
AbdelrahimMutwakel Belal1 Tobacco Control	Program paper	To share the planning experience of NHLP with other countries and documentation of the methodology used in planning and implementation of NHLP.	Oman	CVD, hypertension	Prevention /service delivery	Encouraging change in self and society Introducing intersectoral coordination and partnerships Breaking the vicious cycle of dependency through active community participation (community development for the people, by the people)

G. Heydari, et al (2012)	Cross sectional	To provide an overview of tobacco control strategies in the countries of the Eastern Mediterranean Region (EMR)	EMR	Tobacco Control	Prevention/service delivery	The low overall score in EMR countries compared with European countries calls for better future planning and policymaking for tobacco control in the EMR
Human Resource						
Tazeen H. Jafar, et al (2007)	Clustered Randomized FactorialTrial/intervention study	To assess the cost effectiveness of three interventions ((1) combined home health education (HHE) plus trained general practitioner (GP); (2) HHE only; and (3) trained GP only with no intervention (or usual care) in BP control	Pakıstan	Blood pressure	Clinical management	Combined home health education plus training of the GP cost effectively halt the burden of BP in low resource setting and needs up scaling of the intervention to wider population.
Antonio Ceriello et al (2012)	Review Article	The paper is intended to contribute ideas on personalized chronic disease management especially on DM	Non specific	DM	Prevention	Recommends six step cycle for personalized diabetes self- management
FarshadFarzadfar et al.(2012)	Retrospective Study based on NCDSS survey data	Aim was to examine the effectiveness of the Iranian rural primary health-care system (the Behvarz system) in the management of diabetes and hypertension, and to assess whether the effects depend on the number of health- care workers in the community	Iran	DM, HTN	Clinical Management/service delivery	Primary care systems with trained community health-care workers and well established guidelines can be effective in non-communicable disease prevention and management. Iran's primary care system should expand the number and scope of its primary health- care worker programs also address blood pressure and to improve performance in areas with few primary care personnel.
NudratNoor Qureshi	CRCT	To determine the	Pakistan	HTN	Clinical	Special training of general

et al		impact of a simple			Management/service	practitioners with a simple
(2007)		educational package			delivery	educational package on
		for general				management of hypertension
		practitioners on				led to significantly improved
		adherence to				adherence among
		antihypertensive drug				communities in Pakistan
						Simple interventions
						emphasizing good
						immunization between
						doctors and patients should be
						adopted by other developing
						countries.
Usman et al 2014	Cross sectional	To find out	Pakistan	Quality	Clinical/Service	High number of average drugs
		prescription patterns			delivery/Drugs	per prescription mostly using
		of general			prescription	brand names, and over-
		practitioners in				prescription of analgesics,
		Peshawar				antimicrobials, multivitamins
						and anti-ulcer drugs. Quality
						of written prescriptions was
						poor in terms of completeness.
S.Mendis et al (2012)	Survey	To conduct feasibility	Sudan and	HTN, DM	Infrastructure,	Prevention, early detection,
		studies for scaling up	Syria	Asthma &	Drugs, HR,	diagnosis, and management of
		delivery of NCD		COPD and Cancer	Diagnostics,	NCDs are compromised due
		interventions in PC			financing /service	to critical health system gaps
		using the WHO			delivery	at PC level. Health system
		package of essential				strengthening, particularly at
		NCD interventions				PC level is a prerequisite for
						scaling up prevention and
						control of NCDs in resource-
						constrained settings.
Policy for risk factor	prevention					
S.S. Akhtar, et al	Cross sectional	Aim of this study was	KSA	Breast Cancer	Early risk factor	Organized screening programs
(2010)		to analyse results of			Prevention	can ensure quality control of
		the pilot screening				the screening process and
		round for Al-Qassim				monitor interim indicators
		Screening				showing whether the program
		Mammography				is on track towards achieving
		Programme and				a reduction in breast cancer
		compare with				mortality in the population
		international				

		standards				
MM Shahpurwala et al (2005)	Cross sectional	To assess the knowledge and practice of GP treating diabetes in clinics	Pakistan	Diabetes	Quality	Continued medical education should be emphasized for GPs in Pakistan, and the need for public investment in health and health care systems which include appropriate education about preventing complications of diabetes
N.M. Kronfol (2012)	Review	This paper examines the health services provided to the older population (especially those with physical limitations) and the people with mental illnesses in Arab countries	Arab World	Mental health	Quality	Raising awareness the health needs of such groups is a crucial measure that ought to be undertaken in close collaboration with users' groups, civil society organizations and the media.
YasminBhurgri et al (2006)	Review	Assessing the different type of cancers (tobacco related cancers, breast cancer) and geographical variation in Pakistan and different programs for cancer prevention	Pakistan	Cancer Breast and Cervix	Prevention	The high cost of late detection and treatment of the Breast cancer should be halt through primary prevention at community level or PHC
Jawad A Al- Lawati1, et al (2012)	Descriptive Study	To estimate the proportion of patients with T2DM at goal for glycaemia and CVD risk factors using the National Diabetes Guidelines (NDG) and the American Diabetes Association (ADA) clinical care	Oman	Diabetes	Quality/CVD risk factor control	Control of hyper glycaemia and other CVD risk factor appears to be suboptimal in Omani patients with T2DM and need to be addressed in the triad of patient, physician and health system

S.A. Murray (2012)	Review	guidelines; and to assess the quality of selected services provided to patients with T2DM. Aim of the study is to	EMR	Cancer	Quality	Palliative care should be
		emphasize on palliative care for chronic patients at PHC level in EMR				integrated into all health and social care settings,
M. Asadi-Lari et al (2004)	Review	To review health needs literature and to describe Iranian primary Health care (PHC) achievements in developing a needs- driven health system.	Iran	General health system	Health care organization	Major improvements in health followed health system reform The health needs model of care is relevant to other developing, and developed, countries
Rami Yassoub1, et al (2013)	Qualitative study used semi structured guidelines for interview	To assess the responsiveness of PHC for NCD management	Lebanon	Nonspecific NCD	Health care organization /service delivery	Wide variation was observed across the facilities in service provision.
N.M. Kronfol (2012)	Review	This paper reviews the essential components of health care delivery systems in Arab countries and their development over the past 3 decades	Arab World		Health system	Governments have an important role in health development in the Arab region,
Mohammed Osman Yusufa 2008	Review	Assessment of health system management for Asthma in PHC	Pakistan	Asthma	Health system/primary health care	The government should focus providers in primary level in terms of Numbers, skills development, and timely supplies to the PHCs
Azam, Khuwaja et al (2010).	Cross Sectional	To assess quality of care for management of DM 2	Pakistan	DM	Quality of PHC	There is a need for overall improvement in the quality of diabetes care. Further research is also needed to evaluate the reasons for poor diabetes care,

						and to identify the most cost-
						effective means to address
						these.
(S.Zaidi et al 2011).	Landscaping	To conduct a peer review and gray literature on prescribing pattern and drug dispensing in Pakistan	Pakistan		Health System	There is excessive drug use in Pakistan compared to the average for LMICs with inappropriate prescribing, high use of injections and antibiotics, choice of more expensive drugs, inadequate dispensing and weak community pharmacy. Policy concerns include excessive drug registration, poor enforcement of essential drug lists and standard management protocols, open access of industry to health providers, and lack of private sector regulation.
Hugh Alberti, et al 2007	Retrospective cohort	To identify the organizational, physician, and patient factors associated with the quality of care of patients with diabetes in a low-/middle- income country.	Tunisia	DM	Quality	Use of chronic disease clinics, availability of medication, and possibly doctor motivation appear to be the most strongly related modifiable factors influencing diabetes care.
WHO-Documents						
WHO, 2012	Meeting	The objectives of the meeting were to discuss a plan of action for implementation of a regional comparative breast cancer research program	EMR	breast cancer	Piloting cancer facilities Monitoring & evaluation	The project was adopted in four EMR member countries. IARC will be responsible for data management. It will also develop online data entry system and will give passwords to each country.
WHO, 2013	Meeting	Review progress made by member	EMR	Risk factors	Governance Surveillance	Identified priority actions needed to implement the

		states on Political declaration of NCD Identify gaps in prioritizing and progress of actions Define areas needing technical support Develop collaborative network for NCD			Risk factor reduction	commitments made under the Political Declaration of the High-Level Meeting WHO has been requested to support Member States technically, as well as through capacity- building in implementing the agreed actions.
WHO, 2011	Meeting	Introduce the NCD research agenda in the context of the regional NCD action plan Identify regional research priorities Develop approaches to using research evidence	EMR	All NCDs	Research Evidence based decision making	Participants agreed that the focus during the meeting should be on how to use the global NCD research agenda in guiding regional action and setting relevant regional and national research priorities. The importance of having a balanced research agenda, incorporating all types of research was highlighted.
WHO, 2011	Meeting	Raise the priority accorded to NCD in development work at global and national levels and integrate prevention and control of such diseases into policies across all government departments.Establish and strengthen national policies and plans for the prevention and control of NCD Promote interventions to reduce the main shared modifiable	EMR	All NCDs Risk factors	Risk reduction Research	Each country will identify a set of indicators to monitor the trends of NCD and their risk factors and establish a mechanism for the sustainable collection of data with strengthening of national capacity. WHO will Provide technical support to countries for standardized collection of data for surveillance, monitoring and evaluation and to strengthen their capacities.

		risk factors for NCD Promote research for the prevention and control of NCD				
WHO, 2012	Meeting	To review the progress on implementing NCD action plan To discuss political & policy relevance To identify new challenges & opportunities To discuss supporting role of member states	EMR	All NCDs Risk factors	surveillance, prevention, management and capacity building	Despite the increasing level of unhealthy lifestyles and risk factors for NCDs in the Region, policies, plans and program still require considerable strengthening in most countries National policies and plans for the prevention and control of NCDs are often underfunded. There is a major gap in surveillance of NCDs and their risk factors. Insufficient resources are allocated to strengthening national capacity and conduct of prevention and implementation research
WHO, 2013	Meeting	Discuss the key NCD strategic initiatives to support Member States implementing the Strategic Framework Agree on a plan for collaboration to strengthen the technical capacity of the Regional Office in the area of NCD and develop a regional network of experts to support countries in the implementation of the Political	EMR	Risk factors	Risk reduction	Each session included a brief introductory presentation by the WHO Secretariat and temporary advisers followed by plenary discussions to agree on set of key action recommendations for forward action by Member States. Risk factors and ways to prevent them were discussed in detail.

		Declaration				
THE RIYADH DECLARATION, 2012	Conference	Recognize the right of everyone to the enjoyment of the highest attainable standards of physical and mental health, and in particular through NCD prevention and control Affirm our commitment to the pledges stated in the United Nations General Assembly Political Declaration (UNGAPD) on NCD Prevention and Control	Riyadh	All NCDs	Risk reduction Financing Service delivery	An annual screening package for early components of the metabolic syndrome should be available to asymptomatic adults, through primary health care facilities, fully or largely subsidized based on the health insurance system and available finances in each country. Schools must be recognized as a major venue for NCD prevention. Focus on life style change and risk reduction
WHO, 2013	Report	To promote national cancer control planning and implementation among MemberStates.To strengthen cancer prevention, early detection and cancer management.To promote mobilization of resources for cancer controlTo strengthen cancer registration and availability of reliable data and promote cancer research.	EMR	All NCDs	Risk reduction Diagnostic Monitoring & evaluation	Cancer is already an important health problem in the Region and will become increasingly important in terms of rank order, as infections are better controlled, and in terms of incidence and mortality, which will both increase as populations continue to grow and age, and as the risk factors for cancer that are associated with greater influence increase.
WHO, 2008	Meeting	Identify and discuss	EMK	All NCDs	KISK reduction	wiember countries identify

			0			
		various issues related			Service delivery	national chronic disease
		to the integration of			Capacity building	burden and measure the
		NCD in primary			FinancingHMIS	utilization of primary health
		health care Develop a				care, including preventive,
		common				screening and management
		understanding of				care related to NCD and plan
		several issues related				for resources required WHO
		to integration,				will develop a template for
		including the role of				essential items required for
		primary health care in				the integration Will assist
		NCD Outline a				countries in developing
		framework for				national plans based on the
		country action to				burden of diseases and will
		proceed with the				Provide support to Member
		integration of NCD in				States in providing essential
		primary health care.				requirements for integration
WHO, 2009	Report	To prevent	EMR	Cancer	Early detection	There a pressing need to
		preventable cancers			Service delivery	elevate the current priority
		(through avoiding or			Monitoring	given to cancer as a health
		reducing exposure to			Research	problem, and to implement
		risk factors) To cure			Financing	efficient and integrated cancer
		curable cancers (early				control program in all
		detection, diagnostic				countries.WHO will work
		and treatment				with policy and decision-
		strategies); To				makers to promote investment
		manage for success				in cancer prevention,
		(strengthening health				detection, treatment and
		care systems;				palliative care as a pressing
		management,				need that is cost-effective.
		monitoring and				
		evaluation of				
		interventions				
Maher et al	Commentary	A global framework	Uganda	All NCDs	Service delivery	In many developing countries
2009		for action to improve			Monitoring	the current approach to
		the primary care			Risk reduction	delivery of primary care
		response to chronic				interventions for people with
		NCDs: a solution to a				chronic NCDs is often
		neglected problem				unstructured and inadequate.
						The elements of the proposed
						tramework for NCDs

						comprise a goal, strategy and targets, a package of interventions for quality care, key operations for national implementation of these interventions, and indicators to measure progress towards increasing the impact of primary care interventions on
WHO, 2010	Meeting		EMR	All NCDs	Risk reduction	chronic NCDs.NCDs account for over 60%of disease burden, with majorimpact on quality of life, buthave long-term impact onnational health financing, onsocioeconomic developmentand on family income. Yet,they are preventable to a largeextent.It makes no sense not to put inplace strong preventionprograms to raise publicawareness, focusing onhealthy lifestyles, tobaccocessation, physical activity,balanced diet and frequenttimely health checks.
WHO, 2012	Meeting	To reducing environment-related communicable diseases; controlling environmental risks for NCDs and injuries; protecting the most vulnerable populations from environment-related diseases; and strengthening capacities for	EMR	All NCDs	Service delivery Financing Technical resources	There is a general consensus that health is central to the post-2015 development agenda. How the new goals for health should be formulated needs to be debated in an open, transparent and widely consultative process that ensures: a high level of commitment and ownership among countries and development partners alike;

		emergency				identification of clear goals
		preparedness and				and objectives that can be
		response.				effectively monitored; a
						seamless blend of the
						Millennium Development
						Goals with the
						Post-2015 development
						agenda; and continued and
						intensive advocacy for
						mobilization of financial and
						technical resources in order to
						achieve the post-2015 agenda
						for health.
WHO, 2012			EMR	All NCD	Risk reduction	United Nations Political
					Governance	Declaration on NCD, covering
						the areas of governance,
						prevention and reduction of
						risk factors, surveillance, and
						health care. Partnerships and
						integration of NCD into
						primary health care must also
						be strengthened. Action to
						implement the WHO
						Framework Convention on
						Tobacco Control needs to step
						up, and much greater attention
						needs to be given to diet and
						physical activities.
AlaAlwan, UN, 2011	Commentary		EMR	All NCDs	Capacity building	While our Region is
· · · · · · · · · · · · · · · · · · ·	Commonium y		2	11111025	Financing	increasingly recognizing the
					Governance	importance of NCDs as a
					Governance	leading health challenge
						action has been generally slow
						and fragmented in many
						countries National policies
						and plans for NCDs are often
						underdeveloped or non-
						operational
						All countries need to tackle
						the existing gaps and scale up
	1		1			the existing gaps and scale up

						action to combat NCDs. Multisectoral national policies and plans need to be developed and strengthened in partnership with key actors in non-health sectors.
Documents retriev	ed During country Visits					
Title of the document	Type of Document	Study aims/scope	Focus country	Type of NCD	Health system component	Recommendation/lesson
Operational and Management Guidelines for NCD screening Program	Program document	Early detection of NCD Early detection NCD risk factor	Oman	NCD	Service Delivery	Provide a manual for early detection of NCD and its related risk factors. Provided STG lines for accurately checking blood pressure, height weight
Guidelines for the management of Asthma	Program document	Early detection and management of Asthma and COPD	Oman	Asthma	Clinical Guidelines	Provided STG for diagnosis and management of Asthma
Diabetes Mellitus Management Guidelines	Program document	Early detection and management of DM	Oman	DM	Clinical Guidelines	Provided STG for diagnosis and management of DM
The management of HTN in PHC	Program document	To manage HTN at PHC	Oman	HTN	Clinical Guidelines	
Bronchial Asthma Chronic Obstructive Pulmonary Disease (COPD)	Program Document	To provide recommendations to guide primary health care physicians in their management of patients with Bronchial Asthma	Jordan	Asthma	Clinical guidelines	Provided STG for diagnosis and management of Asthma
The National Strategy And Plan Of Action Against Diabetes, Hypertension, Dyslipidemia And Obesity in Jordan	Program document		Jordan	DM/HTN	Health system	
A National Healthy Diet Strategy and Plan of Action	Program Document	To increase the physical and economic access by	Iran	Physical Activity and Diet	Risk factor	

For Islamic Republic of Iran National Model for Salf Care Programs	Program Document	all the people to a healthy, diverse, safe and nutritious diet A Situational and stateabolder analysis	Iran	Self-care for NCD	Risk footor/provention	
of IR. Iran		stakenoider anarysis			NCD	
Situation analysis of elderly policy in Iran	Program document	Evaluating elderly policy in Iran	Iran	NCD		An operational body with taskforce of its own to be created. This is needed to ensure decision making power in all those areas where health is overlapping welfare (and other fields assigned to other ministries than health) e.g. in minimum 20 action points. Because one third of the action points are directly health issues (n=23) or overlapping health issues (n=20), the leadership in these issues should come from MOHME. An operational leader (full day job), with or without a strategic co-leader (half to full day job) to be nominated
Evaluation of standards and coverage of population based cancer registries	Cross sectional	To evaluate the standard and coverage of population based cancer registries	Iran	Cancer	Risk factor/ cancer prevention	Only 30% of the standards were found in the PBCR guideline and 20% of the standards were partially covered in the guideline. The annual report of the national cancer registry, met 55% of the standards completely and 35% of the standards partially. The main limitation in the annual report was the interpretation part and reviewing by the consultants,

						which can be improved easily.
Needs assessment for implementation of the WHO Framework Convention on Tobacco Control in Islamic Republic of Iran	Program document	Needs assessment for FCTC Implementation in IRAN	IRAN	Tobacco Control	Health system	
Health Promotion in Iran	Report	Report on the consultancy to the Ministry of Health, Treatment and Medical Education, Iran and the WHO Country Office, Iran to review the health promotion strategies, with special reference to intersectoral policies	Iran	Overall health /nutrition/physical activity	Health system	Intersectoral work for health needs a well-functioning high level intersectoral body that can develop, decide, implement and monitor intersectoral actions for health. It is proposed that a revitalized High Council for Health and Food Security (HCHFS) would serve that purpose.
Essential Package of Health Services for Primary Health Care Facilities in Sindh	Program Document /Technical Component	Package of health services for PHC	Pakistan	NCD	Service Delivery	
WHO-PAKISTAN BIENNIAL REPORT 2012-13	Program document		Pakistan	NCD	Service Delivery/Health system/ risk factor	