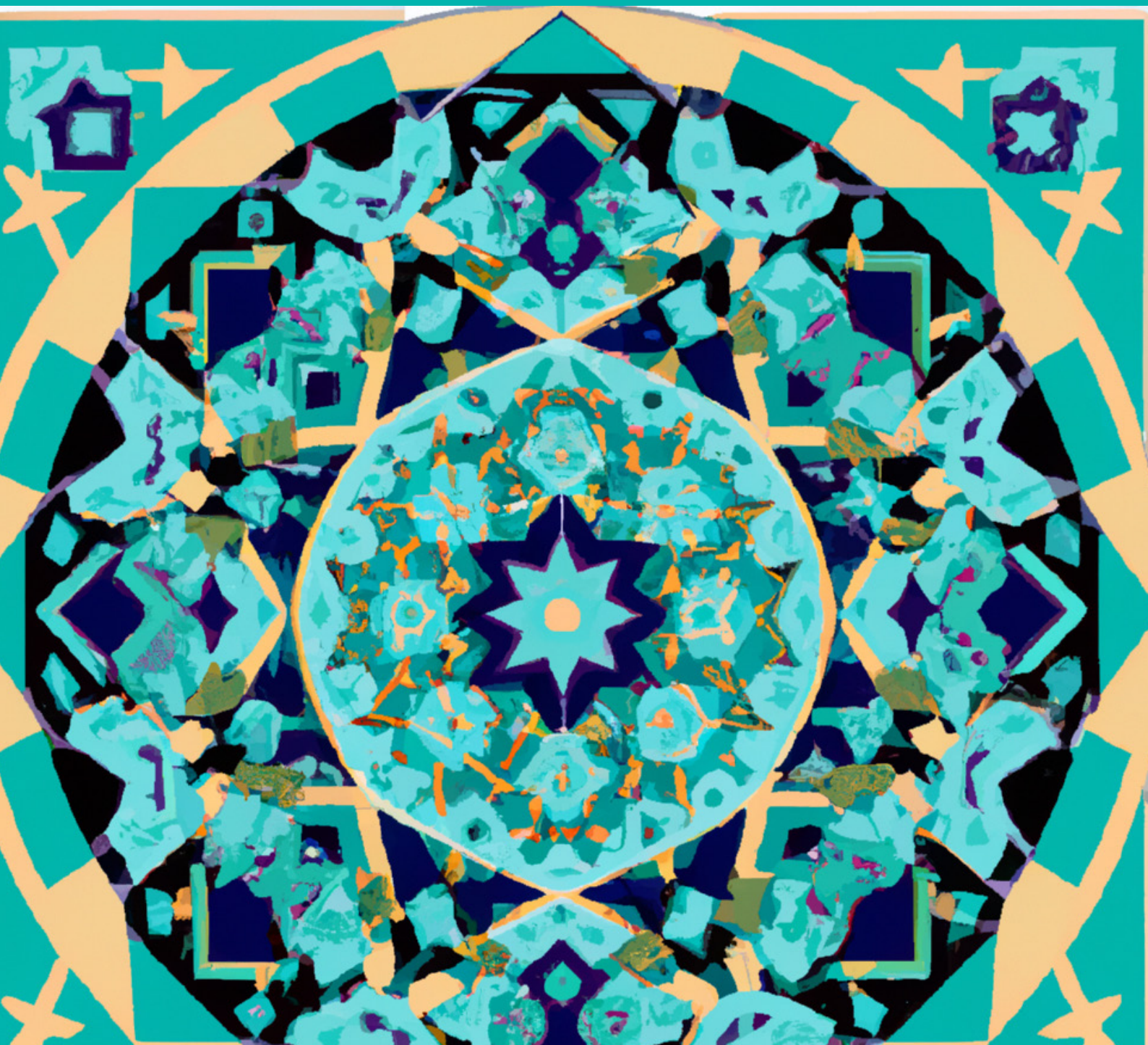




Primary Healthcare Costing Synthesis Report



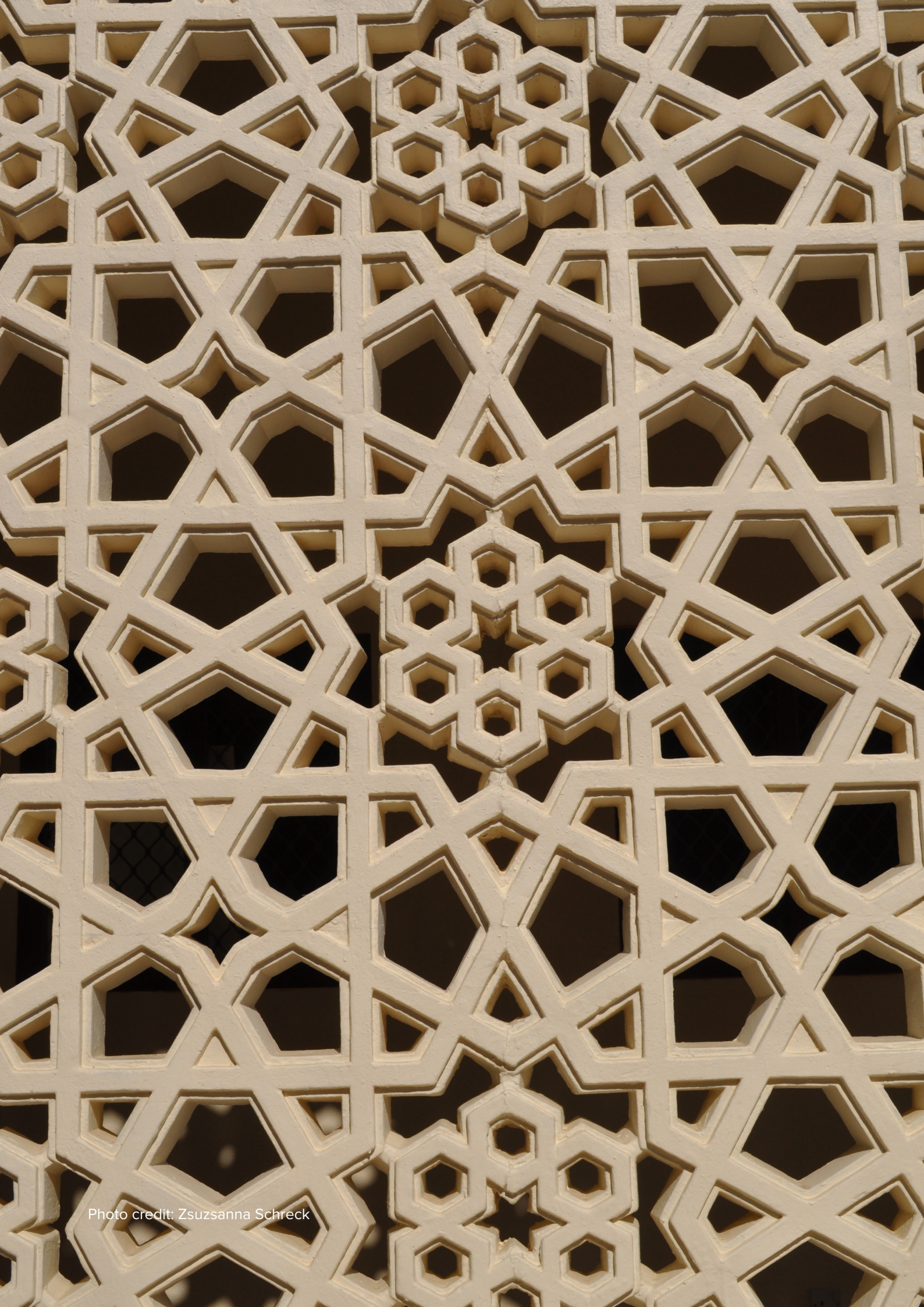
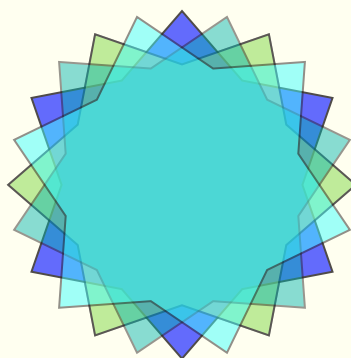


Photo credit: Zsuzsanna Schreck

Costing health services delivered at primary care facilities in the Gulf Cooperation Council countries



A six-country synthesis report





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Executive summary

Strong primary healthcare (PHC) is the key to more efficient health systems with lower health spending and better health outcomes. A first step to strengthening primary care services is to evaluate current performance. This report determines the cost of selected clinical services provided at the primary care level across six Gulf Cooperation Council (GCC) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE). The cost of a selection of public sector primary level clinical outpatient services was estimated in each country based on costs of the health workforce as well as drugs and supplies to further promote preventative and close-to-client services in the region, giving a snapshot of PHC across the region and providing recommendations to improve future resource allocations for public PHC to better meet evolving population health needs.

Importantly, additional PHC provisions contributing to health expenditure, such as systemic PHC resources (e.g., infrastructure or policy development), multisectoral policies and health prevention, as well as PHC delivered by the private sector, were not costed in this study. Therefore, the costs of selected primary care services modeled in this study are not directly comparable to health expenditure, and comparisons across countries should be made with caution.

Main findings



For each country, between 72 and 101 clinical services were costed, with the total estimated per capita cost for all services varying from US\$69 in Saudi Arabia to US\$272 in Kuwait.



The total estimated cost for the set of clinical services provided at the primary care level in all GCC countries combined in 2019 was US\$5.7 billion. In each country this cost varied from US\$160 million in Bahrain to US\$2.3 billion in Saudi Arabia.



The clinical services costed in this study were assigned to eight health programmes. The programmes contributing the most to the total cost of clinical services were general practice and non-communicable diseases (NCDs).

Recommendations



Develop national primary care strategies and models of care.



Increase regional collaboration and promote coherence among GCC countries.



Invest in and build on research and monitoring of the primary care sector to improve efficiency and health outcomes.



Strengthen the health workforce, with an emphasis on healthcare professionals in the primary care sector.



Further expand NCD prevention and screening services at the primary care level.



Scale-up mental health services in primary care.



Introduction

The landmark 1978 Alma-Ata Declaration called for health systems to orientate towards primary healthcare (PHC). In 2018, 40 years later, the Astana Declaration reaffirmed global commitment to PHC as an essential tool to achieving universal health coverage and health-related sustainable development goals.¹ Primary health care is based on three pillars: primary care and essential public health functions as the core of integrated health services, multisectoral policy and action, and empowered people and communities.² While definitions of PHC vary, it generally not only refers to the first point of contact for medical care but also encompasses health education, prevention and promotion.

Box 1. What is Primary Healthcare?

In this report, PHC is defined as per the OECD definition:

“Primary healthcare is expected to be the first and main point of contact for most people with the healthcare system, focused on the people and their communities. It takes into account the whole person and is patient-focused, as opposed to disease or organ system-focused, and thus recognises not only physical, but also psychological and social dimensions of health and well-being.”

Efficient PHC has health and economic benefits. A strong PHC system can reduce health costs, increase patient satisfaction and tackle inequalities by improving health outcomes across socio-economic indicators (Box 2).^{3,4,5} PHC can improve health system efficiency by reducing hospitalization rates and emergency department visits, thereby reducing healthcare costs.⁶ As the first point of contact between a patient and the health system, strong PHC can lead to better prevention and management of chronic conditions.⁷ With a better understanding of individual patient and whole family risks, both preventative and chronic care can be provided in a patient-centred way.

1 World Health Organization and the United Nations Children’s Fund. (2020). Operational framework for primary health care: transforming vision into action. Geneva: World Health Organization and the United Nations Children’s Fund (UNICEF) Licence: CC BY-NC-SA 3.0 IGO.

2 *ibid.*

3 Organization of Economic Cooperation and Development (OECD). (2020). *Realising the Potential of Primary Healthcare*. OECD Health Policy Studies. OECD Publishing, Paris. Available at: <https://doi.org/10.1787/a92adee4-en>.

4 Starfield B. (1994). Is primary care essential?. *Lancet* (London, England), 344(8930), 1129–1133. Available at: [https://doi.org/10.1016/s0140-6736\(94\)90634-3](https://doi.org/10.1016/s0140-6736(94)90634-3)

Starfield, B., Shi, L., & Macinko, J. (2005). Contribution of primary care to health systems and health. *The Milbank quarterly*, 83(3), 457–502. Available at: <https://doi.org/10.1111/j.1468-0009.2005.00409.x>

5 Macinko, J., Starfield, B., & Shi, L. (2003). The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970-1998. *Health services research*, 38(3), 831–865. Available at: <https://doi.org/10.1111/1475-6773.00149>

6 OECD. (2020). *Realising the Potential of Primary Healthcare*. OECD Health Policy Studies. OECD Publishing, Paris. Available at: <https://doi.org/10.1787/a92adee4-en>.

7 *ibid.*



Ultimately, investing in PHC can lead to healthier, more long-lived and more productive populations.^{8,9}

Box 2. Characteristics of strong primary healthcare^{10, 11}

- Comprehensive and continuous care accessible to all
- Education and training provided mostly within primary care
- Individual healthcare provider associated with each patient or family
- Efficient referral systems to secondary and tertiary care
- System is targeted to the needs of the local population

Globally there is a renewed commitment to PHC in light of changing population and health characteristics. Ageing populations, population growth, increasing health literacy and public expectations of health services are increasing demand for healthcare globally and in the Eastern Mediterranean Region.¹² Changing disease burdens toward non-communicable diseases (NCDs) and increasing access to technology among the general population are further driving changes in PHC delivery. Estimates regarding PHC note that 90 percent of all health needs can be met at the PHC level, giving countries a clear path forward in improving health and health system efficiency.¹³

There is a long history of primary healthcare in the Eastern Mediterranean, with the Qatar Declaration on Primary Healthcare endorsed by all regional countries in 2008.¹⁴ The declaration stands for Member State commitment to achieve better health and wellness through strengthening PHC-based health systems. The region is seeing a growing commitment to family practice (FP) as a way to improve primary healthcare, and ultimately universal health coverage. PHC can be delivered through general practice and family practice, with the two terms used interchangeably in many circumstances. For the purpose of this report, general practice (GP) will be considered as services delivered by a physician who is qualified to deliver primary healthcare to an individual, their family and their community through general practice medical training. Family practice will refer to services delivered by a family physician who has

8 Macinko, J., Starfield, B. and Shi, L. (2003). The Contribution of Primary Care Systems to Health Outcomes within Organization for Economic Cooperation and Development (OECD) Countries, 1970–1998. *Health Services Research*, 38: 831-865. Available at: <https://doi.org/10.1111/1475-6773.00149>

9 Macinko, J., Starfield, B., Erinosho, T. (2009). The impact of primary healthcare on population health in low and middle income countries. *Journal of Ambulatory Care Management*, 32:2;150-171. Available at: <https://pubmed.ncbi.nlm.nih.gov/19305227/>

10 World Health Organization. (2008). The world health report 2008 : primary healthcare now more than ever. World Health Organization. Available at: <https://apps.who.int/iris/handle/10665/43949>

11 van Weel, C., & Kidd, M. R. (2018). Why strengthening primary healthcare is essential to achieving universal health coverage. *CMAJ: Canadian Medical Association journal = journal de l'Association medicale canadienne*, 190(15), E463–E466. Available at: <https://doi.org/10.1503/cmaj.170784>

12 Salah, K. & Kidd, M. (2019). *Family Practice in the Eastern Mediterranean Region: Universal health coverage and quality primary care*. Taylor & Francis Group, Florida, USA.

13 World Health Organization, Regional Committee for the Eastern Mediterranean. (2009). Progress report on strengthening primary health care based health systems. Available at: https://applications.emro.who.int/docs/EM_RC56_INF_DOC_4_en.pdf

14 *ibid.*



undergone specialty training to care for the overall health of families and individuals across their lifespan.¹⁵

Realising the highest possible rate of universal health coverage is essential to achieving the health-related Sustainable Development Goals. As primary healthcare is the cornerstone of comprehensive health coverage, evidence-based planning is critical to ensuring the continuity of primary healthcare programmes. To support increased investment in PHC programmes and to facilitate progress towards achieving universal health coverage, the United Nations has been invited to assist Gulf Cooperation Council (GCC) countries of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE, in undertaking a comparative study on the costs of PHC programmes. Knowing the cost of PHC components will help countries find practical financing and allocative solutions to help direct investment to areas that reduce costs such as the medicine industry, medical supplies and training of health personnel according to country needs. This will also enhance the continuity of health services in GCC countries regarding both efficiency and quality to meet increasing demand.

AIM OF THE STUDY

This study aims to estimate the costs of delivering a selection of primary care services spread across eight programmes: (1) immunisation, (2) non-communicable diseases, (3) oral and dental care, (4) child health, (5) nutrition, (6) mental health (7) reproductive, maternal, neonatal and child health, and (8) general practice. The study will use this set of clinical services delivered at the primary care level to represent PHC, as agreed with focal points from ministries of health. However, this set does not include all services, or all costs, associated with PHC.

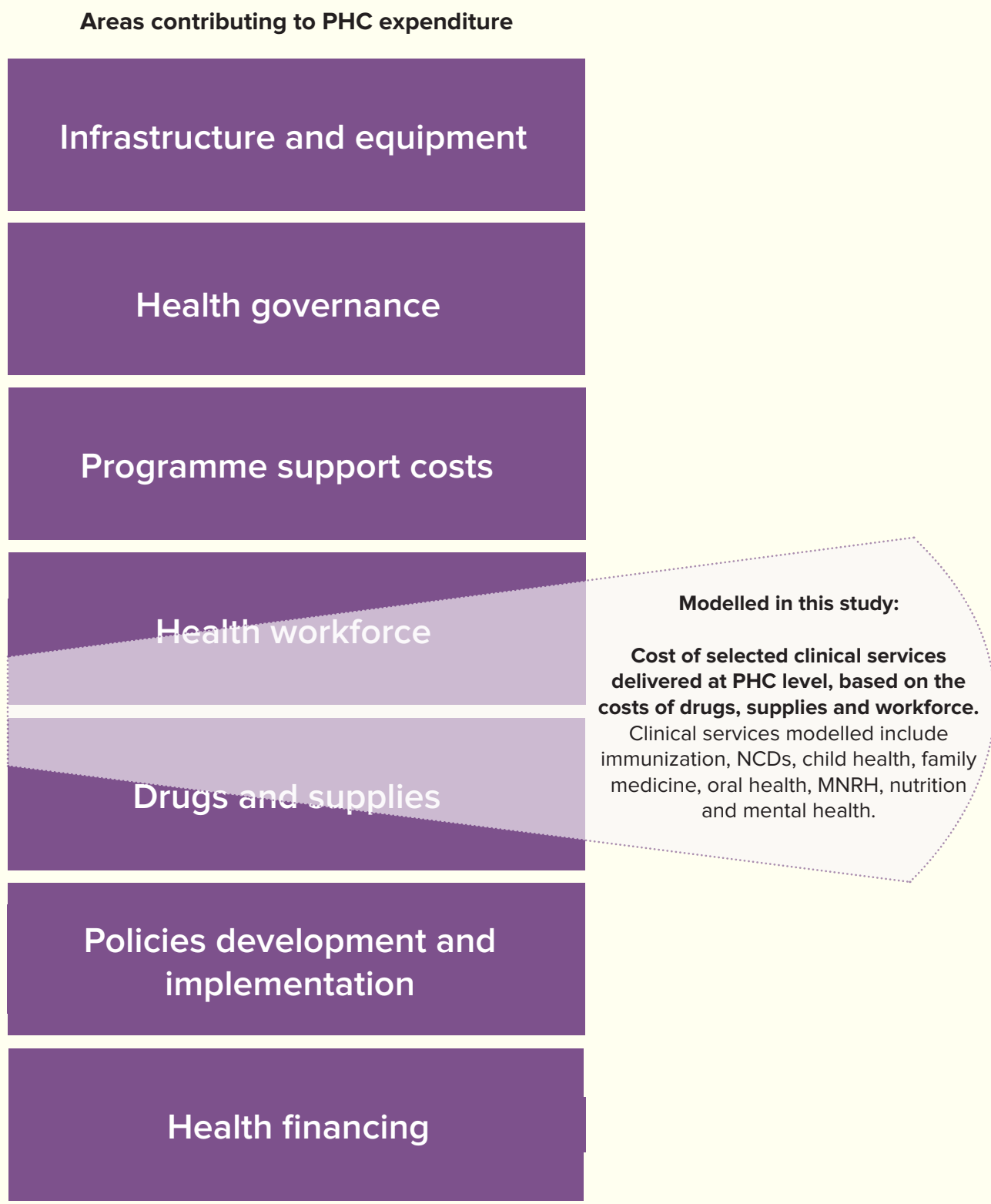
SCOPE OF THE STUDY

The scope of this study is focused on costing preventive care and general outpatient care (health care providers, medicines, diagnostic tests, and supplies) as essential components of PHC in promoting preventive and close-to-client services. The analysis focuses on a selection of outpatient clinical services delivered at the primary care level within each of the six GCC countries. An initial list of services was agreed upon prior to project launch, and this list was further curated in consultation with experts/ focal points from health ministries. Importantly, this list does not include a full set of what can be considered PHC services. The cost of other PHC measures such as multisectoral policies and actions and empowered people and communities were not estimated. The share of the required resources for information systems, good governance and financing were also not estimated. Of note, we only estimated the costs incurred and services provided by the public sector. The coverage rates might not reflect the number of services delivered in the private sector (**Figure 1**).

15 Salah, H. et Kidd, M. (Ed.) (2019): Family Practice in the Eastern Mediterranean Region. CRC Press. Available at: <https://applications.emro.who.int/docs/9781138498587-eng.pdf>



Figure 1: Primary Healthcare service costs modelled in this study





Methods

SCOPE OF THE STUDY

In this study, we used an ingredient costing method to estimate the cost of a set of selected clinical services delivered at the primary healthcare level across the six GCC countries. The clinical services were identified for each country based on information available (costing assumption, staff time requirements, standard regimen treatments) in the OneHealth Tool Costing Module.¹⁶ The OneHealth Tool is an epidemiology-based population model developed by United Nations partners and the WHO Costing Tool within the OHT is a database entailing costs of drugs and services which is regularly updated by experts within WHO. More detail on the use of these tools is available from the OneHealth Tool Manual. The list of clinical services was then modified and validated by focal persons from the Ministry of Health in each country.

The cost of a clinical service was defined as the combination of the drugs and supplies costs and the labour costs needed to deliver a service. The costs calculated in this report differ from the broader notion of health expenditure, which encompasses all expenditures incurred to provide health services (including spending on infrastructure and equipment, training, administration). For example, while health expenditures generally include the total cost of the health workforce, this study only considered the time spent by healthcare providers on delivering the selected clinical services. Therefore, the costing analysis did not include the time spent by healthcare providers on other clinical services or non-clinical activities (coordination, training, etc.). The costs estimated in this study only reflect a fraction of the primary healthcare expenditures directly employed to deliver the selected services. The study was conducted using standard costs¹⁷ developed based on standard treatment regimens and price estimates (WHO-CHOICE, WHO, UNICEF, MSH International Drug Price Indicator), thus providing an estimate of the expected costs of clinical services.

DATA SOURCES

Population figures were obtained from national census data or estimates in each of the six selected countries. Prevalence or incidence rates were collected from the STEPwise Approach to NCD Risk Factor Surveillance (STEPS), the World Bank database, local reports published by Ministries of Health, and local or regional literature. The services coverage data were obtained from annual statistical reports published by ministries of health or were directly provided by focal persons from the Ministry of Health or related institutions in each country. Where no information was available, data were complemented by assumptions and regional and international proxy data. The cost of drugs, supplies and staff time requirements were extracted from the OneHealth Tool Costing Module. For all clinical services that were not part of the initial list developed prior to the study, the costs of drugs and supplies and staff time requirements were estimated from the WHO-CHOICE database, the WHO's review of vaccine price data,¹⁸ and national reports or guidelines.

16 World Health Organization: OneHealth Tool. Available at: <https://www.who.int/tools/onehealth>

17 Except for Qatar, where most of the costing data were directly provided by the Primary Healthcare Corporation.

18 WHO Regional Office for Europe (2015). Review of vaccine price data. Available at: https://www.euro.who.int/__data/assets/pdf_file/0009/284832/Review-vaccine-price-data.pdf



COST CALCULATION MODEL

The cost of the clinical services delivered at the primary healthcare level was calculated using an ingredient costing method. In this approach, we considered the clinical service total cost as the product of the cost per service and the total number of services delivered in a year (see formulae below).

$$\text{Clinical Service Total Cost} = \text{Cost Per Service} \times \text{Number of Services Delivered}$$

The cost per service was obtained by adding the drug and supply costs and the labour costs (see formulae below). In this approach, the labour costs were obtained by multiplying the staff time requirements (in minutes) by the salary per minute of each healthcare provider involved in the service delivery. The salary per minute was calculated using country-specific annual salaries and assumptions (working days per year, working hours per day) validated by the focal persons in each country.

$$\text{Cost per service} = \text{Drugs and supply costs} + \text{Labour cost}$$

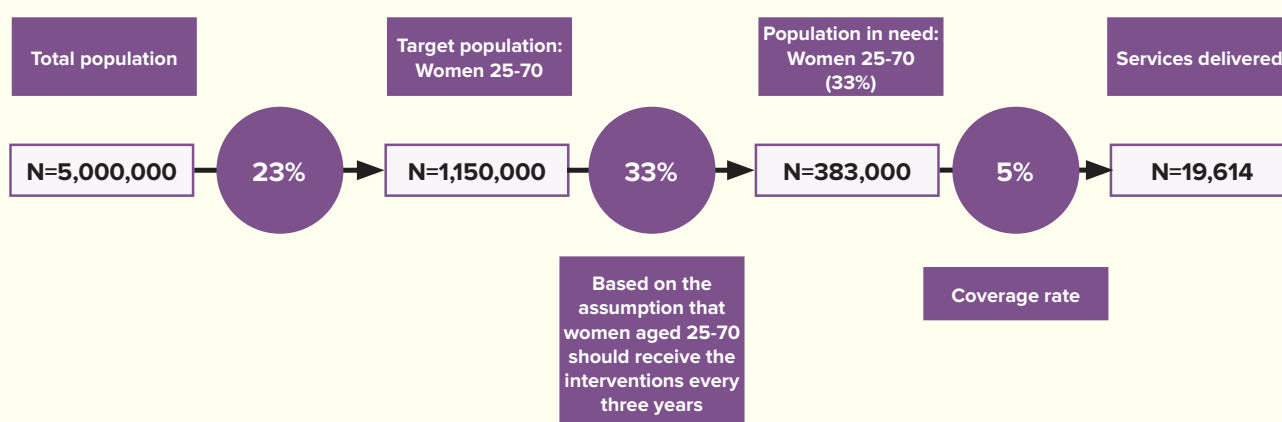
The number of services delivered was obtained from annual statistical reports published by the ministries of health or were directly provided by focal persons from the Ministry of Health. When the number of services delivered was unavailable or expressed as a coverage rate, we estimated as follows:

$$\text{Number of Services Delivered} = \text{Target Population} \times \text{Population in Need} \times \text{Coverage Rate}$$

Where the target population refers to the sub-population eligible for a specific clinical service, the population in need refers to the percentage of the target population who should receive the service, and the coverage rate¹⁹ refers to the percentage of the population in need who received the service in a year. The links between the target population, the population in need, the coverage rate, and the number of services delivered are described in **Figure 2**.

¹⁹ Operational definition of 'coverage': The percentage of individuals within a given population who require or could benefit from clinical services at the primary health care level (population in need) and who actually receive or utilize these services at the primary health care level.

Figure 2: Links between target population, population in need, coverage rate and services delivered using a pap smear procedure as an example.



COVERAGE ESTIMATES

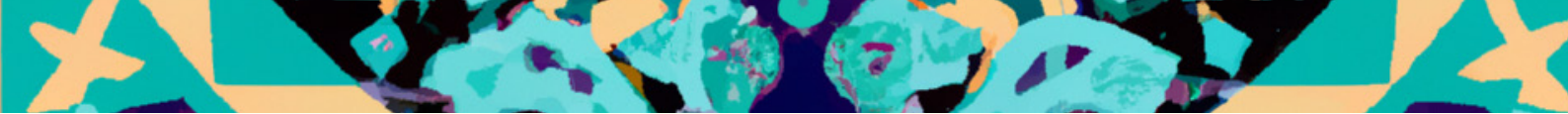
This study also estimated the coverage rate of specific clinical services by programme (NCDs, mental health), disease area (diabetes, cardiovascular diseases, respiratory diseases) and intervention type (screening services). The coverage rate was obtained by dividing the aggregated number of services delivered by the aggregated population in need.²⁰

LIMITATIONS AND ASSUMPTIONS

The list of clinical services does not include all services delivered at the primary care level. Additionally, WHO cost estimations in the OneHealth Tool Costing Module were used for all countries except Qatar, where primary data was available. The costs of drugs within the OneHealth Tool are created and regularly reviewed by experts within WHO.

Data on coverages was not always available for all services. For services without available coverage rates, assumptions were made based on similar interventions from the same country or regional estimates. All estimations and data were reviewed by national technical staff. When possible, we used the official number of visits related to a programme (i.e. NCDs) or a type of intervention (i.e. diabetes clinics, antenatal care) to estimate service-specific coverage rates and triangulate the results. Coverage rates are particularly uncertain for screening and awareness-related activities since they are not always captured in surveys or health statistics records. Different triangulations and validation methods were used to account for uncertainty, such as consultations with local technical teams, comparing figures with other countries in the region, comparing figures with other similar services, etc. Generally, the coverage rates must be interpreted with caution as they only reflect the number of services delivered at the public primary care level. As a result, we can assume that some services are also delivered at other levels of the public health system and/or in the private sector. The share of services delivered in the private sector is likely to vary depending on the country's healthcare system and the population structure. Additionally, this study is limited in terms of information regarding the

²⁰ For Kuwait, Bahrain, Qatar, Saudi Arabia, and the UAE, the population in need was calculated using the total population (nationals and expatriates) as a reference. For Oman, the reference population included nationals only.



characteristics of individuals who are included in service coverage, such as nationality or gender.

There was no available information about the overhead costs necessary for running the clinical services at primary care (i.e. training, programme management, supervision, monitoring and evaluation, communication, infrastructure and equipment, transportation, and advocacy). Therefore, in consultation with the Ministry of Health focal points, an estimation of 20 percent of the total costs was agreed upon to account for this.

Finally, comparisons between countries should be made with caution due to differences in the number and nature of the clinical services included for each country and variations in healthcare systems (share of the public sector, lack of definition of a clear package of services for each country, etc.) and population structure. Comparisons between this study and other published estimates of PHC spending must also be made with caution and consideration of data sources. For example, the OECD estimates spending on PHC based upon the System of Health Accounts 2011, using general outpatient curative care, dental care and preventative services as provided by ambulatory providers as the closest proxy to estimate PHC spending, rather than disease-based services.

.

Results

COSTS OF SELECTED CLINICAL SERVICES DELIVERED AT PRIMARY CARE LEVEL

For each country, between 72 and 101 clinical services were costed. The costs of the selected clinical services delivered at the primary healthcare level across the six countries were estimated at a total of US\$5.7 billion in 2019 (**Figure 3**). The highest cost per capita was observed in Kuwait (US\$272.16), followed by Qatar (US\$199.68) (**Figure 4**). While Saudi Arabia has the lowest per capita cost (US\$68.60), the country has the highest overall cost, with an estimated US\$ 2.3 billion in 2019. Please see annex for a list of services costed for each country.

Figure 3. Total cost of the selected clinical services by country (in million US\$)

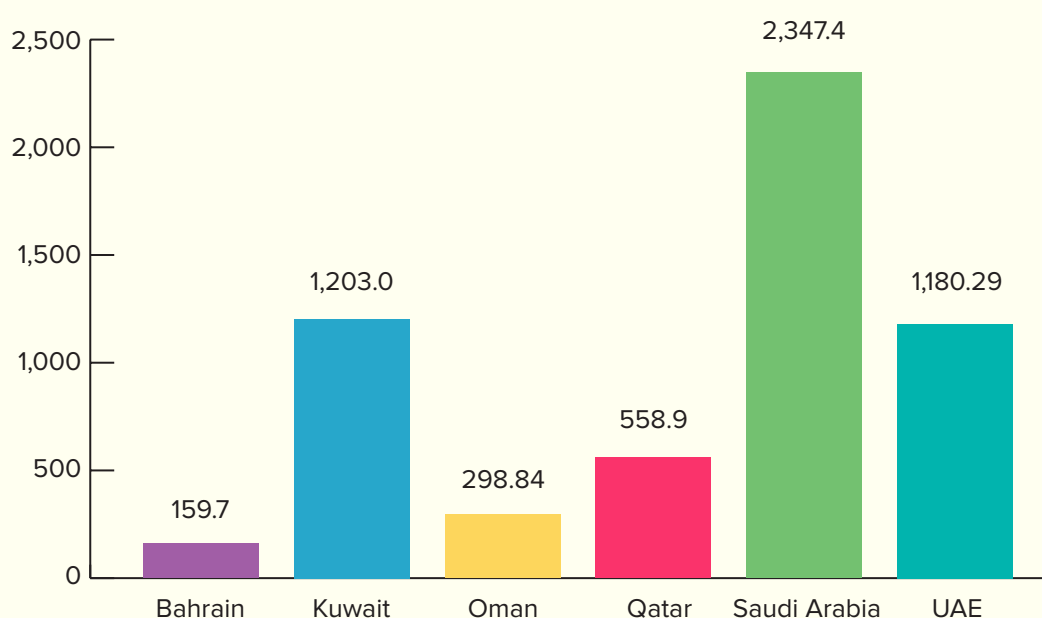
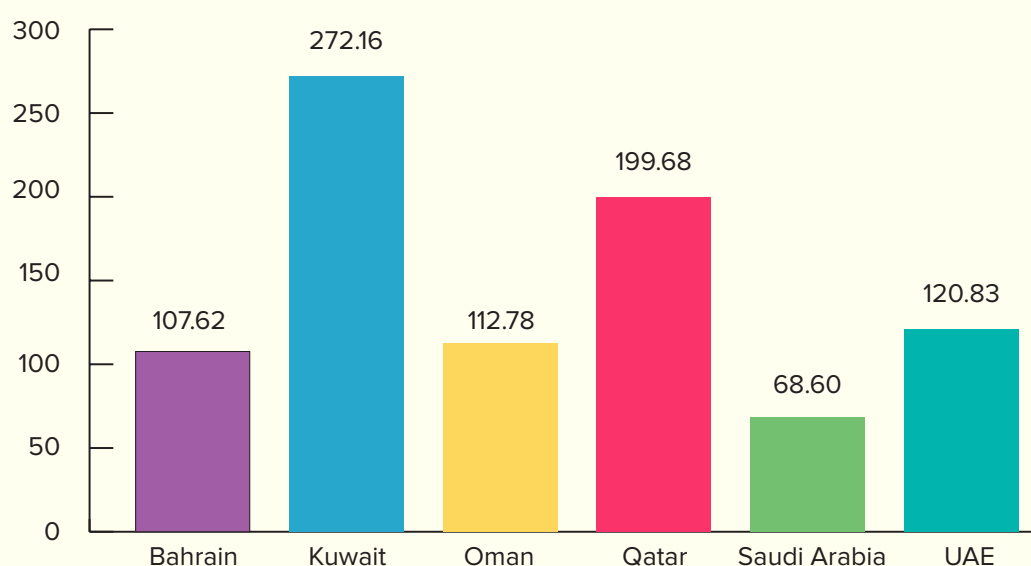


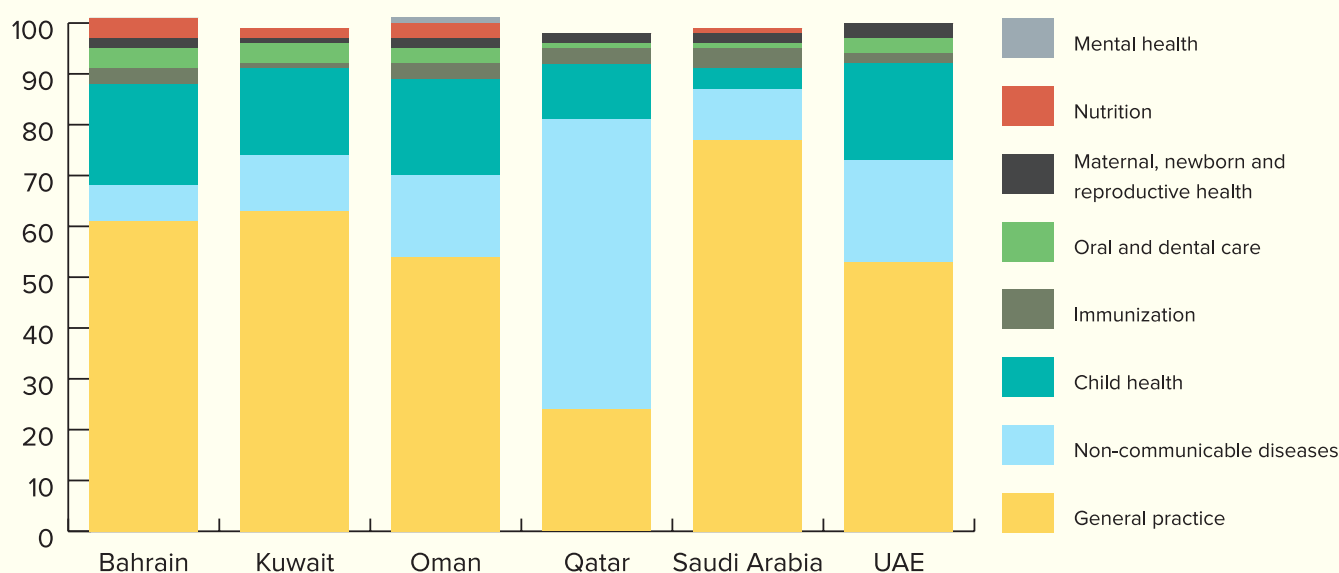
Figure 4. Total cost of the selected clinical services per capita by country (US\$)





General practice was the most expensive programme in all countries but Qatar, making up between 53 percent of the total costs in the UAE to 77 percent in Saudi Arabia (**Figure 5**). Services costed for general practice include all services included in this analysis that do not fall under one of the seven specific programmes. In Qatar, the NCDs programme made up the major share of total costs (57 percent), with an estimated US\$ 256 million spent in 2019. In the five other countries, the share of the NCDs programme varied from 7 percent in Bahrain to 20 percent in the UAE. The child health programme is another significant cost driver, which generally ranks second or third among the most expensive programmes. Conversely, the mental health programme has the lowest cost across the six countries. On average, it makes up 0.2 percent of the total costs from the selected clinical services delivered at the primary healthcare in the public sector. This low total cost is associated with a low level of the number of services provided rather than the cost of each service.

Figure 5. Distribution of the costs by programme and by country



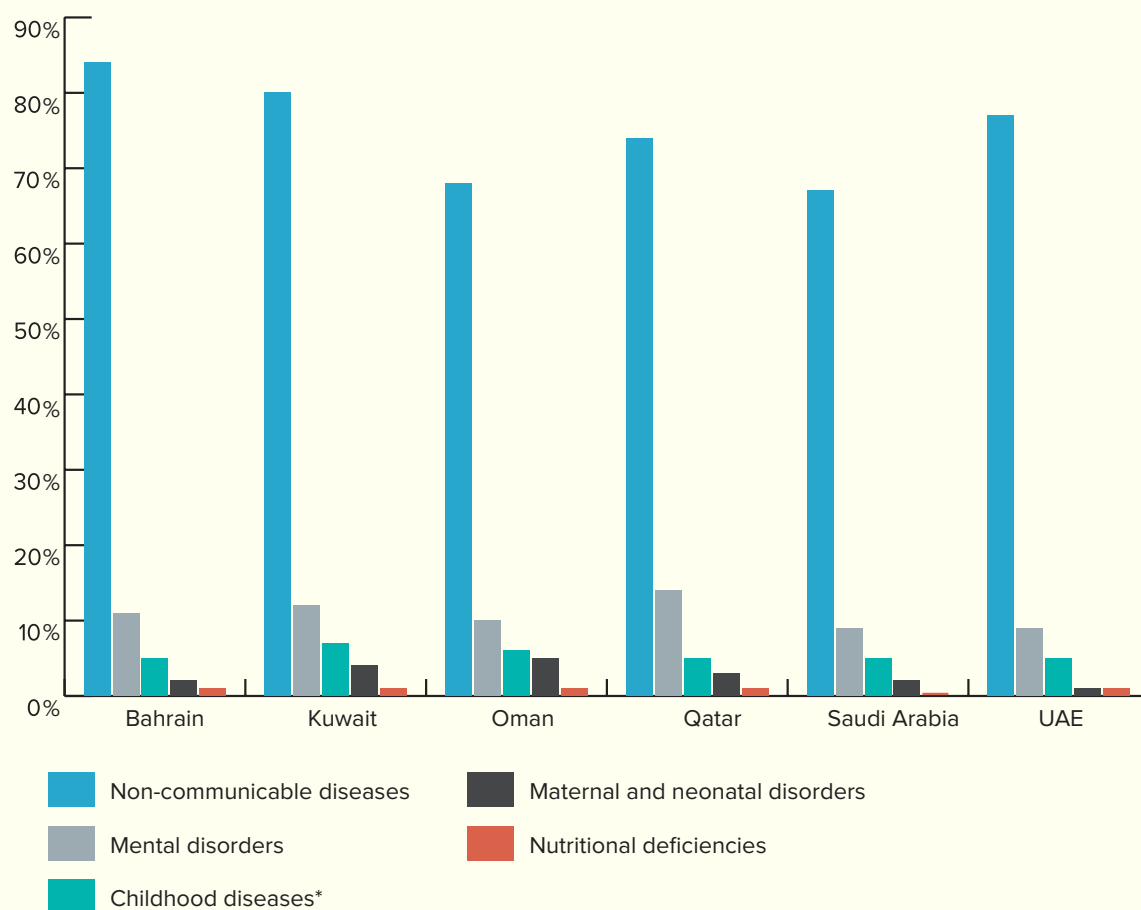
NON-COMMUNICABLE DISEASES

In total, the six countries spent an estimated US\$676 million on clinical services related to diabetes, cardiovascular and respiratory diseases (asthma and chronic obstructive pulmonary disease) in 2019. On average, these services made up 18 percent of the total costs, ranging from 3.9 percent in Bahrain to 56.9 percent in Qatar. The higher cost for the NCDs programme in Qatar is mainly driven by medication prices, which are higher in actuality than regional estimates in the OneHealth Tool. The use of actual costs for Qatar, compared to standard OneHealth Tool costs for the other countries included in this study therefore may account for this observed difference.

NCD services making up a high share of costs modelled in this study is corroborated by the fact that NCDs are the leading cause of disease burden in all six GCC countries (**Figure 6**). This ranges from NCDs accounting for 84 percent of the current total disease burden in disability-adjusted life years (DALYs) in Bahrain to 64 percent in Saudi Arabia. Childhood diseases also

contribute significantly to the disease burden, and primary care services surrounding child care are within the top three most costly disease areas as determined in this study.

Figure 6. Percentage of total disease burden (in DALYs) by select PHC programme, per country, 2019.



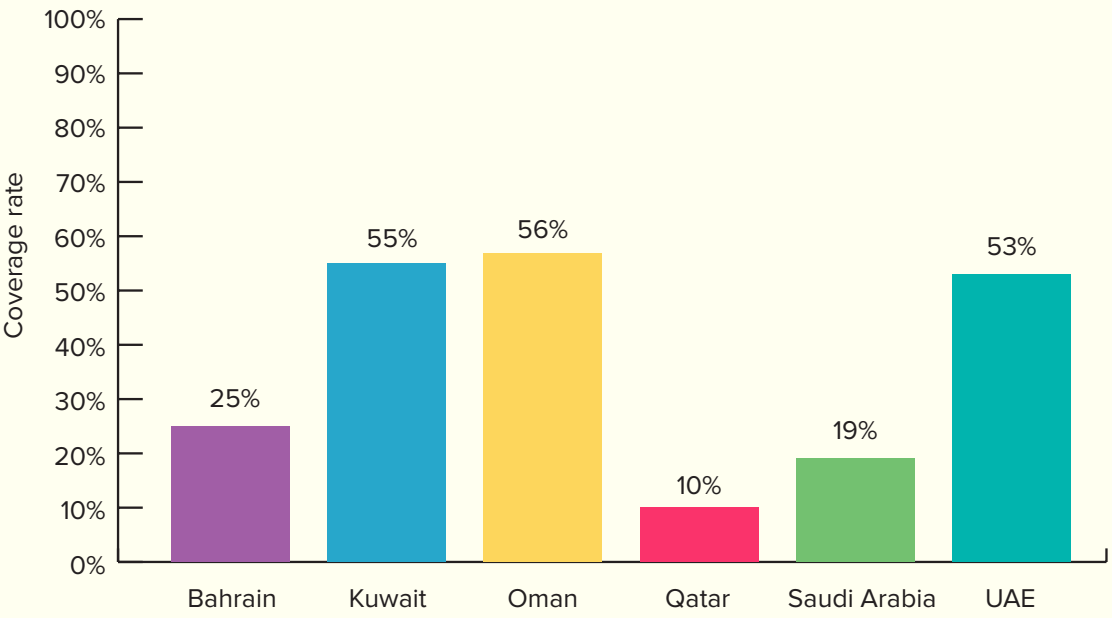
(*childhood diseases include lower respiratory infections and diarrhoea for ages 0-9 years)²¹

21 Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) Results. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020. Available from <https://vizhub.healthdata.org/gbd-results/>.



The coverage rate for NCD clinical services delivered at public primary care level varies from 10 percent in Qatar to 55 percent in Kuwait (**Figure 7**). For Oman, the 56 percent coverage rate was calculated from Omani nationals only.

Figure 7. Estimated coverage rate for NCD clinical services delivered by public primary care level, by country



Based on the coverage rate and the population in need in each country, the study estimated that nearly 15 million people with diabetes, cardiovascular or respiratory diseases (asthma and chronic obstructive pulmonary disease) did not receive the services they needed at a public primary care level in the GCC countries in 2019. As mentioned above, this estimation does not include people who may have received those services in the private sector or the public sector at the secondary or tertiary level.

SCREENING SERVICES

The study estimated the costs of seven screening services (screening for risk of cardiovascular diseases and diabetes, screening for cancer, and screening for diabetes complications) (**Table 1**). Across all countries, these services account for less than 1 percent of the total costs. Overall, the coverage rate was consistent across the six countries, ranging from 4 percent in Qatar to 7 percent in Oman. Based on the coverage rates, the study found that an estimated 30 million people in need for screening did not receive the services they needed at the public primary care level in 2019.

Table 1. Costs, coverage rate, and number of patients who did not receive services needed at the public primary care level for NCD screening services*

Country	Cost (Million US\$)	Share of total costs	Coverage rate	Patients who did not receive services needed at the public primary care level
Bahrain	0.9	0.7%	6%	1,058,867
Kuwait	1.1	0.1%	6%	3,184,364
Oman**	0.2	0.1%	7%	953,919
Qatar***	2.0	0.5%	4%	1,445,053
Saudi Arabia	5.8	0.3%	5%	18,912,383
UAE	8.1	0.9%	5%	4,881,399
Total				30,435,987

*Clinical services include screening for risk of cardiovascular diseases and diabetes, screening for cancer (clinical breast examination, pap smear, faecal occult blood test), and screening for diabetes complications.

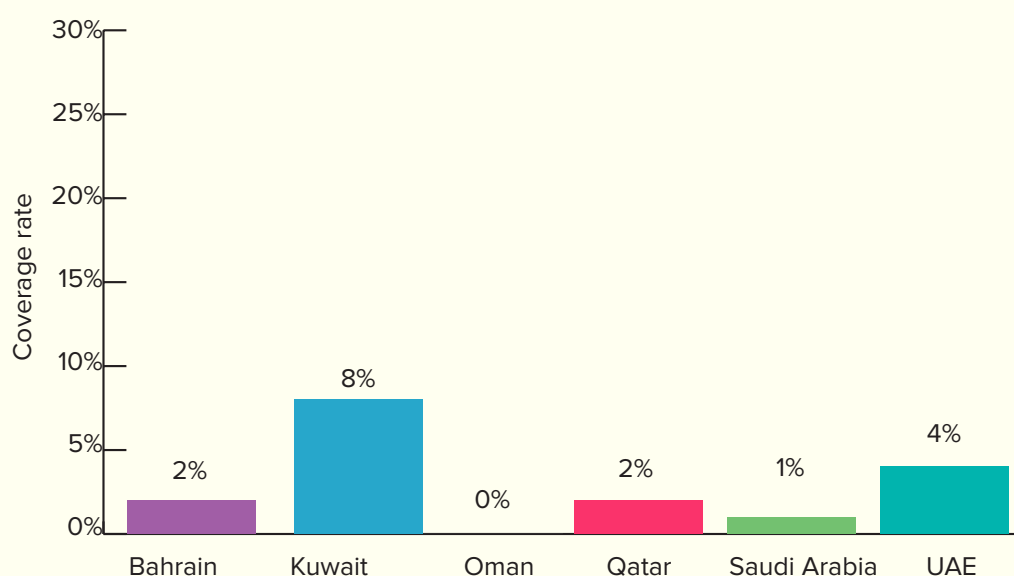
**Coverage rate was calculated based on Omani nationals only.

***In Qatar, costing data was directly provided by the Primary Healthcare Corporation (PHCC). Services delivered by other providers, such as the Red Crescent, were not included in the study.

MENTAL HEALTH SERVICES

On average, 0.2 percent of the total costs obtained by the study were dedicated to mental health services. Coverage rates for mental health services were between 1 percent in Saudi Arabia and 8 percent in Kuwait (**Figure 8**). Based on these coverage rates, the study found that an estimated nearly 9 million people did not receive the mental health services they needed in the six GCC countries in 2019. However, these figures must be interpreted with caution, given the diversity of services provided by the six countries. While some countries seem to have a minimalistic offer, generally limited to anxiety and depression treatment or referral, others could have opted for a more comprehensive and diverse approach.

Figure 8. Estimated coverage rate for mental health services by country





Discussion

COSTING OF PHC CLINICAL SERVICES IN GCC

This study estimates the cost of selected clinical services delivered at public primary healthcare facilities in GCC countries. The findings indicate that, in total, the services cost more than US\$5.7 billion across the region in 2019. Significant differences were found across the six countries in terms of cost per capita, ranging from US\$68 in Saudi Arabia to US\$217 in Kuwait. The variations can be explained by differences in the health system (including the level of private care provision) and population structure. While the list of clinical services in this study was specific to each country, the main cost driving services (in areas of general practice, NCDs, etc.) were the same across countries.

On average, general practice and NCD programmes made up the largest share of service costs at the public primary care level modelled in this study. This is likely due to the high prevalence of NCDs, and in particular diabetes, cardiovascular and respiratory diseases in the six countries as well as the elevated cost of some related clinical services. Qatar was the only country where costs for NCD services were higher than those for general practice. As Qatar was the only country where local data was available to estimate drug and supply costs, this study found the costs were higher for NCD medications than regional estimates in the OneHealth Tool.

Estimations based on coverage rates for NCD-associated services showed that, in total, around 15 million people did not receive services they needed through public primary healthcare facilities. It is important to note that these individuals may have received services in the private sector or public secondary or tertiary care level, as these were not modelled in this study. The total number of people who did not receive mental health services in public primary care was estimated at around 9 million.

The study showed consistent NCD screening services coverage rates across the six countries (between 4 to 7 percent). It also found that more than 30 million people in total across the region did not receive the screening services they needed through public primary care in 2019. However, these findings must be interpreted with caution due to the fact that screening and awareness-related activities are not always captured in surveys or health statistics records.

We observed significant differences in coverage rates for services provided at the public primary care level between countries, notably with Oman having higher rates of coverage. This can be partly explained by the fact that only Omani nationals were included in the Oman data provided to the study, while the entire population was considered for other countries.

CONTEXT OF PHC CLINICAL SERVICES IN GCC

Multisectoral engagement

All six GCC countries have made considerable efforts in advancing multisectoral engagement in primary healthcare. For example, Oman has integrated health promotion into education through the Health-Promoting Schools initiative. Within this initiative, school task forces comprising of a school nurse, social worker, health supervisor teacher, parents, students and local community members oversee a range of interventions, including integrating health messaging and increased physical activity into the curriculum, establishing a well-equipped clinic, revising school canteen policies, and event days.²² In the United Arab Emirates, the Ministry of Health and Prevention is working with non-governmental entities to improve the prevention and control of NCDs through PHC. For example, in the Pink Caravan breast cancer awareness initiative, primary care professionals work with the Friends of Cancer Patients initiative to deliver breast cancer screening to communities. Since its launch in 2011, this initiative has facilitated over 75,000 examinations in seven emirates.²³

Despite this progress, there is still room to engage more with non-health sectors, including non-governmental organisations and the private sector. Given the high burden of NCDs in all six GCC countries, there is an important opportunity for PHC to step up NCD prevention and screening services utilizing multisectoral engagement to improve health outcomes and reduce costs further down the line.

Healthcare workforce

Across the GCC, countries face a varying reliance on expatriate healthcare workers. For example, the UAE, Qatar, and Kuwait have a high dependence on expatriate nurses, while in Oman and Saudi Arabia the majority of nurses are nationals;²⁴ With regards to doctors, Bahrain has the highest share of local doctors with 86 percent,²⁵ while in Qatar over 90 percent of physicians were expatriates in 2020.²⁶

Countries not only often rely on expatriate healthcare workers, but also face a shortage of skilled healthcare professionals in the primary care sector overall. To address these issues, countries should scale-up training for healthcare workers, and in particular for nurses and

22 World Health Organization Regional Office for the Eastern Mediterranean. Oman Health promotion and community-based initiatives. Available at: <https://www.emro.who.int/omn/programmes/health-promotion-and-community-based-initiatives.html>

23 Friends of Cancer Patients: Pink Caravan. Available at: <https://www.focp.ae/our-programs/womens-health/>

24 Oman (2018): 62 percent of nurses are nationals; Saudi Arabia (2020): 87 percent of nurses are nationals). Sources: World Health Organization Regional Office for the Eastern Mediterranean. Health workforce snapshot Oman. Available at: <https://rho.emro.who.int/sites/default/files/Profiles-briefs-files/OMN-WHOEMHRH653E-eng.pdf>, Kingdom of Saudi Arabia, Ministry of Health. (2020). Statistical Yearbook 2020. <https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx>

25 Ministry of Health. Human Resources 2020. Available at https://www.moh.gov.bh/Content/Files/Publications/statistics/HS2020/PDF/CH-05-human%20resources_2020.pdf

26 World Health Organization. Regional Office for the Eastern Mediterranean. 2022. Health workforce snapshot: Qatar. Available at <https://apps.who.int/iris/bitstream/handle/10665/352042/WHOEMHRH659E-eng.pdf?sequence=1&isAllowed=y>



FPs. Indeed, while all six countries have dedicated family medicine training programmes, the output of graduates is not enough to meet the countries' demand. For example, Saudi Arabia boasts 350 FP graduates each year, but would require 2000 FP graduates to meet the nation's healthcare demands.²⁷ Notable initiatives aiming to recruit, attract and retain more skilled healthcare professionals include the UAE Ministry of Health and Prevention's scholarships for Emiratis wanting to become nurses as well as Oman's process of "Omanisation"²⁸ which has seen the increase in the percentage of Omani physicians to 41 percent and Omani nurses to 62 percent in 2018 (up from 9 percent and 12 percent in 1990 respectively).²⁹

Adjusting PHC to population needs

All six GCC countries have been experiencing a shift in the disease burden from communicable, maternal and neonatal diseases to NCDs over the past decades. Every year, NCDs kill nearly 43,000 people in the GCC countries and cost US\$50 billion, equivalent to 3.3 percent of the total 2019 GDP.³⁰ With higher life expectancy and an ageing population, healthcare demands will continue to shift towards NCD, end-of-life and palliative care.

Several countries have taken commendable steps in addressing this changing disease burden within the primary care sector. Indeed, Oman is a pioneer for the introduction of elderly care within its PHC system,³¹ and the UAE established an elderly care unit under their PHC in 2006 which provides acute and long-term care through a multidisciplinary team that includes FPs, physiotherapists, social workers and geriatricians. The UAE also launched 42 NCD clinics between 2017 and 2018 and trained PHC staff in the early detection and management of NCDs.³²

This shift in disease burden has also seen an increasing prevalence of mental health conditions, which are now among the leading causes of DALYs in some of the GCC countries. Several countries have made commendable efforts to address this. Bahrain established school mental health clinics, implemented a training programme for family physicians to provide mental health services and updated its guidelines for mental health.³³ Both prevalence and demand for services is likely to have increased, as it is well established that the COVID-19 pandemic has had a negative impact on many people's mental health and well-being. Recognising the growing burden of NCDs, many countries have established multisectoral coordination mechanisms to strengthen policy coherence across sectors. Bahrain established a multisectoral national coordination mechanism on NCDs which includes representation

27 Salah, K. & Kidd, M. (2019). Family Practice in the Eastern Mediterranean Region: Universal health coverage and quality primary care. Taylor & Francis Group, Florida, USA

28 PHCPI. Ensuring universal access to primary health care in Oman. Available at: <https://improvingphc.org/oman-access>

29 World Health Organization Regional Office for the Eastern Mediterranean. Health workforce snapshot Oman. Available at: <https://rho.emro.who.int/sites/default/files/Profiles-briefs-files/OMN-WHOEMHRH653E-eng.pdf>

30 Elmusharaf, K., Grafton, D., Jung, J. S., et al. (2022). The case for investing in the prevention and control of non-communicable diseases in the six countries of the Gulf Cooperation Council: an economic evaluation. *BMJ global health*, 7(6), e008670. Available at: <https://doi.org/10.1136/bmjgh-2022-008670>

31 Salah, K. & Kidd, M. (2019). Family Practice in the Eastern Mediterranean Region: Universal health coverage and quality primary care. Taylor & Francis Group, Florida, USA

32 I. Fadhil, B. Belaila, and H. Razzak, National accountability and response for noncommunicable diseases in the United Arab Emirates. *Int. J. Noncommunicable Dis.*, vol. 4, no. 1, p. 4, 2019, doi: 10.4103/jncd.jncd_55_18.

33 Elmusharaf K., Grafton, D., Roberts E., et al. (2021) Prevention and Control of NonCommunicable Diseases in Bahrain: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC



from 12 sectors, is led by the Ministry of Health and convenes quarterly.³⁴ In Kuwait, NCD prevention and control has been coordinated by the multisectoral high level committee for NCDs since 2012, which has a thematic committee on NCDs in PHC.³⁵ Oman and the UAE also have active multisectoral national committees for NCDs.^{36, 37} These multi-sectoral approaches link with recommendations from previous investment case studies on NCDs in GCC countries, including to engage and collaborate by strengthening multisectoral, whole-of- government and whole-of-society action on NCDs.^{38, 39, 40, 41}

Regional collaboration

Regional collaboration within the GCC has potential to strengthen PHC across the countries. The Gulf Health Council has specific committees established for primary health care, and noncommunicable diseases.⁴² There have also been existing efforts to collaborate across the wider Eastern Mediterranean Region to overcome common challenges such as the shortage of family practitioners.⁴³

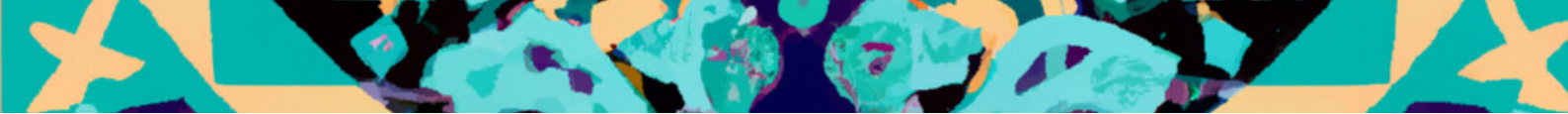
In interviews following the completion of recent NCD investment cases, focal points recognised the need for increased regional collaboration to strengthen NCD prevention and control. Enhanced regional collaboration is key to strengthening research and surveillance systems as well as to share best practices. In addition, some laws, such as taxes, require GCC countries to act as a regional block.

Similarly, enhanced regional collaboration would also promote regional policy coherence and strengthen PHC. Regional strategies and action plans including for NCDs, mental health, and digital health, can drive multisectoral engagement, raise awareness, and promote cooperation. Sharing best practices and conducting training as a regional block would also allow for an efficient and collaborative approach to PHC.

Challenges and opportunities

Challenges remain in ensuring coverage and accessibility to PHC in rural areas, particularly

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- 34 Elmusharaf K., Grafton, D., Roberts E., et al. (2021) Prevention and Control of Non-Communicable Diseases in Bahrain: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 35 Elmusharaf K., Menescal B., Roberts E., et al. (2021) The Case for Investment in Prevention and Control of Non-communicable Diseases in Kuwait. Geneva: UNDP, WHO, UNIATF, GHC
 - 36 Elmusharaf K., Chestnov, R., Jung, J.S. et al. (2021) Prevention and Control of NonCommunicable Diseases in Qatar: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 37 Elmusharaf K., Roberts E., Chestnov, R., et al. (2021) Prevention and Control of NonCommunicable Diseases in Oman: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 38 Elmusharaf K., Chestnov, R., Jung, J.S. et al. (2021) Prevention and Control of NonCommunicable Diseases in Qatar: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 39 Elmusharaf K., Grafton, D., Roberts E., et al. (2021) Prevention and Control of Non-Communicable Diseases in Bahrain: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 40 Elmusharaf K., Menescal B., Roberts E., et al. (2021) The Case for Investment in Prevention and Control of Non-communicable Diseases in Kuwait. Geneva: UNDP, WHO, UNIATF, GHC
 - 41 Elmusharaf K., Roberts E., Chestnov, R., et al. (2021) Prevention and Control of NonCommunicable Diseases in Oman: The Case for Investment. Geneva: UNDP, WHO, UNIATF, GHC
 - 42 Gulf Health Council. Technical Committee. Available at: <https://ghc.sa/en/health-committees/>
 - 43 Salah, H., Mataria, A., Wajid, G., Mandil, A., Hamadeh, G., Osman, M., Al Sharief, W., Badr, E., Hegazy, N.N. and Soliman, S., 2021. Promoting family practice-based model of care: the role of WHO's professional diploma in family medicine in the Eastern Mediterranean Region. East Mediterr Health J, pp.743-744.



in Saudi Arabia, where there are plans to utilize the rolling out of internet services in primary health care centres (PHCCs) to conduct tele-consultations in rural areas.⁴⁴ The UAE has also taken commendable steps to ensure accessibility, with no more than 200 people living more than 30km away from a PHC facility. In 2016, the UAE also introduced mobile health clinics to provide dental preventive care, school screenings, and periodic health and cancer screenings where healthcare facilities are not easily accessible.⁴⁵

Countries are increasingly using digital technology to strengthen PHC. In Bahrain, the National Health Information System (I-SEHA programme), first introduced in 2014, aims to enhance quality healthcare services through the provision of electronic health services.⁴⁶ Qatar launched its Nar'aakom app in 2021 for all its e-services, available in English and Arabic, to allow residents to manage their medical appointments and records remotely and electronic medical innovation system (CERNER) established in 2014 which facilitates digital records to PHCC or HMC facilities.⁴⁷

44 Salah, K. & Kidd, M. (2019). Family Practice in the Eastern Mediterranean Region: Universal health coverage and quality primary care. Taylor & Francis Group, Florida, USA

45 *ibid.*

46 World Health Organization for the Eastern Mediterranean. Bahrain Health Profile 2015. Available at: <https://apps.who.int/iris/handle/10665/254905>

47 Primary Health Care Corporation. 10th Annual Anniversary Achievement Book (2012-2022). Available at: [https:// www.phcc.gov.qa/en/AboutUs/Publishing-and-Reports](https://www.phcc.gov.qa/en/AboutUs/Publishing-and-Reports)



Box 3. Pillars of PHC in GCC⁴⁸

Primary health care, as per the Astana Declaration, is based upon three main components, or pillars: primary care as the core of integrated health services, multisectoral policy and action, and empowered people and communities:

- Primary care as the core of an integrated health service is ingrained within the health systems of all six GCC countries. Integrated health services include a health system which provides a full continuum of care – from health promotion and disease prevention to treatment and rehabilitation – across multiple sites of care. All six GCC countries have prioritized primary health care as the first and essential point of contact for patients. Efforts have been made across the GCC to strengthen PHC to meet population health needs by increasing access to primary clinics and by training additional PHC workforce.
- Multisectoral action for primary health includes the development and implementation of health policies (or policies in other sectors) which address social, economic and environmental determinants of health through coordination and collaboration between sectors. All six GCC countries have made efforts to advance multisectoral action. For example, the integration of health promotion in schools by Oman will support better health and wellbeing across health determinants through actions taken jointly between sectors.
- Empowering people and communities involves providing support to take control of one's own health needs. Health technology is assisting the empowerment of people in Qatar through the use of the Nar'aakom application, where individuals can self-manage their medical appointments and health records.

⁴⁸ World Health Organization and the United Nations Children's Fund. (2020). Operational framework for primary health care: transforming vision into action. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF) Licence: CC BY-NC-SA 3.0 IGO.



Box 4. Models of care^{49, 50, 51}

A model of care is a conceptualization of how services should be delivered, including the processes of care, organization of providers and management of services. It can also include conceptualization of how care should be selected, designed, organized and supported across delivery platforms and adapted over time to meet changing population health needs. All health systems have a model, or models, of care, whether these are deliberately planned or have evolved organically. A PHC-oriented model of care is essential to strengthening PHC services and improving efficiencies across the entire health system.

To demonstrate their importance for PHC, models of care have been included in the WHO's UHC approaches and in the Primary Health Care Measurement Framework as one of 14 operational levers for PHC measurement and monitoring. WHO have also developed a strategic paper on models of care⁵² and the Service Package Delivery & Implementation (SPDI) Tool, which help support the selection of services under UHC in member states.⁵³ Monitoring models of care for PHC includes measurable indicators for the selection and planning of services, service design, organization and facility management, and community linkages and engagement. These indicators link closely with the three pillars of PHC (see Box 3) and provide the opportunity to track the strengthening of PHC.

49 World Health Organization and the United Nations Children's Fund. (2020). Operational framework for primary health care: transforming vision into action. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF) Licence: CC BY-NC-SA 3.0 IGO.

50 World Health Organization, Office for the Eastern Mediterranean. (2022). Strategic paper on models of care for the WHO Eastern Mediterranean Region: Expert consultation.

51 World Health Organization and the United Nations Children's Fund. (2022). Primary health care measurement framework and indicators: monitoring health systems through a primary health care lens. Geneva: World Health Organization and the United Nations Children's Fund (UNICEF), Licence: CC BY-NC-SA 3.0 IGO.

52 World Health Organization EURO (2016): Integrated care models: an overview. WHO, Geneva.

53 World Health Organisation (n.d.): UHC packages – SPDI Tool. Available at: <https://uhcc.who.int/uhcpackages/>

Way forward

RECOMMENDATIONS

All six GCC countries recognize the importance of strong PHC to build an effective, efficient health system and have made commendable progress in strengthening PHC by adapting to the changing disease burden of the population, as may be viewed through NCD services accounting for some of the largest shares of costs estimated in this study.

The context and costing analysis in this report have highlighted a number of areas where PHC services and resource allocation across the GCC countries could be further strengthened. The following actions would assist the GCC countries to reap significant health and economic benefits:



1 Develop national primary care strategies and models of care.

While all six GCC countries have national health strategies, not all have a dedicated primary care strategy. Countries are encouraged to develop such a strategy to move towards long-term sustainable improvements in resource utilisation and health outcomes. Indeed, primary healthcare strategies can help steer the entire health sector towards desired goals such as UHC and a truly people-centered approach to primary care.

Within and beyond these strategies, countries should – in line with national priorities, needs and available resources – re-evaluate and explicitly capture models of care to help identify challenges to and ultimately improve service delivery.

Suggested interventions:

- Develop national models of care based on the family physicians approach and guided by national priorities, demographics and fiscal space
- Develop national strategies for primary healthcare based on the WHO framework for primary healthcare



2 Increase regional collaboration and promote coherence among GCC countries.

With shared challenges and opportunities, the GCC countries would benefit from enhancing regional collaboration to strengthen PHC. To scale up regional collaboration, countries could consider forming a GCC PHC focal point committee with regular meetings to share best practices and lessons learned. Such a committee could support the drive for cohesive



legislative action and advocate for the investment in strong primary care by engaging relevant stakeholders and raising this topic on national and regional agendas. Developing regional strategies and action plans may also be considered to further strengthen regional collaboration and promote policy coherence.

As NCDs incur a significant health and economic burden in all six GCC countries, NCD prevention, screening and treatment at the primary care level should be a key focus of a regional PHC committee. This would allow countries to analyse and compare their progress as well as exchange information on tackling NCDs, with a focus on WHO best buys and the WHO package of essential NCD interventions (PEN) for primary care.⁵⁴ Such an initiative could include establishing a database to record progress on NCD-related targets and indicators, including emerging challenges such as novel tobacco products. This will equip the countries with robust evidence in a regional context, closing the current gap in standardized NCD surveillance and health information systems.

Suggested interventions to strengthen regional collaboration:

- Establish a regional PHC committee that meets regularly to share best practices
- Establish a regional database to record progress on NCD-related targets, utilising WHO best buys and WHO PEN to identify performance indicators



Invest in and build on research and monitoring of the primary care sector to improve efficiency and health outcomes.

The detailed modelling in this study marks an important first step towards better describing the costs associated with clinical services delivered at the primary care level in the GCC region. As a next step, countries can compare these costs to national budgets and actual expenditures to help identify areas and services that would benefit from more resources or could be run more efficiently. For instance, the GCC may compare actual expenditures on medications related to specific treatment regimes with their costs as per WHO-treatment guidelines.

To further build the evidence base around primary care in the region, countries are encouraged to scale up research as well as monitoring and evaluation of primary care. To allow for easier evaluation, countries should clearly define performance indicators on different levels of PHC as well as UHC health benefits packages and services provided therein. To measure progress, countries could set up a performance management system for general and family physicians, and repeat this costing exercise in the near future using more national data as well as actual expenditures to assess the impact of any potential changes introduced to primary care service delivery.

⁵⁴ WHO (2020). WHO package of essential noncommunicable (PEN) disease interventions for primary health care. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.



Suggested interventions to improve PHC efficiency:

- Define primary care performance indicators, such as vaccination coverage, patient outcomes, etc
- Develop country-specific packages of services for universal health coverage
- Compare the costs of UHC packages and PHC services with actual expenditures to identify services that require more funding, could be run more efficiently, or should be re-distributed to other levels of care



Strengthen the health workforce, with an emphasis on healthcare professionals in the primary care sector.

Across the GCC, countries face a shortage of skilled healthcare professionals in the primary care sector and a varying reliance on expatriate healthcare workers. All countries would benefit from increasing investment in training, attracting and retaining local FPs and GPs to meet the goal of every individual or family having an assigned GP or FP. While all six countries have dedicated family medicine training programmes, the output of programmes needs to be increased to meet the countries' increasing demand.

Scaling up the health workforce, with an emphasis on the primary health workforce, would incur significant additional health costs through initial and ongoing training and remuneration. However, these costs must be considered alongside the health and economic gains that improving the primary health workforce would afford each country across the region. Developing a clear health workforce strategy will aid countries in improving PHC efficiency and reducing costs, including through task shifting, capitalizing on available resources within the country and public-private partnerships.

Suggested interventions to strengthen the health workforce:

- design a national health workforce strategy
- develop a monitoring & evaluation programme with clear performance indicators to track progress of the status of the primary healthcare workforce
- train and recruit more national primary care workers by offering scholarships for nationals training in primary care professions, simplifying the process of licensing for domestic healthcare workers and updating policies for work-life balance in the primary care sector



Further expand NCD prevention and screening services at the primary care level.

A hallmark of strong primary care is an investment into disease prevention and screening services. Indeed, offering routine screening services for all patients in need can help identify and thus treat diseases early, increasing chances of treatment success and reducing associated health and economic costs. Of note, whether universal or targeted screening approaches are more cost-effective depends on the disease as well as country context.

The modelling in this study found that all six GCC countries have the opportunity to scale up their screening services for NCDs in public primary care. In total, over 30 million people in the GCC region did not receive the services they require for NCD screening through the primary care level in the public sector in 2019. Of note, this study did not model services provided in the private sector or on the secondary or tertiary care level in the public sector, and a significant proportion of the people not receiving services through public primary care may have received these services elsewhere. Given this limitation, further research into private sector service coverage of primary care services across the GCC countries is recommended. This would then allow for scale-up of screening services at PHC across both sectors to meet country PHC coverage goals. Scale-up must be done with consideration for accessibility, equity and working towards universal health coverage through public PHC being available to all populations within a country.

Suggested interventions to further expand screening services:

- Increase public awareness of screening services by scaling up media campaigns
- Identify what drives people to attend screening or not, for example using behavioural insights
- Collaborate with the private to ensure every person in need can access screening services at primary healthcare level in the private or public sector
- Include screening and disease prevention in the job description of primary care professionals



Scale-up mental health services in primary care.

Mental health services at the primary care level only account for an average of 0.2 percent of total costs modeled in this report, with 9 million people in the GCC region not receiving mental health services at the public primary care level. Note that these individuals may have received care in secondary or tertiary public as well as private care.



While GCC countries have taken important steps to ensure access to mental health services and reduce stigma surrounding mental health conditions, public perception and accessibility of care remain key challenges for mental health services in the region. Indeed, the majority of mental health services are currently delivered at secondary or tertiary level. Integrating mental health screening and care services into public primary care (and in particular general practice) will not only ensure better access to mental healthcare for the population but has also been demonstrated to lead to better health outcomes than treatment in secondary or tertiary care. Moreover, prominent mental health services in primary care can help provide visibility to mental health disorders and provide a platform for education and awareness campaigns to reduce stigma associated with these conditions. Conceptually, scaling up mental health services in primary care is part and parcel to a people-centered approach to PHC that aims to care for patients and communities in all areas of health and disease.

Suggested interventions to scale-up mental health services:

- With the help of the population in need identified in this study, review if and where individuals access mental health services
- Engage with public and private stakeholders to develop a programme to integrate mental health services into PHC if not already included⁵⁵

⁵⁵ Eaton, J., et al. (2018). A structured approach to integrating mental health services into primary care: development of the Mental Health Scale Up Nigeria intervention (mhSUN). *International journal of mental health systems*, 12, 11.

Annex: Overview of PHC-level clinical services costed by country

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
IMMUNIZATION						
Anti-Rabies			O			
BCG vaccine	O	O	O	O	O	O
DPT vaccine	O		O	O	O	O
DT Adult			O			
DT Pediatrics			O			
Heb B vaccine (Pediatrics)			O			
Hep B vaccine	O				O	O
Hib vaccine	O				O	O
HPV vaccine		O				O
Influenza vaccine	O		O		O	O
Measles vaccine	O	O	O	O	O	O
Meningococcal vaccine			O			
Pentavalent vaccine		O	O	O		
Pneumococcal vaccine	O	O	O	O	O	O
Polio vaccine	O	O	O	O	O	O
Rotavirus vaccine	O		O		O	O
Rubella vaccine		O				
TT			O			
Varicella vaccine	O	O	O	O	O	
NON-COMMUNICABLE DISEASES						
Breast Cancer						
Basic breast cancer awareness	O	O	O	O	O	O
Diagnosis after Screened with Clinical Breast Exam			O	O		O
Diagnosis after Screened with Mammography						O

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Diagnosis without screening for breast cancer						○
Diagnosis: Screened with clinical breast exam		○				
Diagnosis: Screened with mammogram		○				
Post-treatment surveillance for breast cancer patients		○				
Screening: Clinical Breast Examination	○	○	○	○	○	○
Screening: Mammography		○				○
Cervical Cancer						
HPV DNA + VIA						○
Papanicolaou test (Pap smear)	○	○	○	○	○	○
Post-treatment surveillance for cervical cancer		○				
Visual inspection with acetic acid (VIA)						○
Colorectal Cancer						
Diagnosis for colorectal cancer screened with FIT						○
Diagnosis for colorectal cancer screened with FOBT		○				○
Diagnosis without screening for colorectal cancer (symptom based)		○				○
Post-treatment surveillance for colorectal cancer		○				
Screening: Colonoscopy		○				
Screening: Fecal immunochemical test						○
Screening: Fecal occult blood testing	○	○	○	○	○	○

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Screening: Sigmoidoscopy		O				
CVD & Diabetes						
Follow-up care for those at low risk of CVD/Diabetes (Absolute Risk: 10-20%)	O	O	O	O	O	O
Intensive Glycemic control	O	O	O	O	O	O
Neuropathy screening and preventive foot care	O	O	O	O	O	O
Referral for retinopathy screening				O		
Retinopathy screening	O		O		O	O
Screening for risk of CVD/Diabetes	O	O	O	O	O	O
Standard Glycemic control	O	O	O	O	O	O
Treatment for those with absolute risk of CVD/Diabetes 20-30%	O	O	O	O	O	O
Treatment for those with established cerebrovascular disease and post stroke	O	O	O	O	O	O
Treatment for those with high absolute risk of CVD/Diabetes (>30%)	O	O	O	O	O	O
Treatment for those with high blood pressure but low absolute risk of CVD/Diabetes (< 20%)	O	O	O	O	O	O
Treatment for those with very high cholesterol but low absolute risk of CVD/Diabetes (< 20%)	O	O	O	O	O	O
Treatment of cases with established ischaemic heart disease (IHD)	O	O	O	O	O	O

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Treatment of cases with rheumatic heart disease (with benzathine penicillin)	O	O			O	O
Treatment of new cases of acute myocardial infarction (AMI) with aspirin	O	O	O	O	O	O
ORAL CARE AND CANCER						
Emergency care						
Average annual emergency care needs	O	O	O	O	O	O
Oral Care						
Dental cleaning and preventive care	O	O	O	O	O	
Oral and dental care						O
Respiratory Disease						
Asthma: High dose inhaled beclometasone + SABA	O		O		O	O
Asthma: High dose inhaled fluticasone + SABA		O		O		
Asthma: Inhaled short acting beta agonist for intermittent asthma	O	O	O	O	O	O
Asthma: Low dose inhaled beclometasone + SABA	O		O		O	O
Asthma: Low dose inhaled fluticasone + SABA		O		O		
Asthma: Oral Prednisolone + Theophylline + High dose inhaled fluticasone + SABA		O		O		
Asthma: Theophylline + High dose inhaled fluticasone + SABA		O		O		
COPD: Exacerbation treatment with antibiotics	O	O	O	O	O	O

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
COPD: Exacerbation treatment with oral prednisolone	☐	☐	☐	☐	☐	☐
COPD: Exacerbation treatment with oxygen		☐		☐		☐
COPD: Inhaled salbutamol	☐	☐	☐	☐	☐	☐
COPD: Ipratropium inhaler	☐	☐	☐	☐	☐	☐
COPD: Low-dose oral theophylline	☐	☐	☐	☐	☐	
COPD: Smoking cessation	☐	☐	☐	☐	☐	☐
CHILD HEALTH						
Deworming						
Deworming	☐		☐	☐	☐	
Diarrhea management						
Antibiotics for treatment of dysentery		☐		☐		☐
ORS	☐	☐	☐	☐	☐	☐
Treatment of severe diarrhea		☐				
Zinc (diarrhea treatment)		☐		☐		
General						
Zinc supplementation		☐		☐		
Child General Health	☐	☐	☐	☐	☐	☐
School Health	☐				☐	
Malaria						
Malaria treatment (0-4, Mild Cases)				☐		
Pneumonia						
Pneumonia treatment (children)	☐	☐	☐	☐	☐	☐
Treatment of severe pneumonia		☐				
Routine Child Health Care Visit						
Routine Child Health Care Visit (< 1 year)						☐

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Routine Child Health Care Visit (1-5 years)						○
School Health Program						
Dental Screening				○		
Ear Screening				○		
Eye Screening				○		
NUTRITION						
Adults						
Care for adults with food allergies and sensitivities						○
Care for adults with hyperuricemia						○
Care for adults with kidney diseases						○
Care for adults with low BMI	○	○	○	○	○	
Care for adults with nutritional anemia						○
Care for adults with other nutritional diseases						
Care for Diabetic adults						○
Care for Obese adults						○
All populations						
Food fortification						○
Children						
Breastfeeding counselling and support	○	○	○	○	○	
Complementary feeding counselling and support	○	○	○	○		
Feeding counselling and support for infants and young children in emergency situations						
Intermittent iron supplementation in children	○		○	○	○	
Management of Food allergies or Food intolerances						○
Management of moderate acute malnutrition						○



Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Management of moderate acute malnutrition (children)		○		○		
Management of severe malnutrition						○
Pregnant and lactating women						
Calcium supplementation for prevention and treatment of pre-eclampsia and eclampsia				○		
Daily FAF, postpartum, anemic women				○		
Daily iron and folic acid supplementation (pregnant women)	○	○	○	○	○	
Intermittent FAF, postpartum, non-anemic pregnant women				○		
Intermittent iron and folic acid supplementation (non-anemic pregnant women)	○	○	○	○	○	
Iodine supplementation in pregnant women		○				
Vitamin A supplementation in pregnant women		○				
Women of reproductive age and adolescent girls						
Intermittent iron-folic acid supplementation	○	○	○	○	○	
MENTAL HEALTH						
Alcohol use/ dependence						
Identification and assessment of new cases of alcohol use/ dependence						○
Brief interventions and follow-up for alcohol use/dependence		○				

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Identification and assessment of new cases of alcohol use/dependence		○				
Anxiety Disorders						
Basic psychological treatment for anxiety disorders (mild cases).	○		○		○	○
Basic psychosocial treatment and anti-depressant medication for anxiety disorders (mild to moderate cases)						
Basic psychosocial treatment and anti-depressant medication for anxiety disorders (moderate-severe cases)	○	○	○		○	○
Basic psychosocial treatment for anxiety disorders (mild cases)		○				
Attention Disorders						
Methylphenidate medication						○
Bipolar Disorders						
Basic psychosocial treatment, advice, and follow-up for bipolar disorder, plus mood-stabilizing medication		○				○
Conduct Disorders						
Basic psychosocial treatment, advice, and follow-up for behavioural disorders		○				○
Dementia						
Assessment, diagnosis, advice, and follow-up for dementia		○				○
Dementia screening, basic work up and referral to tertiary care						
Pharmacological treatment of dementia						○

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Depression						
Basic psychosocial treatment and anti-depressant medication of first episode (mild to moderate cases)						
Basic psychosocial treatment and anti-depressant medication of first episode (moderate-severe cases)	○	○	○		○	○
Basic psychosocial treatment for mild depression	○	○	○		○	○
Intensive psychosocial treatment and anti-depressant medication of recurrent moderate-severe cases on a maintenance basis						○
Psychosocial care for peri-natal depression						○
Psychosocial care for peri-natal depression for mild cases only						
Developmental Disorders						
Basic psychosocial treatment, advice, and follow-up for developmental disorders		○				○
Drug use/dependence						
Brief interventions and follow-up for drug use/dependence		○				○
Identification and assessment of new cases of drug use/dependence		○				
Epilepsy						
Basic psychosocial support, advice, and follow-up only						
Basic psychosocial support, advice, and follow-up, plus anti-epileptic medication		○				○

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Psychosis						
Basic psychosocial support and anti-psychotic medication		O				O
Self-harm/suicide						
Assess and care for person with self-harm		O				
Basic psychosocial treatment, advice, and follow-up for self-harm/suicide						
Pesticide intoxication management						
MATERNAL NEWBORN AND REPRODUCTIVE HEALTH						
Antenatal Care (ANC)						
Antenatal Care (ANC)						O
Childbirth care - Facility births						
Feeding counselling and support for low-birth-weight infants				O		
Kangaroo mother care (Delivery suits available in SOME health centers cat B, Local and wilayat hospitals for low risk pregnancies)				O		
Labor and delivery management (Delivery suits available in SOME health centers CAT B, Local and wilayat hospitals for low risk pregnancies)				O		
Manual removal of placenta				O		
MgSO4 for eclampsia				O		
Neonatal resuscitation				O		
Parenteral administration of uterotonics, only available in category (B) PHC institutions				O		
Pre-referral management of labor complications		O		O		

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Treatment of local infections (Newborn)				O		
Family planning						
Condom - Male				O		
Contraception Management					O	
Implant - Implanon (3 years)				O		
Injectable - 3 month (Depo Provera)	O		O	O		
IUCD follow-up care (checking for misplace, removal, treating related infection)	O		O		O	
IUD - Copper-T 380-A IUD (10 years)		O		O		
LAM (Lactational Amenorrhea Method)				O		
Other contraceptives	O		O			
Periodic abstinence				O		
Pill - Progestin only	O		O	O		
Pill - Standard daily regimen		O				
SDM (Standard Days Method)				O		
Withdrawal		O		O		
Management of abortion complications						
Post-abortion case management			O		O	
Management of ectopic pregnancy care						
Ectopic case management (Only includes: stabilization, urine pregnancy test and referral to tertiary care)				O		
Menopause Program						
Screen for mood disorders				O		
Screen for urogenital dryness				O		

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Other						
Postmenopausal care			O			
Management of abnormal uterine bleeding			O			
Management of amenorrhea			O			
Management of hirsutism			O			
Management of irregular cycles			O			
Management of mild endometriosis			O			
Management of PCO			O			
Management of pre pubertal problems (delayed menarche, infection)			O			
Other sexual and reproductive health						
Cervical cancer screening		O	O			
Identification and management of infertility	O	O	O	O	O	
Treatment of chlamydia	O	O	O	O	O	
Treatment of gonorrhea	O	O	O	O	O	
Treatment of PID (Pelvic Inflammatory Disease)	O	O	O	O	O	
Treatment of syphilis	O	O	O	O	O	
Treatment of trichomoniasis	O	O	O	O	O	
Treatment of urinary tract infection (UTI)	O	O	O	O	O	
Postpartum Care						
Breast feeding education and advice	O		O		O	
Mastitis	O		O	O		
Postnatal Care (PNC)						O
Postpartum Care Examination					O	

Intervention	Bahrain	KSA	Kuwait	Oman	Qatar	UAE
Treatment of postpartum hemorrhage	☐	☐	☐	☐	☐	
Maternal sepsis case management (ONLY includes :stabilization, and referral to tertiary care)				☐		
Preconception Care (PCC)						
Preconception Care (PCC)						☐
Pregnancy Care						
Basic ANC	☐	☐	☐	☐	☐	
Syphilis detection and treatment (pregnant women)	☐		☐		☐	
Tetanus toxoid (pregnant women)	☐	☐	☐	☐	☐	
Syphilis screening ONLY (pregnant women)				☐		
Pregnancy care - Treatment of pregnancy complications						
Deworming (pregnant women)	☐		☐	☐		
Hypertensive disorder case management		☐		☐		
Management of other pregnancy complications				☐		
Management of pre-eclampsia (Magnesium sulphate)				☐		
Premarital screening program						
Premarital screening program						☐
GENERAL PRACTICE						
General Practice	☐	☐	☐	☐	☐	☐
OTHER PROGRAMS						
Elderly and community care program (5 Interventions) - Included in NCDs				☐		
Allied Health					☐	

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