Research Agenda for the Health Pillar

2019

مركز الكويت للسياسات العامة
Kuwait Public Policy Center

Empowered lives.
Resilient nations.

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Table of Contents

List of Figures 4
List of Tables 4
Executive Summary 5
Abbreviations 9

I. Rationale and Methods 10
1. Rationale 10
2. Methods 18

II. New Strategic Directions of Health Policy 20
1. Transforming strategic directions, aims and goals 20
2. Challenges and gaps led by current strategic directions 32
3. New strategic directions 40
4. Evaluation of current key performance indicators by new strategic directions 43
5. New KPIs for the new strategic directions 45

III. Priorities for Health Policies 47
1. Priorities for health policies 47
2. Policy options and measures 49

IV. Policy Research Agenda 52
1. Establishment of the National Health Plan 2030 52
2. Restructuring health organizations 55
3. Development of health promotion policies and programs 57
4. Strengthening the health financing system 59
5. Establishment of the National Health Industry Development Plan 2030 63
6. Development of a ubiquitous health information and data system 65
7. Establishment of the National Health Workforce Development Plan 67

V. Action Plan for Policy Research 70
1. Purposes of action plan 70
2. Interlinked structure of policy research agendas 71
3. Ownership and governance structures 74
4. Procedures 75

VI. Conclusion 80
References 82
Appendix 84
Appendix 1. Health challenges: Top 10 risks contributing to DALYs 85
Appendix 2. Health challenges: Top 10 causes of death 86

List of Figures

Figure 1-1: Impacts of globalization 15
Figure 1-2: Research process 17
Figure 2-1: Policy gaps in the health system 38
Figure 2-2: Holistic view of the Kuwait National Health System (source: Chun and Siddiqui, 2017) 42
Figure 5-1: Interlinked Policy Research Agendas in Holistic Kuwait National Health System 72
Figure 5-2: Policy Research Governance Structure 74
Figure 5-3: Procedures and responsibilities 76

List of Tables

Table 1-1: Trends of usage of telephone, Internet, and mobile lines 12
Table 1-2: Changes in attitudes, behaviors, and lifestyles among students aged 13-15 from 2011 to 2015 14
Table 1-3: Behaviors, lifestyle, and health status changes among adults (>19 years old) from 2014 to 2015 15
Table 1-4: Trends of health expenditures during 2011-2014 16
Table 2-1: Strategic directions, programs, and projects in health pillar 26
Table 2-2: Trends of the key performance indicators of Health Policies during 2011-2015 33
Table 2-3: Health issues in Kuwait 36
Table 2-4: Health policy gaps and health system challenges 39
Table 2-5: Quantitative objectives for the Kuwait National Development Plan (2015/2016 – 2019/2020 43
Table 2-6: Health indicators to respond to Kuwait's health challenges (unit: mean (SD)) 44
Table 3-1: Evaluate recommended policies and programs focusing on a vision for improving health and well-being (achieving the desired quality of life for the people of Kuwait) 50
Table 3-2: One of the biggest challenges in the Kuwait health system is the uncertainty of the financial sustainability of the system. It is crucial to reform the financial support system for the health system for future generations. 51
Table 5-1: Timetable for policy researches 78

Executive Summary

Rationale

During the last decade, profound changes have altered the health care landscape in Kuwait. Rapidly changing attitudes, lifestyles, and behaviors linked to the globalization of Kuwait and its population have brought new opportunities and new risks. Such changes have led to the growth of noncommunicable diseases, deterioration in the quality of life, and increases in health care expenditures that are rendering the current health system financially unsustainable. As a result, Kuwait must create new strategies for dealing with changing circumstances.

The current health care vision put forward in the Kuwait National Development Plan (KNDP) does not adequately respond to health needs that are emerging within the population now, or to the trends that are likely to emerge in coming years. The reasons for this are twofold. First, at the time of the plan's initial conception, health care trends now buffeting Kuwait were unforeseen. Second, the proposed changes, which emphasize a substantial transformation of the goals and visions underpinning the health care system in Kuwait, have challenged elements of the plan prior to completion.

Purpose

This report aims to:

- propose new strategic directions for achieving better health and well-being for people living in Kuwait.
- identify and order appropriate priorities for health policies.
- shape the policy research agenda to address emerging needs.
- formulate a concrete policy research action plan.

Strategic direction

A number of weaknesses underlie strategic directions put forward in the current Kuwait National Development Plan. These include: inconsistencies among strategies and key indicators; an emphasis on disease treatment at the expense of disease prevention and health promotion; the absence of an overall vision of health and health care taking place in a holistic system; and an over-reliance on hospital construction and infrastructure-oriented plans.

Current strategies have proved insufficient to address growing health issues among the residents of Kuwait, or the financial challenges that are surfacing in the country's health care system. This report lists nine key components that must be addressed:

1. Health information development
2. Health system governance and management
3. Health service delivery and interventions
4. Health knowledge and technical development and innovation
5. Health care workforce development
6. Long-term health master plan
7. Financial support of the health care system
8. Evidence-based targets and indicators
9. Organization of resource components

Of these nine items, the first two - information development and governance and management – are the most urgent, and in need of immediate attention.

This report advocates a new strategic aim: to create a holistic health system that can respond to current and future challenges, issues, and gaps facing the current health care system, and that ultimately can ensure improved health, quality of life, and well-being for all residents of Kuwait. The aim of creating a holistic health system can and should be incorporated into the KNDP (2014/2015 - 2020/2021) to align measures with broader national development goals.

Adopting a holistic health system as a strategic aim will require:

- Reforming current health system components and policies.
- Establishing a model for actions needed to incorporate all relevant health determinants.
- Identifying targets and indicators for ensuring quality of life outcomes.
- Enforcing essential planning and management components.
- Creating an ongoing feedback system linked with outputs and inputs.
- Establishing financial mechanisms to ensure the system's sustainability.
- Embracing measures and interventions not only for traditional health services and health protection, but also for the promotion of human health, healthy lifestyles, and overall environmental health.
- Organizing needed resources efficiently.
- Developing needed human resources, facilities, and knowledge bases and technologies.

Key performance indicators

Current key performance indicators overlook full scope of all relevant health dimensions in a holistic fashion. A policy panel convened to set a course for new strategies put forward 15 key performance indicators grouped into four broad categories:

- *Health outcome indicators:* 1) healthy life expectancy at birth, and 2) life expectancy at birth.
- *Mortality indicators:* 3)mortality from cardiovascular disease mortality, 4) mortality from road injuries, 5) mortality from diabetes, 6) mortality from cancer, 7) mortality due to chronic respiratory disease, 8) under-five mortality rates, and 9) maternal mortality rates.
- *Indicators of health risks:* 10) prevalence of obesity, 11) smoking rates, 12) levels of physical inactivity, and 13) the incidence of high blood pressure.
- *Health system indicators:* 14) health expenditure indicators, and 15) health workforce indicators.

Policy options and priorities of health policy

The policy panel developed 26 policies, which were prioritized according to key goals and potential effectiveness. These policy options were grouped into seven wider policy agendas:

1. Establishing a stable governance, planning, and management system.
2. Structuring efficient health organizations.
3. Establishing evidence-based policies, laws, programs and services.
4. Establishing a durable financing system.
5. Building creative knowledge and technological capacities.
6. Establishing a system-wide, comprehensive and ubiquitous health information and data system.
7. Developing a competent health workforce.

Policy research agendas and objectives

For evidence-based policy making, seven policy research agendas were developed:

- *Creating the National Health Plan 2030:* To provide stable governance, planning, and management, the plan will rely on a results-based management (RBM) system, and will establish a service quality assurance system.
- *Restructuring health organizations to ensure efficiency:* The restructuring will establish new health institutes with the aim of creating a holistic health system that addresses all dimensions of health and well-being. The restructuring Ministry of Health and related entities is designed to ensure more efficient management and governance.
- *Developing health promotion policies and programs:* Health promotion policies and programs will focus on the prevention of noncommunicable diseases (NCDs). The reduction of NCDs will be further aided by the development of related laws and regulations, and by the creation of a Healthy City Initiative that will support healthier environments and lifestyles.
- *Strengthening the Health Financing System:* Kuwait will seek to establish a sustainable financial framework by undertaking model studies that provide analysis of viable health

financing support systems that could be viable in Kuwait. Research will also be conducted regarding the feasibility of establishing a National Health Insurance system. The Kuwait government will consider levying earmarked taxes on tobacco and sugar.

- *Establishing the National Health Industry Development Plan 2030:* The plan will seek to build creative and innovative health knowledge and technology industries, and to establish a global translational research complex hospital and international medical hub.
- *Developing of a ubiquitous health and data information system:* Such a system will provide the health system in Kuwait to generate and analyze data that can be integrated throughout the system, and can serve as the foundation of an electronic platform that can provide valuable, real-time analysis of patient data.
- *Creating a National Health Workforce Development Plan:* Such a plan will develop a competent health workforce that can meet the growing demands for care in Kuwait. The plan includes establishing a health workforce management system, and developing plans to establish health professional schools.

Policy research action plan

The action plan describes a sequence of steps and activities that should be undertaken for policies to achieve their aims, and to move the system in a more effective strategic direction.

The plan addresses research governance structures and relationships among related departments and organizations. The key governance structure is collaboration among the General Secretariat of the Supreme Council for Planning and Development (GSSCPD), the Kuwait Public Policy Center (KPPC), the Kuwait Foundation for the Advancement of Sciences (KFAS), and the Kuwait Institute for Scientific Research (KISR).

The plan advocates a six-step process for action on research. The stages are: *1) approval of the research agendas by the policy research committee, 2) public advertising (bidding for research project), 3) selection, 4) research, 5) feedback, and 6) finalizing.*

- The plan advocates interlinked policy research agendas to underpin provision of a holistic health system covering all relevant dimensions of health and well-being. The order in which the research steps are undertaken is essential for maintaining consistency and the strategic directions of the overall plan. As a result, the timeline of the action plan is divided into six separate steps that allow for the research to proceed to achieve these aims.
- All research must be completed by the end of 2019 for the Kuwait National Development Plan 2020-2025 to reflect policy research findings.

Conclusions

Practical actions are needed for the next Kuwait National Development Plan to incorporate a strong and effective evidence-based policy process. Needed steps include: establishing new strategic directions that aim to create a more holistic health system; amending key performance indicators to address issues of importance for health and health care under a more holistic system; formulating policy research agendas to support new strategic aims; and establishing and following a targeted policy research action plan.

Abbreviations

DALYs	Disability-Adjusted Life Years
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GSSCPD	General Secretariat of the Supreme Council for Planning and Development
HIS	Health Information System
HRIS	Human Resource Information System
HT	Health Technology
IHME	Institute for Health Metrics and Evaluation
KFAS	Kuwait Foundation for the Advancement of Sciences
KISR	Kuwait Institute for Scientific Research
KNDP	Kuwait National Development Plan
KPIs	Key Performance Indicators
KPPC	Kuwait Public Policy Center
MOH	Ministry of Health
NCD	Noncommunicable Disease
NHIS	National Health Insurance Services
NHS	National Health Service
PHC	Primary Healthcare Centers
PIS	Private Health Insurance
RBM	Results-Based Management
STEPS	WHO STEPwise approach to surveillance
UHC	Universal Health Coverage
UNCAC	United Nations Convention against Corruption
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNIATF	United Nations Interagency Task Force

I. Rationale and Methods

1. Rationale

The Kuwait health system has been recognized as successful in providing universal health coverage through its National Health Service system, which allows patients to exercise option of seeking medical treatment overseas (Chun, Siddigui, 2017). At present, however, the system faces severe challenges. In recent years, life expectancy at birth has declined (Chun, 2017a), and disease patterns have rapidly shifted, with noncommunicable diseases growing (WHO, 2014; 2017a). Even as health life expectancy is declining, the costs of providing medical care are growing. Questions are surfacing about the sustainability of the current health system.

Against this backdrop, this report advocates shifting strategic directions and priorities of health policies as set forth in the next Kuwait National Development Plan (KNDP) (2020-2025). Acknowledging the need for health care reform, the State of Kuwait in 2010 incorporated a health pillar among seven key pillars within the KNDP (GSSCPD, 2017a). This pillar offered a strategy for health reform in keeping with the broader development aims of the KNDP.

Though health is an integral part of the KNDP, neither the vision put forward nor the actual steps that have been taken under its mantle have demonstrated an ability to effectively address the constellation of factors leading to deterioration of health and well-being among the residents of Kuwait. The reasons for this are primarily twofold:

- *Health care needs now surfacing in Kuwait were not anticipated during the advent of the KNDP.* When the KNDP was first devised, Kuwait's health care concerns revolved around the low quality of treatment, low accessibility, and a lack of infrastructure. Genetic disorders, maternal and child mortality, and primary health care needs were then paramount (GSSCPD, 2010). But over the course of the last decade, the situation changed dramatically. Rapid globalization led to profound changes in the nature of society in Kuwait. This has brought new opportunities as well as risks (Figure 1-1). However, in terms of health and health care, the effects of globalization have led to a complex set of challenges that transcend national boundaries. The changes involve social, political, and economic health determinants, and collections of health problems that stem from lifestyle and behavioral choices. Addressing these issues requires organized social responses both within and outside of formal health systems (Huynen et al., 2005).
- *The health care market has features that warrant different strategies than those currently employed in other economic development pursuits.* The KNDP has largely focused on economic development. The health sector is in many ways distinct from other sectors. As a result, economic development strategies that are effective in many sectors do not necessarily help – and may even hinder – the health care markets. Key strategies put forward in the KNDP emphasize privatization and diversification (in the plan's first stage, covering the years 2010 to 2015), legislative responses (in the second stage, covering the years 2015 to 2020), and building of infrastructure (in the third stage, covering the 2015 to 2020) (KNDP 2010-2015; 2015-2020; 2020-2025). Many international agencies have warned about risks and challenges facing the health system in Kuwait (WHO, 2014; 2017, UNIATF, 2017a).

Nevertheless, changing direction has proved difficult. To address current challenges, a transformation is required in the strategies that underpin the KNDP's vision and implementation of measures addressing health care. This shift requires moving away from strategies that encourage privatization and diversification in health care and toward strategies that aim specifically at the issues facing the health care sector; this shift will almost inevitably mean charting a course that discourages privatization, and moves the focus away from infrastructure building, even though sites for new hospitals and other health care facilities have been secured and are, in some cases, already under construction.

Compared to Western countries, Kuwait's globalization took place relatively late. Nevertheless, globalization has taken place rapidly, and its impact has been enormous. The KNDP's emphasis on privatization and diversification is related to the impact of globalization – not all of which has been negative. Table 1-1 shows examples of some positive ramifications of Kuwait's rapid globalization. For example, the number of telephone landlines fell, as phone use shifted toward mobile phones; mobile telephones almost tripled from 2007 to 2014, from 2,769,612 to 7,365,207.

TABLE 1-1

Trends of usage of land-line telephones, Internet, and mobile telephones

Years	Fixed Telephone Lines in Telephone Exchanges	Internet Users	Billed and Pre-Paid Mobile Telephones
2007	538,219		2,769,612
2008	519,966		3,037,764
2009	528,497	596,606	3,824,889
2010	519,418	676,179	4,258,605
2011	514,696	685,388	5,036,713
2012	507,680	732,331	5,801,743
2013	499,949	816,575	6,471,194
2014	483,957		7,365,207

Source: Statistic Bureau, 2016.

But many of the rapid changes of attitudes, behaviors, and lifestyles are troubling, and evidence suggests that the quality of life in Kuwait is deteriorating as a result. Such changes underpin the huge growth in the prevalence of noncommunicable diseases (NCDs) in Kuwait. The growth of these diseases has put a financial strain on the health care system of Kuwait (Chun, 2017b). Table 1-2 shows the changes of attitudes, behaviors, and lifestyles of students aged 13 to 15 from 2011 to 2015. The percent of students who said that they do not have close friends more than doubled, from 3.3 percent to 7.4 percent. The percent of students who said they had been "bullied on one or more days during the past 30 days" also rose, from 27.7 percent to 31.7 percent. Among this population, the obesity rate grew from 22.7 percent to 24.5 percent, and the rate of physical activity fell. The number of students who had been seriously injured one or more times during the past 12 months grew sharply, from 42.8 percent to 55.7 percent. The percent of students who said they had smoked cigarettes on one or more days during the past 30 days increased from 15.9 percent to 21.7 percent. The increase was especially pronounced among female students, for whom the smoking rate nearly doubled, increasing from 7.5 percent to 14.5 percent.

Adults' behaviors, lifestyles, and health have also changed dramatically. Table 1-3 shows changes that occurred from 2014 to 2015. Smoking rates grew from 14.24 percent to 18.04 percent. The portion of the adult population that is physically inactive also grew, from 51.02 percent to 65.75 percent. The prevalence of high total cholesterol increased, from 16.33 percent to 22.24 percent. A significant change concerns the prevalence of diabetes, which grew from 9.32 percent to 17.32 percent. Though the obesity rate declined slightly from 46.23 percent to 44.55 percent, it remains dangerously high. Three in four people in Kuwait are obese or overweight.

TABLE 1-2

Changes in attitudes, behaviors, and lifestyles among students aged 13-15 from 2011 to 2015 (unit: %)

Attitudes, behaviors, and lifestyles	2011	2011
No close friends		
Boys	3.5	7.5
Girls	3.0	7.3
Total	3.3	7.4
Bullied on one or more days during the past 30 days		
Boys	36.4	35.8
Girls	18.5	27.7
Total	27.7	31.7
Physically active for a total of at least 60 minutes per day on five or more days during the past seven days		
Boys	30.7	19.0
Girls	10.3	15.1
Total	20.9	17.1
Smoked cigarettes on one or more days during the past 30 days		
Boys	23.7	28.7
Girls	7.5	14.5
Total	15.9	21.7
Seriously injured one or more times during the past 12 months		
Boys	54.6	61.1
Girls	30.2	50.7
Total	42.8	55.7
Obese (>+2 standard deviations from the median BMI)		
Boys	26.3	28.0
Girls	19.0	21.0
Total	22.7	24.5

Source: Global School-Based Student Health Survey. Kuwait: 2011 Fact Sheet; 2015 Fact Sheet.

TABLE 1-3

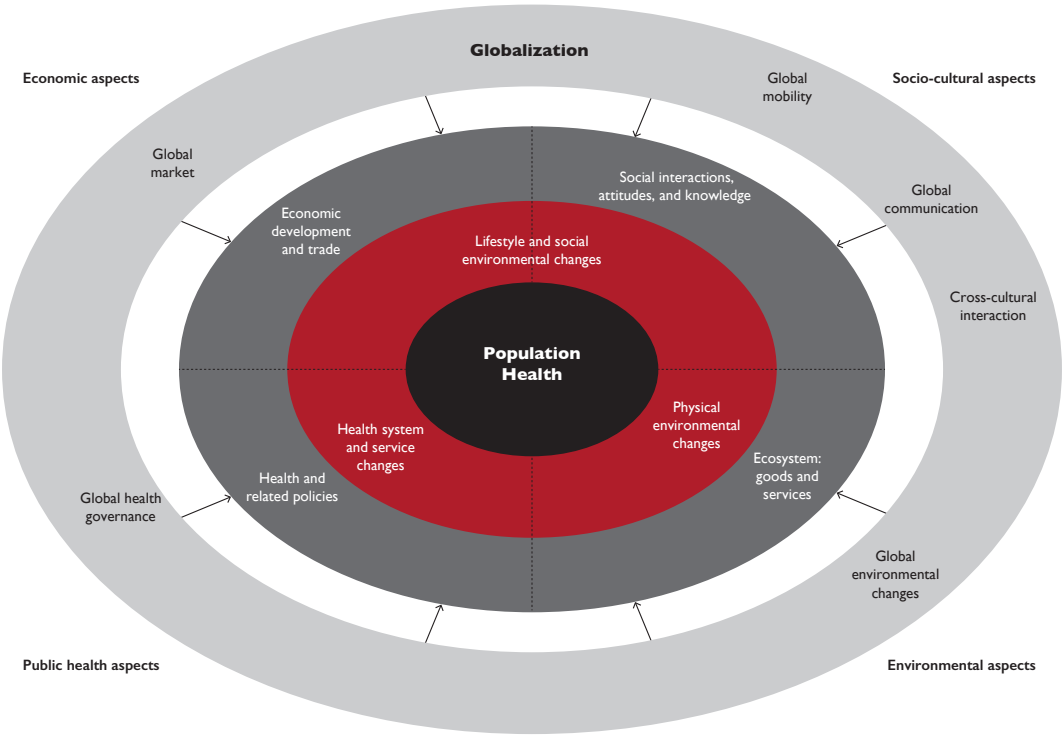
Behaviors, lifestyle, and health status changes among adults (>19 years old) from 2014 to 2015 (unit: %)

Behaviors, lifestyles, and health status	2014	2015
Do not practice any sports	51.02	65.75
Smoke cigarettes or shisha	14.24	18.04
Obesity and overweight		
Obesity (BMI≥30.0)	46.23	44.55
Overweight (BMI≥25.0 - <30.0)	32.29	33.13
Prevalence of high total cholesterol (≥ 6.2 mmol/l)	16.33	22.24
Prevalence of diabetes and pre-diabetes		
Diabetes (≥7.0 mmol/l)	9.32	17.92
Pre-diabetes (≥6.1-<7.0 mmol/l)	13.64	18.40

Source: MOH. Nutrition Surveillance, 2014; 2015.

FIGURE 1-1

Impacts of globalization



Source: Huynen et al. 2005

Changes in the medical service market in Kuwait are to a large degree the result of privatization. Privatization has led to the expansion of private hospitals, contributing to infrastructure and markets, and to a diversity of services provided. However, it has also led to changes in patterns of medical consumption. These have challenged the National Health Service (NHS). Kuwait lacks a system to provide effective regulation of private health care markets. This results in an enormous information gaps between medical providers and medical consumers. The advent and growth of private-sector medical resources have led to soaring health expenditures, growing inequities in health services, and an increasing risk for abuse of patients. Kuwait originally focused on primary health care through the NHS, but privatization of hospitals and insurance led to emphases on treatment and tertiary care. The increased use of overseas treatment among patients has also led to additional financial burdens for the system. Table 1-4 shows trends of health expenditures during the 2011-2014 period. Health expenditures per capita grew from USD 1,996 to USD 2,320. Private health expenditures as a percentage of GDP grew from 0.361 percent to 0.428 percent. Government costs associated with patients who went abroad for medical treatment more than doubled in a single year, from USD 652.8 million in 2013 to USD 1,520.0 million in 2014.

TABLE 1-4

Trends of health expenditures 2011-2014

Indexes	2011	2012	2013	2014
Health expenditure per capita, PPP (constant 2011 international $)[1]	1,996	2,018	1,968	2,320
Health expenditure, private (% of GDP)[1]	0.361	0.385	0.394	0.428
Government spending on patients abroad for treatment (USD millions)[2]	-	649.3	652.8	1,520.0

Note 1: https://data.worldbank.org/indicator/SH.XPD.PCAP.PP.KD?locations=KW;
2. Alsabah, 2016 (cited in Ministry of Finance, 2015).

To respond to these health issues and challenges, modifying the strategic directions that underpin the health pillar of the KNDP is imperative. Without proper interventions, Kuwait cannot ensure that its health system will meet ongoing challenges. Revisiting the aims is inevitable if Kuwait intends to reform its national health system to address trends in health care and well-being among its residents (Chun, 2017b).

The next stages of the KNDP focus on engaging the private sector (2020-2025) and fostering a knowledge-based economy (2025-2030) to lead toward the development of a "smart" Kuwait (2030-2035). The focus on creating vitality in the private sector is a broad and important economic theme. However, the distinctive nature of the health sector demands a different approach. Creating a holistic health system that can lead to better health outcomes at lower costs requires a departure from this private-sector focus.

Without such a change, the health status of the population of Kuwait is likely to decline, and costs are likely to increase.

The purposes of this report are to:

1. *Suggest new strategic aims and directions for health policies in Kuwait.* Suggestions are underpinned by analysis of current strategic directions and goals; discussions of existing health challenges and policy gaps; reviews of new strategic directions to chart a course toward adopting a holistic view of the Kuwait health care system; and the evaluation of existing key performance indicators (KPIs), and amendment of these KPIs.
2. *Establish priorities for health policies.* Policy recommendations are briefly reviewed, and policy priorities are put forward to achieve greater health and well-being of the residents of Kuwait.
3. *Set up a policy research agenda* for effective, evidence-based policy making.
4. *Formulate a policy research action plan.* Steps proposed include: drawing a road map, evaluating research methods, reviewing existing policy research avenues, considering collaborations with institutes, and detailing specific procedures to spur action (Figure 1-2).

FIGURE 1-2

Research process

2. Methods

1. Tasks

1. *Develop policy options, new strategic directions, and priorities.* Related tasks include analyzing and evaluating current KPIs, and suggesting new targets and KPIs according to new strategic directions.
2. *Develop and confirm policy research agendas.* This process should be conducted with national key stakeholders and public entities, including KFAS, KISR, MOH, and related ministries and regional governorates.
3. *Develop an action plan for policy research.* The process should involve related institutes such as Kuwait University, KISR, KFAS, and other national or international institutions that conduct relevant work to explore potential collaborations.

2. Frameworks and theories

This report applied the following models and methods:

- *Scope of contents:* A scoping exercise provided an overview of a holistic health system approach and health promotion framework.
- *Policy analysis:* Tools included process, rational and evidence-based models; and an evidence-based policy-making approach that incorporates budget development, implementation oversight, outcome monitoring, and target evaluation (Urahn, Caudel-Feagan, 2014).
- *Development of priorities and strategies:* Methods included use of a basic priority rating system that evaluates the size of the relevant problems, the seriousness of the problems, and the effectiveness of the potential solutions; the "PEARL" (propriety, economic feasibility, acceptability, resources, and legality) methodology; and golden diamond approach.
- *Program evaluation and documentation:* Methods included use of a precede-proceed planning model (Green et al., 2005), and a results-based management model (UNDG, 2011).

3. Survey methods

- *A desk review* included data collection; identification of issues, challenges, and gaps; analysis of health policies in the KNDP; analysis of the current health system and ongoing and planned reform efforts; and a survey of relevant literatures (national data, white papers, and reports by the Kuwait government, international organizations, and related agencies on best practices in health policies and health systems).
- *Face-to-face interviews and focus group discussions* were held with key members of relevant institutions, targeted professionals, and members of government and non-government stakeholder groups. These sessions were used to identify the focuses of a subsequent policy panel survey.
- *A policy panel survey* was undertaken with targeted professionals and key members of government and non-government stakeholder groups.
- *Roundtable discussions* were conducted with key stakeholders. The objectives were to enhance understanding of the linkages between health policies, the national health system, and the achievement of the United Nations Sustainable Development Goals

(SDGs). Targets addressed included a focus on how key institutions and organizations can play constructive roles in health policies, services, research and education. Participants included key government representatives, public- and private-sector health services representatives, policy makers, practitioners, and representatives of academic and research institutes, civil society organizations, and international and regional institutions and development organizations.

- *Additional information* was generated regarding new strategic directions and priorities for health policies; evaluation results of current KPIs; new targets and new KPIs; details of policy research agendas; and an action plan for the policy agendas.

4. Questions

Questions that underpinned the whole process covered a wide range of issues concerning health, health care and health systems. Issues addressed included: delivery of service and interventions; organization of resources; the role of service organizations; resource development; health issues surfacing in Kuwait; health outcomes; and evaluations of policy components addressing health care services, health protection, health promotion, healthy environments and societies, planning and management, economic support, and the development of health indicators and financing measures.

- *Face-to face interview and focus group discussion questions:* The questionnaire was composed of open questions that addressed dimensions of the KNDP and health systems. The interviews and discussions incorporated gathering intelligence, identifying problems and issues, assessing consequences, rating consequences, and recommending options.
- *Policy panel questionnaire:* The questionnaire took into account individual and group interviews and discussions; the literature review; and analysis of the major health issues, challenges, gaps, and recommendations concerning the current and proposed health care system for Kuwait (see the questionnaire in the appendix). The questionnaire consisted of both structured and open-ended questions, and aimed to evaluate Kuwait's current Kuwait health policies and system; to develop a new health system; and to choose policy priorities.

5. Research steps

- *Planning:* establishing the research agenda; clarifying policy needs; engaging stakeholders and relevant institutions; determining the survey design; evaluating questions, and determining procedures to be used.
- *Implementation:* collecting data, conducting a panel survey, conducting face-to-face interviews, holding roundtable discussions, and processing and analyzing data.
- *Utilization:* interpreting results, and submitting findings.

II. New Strategic Directions of Health Policy

1. Transforming strategic directions, aims and goals

1. New Kuwait Development Plan 2035

The New Kuwait Development Plan 2035 (The State of Kuwait, 2017) puts forward a unified vision intended to transform Kuwait into a financial, cultural, and institutional leader in the region. The plan is composed of five themes and seven pillars, each of which incorporate targeted strategies.

The five themes are:

1. Citizen participation and respect of law
2. Effective government
3. Prosperous economy
4. Nurturing nation
5. Globally relevant player

The seven pillars and accompanying strategic directions are:

1. *Global position:* "international diplomacy," "humanitarian center"
2. *Human capital:* "education reform," and "competitive workforce"
3. Health care: "quality service," "international accreditation"
4. *Living environment:* "sustainable housing," "improve air quality"

5. *Infrastructure:* "logistic hub," "smart transportation"
6. *Economy:* "private-sector jobs," "entrepreneurial innovation"
7. *Public administration:* "effective government," "efficient service delivery"

Health care goals are set up in response to the strategic directions of health care pillar, including "improving service quality" and "developing national capacities in the public healthcare system at reasonable cost."

Increasing the numbers of hospital beds is also a focus.

2. The Development Plan 2015/2016-2019/2020

The Development Plan 2015/2016-2019/2020 (GSSCPD, 2015b) contains three key strategic directions: "excellent medical service," "capacities of the health system," and "privatization."

The Annual Development Plan 2017/2018 (GSSCPD, 2017b) includes one health care strategic direction, three programs, and 22 development projects. The strategic direction of the healthcare pillar is to provide "high-quality healthcare," ensuring easy access to suitable healthcare when and where it is needed.

The aims are to:

- Achieve high-quality health care by implementing the international quality standards in all public- and private-sector health services.
- Focus on preventive care.
- Reduce noncommunicable chronic diseases, genetic diseases, and contagious diseases.

Three related programs were established to address health service quality, reduce noncommunicable diseases, and increase bed capacity of public hospitals. Twenty-two development projects were created within these three programs:

- *Improving health service quality* - including national programs to address accreditation of quality services in health institutions, the development of occupational health services, and provision of public health information.
- *Reducing noncommunicable diseases* - including developing health services for students, creating a Health Cities Initiative, encouraging public participation in sports at all ages, and supporting sports in schools, institutes, and universities.
- *Increasing bed capacity of public hospitals* - including design and construction of a wide range of new hospitals and facilities (Farwaniya, Ibn Sina, Adan, Al Amiri, Al Sabah, Sabah Al Ahmed and police hospitals; the Kuwait Medical City project; facilities targeting communicable diseases, physiotherapy, maternity, pediatrics, and cancer).

The Kuwait Mid-Range Development Plan 2015/2016-2019/2020 (GSSCPD, 2015a) puts forward two strategic goals: reducing rate of diabetes and other lifestyle-related noncommunicable diseases, and increasing the life expectancy of population. The plan also describes public health policies, including legislative requirements.

Goals and projects were described for each strategic direction.

Strategic Direction 1 addresses reducing the rate of diabetes and other lifestyle-related noncommunicable diseases. The aims are to improve preventive health care through a more integrated healthcare system, and to encourage increasingly healthy lifestyle choices by increasing public health campaigns and introducing regulations to target smoking and unhealthy foods. Eleven projects were developed for Strategic Direction 1.

The projects are:

- *E 12. Healthy Cities Initiative:* encouraging good lifestyle and health practices (sports, healthy food, early screening and periodic screening, hygiene, and diseases prevention practices).
- *E 13. Health Promotion:* encouraging good lifestyle and health practices (sports, healthy food, early screening and periodic screening, hygiene, and diseases prevention practices).
- *O 46. Development of health services for schools:* encouraging good lifestyle and health practices (sports, healthy food, early and periodic checkups, hygiene, and disease prevention practices).
- *O 47. Prevention and response to chronic noncommunicable diseases:* restructuring the healthcare system by focusing on preventive care, chronic non-contagious, genetic and contagious diseases; and reorganizing the primary care services, especially, by prioritizing prevention on the one hand and medical care and treatments on the other hand.
- *O 48. Health information:* developing information technology to enhance the efficiency of the overall health system, and ultimately creating a national health information system.
- *O 49. The role of the private sector:* encouraging the participation of the private sector, especially in terms of the service sector and advanced care services.
- *O 50. The development of occupational health services:* supporting initiatives promoting occupation health, as well as those aimed at decreasing road accidents and harmful behaviors in general.
- *O 51. The development of primary health care services:* restructuring the health care system by focusing on preventive care; chronic non-contagious, genetic, and contagious diseases; and by reorganizing primary care services, specifically by prioritizing prevention on the one hand, and medical care and treatments on the other hand.
- *O 52. Public sports center facility construction (four projects):* developing sports facilities to allow Kuwait to host international and Olympic sporting events.
- *O 53. Sports in society:* promoting sports and exercise through raising awareness on the importance of sports, and establishing sports arenas.
- *O 54. Sports in schools, colleges and universities:* encouraging sports in educational institutions.

Strategic Direction 2 aims to increase life expectancy of population. Measures include: introducing a modern continuum of care to ensure better health care, with a particular focus on improving primary health care provision; developing a more competitive healthcare system through improved data tracking and increased private involvement; and better attracting and retaining of health care talent by providing favorable working conditions and

improved training. Sixteen projects were developed for the Strategic Direction 2.

The projects are:

- *T 12. Hospital Health Insurance Company:* adopting key projects in the development process by establishing joint stock companies.
- *E 14. Measuring patient satisfaction:* establishing an indicator that reflects the views of patients and clients about experiences with health services, so as to measure the quality of services from their point of view.
- *O 55. Ambulance center, main hospital building, Jahra Hospital:* developing new therapeutic services and units to meet the needs and expectations of health service beneficiaries.
- *O 56. Children's hospital building, Mubarak Al-Keeber Hospital:* developing new therapeutic services and units to meet the needs and expectations of health service beneficiaries.
- *O 57. Improve quality of health services in Kuwait (two projects):* applying the international quality accreditation for health care services and facilities, and for patient safety and rights, in both public and private sectors.
- *O 58. New building, Adan Hospital:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 59. New building, Amiri Hospital:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 60. New building, Ibn Sina Hospital:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 61. New building, Razi Hospital:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 62. New building, Farwaniya Hospital:* increasing health facilities capacity to address the increase in population, through the effective contribution of the private sector.
- *O 63. New Morning Hospital:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 64. Patient safety:* applying international quality accreditation in health care services and facilities, and in patient safety and rights, in both public and private sectors.
- *O 65. Blood bank services:* applying international quality accreditation in healthcare services and facilities, and in patient safety and rights, in both public and private sectors.
- *O 66. Jaber Al Ahmad Hospital-South Surra:* increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 67. Police Hospital*: increasing health facilities' capacity to address the increase in population, through the effective contribution of the private sector.
- *O 68. Rehabilitation center with home-care services.*

The Mid-Range Development Pan 2015/2016-2019/2020 also contains public health policies that are focused on legislative requirements, including new laws and amendments to existing laws.

- New laws are the Psychological Health Law (mental health law) and the Patients' Rights Law. The Ministry of Health modified the Psychological Health Law, which became the Mental Health Act. This was submitted to the Parliament in 2015, but is still being held in the Parliament. As of this writing, the Patients' Rights Law has yet to be submitted to Parliament.
- Amendments address changes to existing laws on: smoking, regulation of pharmacies and the trading of medicines, establishment of therapeutic institutions, and the use of ionizing radiation.

5. Strategic Direction of the State of Kuwait

Articles 11 and 15 of the Constitution describe the principles of the strategic directions:

- *Article 11:* The State shall guarantee aid to citizens in the event of aging, incapacitation or inability to work. The State is obligated to provide social security services, social aid and medical care for its citizens.
- *Article 15:* The State cares for public health and for means of prevention and treatment of diseases and epidemics.

The Ministry of Health enacted and amended legislation, including health insurance and health promotion-related laws that were not mentioned in the KNDP.

Health insurance-related laws include:

- Retirement Health Insurance: Gulf Life Insurance Company (2016), Afya Health insurance policy for retired nationals.
- Daman Insurance (2013), private insurance policy.
- Health Insurance Act for non-nationals (1996), private insurance policy.

Health promotion-related laws include:

- Child Protection Act (2015).
- Environment Protection Act (2015) (including tobacco regulations) .
- Public Authority for Food & Nutrition (2013) (including food security and nutrition policies).

The State of Kuwait and the GSSCPD have sought to improve public health and health care service quality through various means, including legislative efforts and the establishment of public health policies and programs (Table 2-1).

Considerable effort has been made to advance the KNDP and annual plans, develop effective implementation mechanisms, and sharpen the key performance indicators (KPIs) to monitor performance (GSSCPD, 2015b; 2015a; TICG, 2016; GSSCPD, 2017a: 2017b). Nevertheless, the health targets and strategic directions of the KNDP health pillar lack needed components to aim for and achieve a holistic approach to health and well-being (Chun, Siddiqui, 2017), as evidenced by inconsistencies among various programs and plans.

- The draft of the Development Plan 2015/2016 – 2019/2020, which was published in January 2015, provides guidelines. These can be summarized with three key strategic directions: providing excellent medical services, improving the capacities of the health system, and addressing privatization (GSSCPD, 2015b). At the same time, needed links among visions, targets, and indicators were lacking.
- The Mid-Range Development Plan 2015/2016-2019/2020, which was published in May 2015 (GSSCPD, 2015a), creates clear linkages among visions, targets, and projects. Nevertheless, it has limitations, including mismatching between targets and projects, and ambiguities concerning health promotion and NCD prevention projects (Chun, Siddiqui, 2017).
- A report by the Tri International Consulting Group (TICG) applied a trial project that interlinked goals and objectives across the seven pillars in the KNDP. The report used a diagnostic analysis of the KNDP to interconnect visions, objectives, projects, laws, institutions, and the plan's seven pillars (TICG, 2016). While the report describes useful indicators to monitor physical infrastructure, indicators related to quality of service and health status of citizens are lacking.
- The Annual Development Plan 2017/2018 contains just one strategic direction: to offer high-quality healthcare. However, it needs to extend aims toward disease prevention and health promotion policies through the programs and projects. Furthermore, the strategic directions of health pillar in the New Kuwait Development Plan 2035 are also treatment-oriented aims for improving the quality of service and achieving international accreditation standards.
- The strategic directions of the State of Kuwait reflect basic principles of public health, ensuring universal health coverage, and balancing prevention and treatment of disease. Nevertheless, demand is emerging to add policies to complement the strategic aims of promoting health and well-being and providing greater social services.
- Reviews of the KNDP and health policies reveal weaknesses in strategic directions and goals. These weaknesses include: inconsistencies among strategic directions addressing health care services, hospitals and infrastructure, key indicators, health and well-being promotion. In general, policies are oriented in ways that do not promote a holistic view of the health system.

TABLE 2-1

Strategic directions, programs, and projects in the KNDP health pillar

	(Strategic) Directions	Programs (Laws)
The State of Kuwait (Constitution and the Ministry of Health)	**Articles 11:** The State shall guarantee aid to citizens in the event of aging, incapacitation or inability to work. The State is obligated to provide social security services, social aid and medical care for its citizens. **Articles 15:** The State cares for public health and for means of prevention and treatment of diseases and epidemics.	**Health insurance-related laws** • Retirement health insurance (Gulf Life Insurance Company) (2016); Afya Health insurance policy for retired nationals. • Daman insurance (2013); private insurance policies. • Health insurance acts for non-nationals (1996); private insurance policies. **Health promotion-related laws** • Child Protection Act (2015). • Environment Protection Act (2015), including tobacco regulations and health promotion. • Public authority for food and nutrition (2013); food security and nutrition policies.
New Kuwait Development Plan 2035	• Quality service. • International accreditation.	• Improving service quality. • Developing national capacities in the public health care system at reasonable cost; the approach focuses on extending numbers of hospital beds.
The Development Plan 2015/2016-2019/2020	• High-quality health care. • Excellent medical service. • Capacities of the health system. • Privatization.	
Annual Development Plan 2017/2018	• High-quality health care.	• Implementing international quality standards in all the health services in the government and private sectors. • Focusing on preventive care for addressing negative effects. • Resisting noncommunicable chronic diseases, genetic diseases in addition to contagious diseases. • Ensuring easy access to the suitable healthcare at the right time and place by the right team

Projects	Evaluation
• National health care system. • Health protection. • Related health projects.	• Directions reflect basic principles of public health, ensuring universal health coverage, and balancing prevention and treatment of disease. • But in terms of programs, laws, and projects, weaknesses emerge. Health promotion acts and social environmental services should be strengthened.
	• Treatment-oriented policies.
	• Lacking linkages among visions, targets, and indicators. • Weak control system of privatization. • Treatment-oriented directions.
Projects for the health service quality program • Health service quality project . • National program for accreditation of the quality services in health institutions. • Development of occupational health services. • Project for activation of health information role. **Projects for the reduction of noncommunicable chronic diseases program** • Prevention of NCDs. • Projects for development of health services for school students. • Health Cities Initiative. • Encouraging sports in society. • Supporting sports in schools, institutes and universities. **Projects for the increasing bed capacity of public hospitals program** • New building, Farwaniya hospital. • New building, Ibn Sina hospital. • New building, Adan hospital; new building in the communicable disease hospital. • Al Amiri hospital. • New Al Sabah hospital. • Design of the physiotherapy hospital. • Design of Sabah Al Ahmed city hospital. • New maternity hospital, pediatrics hospital. • Police hospital, Kuwait Medical City project. • New building in Kuwait cancer center.	• Treatment-oriented direction. • Programs and projects extending disease prevention and health promotion policies.

TABLE 2-1

Strategic directions, programs, and projects in the KNDP health pillar

	(Strategic) Directions	Programs (Laws)
The Kuwait Mid-Range Development Plan 2015/2016-2019/2020	**Strategic Direction 1** is reducing the rate of diabetes and other lifestyle-related NCDs. **Strategic Direction 2** is increasing the life expectancy of the population.	**Programs for Direction 1** • Improving preventive health care through a more integrated health care system. • Encouraging healthy lifestyle choices. • Increasing public health campaigns and introduce regulations to target smoking and unhealthy foods. **Programs for Direction 2** • Introducing a modern continuum of care to ensure better health care. • Improving primary health care provision. • Developing a more competitive health care system through improved data tracking and increased private involvement. • Attracting and retaining health care talent by providing favorable working conditions and improved training. **New Laws** • Psychological Health Law (Mental Health Law). • Patients' Rights Law. **Amendments to existing laws** • Amendment to the law on establishing therapeutic institutions. • Modifying laws addressing smoking, regulation of pharmacies and trading of medicines. • Modifying the law on the use of ionizing radiation.

Projects	Evaluation
Projects for Direction 1 • E12. Healthy Cities Initiative: Encourage good practices (sports, healthy food, early screening and periodic screening, hygiene, and disease- prevention practices). • E13. Health Promotion: Encourage good practices (sports, healthy food, early screening and periodic screening, hygiene, and diseases prevention practices). • O46. Development of health services for schools: Encourage good practices (sports, healthy food, early and periodic checkups, hygiene, and disease-prevention practices). • O47. Prevention and response to chronic noncommunicable diseases: restructure the health care system by focusing on preventive care; chronic non-contagious, genetic and contagious diseases; and by reorganizing primary care services prioritizing prevention on the one hand and medical care and treatments on the other hand. • O48. Project addressing health information provision: develop information technology to enhance the overall efficiency of the health system; create a national health information system. • O49. Support the role of the private sector particularly in terms of the service sector and advanced care services. • O50. Develop occupational health services: support initiatives promoting occupation health, as well as those aimed at decreasing road accidents and harmful behaviors in general. • O51. Develop primary health care services : restructure the health care system by focusing on preventive care, chronic non-contagious, and genetic and contagious diseases; reorganize primary care service provision specifically by prioritizing prevention on the one hand, and medical care and treatments on the other hand. • O52. Build public sports facilities (four projects); develop sports facilities to allow Kuwait to host international and Olympic tournaments. • O53. Encourage participation in sports in society: promote sports and exercise by raising awareness on the importance of sports, and by establishing sports arenas. • O54. Support sports in schools, colleges and universities: encourage sports in educational institutions.	• Strategic directions are clear, linking with visions, targets, and projects. Limitations include mismatching between targets and projects, and ambiguity of health promotion and NCD prevention projects.

TABLE 2-1

Strategic directions, programs, and projects in the KNDP health pillar

	(Strategic) Directions	Programs (Laws)
The Kuwait Mid-Range Development Plan 2015/2016-2019/2020	**Strategic Direction 1** is reducing the rate of diabetes and other lifestyle-related NCDs. **Strategic Direction 2** is increasing the life expectancy of the population.	**Programs for Direction 1** • Improving preventive health care through a more integrated health care system. • Encouraging healthy lifestyle choices. • Increasing public health campaigns and introduce regulations to target smoking and unhealthy foods. **Programs for Direction 2** • Introducing a modern continuum of care to ensure better health care. • Improving primary health care provision. • Developing a more competitive health care system through improved data tracking and increased private involvement. • Attracting and retaining health care talent by providing favorable working conditions and improved training. **New Laws** • Psychological Health Law (Mental Health Law). • Patients' Rights La.w **Amendments to existing laws** • Amendment to the law on establishing therapeutic institutions. • Modifying laws addressing smoking, regulation of pharmacies and trading of medicines. • Modifying the law on the use of ionizing radiation.

Projects	Evaluation
Projects for Direction 2 • T12. Hospital Health Insurance Company: developing key projects through the creation of joint stock companies. • E14. Measuring patient satisfaction: establish an indicator that reflects the view of patients and clients regarding health services to provide a measure of service quality from their point of view. • O55. Ambulance Center, main hospital building, Jahra Hospital: develop new therapeutic services and units to meet the needs and expectations of health services beneficiaries. • O56. Children's Hospital building, Mubarak Al-Kabeer Hospital: develop new therapeutic services and units to meet the needs and expectations of health services beneficiaries. • O57. Improve quality of health services in Kuwait (two projects): apply the international quality accreditation standards for healthcare services and facilities, and for patient safety and rights, in both public and private sectors. • O58. New building, Adan Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O59. New building, Amiri Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O60. New building, Ibn Sina Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O61. New building, Razi Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O62. New building, Farwaniya Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O63. New Morning Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O64 . Project to ensure the safety of patients: apply international quality accreditation standards in healthcare services and facilities, and in patient safety and rights, in both public and private sectors. • O65. The development of blood bank services: apply international quality accreditation standards for health care services and facilities, and for patient safety and rights, in both public and private sectors. • O66. Jaber Al Ahmad Hospital-South Surra: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O67. Police Hospital: increase health facilities capacity to address the increase in population, through the effective contribution of the private sectors. • O68. Build rehabilitation center with home-care services.	• Strategic directions are clear, linking with visions, targets, and projects. Limitations include mismatching between targets and projects, and ambiguity of health promotion and NCD prevention projects.

2. Challenges and gaps led by current strategic directions

The importance of strategic directions cannot be overemphasized. When strategic goals do not address the full spectrum of current and anticipated challenges, then following established policies and programs also fails to properly address these issues, resulting in rising gaps and problems. Therefore, it is imperative to set up strategic directions that accurately reflect both current and future challenges and gaps.

- Despite efforts to achieve the goals set out in the health pillar, many key health indicators moved in a negative direction during the 2011-2015 period (Table 2-2). Of greatest concern is the trend regarding life expectancy at birth, which decreased from 77.7 years in 2011 to 74.7 years in 2015 (WHO, 2017).
- Even though age-standardized death rate of diabetes has dramatically decreased (from 20.0 per 100,000 persons in 2011 to 13.0 in 2014), the prevalence of diabetes almost doubled in just one year (2014-2015) (National Center for Health Information, 2016c; MOH, 2015; 2016). The age-standardized death rate of cancer per 100,000 persons increased from 57.0 in 2014 to 59.7 in 2014 (National Center for Health Information, 2016c), with higher rates of increases among nationals than among non-nationals.
- These results mean that the strategic directions of health pillar need to change dramatically. The strategic goals must shift from treatment-oriented aims to incorporate preventive approaches and interventions designed to focus on the determinants of good health, and to respond to these serious trends in health and well-being of the residents of Kuwait.

TABLE 2-2

Trends of key performance indicators of health policies 2011-2015

Indicators	2011	2012	2013	2014	2015
Life expectancies at birth					
Source: WHO database[1]	77.7	-	78.0	-	74.7
Source: National database[2]					
Nationals	80.0	77.1	78.5	78.1	78.2
Non-nationals	82.4	81.5	79.7	81.4	81.1
Total	80.5	79.0	79.1	79.4	79.6
Diabetes					
Age-standardized death rate of diabetes (per 100,000)[3]					
Nationals	27.1	30.2	17.9	16.5	-
Non-national	11.4	12.0	10.1	7.9	-
Total	20.0	21.8	14.0	13.0	-
Prevalence of diabetes and pre-diabetes[4]					
Diabetes	-	-	-	9.32	17.92
Pre-diabetes	-	-	-	13.64	18.40
Age-standardized death rate of cancer (per 100,000) [3]					
Nationals	72.2	86.9	79.3	77.0	-
Non-national	47.2	47.7	46.6	48.7	-
Total	57.0	64.8	59.4	59.7	-

Note 1: http://apps.who.int/gho/data/node.cco.ki-KWT?lang=en; **2.** National Center for Health Information, Annual Health Report 2014, Ministry of Health, 2016a; **3.** National Center for Health Information. Main causes of death due to diseases (2010-2014): in NCHI Brief. Ministry of Health, 2016c; 4. Ministry of Health. Kuwait Nutrition Surveillance 2014; 2015. MOH, 2015; 2016; Diabetes (≥7.0 mmol/l), Pre-diabetes (≥6.1-<7.0 mmol/l)

The policy panel convened for this report evaluated health issues by various criteria, including size, urgency, expected costs, and likely effectiveness of prevention measures (Table 2-3).

- In terms of size of health issues, the policy panel gave the highest scores to: overweight, followed by (in order of size) diabetes, cardiovascular disease, unhealthy diet, physical inactivity, hypertension, road injuries, smoking, hyperlipidemia, and cancer.
- In terms of urgency of health issues, the panel gave the highest scores to: diabetes, followed by (in order of urgency) smoking, cardiovascular disease, road injuries, unhealthy diet, physical inactivity, hypertension, cancer, and air pollution issues.
- In terms of expected costs, the panel gave the highest scores to: diabetes, followed by (in order of expected costs) cardiovascular disease, overweight, road injuries, cancer, hypertension, smoking, unhealthy diet, physical inactivity, and air pollution issues.
- In terms of likely effectiveness of prevention measures, the panel gave the highest scores to: maternal and child health, followed by (in order of likely effectiveness of prevention measures) road injuries, workplace injuries, cardiovascular disease, smoking, diabetes, overweight, physical inactivity, unhealthy diet, and air pollution issues.
- The health issues facing Kuwait can by classified into four grades that reflect the levels of severity, and that take into account all the criteria considered by the panel. These classifications are as follows: 1) Top-tier issues are overweight and diabetes. 2) Second-level issues are cardiovascular disease, road injuries, smoking, unhealthy diet, physical inactivity, cancer, and maternal and child health issues. 3) Third-level issues are workplace injuries, hypertension, air pollution, hyperlipidemia issues. 4) The fourth tier includes genetic disorders, chronic respiratory disease, Alzheimer's disease, mental health problem, geriatric health issues, self-harm, and anemia.

According to the Institute for Health Metrics and Evaluation (2017, see Annex Figure 1), the top 10 causes of death of Kuwait in 2016 are (in order of severity, beginning with the most common causes) ischemic heart disease, road injuries, cerebrovascular disease, lower respiratory infections, congenital defects, Alzheimer's disease, hypertensive heart disease, diabetes, chronic kidney disease, and breast cancer. From 2005 to 2016, the percentage of deaths from certain diseases soared. Increases included deaths from breast cancer (97.8 percent increase), lower respiratory infections (85.2 percent increase), Alzheimer's disease (83.8 percent increase), ischemic heart disease (42.8 percent increase), hypertensive heart disease (38.2 percent), cerebrovascular disease (26.9 percent increase), congenital defects (13.2 percent increase); road injuries (13.1 percent increase),diabetes (3.5 percent increase), and chronic respiratory disease (3.4 percent increase).

- The top risks contributing to DALYs (see Annex Figure 2) are (in descending order of risk, beginning with the top risk): high body mass index, dietary risk, high fasting plasma glucose, high blood pressure, high total cholesterol, occupational risks, tobacco, air pollution, malnutrition, and alcohol and drug use. The risks that contribute to DALYs have also grown over the 2005-2106 period. Increases include alcohol and drug use (86.4 percent increase), occupational risks (82.4 percent increase), air pollution (65.9 percent increase), high body mass index (63.1 percent increase), high total cholesterol (49.6 percent increase), dietary risk (47.5 percent increase),tobacco use (47.5 percent increase), high blood pressure (43.5 percent increase), high fasting plasma glucose (40.9 percent increase), and malnutrition (7.7 percent increase).
- Noncommunicable diseases (NCDs) are require tremendous care and entail great expense. In Kuwait, 40.6 percent of hospitalized patients were diabetic, and they were hospitalized two to three times more frequently than non-diabetics (Aladsani and Abdulla, 2011). Furthermore, most types of NCDs now represent such major health issues in Kuwait that they are having significant impacts on Kuwait's national development (UNIATF, 2017). The alarmingly high prevalence of obesity, diabetes, dyslipidemia and physical inactivity is emerging as major public health threat. Addressing these risks requires a shift from curative to preventive medicine (WHO, 2017).

TABLE 2-3

Health issues in Kuwait

Health Issues	Size of population affected by health issues		Urgency/severity of health issue	
	Ranked from 1 (smallest) to 10 (largest)	Ranking	Ranked from 1 (least urgent) to 10 (most urgent)	Ranking
Diabetes	9.39 (± .96)	2	8.85 (±1.34)	2
Cancer	7.31 (±1.80)	10	7.62 (±2.18)	9
Cardiovascular disease	8.92 (± .86)	3	8.77 (±1.59)	4
Genetic disorders	4.61 (±2.22)		4.85 (±2.85)	
Genetic disorders	6.39 (±1.89)		6.54 (±1.98)	
Alzheimer	4.39 (±2.26)		4.39 (±2.43)	
Mental health problems	6.54 (±1.85)		6.49 (±2.33)	
Maternal child health	5.23 (±2.92)		6.00 (±2.71)	
Geriatric issues	6.15 (±2.04)		5.77 (±2.31)	
Self-harm	3.23 (±2.39)		5.15 (±3.16)	
Road injuries	8.31 (±1.38)	7	8.77 (±1.17)	4
Workplace injuries	5.54 (±2.33)		6.92 (±2.75)	
Air pollution	6.85 (±1.77)		7.46 (±1.81)	10
Anemia	4.58 (±2.35)		4.50 (±2.28)	
Hyperlipidemia	7.69 (±1.32)	9	6.69 (±2.10)	
Overweight	9.46 (± .78)	1	9.31 (± .95)	1
Hypertension	8.76 (±1.05)	6	8.00 (±1.47)	8
Smoking	8.23 (±1.17)	8	9.15 (± .80)	2
Physical inactivity	8.54 (±1.45)	5	8.31 (±1.38)	7
Unhealthy diet	8.85 (±1.21)	4	8.54 (±1.13)	6

Estimated related health costs		Likely effectiveness of prevention measures	
Ranked from 1 (least costly) to 10 (most costly)	**Ranking**	**Ranked from 1 (least effective) to 10 (most effective)**	**Ranking**
8.92 (±1.52)	1	6.23 (±3.27)	6
8.31 (±2.10)	5	5.00 (±3.27)	
8.85 (±1.28)	2	6.31 (±3.01)	4
4.39 (±2.93)		4.85 (±2.70)	
6.46 (±1.98)		4.92 (±2.84)	
4.46 (±2.79)		2.77 (±2.01)	
6.50 (±1.88)		4.15 (±2.41)	
4.85 (±3.02)		6.77 (±2.83)	1
6.00 (±2.42)		4.23 (±2.89)	
3.85 (±3.02)		4.69 (±3.59)	
8.75 (±1.06)	4	6.54 (±3.41)	2
5.58 (±2.81)		6.39 (±3.66)	3
7.42 (±1.88)	10	6.00 (±3.49)	9
4.00 (±2.52)		5.50 (±2.90)	
6.85 (±1.95)		5.92 (±2.81)	
8.85 (±1.41)	2	6.23 (±3.39)	6
8.15 (±1.14)	6	6.00 (±2.83)	9
8.08 (±2.29)	7	6.31 (±3.64	4
7.46 (±2.07)	9	6.08 (±3.80)	8
7.54 (±2.30)	8	6.00 (±3.54)	9

Table 2-4 shows health policy gaps and health system challenges that were evaluated by the policy panel. The policy panel rated "inefficient health and survey data collection system" as representing the biggest policy gap and challenge.

The panel classified the severity levels of challenges and gaps as follows:

- Highest severity level: inefficient health and survey data collection system, lack of fast food regulation programs, lack of health policy implementation mechanism, lack of leadership in health field, weakness of electronic medical record system, lack of health promotion programs, and lack of community health programs.
- Second-highest severity level: lack of environmental control policy, insufficient health and medical knowledge investment, absence of national health plan and action plan, and treatment-oriented health plan.
- Third-highest severity: lack of trained experts on public health and technology, unbalanced health workers, insufficient structure of the Ministry of Health, weakness of health plan in national development plan, lack of mental health programs, and lack of NGO-focused and civil society participation programs.

Figure 2-1 shows a spider plot presenting weaknesses of the nine components of a holistic health system. All nine components of the health system that were evaluated by the policy panel evidenced weaknesses. The two weakest components are: information development governance and management.

FIGURE 2-1

Policy gaps in the health system

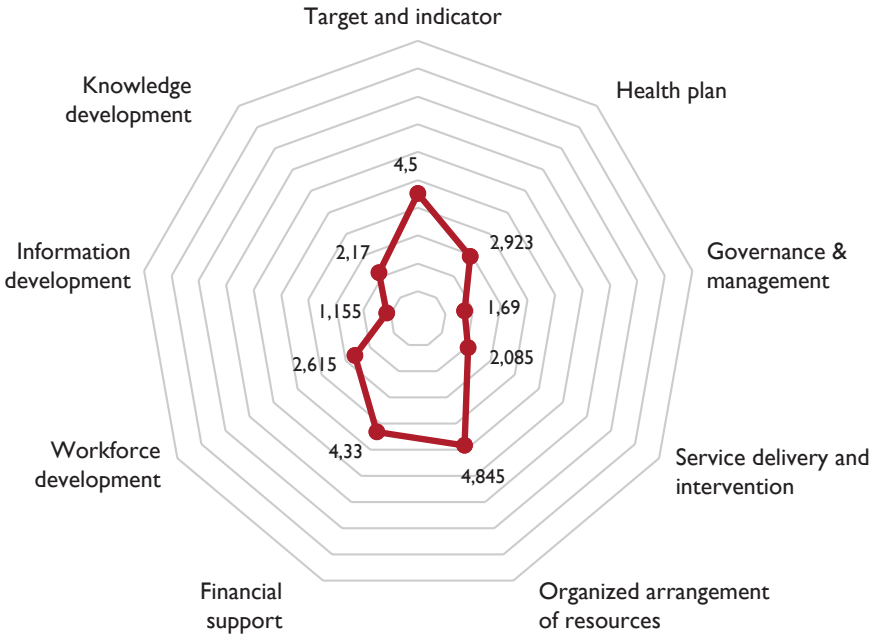


TABLE 2-4

Health policy gaps and health system challenges

		Health policies	Assessment from 1 (mostly disagree) to 10 (mostly agree)	Ranking
Target and indicator		Wrong direction of vision	5.54 (±2.67)	
		Wrong choice of main indicators	5.46 (±2.79)	
Health plan		Weakness of health plan in National Development Plan	7.23 (±2.17)	15
		Treatment-oriented health plan	7.54 (±2.79)	11
		Privatization plan for clinic and health insurance	5.85 (±3.24)	
		Absence of a national health plan and action plan	7.69 (±2.18)	10
Governance & management		Lack of leadership in health field	8.77 (±1.24)	4
		Insufficient structure of Ministry of Health	7.31 (±2.78)	13
		Lack of health policy implementation mechanism	8.85 (± .90)	3
Service delivery and intervention		Lack of health promotion programs	8.23 (±1.01)	6
		Lack of fast food regulation programs	8.93 (±1.32)	2
		Lack of mental health programs	7.25 (±2.22)	16
		Lack of community health programs	8.08 (±1.55)	7
		Lack of environmental control policy	7.92 (±2.06)	8
		Lack of NGO and civil society participation programs	7.08 (±2.14)	
Organized arrangement of resources		Lack of community health centers	5.31 (±3.20)	
		Lack of local exercise centers (gyms)	5.00 (±2.55)	
Financial support		Government financial support system (NHS)	5.85 (±2.64)	
		Private health insurance system	5.39 (±3.10)	
		Insufficient financial support for primary healthcare center	5.77 (±2.68)	
Resource development	Workforce development	Unbalanced health workers	7.31 (±2.46)	13
		Lack of trained experts on public health and technology	7.46 (±2.30)	12
	Information development	Weakness of electronic medical record system	8.69 (±1.18)	5
		Inefficient health and survey data collection system	9.00 (±1.08)	1
	Knowledge development	Insufficient health & medical knowledge investment	7.83 (±1.85)	9

3. New strategic directions

A proposal for the Kuwait health care system to take a holistic approach was put forward following an extensive literature review, individual interviews with key stakeholders, group discussions with stakeholders, a survey of the convened policy panel, and round table discussions with participants(Figure 2-2) (Chun, Siddiqui, 2017). To take this approach, Kuwait urgently needs to construct an action model that considers all dimensions of health and health care. The new approach entails shifting the health care paradigm and the underpinning strategic directions, from focusing on treatments to focusing on disease prevention, from health services that focus on after care to health promotion efforts that focus on circumventing poor health before it begins, and from a narrow view of health care toward a holistic view of a health system that takes into account all relevant determinants of health. It is imperative to make a virtuous cycle linked with:

- *Inputs:* planning and management, financing measures, service, policy measures, and the organizing and development of resources.
- *Outputs:* relevant targets and indicators.
- *Feedback:* assessment, monitoring, evaluation, and dissemination of results.

To embrace a vision of using all relevant avenues to promote good health, policies also need to address: delivery of health care services and interventions, health protection activities, health promotion measures, and healthy environment and society programs. to achieve the goal of creating a healthier society, an action model that provides concrete steps that can be taken is also essential.

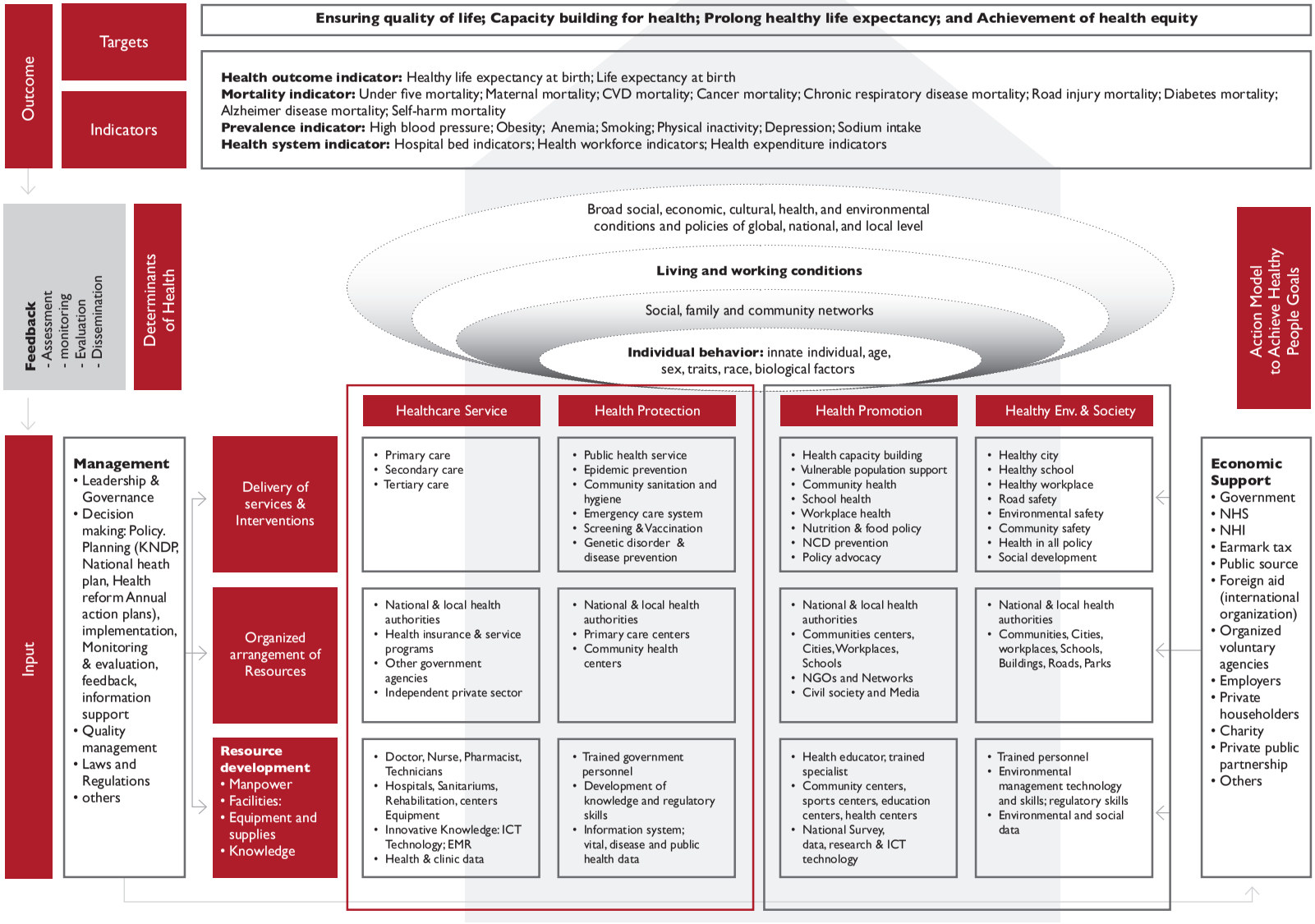
The goal of achieving a holistic health system provides a new strategic direction for the KNDP 2015-2020 that can address both current and future challenges and gaps, and that can lead to enhanced quality of life for all residents. The new strategic direction underpins tasks that must be undertaken to reform the current health system and policies:

1. *Consider all dimensions of health determinants:* including broad social, economic, cultural, health, and environmental conditions and policies at global, national, and local levels; living and working conditions; social, family and community networks; individual behaviors and characteristics such as age, gender, ethnicity, and biological factors.
2. *Consider targets for ensuring "quality of life" outcomes:* including prolonging healthy life expectancy achieving health equity, and building individual capacity to improve one's health and well-being.
3. *Enforce the essential planning and management components:* including governance and leadership structures; evidence-based decision making in health policies; provisions of the KNDP, national health plan, and annual action plans; and quality management measures including implementation, monitoring, evaluation, feedback, and information support.
4. *Implement an ongoing feedback system linking inputs and outputs:* including assessment of all related policies and services, monitoring of indicators, evaluation of action plans, and dissemination of information on outputs and outcomes.

5. *Establish durable financial mechanisms for ensuring sustainability:* including government and public support; a National Health Insurance system; a national health aid system to provide health care for low-income people who could not otherwise afford care; earmarked taxes on tobacco and sugar; financial aid from international organizations, voluntary agencies, private employers, and private-public partnerships.
6. *Embrace measures and interventions that cover the full landscape of health-related services:* including those for healthcare services (primary, secondary, and tertiary care), health protection (public health services, community sanitation and hygiene, emergency care, health screening and vaccinations, and the prevention of communicable and noncommunicable diseases, epidemics and genetic disorders), health promotion (promotion of health in communities, schools, workplaces, and civil society; support for vulnerable populations; nutrition and food policies), and healthy environments and societies (healthy cities, schools workplaces; road, environmental, and community safety; social development; and policies that promote health through all relevant avenues).
7. *Arrange organizational resources efficiently:* including those for *healthcare services* (national and local health authorities, National Health Insurance and service entities, government agencies, and independent private sectors); *health protection* (national and local health authorities, and primary care and community health centers); *health promotion* (national and local health authorities, community health centers, cities, workplaces, schools; NGOs, networks, civil society, and the media); and *a healthy environment and society* (national and local health authorities, cities, communities, workplaces, schools, buildings, roads, and parks).
8. *Develop human resources, information technologies, and facilities:* including those for *health care services* (doctors, nurses, pharmacists, and technicians; hospitals, sanitariums, and rehabilitation centers; technological equipment, software, systems and knowledge needed for data generation and monitoring); *health protection* (trained government personnel; development of regulatory expertise; establishment of an information system incorporating vital statistics, diseases, and other public health data); *health promotion* (health education specialists; community, sports and health education centers; national surveys and data collection; ICT technologies); and *a healthy environment and society* (trained personnel; environmental management technology and skills; regulatory skills; and environmental and social data).

FIGURE 2-2

Holistic view of the Kuwait national health system (Chun and Siddiqui, 2017)



4. Evaluation of current key performance indicators by new strategic directions

Strategic directions in the health pillar of the Kuwait National Development Plan have largely focused on treatments and infrastructure. Certain aspects of the plans mention health system capacity building, but the main focuses are to raise the capacities and quality of health services in line with international standards, and to address weak private-sector participation in the overall health sector (GSSCPD, 2015b). Thus, quantitative objectives address medical infrastructure (Table 2-5).

TABLE 2-5

Quantitative objectives for the KNDP (2015/2016 – 2019/2020)

Data	2013	2019/2020
Primary health care clinics	94	125
Number of dental practices at primary health care clinics	300	440
Total Ministry of Health dentists	1,445	2,145
Number of medical laboratories	133	190
Ministry of Health nursing coverage (nurses per doctor)	2.5	2.99
Hospital beds per 1,000 persons	2.34	3.61

The Kuwait Mid-Range Development Plan (2015/2016 – 2019/2020) is much more balanced and comprehensive, covering a wider expanse of the health care arena (GSSCPD, 2015a). It contains steps for promoting good health and preventing NCDs through institutional approaches, laws, and local plans.

- The health care vision statement of the plan states: "Healthcare institutions in Kuwait will play a vital role in achieving the desired quality of life for the people of Kuwait. This involves improving service quality in the existing public healthcare system and developing a national healthcare system capable of resolving growing public health issues at reasonable cost." Life expectancy and diabetes prevalence were established as key targets (GSSCPD, 2015a).
- To reach the targets, 27 projects were planned. The scope of the projects addresses some aspects of creating a holistic health system.
- Projects that can promote a holistic health system include the following: (E12) Healthy Cities Initiative; (E13) health promotion; (O46) development of health services for schools; (O47) prevention of and response to chronic noncommunicable diseases; (O49) the role of the private sector; (O50) the development of occupational health services; (O51) the development of primary healthcare services; (O52) construction of four public sports centers/facilities; develop sports facilities to allow Kuwait to host international and Olympic tournaments; (O53) encourage participation in sports in society; and (O54) support sports in schools, colleges and universities. However, many projects focused on construction of health care infrastructure, and the plan lacked implementation mechanisms for health promotion and disease prevention.

The inconsistency of targets and indicators in each of the KNDP reports is an issue of concern. Though clear definitions of indicators were incorporated in the output-based performance management report, unclear definitions and different indicators were introduced in each of the various reports of the KNDP (GSSCPD, 2017b).

- The management report states: "Healthcare indicators will focus on two major aspects of healthcare in Kuwait: the status of health of people living in Kuwait; and the availability and quality of right healthcare at right time" (GSSCPD, 2017b).
- The report recommends output-based indicators that reflect the capacity and quality of the healthcare system available to the citizens; and are based on specific processes, attributes of the healthcare system; aligned closely with the country's healthcare strategy; and developed with objective of influencing the sector in the short term (GSSCPD, 2017b).
- The plan extends the number national KPIs from two to four, encompassing life expectancy, cancer rates, diabetes rates, and public health expenditures, which include 26 detail indicators (GSSCPD, 2017b).
- These indicators do not cover all areas that would be addressed through a holistic health system. Most indicators largely address the efficiency of hospital performance. Although great progress has been made in terms of clarity and comprehensiveness of KPIs, Kuwait still lacks human resources and skills needed to implement a holistic health system and to promote society-wide health and well-being.
- Outcome-based KPIs suggested in a 2017 report (GSSCPD, 2017b) include: capacity; quality of services; operational efficiency; finance; research and development; governance; disease prevention and awareness; and emergency response and preparedness (GSSCPD, 2017b). The suggested indicators and focus areas are tightly linked with the overall visions, objectives, and projects for a system that emphasizes health promotion. While the KPIs address the full scope of a holistic health system, the details of how to implement them are limited. As the report states, "In order to get a holistic view, KPIs across both areas, quality of service and finance, will apply to all four types of hospitals: including hospital of Ministry of Health; private hospitals; military hospitals; oil sector hospitals" (GSSCPD, 2017b). The terminology of the report incorporates a "holistic view;" however, a truly holistic framework entails a much broader array of measures and approaches to cover the full scope of health and well-being, and to go well beyond hospital care to undertake disease prevention and health promotion efforts in society as a whole.

5. New KPIs for the new strategic directions

Table 2-6 shows key health indicators that the policy panel evaluated and recommended to respond to Kuwait's health challenges.

- Most highly supported indicators of health outcomes were healthy life expectancy at birth and life expectancy at birth.
- A first-priority rating was given to the following mortality indicators: mortality from cardiovascular disease, road injuries, diabetes, and cancer. Selected for inclusion in the next tier of mortality indicators were: mortality from chronic respiratory disease, under-five mortality, and maternal mortality.
- The panel recommended the prevalence of certain behaviors and conditions as indictors of health risk. The indicators recommended were: obesity, smoking, physical inactivity, and high blood pressure.
- As measures of the robustness of the health systems, the panel recommended three indicators: those addressing health expenditures, the health workforce, (both top-tier recommendations), and the number of hospital bed indicators (second tier).

TABLE 2-6

Health indicators to respond to Kuwait's health challenges (unit: mean (SD))

Dimension	Indicators	Scale from 1 (ineffective) to 10 (effective)
Health outcome	Life expectancy at birth	8.15 (1.86)
	Healthy life expectancy at birth	8.31 (1.75)
Mortality	Under-five mortality	7.15 (2.08)
	Maternal mortality	7.15 (2.08)
	Cardiovascular disease mortality	8.69 (1.55)
	Cancer mortality	8.00 (1.47)
	Chronic respiratory disease mortality	7.31 (1.38)
	Road injury mortality	8.39 (1.80)
	Diabetes mortality	8.00 (1.78)
	Alzheimer's disease mortality	5.15 (2.79)
	Self-harm mortality	5.23 (2.65)
Prevalence	High blood pressure	8.39 (1.80)
	Obesity	9.08 (1.19)
	Anemia	5.31 (2.95)
	Smoking	8.92 (0.95)
	Physical inactivity	8.69 (1.25)
	Depression	6.62 (2.93)
	Sodium intake	6.23 (2.28)
Health system	Hospital bed indicators	7.23 (1.88)
	Health workforce indicators	8.31 (1.60)
	Health expenditure indicators	8.62 (1.39)

III. Priorities for Health Policies

1. Priorities for health policies

Table 3-1 shows the 26 policies that were recommended, and the policy panel's assessment of these policies' priorities and effectiveness.

Seven policy options were rated as top priorities. In order, they are:

1. Restructuring the organization of the Ministry of Health, including the roles played by the authorities addressing noncommunicable diseases, nutrition, and public health.
2. Development of a new governance model, including the development of a health policy implementation mechanism, and provision of clear guideline for evaluation and promotion of related policies.
3. Establishing an effective, centralized electronic health information system, including vital statistics, hospital and community health center data, health and nutrition data, and patient satisfaction surveys.
4. Development of a national health plan and related policy action plan.
5. Formulation of national nutrition policy and fast food regulations.
6. Development of a National Health Insurance model.
7. Establishment of center for disease control and prevention.

The policy options with second-level priority are:

8. Creation of a human development plan to create a well-trained health workforce, including information and health education specialists.
9. Establishment of a school of public health.
10. Formulation of environmental and occupational health policies.
11. Development of healthy diet education and related public awareness programs.
12. Development of a healthy workplace plan.
13. Formulation of a health promotion act and related policies.
14. Formulation of a mental health act and related policies.
15. Creation of a friendly environment for investment in health.

The third-level priority policy options are:

16. Formulation of heathy facilities and healthy environment policies.
17. Establishment of local exercise centers.
18. Creation of mechanisms to foster the participation of NGOs.
19. Development of occupational health activities and programs.
20. Development of community health programs.
21. Development of breast feeding and nutrition education programs.

Other policy options that were given lower priority are:

22. Establishment of health promotion foundation or institute.
23. Establishment of a national institute of health.
24. Establishment of an international medical hub and a translational medical research complex.
25. Establishment of community health centers.
26. Establishment of a health industry development institute.

Table 3-2 shows financial policy options, measures, and priorities. Policy options and measures were divided into three possible financial models outlining different scenarios: financial retrenchment, economic, and disease reduction. The panel strongly preferred the policy options of the disease reduction model. This model received the highest priority scores for offering the best financial policies and measures.

Among 10 discussed financial options, seven received scores that were of sufficient levels to warrant consideration as important measures to address financial sustainability. These are:

1. Strengthening the prevention and management systems for noncommunicable diseases.
2. Extending safe environment and health city projects.
3. Expanding health promotion programs.
4. Transforming the National Health Service into a National Health Insurance system to cover both Kuwaiti- and non-Kuwaiti-born residents.
5. Creating an international medical hub (leading center: Jaber Al Ahmad Al Sabah Hospital).

6. Eliminating financial support for overseas medical treatment.
7. Fostering innovation in the health industry.

Three other policy options received very low scores as viable policy options for aiding the financial sustainability of the health system. These options were: eliminating health insurance for retirees, extending private health insurance options, and transforming the National Health Service into a National Health Insurance system that covers only the citizens of Kuwaiti.

2. Policy options and measures

Seven measures incorporate the new strategic directions and policy priorities endorsed by the panel. These are:

1. *Establishing a stable governance, planning, and management system,* including formulating a National Health Plan; adopting a results-based management (RBM) system; and building health leadership and ownership.
2. *Creating efficient organizations,* including building a new health system covering all dimensions of health and well-being, establishing a good governance structure, and restructuring organizations.
3. *Establishing a system that relies on evidence-based policies, laws, programs and services,* including focusing on evidence-based health promotion and noncommunicable disease prevention, strengthening related legislation, and assuring service quality.
4. *Establishing a sustainable financing system,* including transforming the financing system from the National Health Service to National Health Insurance system, levying earmarked taxes on tobacco and sugar, undertaking cost-effectiveness studies and evaluations, and building an innovative international medical hub.
5. *Building creative health knowledge and related technologies,* including strengthening the national health industry development plan, and building a global translational research hospital.
6. *Establishing a ubiquitous health information and data-generating system,* including integrating all relevant health and demographic information and data collection into one fully linked system, and building a ubiquitous electronic health information platform that can provide real-time information for health care needs.
7. *Developing a high-quality health workforce,* including developing a national health workforce plan, establishing health professional schools, and creating a health workforce management system.

TABLE 3-1

Evaluate recommended policies and programs focusing on overall health vision (achieving the desired quality of life for the people of Kuwait)

Recommended policies and programs	Starting from 1 (least effective) to 10 (most effective)	Priority
Development of a national health plan and action plan	8.75 (±1.54)	4
Development of a healthy workplace plan	7.83 (±1.75)	12
Development of a health industry plan	7.33 (±2.19)	
Restructuring organization of the Ministry of Health (including roles of authorities for NCDs, nutrition and public health)	9.33 (±1.07)	1
Development of a new governance model (including development of health policy implementation mechanisms, and provision of clear guidelines for policy evaluation and promotion)	9.25 (±1.06)	2
Creation of NGOs participation mechanism	7.00 (±1.95)	18
Development of a National Health Insurance model	8.33 (±1.56)	6
Formulation of a health promotion act and related policies	7.83 (±2.25)	12
Formulation of a national nutrition policy and fast food regulations	8.67 (±1.07)	5
Formulation of a mental health act and related policies	7.67 (±2.19)	14
Formulation of environmental and occupational health policies	7.92 (±1.78)	8
Formulation of heathy facilities and environment policies	7.25 (±1.86)	16
Development of healthy diet education and public promotion programs	7.91 (±2.11)	11
Development of occupational health activities and programs	6.83 (±2.29)	18
Development of community health programs	7.00 (±2.63)	18
Development of breast feeding and nutrition education programs	7.00 (±2.49)	18
Establishment of a health promotion foundation or institute	6.83 (±2.52)	21
Establishment of a health industry development institute	6.33 (±2.31)	25
Establishment of a center for disease control and prevention	8.00 (±2.22)	7
Establishment of a national institute of health	6.83 (±2.89)	21
Establishment of community health centers	6.58 (±2.64)	24
Establishment of local exercise centers	7.08 (±2.39)	17
Plan for developing a high-quality health workforce, including health information and health education specialists	7.92 (±2.43)	8
Establishment of a school of public health	7.92 (±2.23)	8
Establishing an electronic, centralized health information system that links vital statistics; health and nutrition data; electronic records from hospitals and community centers; and patient satisfaction survey data	8.92 (±1.73)	3
Privatization and translational research complex (international hub, Jaber Al Ahmad Al Sabah Hospital)	6.82 (±3.22)	23
Creation of investment-friendly environment	7.58 (±2.23)	15

TABLE 3-2

One of the biggest challenges in the Kuwait health system is the uncertainty of the financial sustainability of the system. It is crucial to reform the financial support system for the health system for future generations.

Alternative		Scale starting 1 for disagree to 10 well agree	Priority
Financial retrenchment models	Transforming the National Health Service system to the National Health Insurance system (for both Kuwaiti and non-Kuwaiti)	7.62 (±2.96)	4
	Transforming the National Health Service system to National Health Insurance system (for only and non-Kuwaiti)	5.69 (±2.84)	8
	Cutting off overseas treatment support	7.00 (±3.08)	6
	Cutting off retired health insurance service	3.92 (±2.53)	10
	Extending private health insurance	5.31 (±2.87)	9
Economic models	Creating the mass international medical hub (leading center: Jaber Al Ahmad Al Sabah Hospital)	7.17 (±2.25)	5
	Fostering health industry innovation	6.75 (±2.60)	7
Disease reduction models	Expanding health promotion programs	8.23 (±2.17)	3
	Strengthening the NCD prevention and management system	9.08 (±1.32)	1
	Extending safe environment and health city projects	8.54 (±1.39)	2

IV. Policy Research Agenda

1. Establishment of the National Health Plan 2030

Background

Rapid globalization in Kuwait has led to changes of attitudes, behaviors, and lifestyles in a short period of time. These changes have led to an increase in the prevalence of noncommunicable diseases, which have led to a decline in the health and well-being of residents of Kuwait, and to an increase in financial burdens borne by the State of Kuwait to provide health care (Chun, 2017b).

- The top health issues are overweight and diabetes. Three in four people are obese or overweight, and prevalence of diabetes nearly doubled just in a year (2014-2015) (MOH, 2015; 2016).
- Health concerns in Kuwait include: cardiovascular disease, cancer, hypertension, hyperlipidemia, genetic disorders, chronic respiratory disease, Alzheimer's disease, geriatric-related health issues, mental health issues, self-harm, and anemia; the increases in mortality and declining levels of health are linked to road injuries, smoking, unhealthy diets, physical inactivity.
- Many of key health indicators exhibited negative signals during the 2011-2015 period. For example, the age-standardized death rate of cancer per 100,000 person has increased from 57.0 in 2014 to 59.7 in 2015 (National Center for Health Information, 2016c), with the rate of increase higher among nationals than non-nationals.
- Life expectancy at birth decreased from 77.7 years in 2011 to 74.7 years in 2015 (WHO, 2017).

- These trends clearly indicate that the strategic direction of the KNDP health pillar need shift to focus on health promotion and the prevention of disease.

Reports by international organizations (WHO, 2014; 2017; UNIAFT, 2017; Chun, Siddiqui, 2017) have raised several related policy weaknesses.

- The current health care system fails to take a holistic view of the health system in Kuwait. Plans and goals emphasize construction of hospital and other infrastructure-oriented plans. The use of key performance indicators is inconsistent. Health promotion-oriented measures are not a focus.
- High demand exists for changing the strategic direction of the existing policies, and for developing an effective control system for private-sector health care.
- Weaknesses are evident in the system. These weaknesses surface in leadership and management, evidence-based policy making, and planning and implementation mechanisms The current system suffers through the absence of adequate communication, participation and motivation mechanisms, and the absence of clear role descriptions for each level of governorates.

The health authority in Kuwait needs to exhibit strategic leadership. Central government is the primary authority accountable for delivering on national health development objectives. Under strategic leadership exhibited by the Ministry of Health, decentralization and decision making at regional levels can take place (UNIATF, 2017).

- Strengthening health governance, implementation, and the service delivery structure is one of the most important aspects of maintaining leadership and ownership of the health care system in Kuwait. To maximize national ownership and sovereignty, health policy and programs must be based on national priorities and strategies, and local needs.
- Strengthening guidance, communication, action, and accountability can lead to a stronger and fully functional coordination mechanism that includes all levels of government and non-state actors.

Change is urgently needed to respond to current health challenges, demands, and policy gaps; and to create a system that can address issues over the long term. Adopting a results-based management (RBM) system, building health leadership and ownership, and assuring health service quality can transform the Kuwait health system and lead to improved health and well-being of the people living in Kuwait.

Objectives

1. To establish the National Health Plan 2030 to provide a stable governance, planning, and management system;
2. to adopt a results-based management (RBM) system; and
3. to establish a service quality assurance system.

Contents

1. Establishment of the National Health Plan 2030

The long-term plan gives a clear guidance, showing "where to go" from "where we are,"

based on assessments of the current health status of the Kuwait population, existing policies and plans, and strategic governmental targets.

The plan draws a complete picture of the Kuwait health care landscape over the next decade. It incorporates all relevant dimensions, activities and policies. To adapt to global and domestic socioeconomic change, the plan needs to be monitored and evaluated every year and modified in every five years.

The plan includes:

- An overall vision for a holistic health care plan
- Relevant targets and indicators
- Health care services
- Health protection services
- Health promotion programs
- Healthy environment and society projects
- Delivery of services and interventions
- Organization of resources
- Health workforce development
- Knowledge and information systems
- Governance and management system
- Economic and financial support system
- A plan to address noncommunicable diseases
- A plan to promote public health and well-being

Vision, targets, and indicators are:

- *Vision and targets:* ensure quality of life, enhance capacity building for health, extend healthy life expectancies, and achieve health equality
- *Health outcome indicators:* healthy life expectancy at birth and life expectancy at birth
- *Mortality indicators:* mortality from cardiovascular disease, road injuries, diabetes, cancer, chronic respiratory disease; and under-five mortality and maternal mortality
- *Risk indicators:* prevalence of obesity and high blood pressure; rates of smoking and physical inactivity rate
- *Health system indicators:* indicators to monitor health expenditures and the health workforce.

2. Adopting a results-based management (RBM) system

A result-based management (RBM) is "a management strategy by which all sectors and actors, contributing directly or indirectly to achieving a set of results, ensure that their processes, products and services contribute to achieving of desired results" (UNDG, 2011). RBM is life-cycle approach, including planning, implementation, monitoring, and evaluation. The key results-based management principles are accountability, national ownership, and inclusiveness (UNDG, 2011).

Such an approach entails setting up a clear annual action plan as its top priority.

- Key steps include: establishing the overall vision, defining the results map and RBM framework, planning for monitoring and evaluation, implementing and using monitoring, and managing and using evaluation.
- The RBM system includes creating an annual national action plan, addressing an action plan specifically targeting NCDs, establishing policy and program procedures, enhancing decision making, and strengthening monitoring, evaluation and learning systems.
- Adopting the results-based management system will ensure the alignment of the key performance indicators with NCDs and with related targets in SDGs and in the Kuwait National Development Plan and its various sectoral projects.

3. Establishment of a service quality assurance system

Services in the current Kuwait health system are of insufficient quality. The referral system is weak. Secondary and tertiary hospitals are overloaded. The desire of the Kuwaiti people for high-quality services has led a growing number of people to seek medical treatment abroad. Quality of health services is affected by the heavy reliance on a non-national health care workforce. Language barriers have arisen, and medical workers are familiar with different work cultures and medical systems, rather than those of Kuwait. Management and leadership needed to respond to the rapid growth of health care infrastructure and changing health trends are lacking.

A health service quality assurance system should be established, with a focus on:

- Implementing and maintaining continuous quality improvement and accreditation programs.
- Encouraging development of a national program of accreditation for primary health care centers as well as hospitals.
- Building capacity for improved service delivery.
- Upgrading the referral system through strengthening of referral criteria.
- Computerizing health care data and information and integrating this to establish an effective follow-up system.
- Strengthening and expanding dental health care at primary health care centers and at secondary- and tertiary-care levels.

Expected outputs

- National Health Plan 2030
- Annual Action Plan 2020/2021 (using a results-based management system)
- Health Service Quality Assurance Program and related protocols

II. Restructuring health organizations

Background

Various reports have suggested that Kuwait establish new institutes to better respond to current health issues and challenges facing the country (WHO, 2014; 2017; UNIATF, 2017;

Chun, 2017b). A common issue raised by the reports regards the inefficiency of the structure and decision-making apparatus of the Ministry of Health and service delivery entities. The Kuwait health system, which follows a traditional health service paradigm needs to adopt a new paradigm as a holistic health system that can address changing health care needs and trends.

Many organizational weaknesses and gaps have been identified, including:

- *Inefficient structure of administrative organizations:* Kuwait lacks key entities, including a health promotion foundation or institute, health industry development institute, center for disease control and prevention, health information center, a national institute of health; and a center focused on noncommunicable diseases.
- *Insufficient community service organizations:* The role played by primary health care centers is limited, particularly in regard to community health programs and services. Community facilities have limited accessibility. Kuwait's schools, workplaces and civil society networks do not play adequate roles in promoting health and well-being.

Good governance means that affairs are managed well (Graham et al., 2003). To implement effective management, the structure of the health system and of the Ministry of Health needs to be reorganized to provide the necessary strategic leadership and efficiency in meeting modernized concepts that can underpin a holistic view of a health system that can focus on new demands.

It is essential to reform the health system and reorganize the structure of the Ministry of Health with emphases on strengthening of health care that is oriented toward preventing disease and promoting good health, and aligning new goals with the Kuwait's health services network (WHO, 2014).

Objectives

To ensure efficient structure and operation of needed health organizations by:
1) establishing new health institutes that can underpin an effective, holistic health system that covers all dimensions of health and well-being; and
2) restructuring the Ministry of Health and related entities to ensure efficient management and governance.

Contents

Feasibility analysis for establishment of new institutes/centers

Feasibility analysis needs to be conducted for the establishment of new institutes/centers and the expansion of existing units/centers to arrange resources efficiently.

New institutes/centers being considered are:

- Health promotion foundation/institute
- Health industry development institute
- Center for disease control and prevention
- National institute of health
- Community health centers
- Local community exercise centers

Pre-existing units/centers that should be strengthened and expanded are:

- National health information center
- NCD control unit
- Primary health care centers

Restructuring health organizations

- Arranging resources efficiently; restructuring the governance framework and related health organizations including the Ministry of Health; newly developed institutes/centers; expanded, pre-existing units/centers; and health-related organizations in other government bodies.

Governance addresses strategic aspects of steering work, including making larger decisions about directions and roles. Governance is the act of governing, and, thus, involves the application of laws and regulations, but also customs, ethical standards and norms. That is, governance is not only about where to go, but also about who should be involved in deciding, and in what capacity. Thus, laws and regulations for effective governance need to be suggested and put in place.

Expected outputs

- New structure devised for a holistic health system, related health organizations, health governance entities
- Feasibility analysis reports for
    1. New institutes/centers, including: a health promotion foundation/institute; a health industry development institute; center for disease control and prevention; national institute of health; community health centers; and local community exercise centers
    2. Pre-existing units/centers, including a national health information center; NCD control unit; and primary health care centers

III. Development of health promotion policies and programs

Background

The top 10 risks contributing to DALYs in Kuwait in 2016 were (beginning with the highest risk issues): high body mass index, dietary risk, high fasting plasma glucose, high blood pressure, high total cholesterol, occupational risks, tobacco use, air pollution exposure, malnutrition, and alcohol and drug use. From 2005 to 2016, enormous growth took place regarding many of these risks. For example, the percentage increases in the DALYs that stem from certain behaviors grew as follows: alcohol and drug use (86.4 percent increase); n occupational risks (82.4 percent);air pollution risks (65.9 percent); high body mass index (63.1 percent); high total cholesterol (49.6 percent); dietary risk (47.5 percent); tobacco use (47.5 percent); high blood pressure (43.5 percent); high fasting plasma glucose (40.9 percent); and malnutrition (7.7 percent) (IHME, 2017).

Lifestyle changes of both adolescents and adults are causing enormous health and financial burdens:

- From 2011 to 2015, the physical inactivity rate of students aged 13-15 increased, and

the percentage of students who said they had smoked cigarettes on one or more days during the previous 30 days increased from 15.9 percent to 21.7 percent. The growth is especially pronounced among females, for whom the smoking rate doubled in the same period (from 7.5 percent to 14.5 percent) (GSBSHS, 2012; 2016).

- From 2014 to 2015, the smoking rate among adults also grew, from 14.24 percent to 18.04 percent. The physical inactivity rate of adults increased from 51.02 percent to 65.75 percent, %and the prevalence of high total cholesterol also grew, from 16.33 percent to 22.24 percent (MOH, 2015; 2016).

The gaps in measures and services needed to address these issues have contributed to the growth in unhealthy lifestyles.

- Kuwait lacks adequate laws, policies, regulations, activities, and programs to promote public health and to reduce the prevalence of noncommunicable diseases (UNIATF, 2017; WHO, 2017a). Community participation mechanisms, national programs for physical activities, and nutritional education programs are also insufficient to address current health trends.
- The World Health Organization recommends that Kuwait consider adopting a more systematic cardiovascular risk stratification for early detection of cardiovascular diseases using WHO Global HEARTS initiative tools. It has also suggested that Kuwait align national efforts to prevent and treat cancer with new emerging global and regional WHO guidance on cancer prevention and control (WHO, 2017).
- UNIATF recommends that Kuwait adopt healthy city initiatives that addresses health issues associated with pollution by planning new cities in ways that focus on minimizing environmental hazards as part of providing a healthy environment to live, work and play (UNIATF, 2017).

Objectives

To develop 1) health promotion policies and programs focused on NCD prevention;2) to develop related laws and regulations; and 3) to adopt healthy city initiatives in community planning.

Contents

1. Development of health promotion laws, policies, and programs

Proposed policies and programs put a greater focus on disease prevention and health promotion than is currently the case. Population-based, public health measures are needed prevent and reduce risk factors in society. For example, steps should be taken to reduce salt intake, eliminate the use of trans-fats in domestic and imported food, and bring media attention to the issues underlying the growth of NCDs and steps that can be taken to reduce their spread. The emphasis here is capacity building for members of civil society to improve their own health and well-being. To meet national needs, many laws and acts, policies, and programs are needed:

- *Laws and acts.* Formulation of: a health promotion policy and related policies; a national nutrition policy and fast food regulations; a mental health act and related policies; environmental and occupational health laws; a patients' rights act, and a patient safety act.

- *Policies.* Formulation of policies addressing environmental and occupational health, and heathy facilities and environments.
- *Programs.* Development of programs addressing: national health promotion; healthy diet education and promotion; occupational health; community health; breast feeding; and nutrition education programs.

2. Healthy City Initiative

- A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources that enable people to mutually support each other in performing all the functions of life and in developing to their maximum potential (WHO, 1988). A key feature is ensuring that the social determinants of health are taken into consideration in urban design and urban governance.
- Key features of a healthy cities project include high political commitment; inter-sectoral collaboration; community participation; integration of activities in elemental settings; development of a city health profile and a local action plan; periodic monitoring and evaluation; participatory research and analyses; information sharing; involvement of the media; incorporation of views from all groups within the community; mechanisms for sustainability; linkage with community development and human development; and national and international networking (Omi, 2000).

Expected outputs

- Health promotion-related laws and acts.
- Health promotion policies.
- Health promotion programs for communities, workplaces, and schools.
- Healthy city initiatives, including city health profiles and local action plans.

IV. Strengthening the health financing system

Background

Kuwait has traditionally focused on offering primary health care through the National Health Service (NHS). Its privatization policy for hospitals and insurance has sparked changes and ushered in challenges. Kuwait's focus is now largely on treatment and offering tertiary care. It has struggled with health care inequities that are surfacing between native-born and immigrant populations. In addition, Kuwait's current system is facing enormous financial burdens that stem from as the costs of sending patients abroad for medical treatments and care. From 2011 to 2014, health expenditures per capita increased from USD 1,996 to USD 2,320, and private health expenditures increased from 0.361 percent to 0.428 percent of GDP, according to the World Bank (World Bank, 2018). The government-borne costs associated with sending patients abroad for treatment more than doubled in a single year, from USD 652.8 million in 2013 to USD 1,520.0 million in 2014 (Alsabah, 2016).

Although the privatization policy diversified and expanded private hospital options, and contributed to health care infrastructure and markets, it led to changes in patterns of medical care consumption. This has led to fiscal challenges for the National Health Service (NHS) system. Kuwait lacks an effective regulatory system to address private medical

markets and to address market complexity. As a result, information gaps exist between providers and consumers, leaving patients vulnerable to abuse. Inequities in health services among the resident populations of Kuwait are growing.

- As one alternatives, a National Health Insurance system would incentivize individuals to take responsibility for their own health. Thus, it would promote healthy lifestyles, and, as a result, enhance the financial sustainability of a system that serves a population of people who have adopted healthier practices..
- For assuring financial sustainability and universal health coverage, the financial support system needs to undergo a transformation from a system that combines a National Health Service and Private Health Insurance system to one that combines a National Health Insurance system and a Health Aid Program that can act as a social safety net for low-income workers and households.

Studies should be undertaken to compare health care financing models that could prove viable and sustainable for Kuwait. Two health care systems worth examining as potential models for Kuwait are those used by Singapore and South Korea.

- The health sector of Singapore is consistently ranked as one of the world's most efficient in the world, and it is one of the most popular destinations in Asia for medical tourism (Pacificprime, 2018).
- The health care system of South Korea was ranked as the world's best system in 2018 (Numbeo, 2018), and was rated as the fourth most efficient health care system (Lu, 2016). South Koreans have the right to universal healthcare; the system was ranked first in the OECD for health care access (OECD, 2015). Patient satisfaction has consistently been among the highest in the world.

A feasibility study of these models should be part of the process of determining the model best suited to the needs of Kuwait.

Advocacy for public health taxes on tobacco and sugar stems from the potential of such measures to discourage the use or consumption of goods that contribute to ill health in the population.

- A public health tax can reduce consumption through increased prices. Earmarking these taxes can help to compensate society for increased health system costs, and to increase resources for the health sector (WHO, 2018). Many countries (including Colombia, Denmark, Finland, Hungary, Ireland, France, Mexico, Norway, the Philippines, the UAE, the UK and some states in the US) have introduced public health taxes on tobacco and products (such as breakfast cereals, chocolate, ice cream, cookies, yogurts and drinks) that contain added sugar.
- Consuming one to two sugary drinks a day increases risk of developing diabetes by 26 percent (Malik et al., 2010). Consuming one to two sugary drinks a day was also associated with a 19 percent increase in the risk of developing heart disease (WHO, 2016). Consumption of added sugar in sugar-sweetened beverages has been positively correlated with excess weight and obesity (Allen, Prentice, 2012).
- Kuwait does not have a dedicated public health funding system. Some international organizations have recommended levying earmarked taxes (so-called "sin taxes") on alcohol, tobacco, and sugar to reduce the consumption, prevent related diseases and health risks, and generate income for the prevention of diseases and promotion of

greater public health (WHO, 2014; UNIATF, 2017). Urgent action is needed to implement the WHO Framework Convention on Tobacco Control, including the related set of evidence-based, feasible and cost-effective interventions for tobacco control. This should include a significant increase in tobacco taxation, which has the support of the Ministry of Finance. The government is seeking to establish a sugar tax. This also has the support of the Ministry of Finance (UNIATF, 2017).

Objectives

To establish a sustainable health financing system. Related underpinning research includes 1) studies of viable models for health financing support systems; 2) research on the feasibility of establishing a National Health Insurance system for Kuwait; and 3) analysis of the effects of levying earmarked taxes on tobacco and sugar.

Contents

1. Model studies for health financing support system

- Conducting a model study to evaluate potential health financing systems/ Work will compare the current system (National Health Service and Private Health Insurance) and the National Health Insurance system (National Health Insurance and a social safety net), and it will include models based on those used in Korea and Singapore.

Research questions are:

- Which model is most responsive to the current health issues facing Kuwait?
- Which model is most supportive for improving lifestyles and behaviors that underpin good health?
- Which model offers the best prospect for providing universal health coverage and ensuring high-quality health services?
- Which model is most financially beneficial to Kuwait and to individual people in Kuwait?
- Which model is the best suited to current conditions and the future issues that Kuwait is likely to confront?

2. Feasibility research for a National Health Insurance system

Research for adopting a National Health Insurance system will include:

- National Health Insurance system plan
  - National Health Insurance Services governance
  - Operational structure
  - Population coverage
  - Financial resources
  - Imposition and collection of contributions
  - National Health Insurance for foreign residents
  - Health care delivery system
  - Insurance benefits and co-payments
  - Reimbursement mechanisms

- Customized total health care services to address every stage of the life cycle:
  - Health checkups
  - Health and well-being promotion
  - Long-term care insurance scheme
  - Operational structure
  - Eligibility and beneficiaries
  - Financial resources
  - Application for insurtance benefits and certification procedures
  - Long-term care insurance benefits and co-payments
  - Reimbursement mechanisms

- Expected impacts of creating a National Health Insurance system

3. Levying earmarked taxes on tobacco and sugar (public health taxes)

- Earmarking means in principle that there is a direct linkage between revenues and expenditures. Earmarking is often referred to in discussions about how to raise revenues for the health sector. This is because earmarking has a dual role in mobilizing funds and creating disincentives for unhealthy behaviors (WHO, 2018).

Contents are:

- Taxing scope and taxation methods
- Scenarios of tax rates
- Expected revenue
- -Preventive effects on cardiovascular diseases, diabetes, obesity, and cancer
- Adverse effects
- Utilization of the public health taxes

Expected outputs

- Report on results of model studies.
- Report on the research into the feasibility of adopting a National Health Insurance system.
- Report on levying earmarked taxes on tobacco and sugar.

5. Establishment of the National Health Industry Development Plan 2030

Background

Health care services and technologies have led economic growth in a number of countries around the world. According to the KFAS report (2017), health care-related fields offer promising areas for economic development in Kuwait. To tap this potential, Kuwait needs to build its base of health care knowledge and technologies. Key steps include creating a national health industry development plan, and establishing a translational medical research complex hospital. A health industry development plan for building creative knowledge and technology is an essential foundation of the economic development of the health care sector in Kuwait. The plan should include comprehensive national pharmaceutical and health technology policies. In the absence of a national health industry development plan, Kuwait is relying on other countries to provide needed health instruments and technologies.

Translational research is an interdisciplinary branch of biomedicine supported by three main pillars (bench-side, bedside and industry) that are aimed at enhancing the prevention and diagnosis of diseases, and improving related therapies (Cohrs et al., 2014). The absence of a translational research complex hospital in Kuwait hinders innovation of health knowledge and technologies. By contrast, Japan, Singapore, South Korea, the United Kingdom and the United States have invested in medical translational research complexes for a considerable period of time. In both developed and developing countries, university teaching hospitals (such as Seoul National University Hospital, Tokyo National University Hospital, Beijing National University Hospital, and Singapore National University Hospital) serve as innovation leaders. Kuwait should invest in translational research and in the establishing of a university teaching hospital to enhance medical knowledge, innovation and technological progress. These are fundamental ingredients for creating an international medical hub that can attract patients to Kuwait for medical treatment.

By building innovative medical hospitals that offer treatments and technologies on the medical frontier, the government of Kuwait is likely to be able to convince patients from Kuwait to remain in Kuwait to receive medical care; thus, the government can reduce the costs associated with sending patients abroad. Moreover, if the international medical hub is of sufficient caliber, it can also attract patients from abroad, a provide a source of "medical tourism" from other countries.

A translational research complex combines diagnostic and treatment expertise across disciplines. As a result, it rapidly facilitates the development and spread of related medical knowledge, skills, and technologies.

Objectives

To foster the development of innovative health knowledge and technologies through 1) the creation of a national health industry development plan, and 2) the construction of a global translational research complex hospital.

Contents

Health technology (HT) is the application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives (WHO, 2015). This includes the pharmaceuticals, devices, procedures and organizational systems used in health care (INAHTA, 2009). Advanced HT includes biotechnology, health information and electronics, nanotechnology, mechatronics, and material technology (KHIDI, 2018). Health technology facilitates the prevention, treatment and diagnosis of diseases; the promotion of health; improvement in rehabilitative care and long-term care.

The health industry as envisioned in this report would encompass the proposed medical hub, as well as bio-health, beauty and cosmetics, pharmaceutical, health food, , medical equipment markets.

- *Purpose:* to raise the competitiveness of health and medical industries to global standards through implementation of projects for development of the industry and the improvement of health services.
- *Scope:* global medical hub, and bio-health, beauty and cosmetics, pharmaceutical, health food, and medical equipment markets.
- *Developing policies and legislation:* proposing long-term industrial development strategies that are intended to enhance health industry regulations, and to improve the commercialization of medical services.
- *Establishing a development plan for health industry:* developing strategies for the promotion of prospective medical equipment manufacturers (small and medium-sized companies) and the pharmaceutical industry; establishing measures to enhance the beauty product industry by targeting prospective overseas market; and developing strategies for the promotion of a healthy food industry.
- *Undertaking a study to examine needed policy planning for the commercialization of medical services:* undertaking analysis of barriers that affect entry into overseas markets in the medical service industry; conducting studies on revitalizing the health-related service industry.
- *Developing strategic plan for global translational research complexes and medical hub:* analyzing the potential of Jaber Al Ahmad Al Sabah Hospital to serve a translational research complex that can attract patients from throughout the Middle East; establishing a bio-cluster development strategy to support planning needed to transform the hospital into a global translational research complex hospital.

Expected outputs

- National Health Industry Development Plan 2030.
- Strategic plan for establishing global translational medical research complexes and an international medical hub.

6. Development of a ubiquitous health information and data system

Background

There are gaps in the information- and data-generating systems including:

- The current system lacks unified and consistent health data. The health data survey and collection system is decentralized. Kuwait does conduct a national health and nutrition examination survey. The country does not generate adequate data on environmental health risk.
- Kuwait lacks information technology to automate usable health data that can be used system wide. It does not have an electronic medical coding system. It also needs more workers with expertise in health information and data technologies.

There are weaknesses in current health information system (HIS) resources (Alajeel, 2017):

- The country does not have up-to date legislation to provide the framework for the collection of needed health and related information from public- and private-sector sources.
- The current health information system strategic plan is not in full active use, and has not been completely implemented at the national level. The plan does not address all major data sources.
- There is a representative but not sufficiently functioning national committee in charge of HIS coordination.
- Although computers are available at the relevant offices at the national level, computer availability is lacking at regional, provincial, and district levels.

Data management issues have also been raised as areas of concern (Alajeel, 2017):

- The subnational data warehouse exists only in part, and it has a reporting utility that is not accessible to various users.
- A metadata dictionary exists but not provide comprehensive definitions about the data.
- Disaggregated estimates of externally funded government expenditures are not available.
- Data on private per capita health expenditures do not cover the full Kuwait population.
- Disaggregated estimates of private health care expenditures at subnational and district levels are not always available.
- Disaggregated estimates of private health care expenditures by source of funding are not available.

Kuwait urgently needs to upgrade and strengthen its national health information center and data-generating system to provide the foundational data that can underpin evidence-based policy and decision making.

Objectives

To establish a ubiquitous health information and data-generating system capable of 1) collecting and integrating all relevant information and data into one system; and 2) building a ubiquitous electronic health platform that takes advantage of new technologies for real-time monitoring of health.

Contents

The scope of this research covers: information policy and planning; HIS institutions, human resources and financing of HIS; HIS indicators; HIS data sources; data management; HIS data quality and information products; and HIS data dissemination and use.

All existing health-related data need to be integrated. These include vital statistics and data from: the census, population-based surveys, health and disease records, health service records, resource records (infrastructure and health services, human resources, financing, and expenditures for health services, equipment, supplies, and commodities).

This report recommends that Kuwait generate additional health-related data. Recommendations include: conducting surveys on national health and nutrition, noncommunicable diseases, student health, and levels of industrial and environment pollution.

Integration of all health information and data into one system

- All data collected and information generated need to be incorporated into one system to create and maintain accuracy, consistency and reliability of data for supporting evidence-based policies.
- The data and information to be incorporated into one ubiquitous platform are:
- Vital statistics.
- Data from all health care information systems that cover hospitals and primary health care facilities, and other targeted systems (cardiovascular disease, renal dialysis, transplants, and road traffic accidents).
- Public health information systems that include health information exchanges, district-level health information systems geographic information systems, and national programs for disease prevention and control.
- Population-based surveys, addressing national health and nutrition, health behaviors and lifestyles, and noncommunicable diseases.
- Patient satisfaction survey.
- Student health survey.
- Industrial and environment pollution data.
- International surveys, including the WHO STEPwise approach to surveillance (STEPS); WHO Global Youth Tobacco Survey; WHO World Health Survey.

Building a ubiquitous electronic platform

- Kuwait should upgrade its existing National Health Information Center to create an independent National Health Information Institute. The institute should play a leadership role in managing and generating of accurate and consistent data within a fully integrated, ubiquitous health care information system. The system should be responsible for generating needed data, and providing the data analysis that can underpin

effective evidence-based policy and decisions. Developing a consolidated health information strategy would provide the foundation for Kuwait to building an integrated health information system that connects information that is currently fragmented and of unreliable quality. Such a system can set the stage for effective monitoring and evaluation, The institute should establish unit for operational research, and it should use new information technologies to create new electronic portals and promotions to monitor and promote health and well-being.

- To build a ubiquitous electronic health information and data platform, Kuwait needs to make complete transition away from a paper-based system to an electronic medical recording system. Needed components include: installing a full primary care information service; establishing a flexible computerized information system with sufficient connectivity between different modular sub-systems to allow retrieval and input at all levels through an authorization procedure (WHO, 2017); and ensuring automated connections between the information systems of primary health care centers, civil registration offices, and immigration offices.

Expected outputs

- National Health Information Development Plan, including an HIS governance and management structure; human resources, technology and financing; HIS indicators; HIS data sources; data management skills and training; data and information products; quality assurance skills; and HIS data dissemination and use
- Reports for health survey integration and restructuring, including protocols for newly developed health surveys

7. Establishment of the National Health Workforce Development Plan

Background

Health workforce challenges have emerged in Kuwait. The country heavily relies on immigrant workers in health car. In 2014, 62 percent of doctors and 94 percent of nurses were non-natives. Such levels of foreign labor make it difficult for Kuwait to maintain and advance the levels of medical knowledge and skills in the country. Wages for nurses are low, presenting a disincentive for Kuwaiti-born people to enter the profession. Doctors are heavily involvement in administrative matters, which serve as a barrier for the use of trained administrative specialists in such positions. The future health care workforce is likely to be predominantly female. (At present, 85 percent of medical students are female.) Kuwait lacks specialists in a number of fields, including: health education, public health, health planning and management, health information and data analysis, social work, pharmacy, and psychology.

The lack of a national health workforce development plan and a health personnel management system has led a number of issues to surface within the health care system. The quality and size of the health care workforce remain concerns. There is an absence of descriptions of workers' roles and responsibilities, and an absence of guidelines, policies and procedures for personnel management.

- Improving the competencies of doctors, nurses, and other health professionals is essential for improving level of health service quality in Kuwait. To build such capacities, Kuwait urgently needs to establish a long-term plan for its health care workforce.
- Kuwait has extensive human resources that can and should be tapped to a greater degree to serve its health care needs and economic development. A well-designed health workforce plan will lead and guide efforts to use human resources more efficiently and more creatively to enhance health care and to use more innovative health technologies.

The health care market has specific characteristics that distinguish it from other markets. Issues include an imbalance of information between providers and consumers; unpredictable and changing health care demand; the effectiveness of cost control measures for private medical services; and the need to provide quality public goods. Thus, to protect consumers, the health care system needs to incorporate reasonable market intervention measures.

- The government should prepare national strategies to cultivate a health workforce that can respond to health care needs. Steps include: establishing a school of public health and school of nursing; improving medical education (by creating university teaching and research hospitals), improving pharmaceutical education (to provide clinical pharmacy courses), and expanding education and training available for other targeted health professions and jobs.

To improve quality of health professionals, job descriptions should be clear and concrete; internationally recognized accreditation requirements should be adopted (for medical laboratory service workers, for example).

- Establishing training programs and systems for health care staff, and creating specialized certificate courses are essential. Career incentives for health workers are needed. Applied research is needed regarding the competency skills that will be needed to train a workforce that can address disease prevention and disease treatment needs.

Objectives

To develop a competent health workforce, including 1) developing the National Health Workforce plan, 2) creating the Development Plan for Health Professional Schools, and 3) establishing a Health Workforce Management System.

Contents

1. Health Workforce Plan 2030

To include plans for workforce development education investment and integrated strategic workforce operations.

- *Purpose:* to achieve the optimum workforce capacity to best serve the needs of health clients, and ensure that workforce availability matches current and future needs.
- *Scope:* to address the full spectrum of the medical workforce, including: the medical and dental workforce; nursing and midwifery; pharmaceutical specialists; allied health professionals; healthcare scientists; clinical support services; administrative and clerical positions; social workers; psychologists; and specialists in therapeutic medicine,

health education, health assessment, health management and policy, and health information technologies.

- *Creating a workforce profile:* to provide a description of the current Kuwait workforce, to analyze current and anticipated future workforce needs, to detail professional group-specific trends.
- *Undertaking a health service pathways review:* to examine the future workforce needed for all health care pathways, including: public health, school health education, community health promotion, primary care and prevention, occupational health, children's services, learning disabilities, mental health, planned care, emergency care, end-of-life care, long- term care and rehabilitation, care for stroke patients.
- *Examining education and training needs:* to analyze current and needed programs for undergraduate, postgraduate and certificate education.

2. Development Plan for Health Professional Schools

Health professional schools are needed to foster qualified health professionals, including nurses, doctors, pharmacists, community health practitioners, and specialists in health assessment, health education, health policy and management, and health information technologies. Specific facilities needed are:

- A graduate school of public health
- A graduate school of pharmacology
- A nursing school

3. Establishing a health workforce management system

- *Governance framework:* addressing governance and coordination structures; establishing a technical advisory group (with key national and external partners as participants) for human resources for health.
- *Management:* setting up planning, implementation, monitoring and evaluation mechanisms; analyzing positions and writing job descriptions, including mapping and assessing the current human resources development activities undertaken by different programs and facilities; undertaking applied research and studies on competency skills needed for a health workforce focused on preventive and curative care.
- *Recruiting:* establishing recruitment strategies and plans.
- *Training:* developing training programs for specialized certificate courses, training programs and career incentives for all levels of health care workers and staff.
- *Human resource information system:* developing a software package to: aid human resource professionals in collecting and managing data; facilitate work flow, improve efficiency and store and collect information (including benefit management, demographics and compensation, time and attendance, applicant tracking, performance management, workflow, communication, and reporting).

Expected outputs

- National Health Workforce Development Plan.
- Health Professional Schools Development Plan.
- Health Workforce Management System Report.

V. Action Plan for Policy Research

1. Purpose of the action plan

This action plan describes a sequence of steps and activities that must be undertaken for the policy research to achieve intended results to achieve strategic goals. The procedures and definitions in this action plan follow those put forward by Desjardins (2011) and WebFinance (2016).

The objectives of this action plan are:

- To identify necessary steps to reach policy research goals of the Kuwait National Development Plan's health pillar, and to ensure research quality.
- To allow project managers to efficiently monitor and manage progress.
- To foster a sense of ownership among project managers, who must be responsible and accountable for monitoring progress, keeping the relevant team informed, ensuring timely action, and adjusting actions as need be.

2. Interlinked structure of policy research agendas

Figure 5-1 shows how policy research agendas interlink in a holistic health system that addresses all relevant dimensions within the system.

Research Agenda 1: Establishing of the National Health Plan 2030. Issues address goals, targets, indicators, planning, management, implementation, monitoring, evaluation, and feedback mechanisms.

Research Agenda 2: Restructuring health organizations. Issues address the organization of resources, including the Ministry of Health, public health organizations, health centers, and related entities.

Research Agenda 3: Developing health promotion policies and programs. Issues address delivery of services and interventions, and the development of the Healthy Cities Initiative and related legislation.

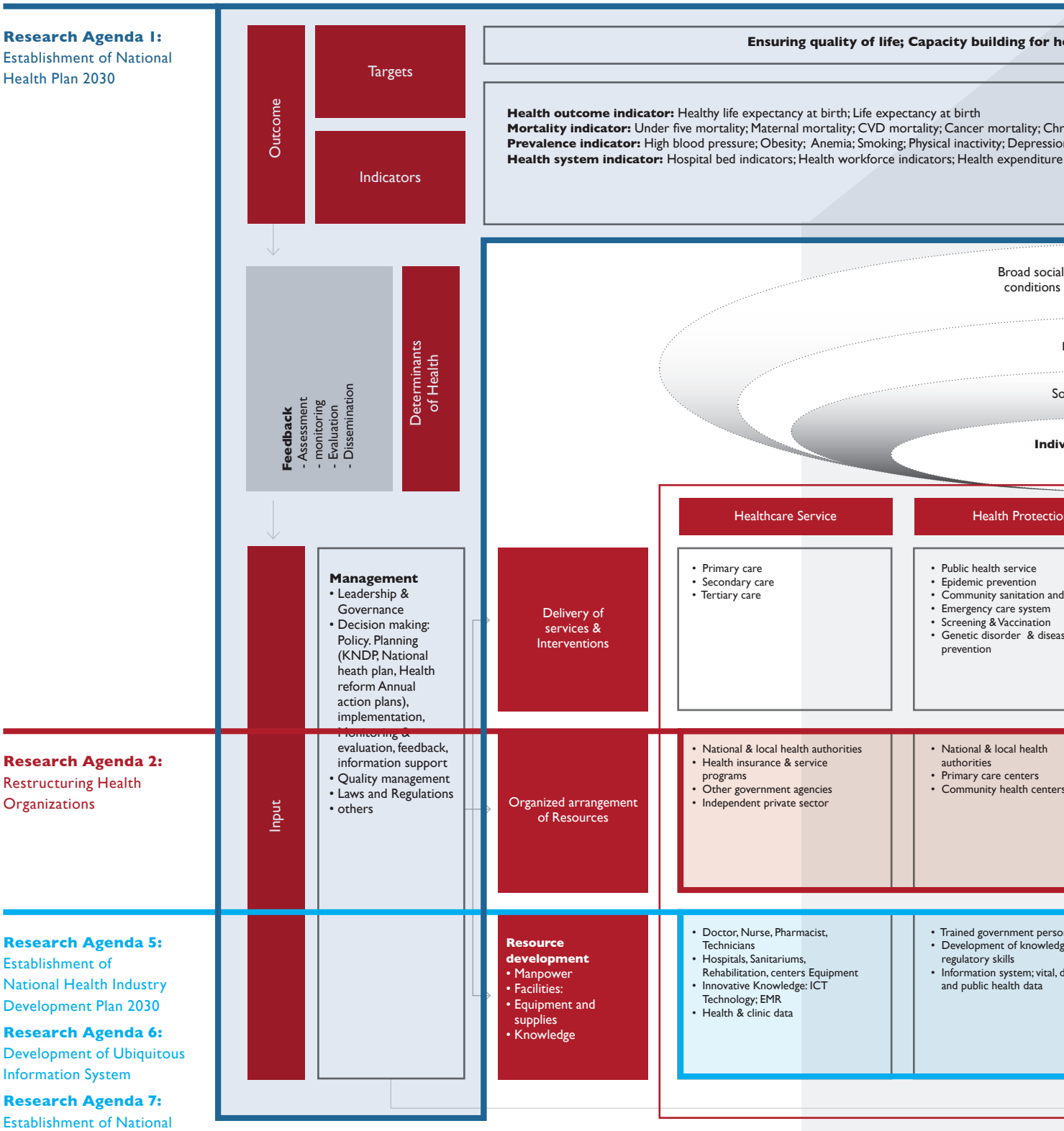
Research Agenda 4: Establishing a viable health financing system. Issues address needed economic support, modeling possible health financing support systems, research about the feasibility of establishing a National Health Insurance system for Kuwait, and analysis regarding public health taxes on tobacco and sugar.

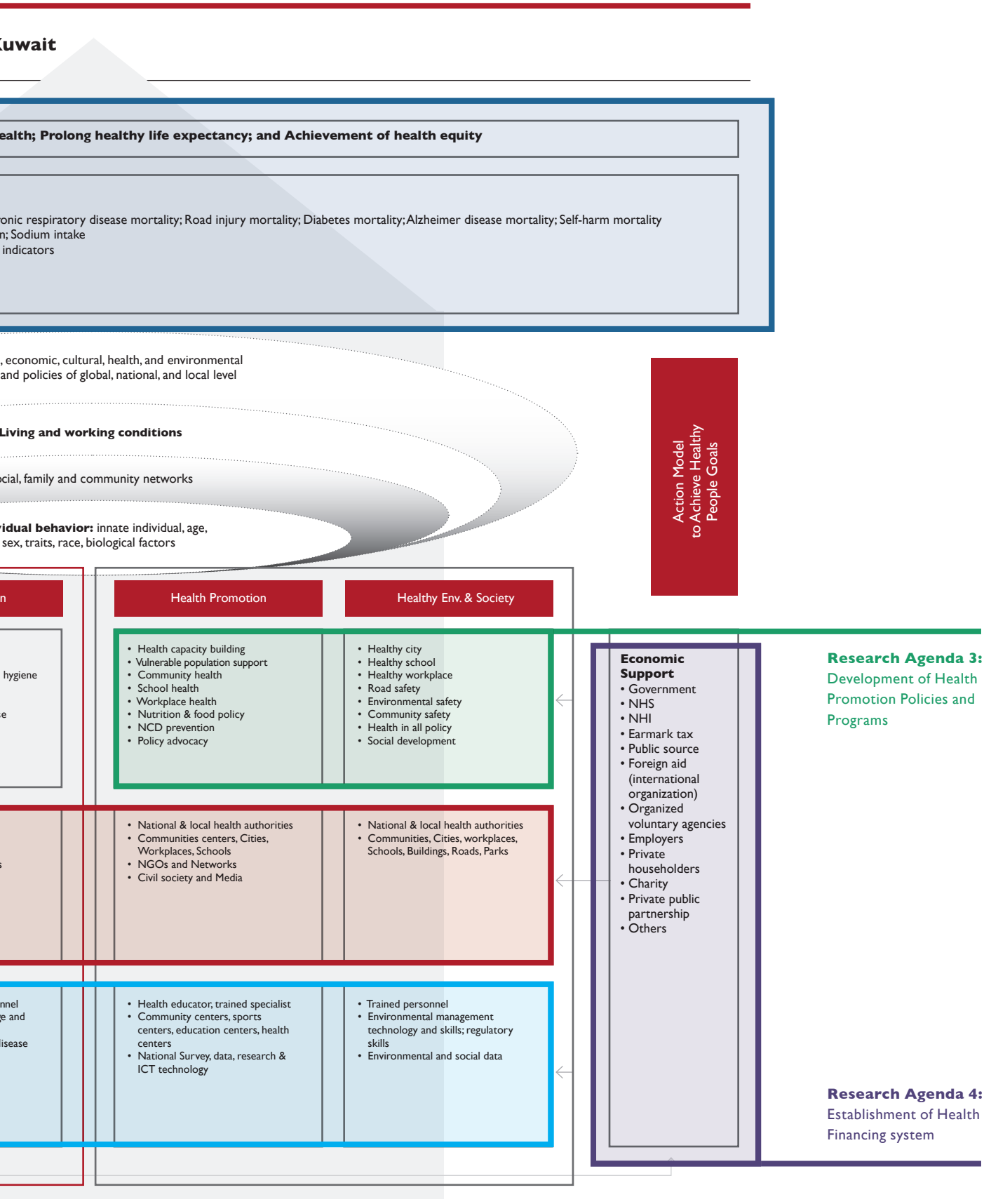
Research Agenda 5: Establishing a National Health Industry Development Plan 2030. Issues address knowledge and technological resource development, health industry-related policies and the development of related legislation, analysis of needed on policy planning for the commercialization of medical services, and the development of a strategic plan to establish global translational medical research complexes and an international medical hub.

Research Agenda 6: Developing a ubiquitous electronic data information system. Issues address research into information technology development needed to underpin a system that can generate needed data, integrate all needed health information, and construct a ubiquitous electronic health information platform.

Research Agenda 7: Establishing a National Health Workforce Development Plan. Issues address human resource development, the launching of needed health professional schools, and a health workforce management system.

Figure 5-1: Interlinked policy research agendas for a holistic health care system in K




Kuwait
ealth; Prolong healthy life expectancy; and Achievement of health equity
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and policies of global, national, and local level
Living and working conditions
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Action Model to Achieve Healthy People Goals
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Health Promotion
Healthy Env. & Society
hygiene
• Health capacity building
• Vulnerable population support
• Community health
• School health
• Workplace health
• Nutrition & food policy
• NCD prevention
• Policy advocacy
• Healthy city
• Healthy school
• Healthy workplace
• Road safety
• Environmental safety
• Community safety
• Health in all policy
• Social development
Economic Support
• Government
• NHS
• NHI
• Earmark tax
• Public source
• Foreign aid (international organization)
• Organized voluntary agencies
• Employers
• Private householders
• Charity
• Private public partnership
• Others
• National & local health authorities
• Communities centers, Cities, Workplaces, Schools
• NGOs and Networks
• Civil society and Media
• National & local health authorities
• Communities, Cities, workplaces, Schools, Buildings, Roads, Parks
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isease
• Health educator, trained specialist
• Community centers, sports centers, education centers, health centers
• National Survey, data, research & ICT technology
• Trained personnel
• Environmental management technology and skills; regulatory skills
• Environmental and social data
Research Agenda 3: Development of Health Promotion Policies and Programs
Research Agenda 4: Establishment of Health Financing system

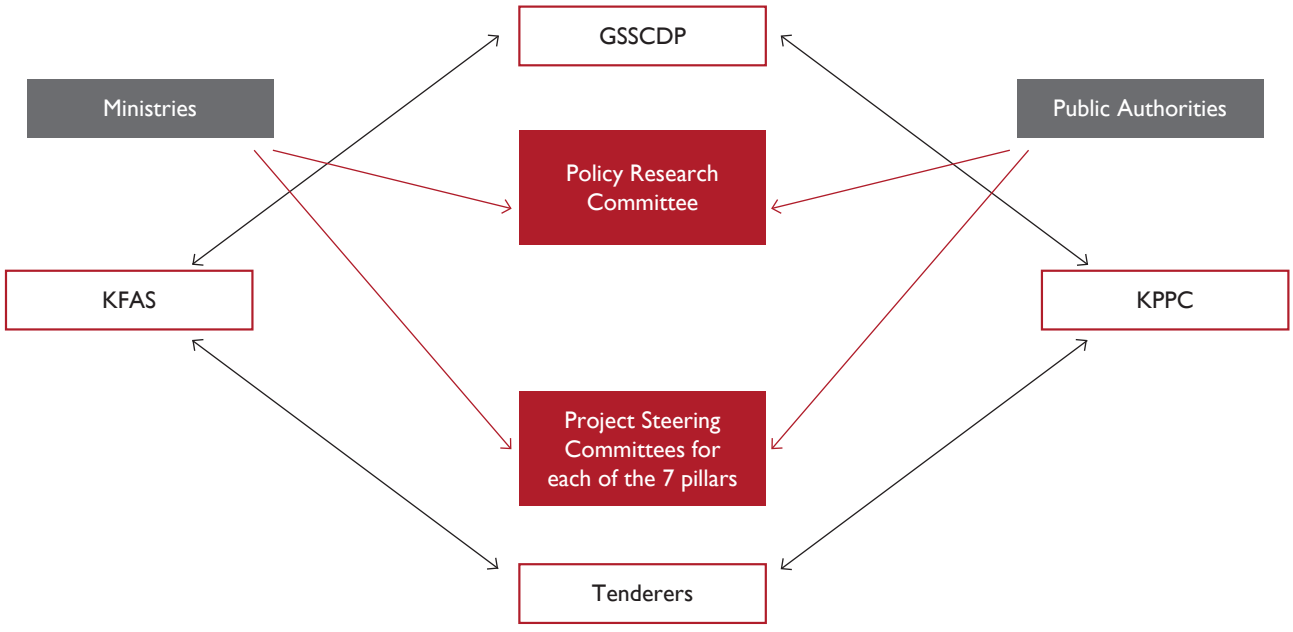
3. Ownership and governance structure

Figure 5-2 shows the governance structure and relationship among related departments and organizations.

- GSSCPD is the key body that governs all parts of all policy pillars. It ensures that strategic directions and goals are incorporated into the Kuwait Development Plan 2035.
- The Kuwait Foundation for the Advancement of Sciences (KFAS) serves as the research management institute and operates as the administrator overseeing research procedures.
- The Kuwait Public Policy Center (KPPC) serves as a public policy support institute for GSSCPD, and it oversees the content and direction of policy research.
- The Policy Research Committee consists of the Secretary General of SCPD, the Director General of KFAS, and stakeholders of other related ministries, with assistance from the KFAS manager, KPPC coordinator, and policy advisers as observers.
- There are seven project steering committees, one for each pillar of KNDP. The project steering committee for the health pillar consists of the KFAS manager, the KPPC project manager, and policy advisers from relevant government departments and academia.

FIGURE 5-2

Policy research governance structure



4. Procedures

1. Procedures and responsibilities

This report recommends a six-stage process to manage policy research procedures. These stages are: approval, public advertising, selection, research, feedback, and finalizing. KFAS is responsible for managing this process. KPPC is responsible for directing research quality and contents. At each stage, designated departments or organizations are responsible for specific tasks. A project manager should be designated to lead each pillar project. Prior to the beginning of the process, a manager should be appointed for each pillar, and agreement should be reached about the procedures and structure that will underpin policy research. Action steps should be clear and actionable. One person should be responsible for each action step, and a determination should be made about the designation of a support team for the person who bears overall responsibility. (Desjardins, 2011). Keeping key people in the communication loop for each action is critically important.

Figure 5-3 shows the action plan and each team's responsibilities.

The first stage: organization of committees and approval

- GSSCPD, KPPC, and KFAS organize policy research committees and project steering committees for seven pillars of the KNDP.
- The Policy Research Committee approves strategic research directions, policy research agendas, budgets, procedures, and project steering committees.

The second stage: public advertisement

- KFAS publicly advertises policy research projects via open tendering, restricted tendering, or sole service methods, depending on the status of the designated research.

The third stage: selection

- KFAS manages the administrative processes of selection of policy research proposals.
- Project steering committees evaluates the proposed policy research project and makes selections.

The fourth stage: research

- KFAS manages all research procedures.
- KPPC offers advice regarding research content and strategic directions.

The fifth stage: feedback

- KFAS organizes public discussion conferences.
- KPPC obtains comments from related government offices.

The sixth stage: finalizing

- KFAS accepts the final reports from research institutes (tenderers).
- The project steering committee reviews and approves the reports.

FIGURE 5-3

Procedures and responsibilities

Procedures	Responsible departments
Approval Stage • Organizing Committees • Policy Research Agendas	GSSCPD, KPPC, KFAS Policy Research Committee
Public Advertisement Stage • Open tendering • Restricted tendering • Sole service	KFAS
Selection Stage • Evaluation of proposals • Selection of proposals	KFAS Project Steering Committee
Research Stage • Procedure management • Content advice and control	KFAS KPPC
Feedback Stage • Public discussion • Comment from government offices	KFAS KPPC
Finalizing Stage • Receipt of final reports • Review and approval	KFAS Project Steering Committee

2. Timeline

All policy research agendas interlink with each other (Figure 5-1). Therefore, to maintain consistency and strategic goals, the research must be conducted in order as specified. The first steps lead to the second steps. The second steps of research lead to the third steps. The research agenda serves as the rudder that establishes the direction for the entire scope of the various pieces of research.

The timeline of this action plan is divided int three steps (Table 5-1):

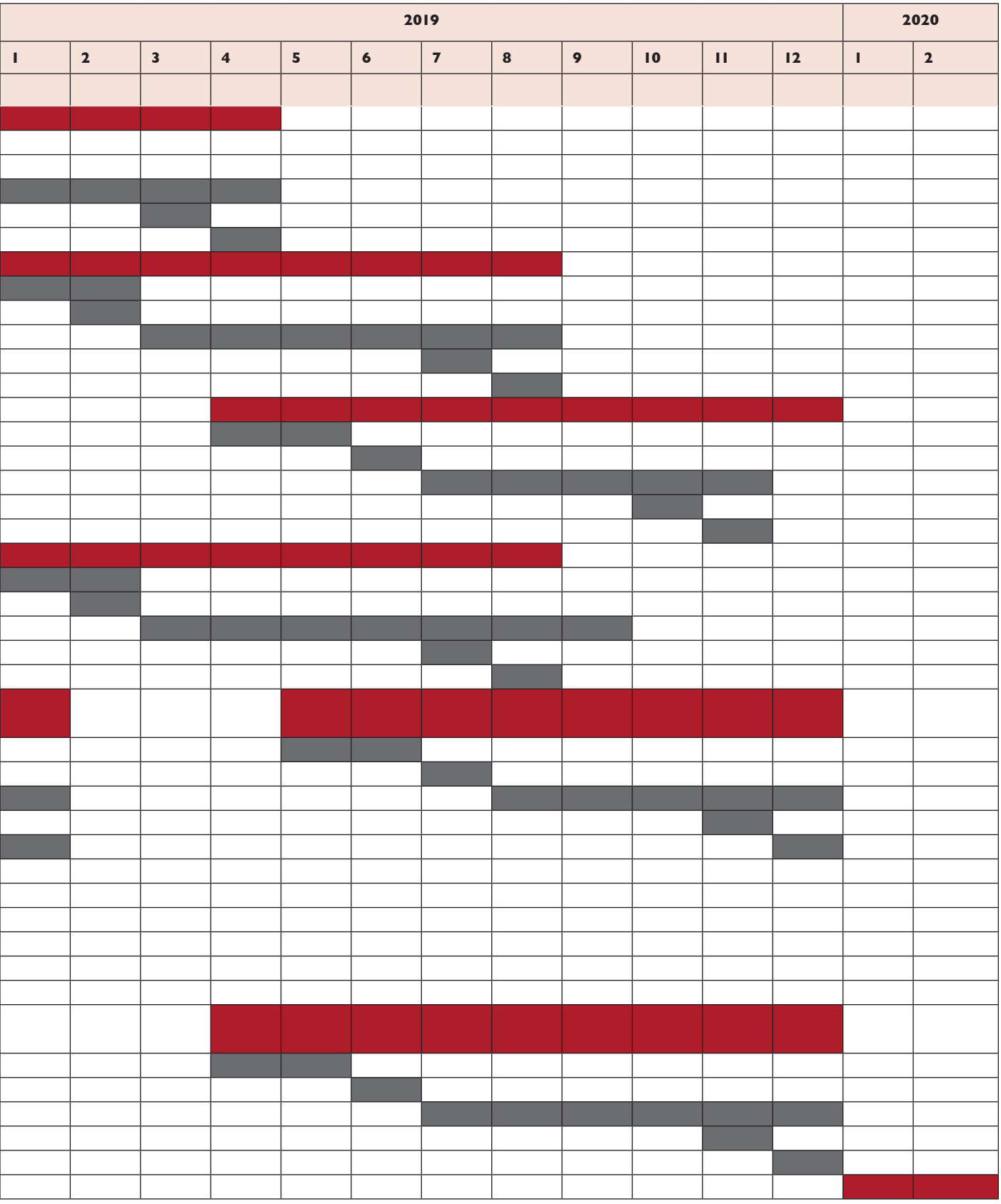
1. Establishment of the National Health Plan 2030. This key plan will set the stage for the strategic goals and content of all subsequent policy research. The research agenda that underpins the development of the ubiquitous health information and data system should also take place in this first step of the timeline. The development of the system is a priority that will facilitate subsequent related research.
2. Addressing organizational issues and financial support mechanisms.
3. Development of health promotion policies and Programs, establishment of the National Health Industry Development Plan 2030 and the National Health Workforce Development Plan.

All research needs to be completed by the end of 2019 so that the results can be incorporated into the Kuwait National Development Plan 2020-2025. Table 5-1 shows the policy research timeline.

TABLE 5-1

Timetable for policy research

Policy Research Agendas and Tasks	2018							
	5	6	7	8	9	10	11	12
Approval Stage								
Agenda 1: Establishment of National Health Plan 2030								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 2: Restructuring Health Organizations								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 3: Development of Health Promotion Policies and Programs								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 4: Strengthening Health Financing System								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 5: Establishment of National Health Industry Development Plan 2030								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 6: Development of Ubiquitous Data Information System								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Agenda 7: Establishment of National Health Workforce Development Plan								
Public advertisement stage								
Selection stage								
Research stage								
Feedback stage								
Findings stage								
Reporting in KNDP 2020-2025								


2019
2020
1
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12
1
2

VI. Conclusion

This report offers a five-point checklist for actions needed for the next Kuwait National Development Plan to strengthen its evidence-based policy processes to improve the health care system.

1. Establish new strategic target

- The goal of creating a holistic health system offers a new strategic vision that is best suited to respond to both current and future challenges and gaps in the existing system, and to ensure enhanced quality of life for all citizens.

2. Establish a holistic health system

- An action model is best suited to lead to the establishment of a holistic health system that covers all dimensions of health sectors and services. This will involve shifting the health care paradigm, from policies focused on treatment to policies oriented toward disease prevention and health promotion through all potential avenues. Taking into account all determinants of good health and well-being will help to make the Kuwait health system more effective.

3. Amend key performance indicators to provide the foundation for the effectiveness of a holistic health system

A group of 15 key performance indicators was suggested. Suggestions include:

- Health outcome indicators: healthy life expectancy at birth and life expectancy at birth.

- Mortality indicators: under-five mortality and maternal mortality; mortality from cardiovascular disease, road injuries, diabetes, cancer, and chronic respiratory disease.
- Risk indicators: prevalence of obesity and high blood pressure, smoking rates, and rates of physical inactivity.
- Health system indicators: health expenditure indicators and health workforce indicators.

4. Formulate policy research agendas that support new strategic goals

Seven policy research agendas were developed to ensure the use of evidence-based policy decision making to lay the foundations for the creation of a holistic health system. These are:

- Establishment of the National Health Plan 2030.
- Restructuring health organizations.
- Development of health promotion policies and programs.
- Strengthening the health financing system.
- Establishment of National Health Industry Development Plan 2030.
- Development of a ubiquitous information system.
- Establishment of a National Health Workforce Development Plan.

5. Establish and follow a concrete policy research action plan

The policy research action plan describes a sequence of steps and activities that need to be taken to achieve the intended results put forward through the new strategic goals.

- The plan addresses research governance structures and relationships among related departments and organizations. The key governance structure is provided by the GSSCPD, KPPC, KFAS, and KISR.
- Policy research procedures should go through six stages: approval, public advertising, selection, research, feedback, and finalizing.
- In a holistic health system, all policy research agendas interlink. Therefore, to cover every dimension of the system, undertaking all research steps and processes is essential to maintaining consistency and achievement of strategic goals.
- The timeline of the action plan is divided into three steps, designed to ensure that needed research results can be incorporated into the Kuwait National Development Plan 2020-2025.

References

Alajeel, A. *Kuwait health information system: SWOT analysis*. National Health Information Center, Draft, 2017.

Allen LH, Prentice A. 2012. *Encyclopedia of human nutrition 3E*. Academic press. Pp. 231-233.

Alsabah AM. H*ow will current health spending in Kuwait meet the demands of changing epidemiological and demographic landscape?* Exploring ways to improve the efficiency of health spending. Proposal to UCL, May 2016.

Business Dictionary, Available at: http://www.businessdictionary.com/definition/gap-analysis.html; accessed on 11 October 2017.

Chun S, Siddiqui T. *Kuwait national development plan and health policies: transforming from good to excellent.* UNDP & GSSCPD: Kuwait, 2017.

Chun S. *Impacts of rapid globalization on health and inevitability to reform health system and policy: a Kuwait case study.* The sixth global conference on public policy and administration in the Middle East, AMEPPA, Kuwait, 17-18 December, 2017a.

Chun S. *Strengthening the Kuwait National Health System: Transforming it from good to Excellent.* Round table discussion: Strengthening the Kuwait National Health System, UN House, December 6, 2017b.

Cohrs, Randall J et al. 2014. *Translational medicine definition by the European society for translational medicine*. New Horizons in Translational Medicine, 2 (3): 86-88.

Desjardins M. 2011. *How to execute corporate action plans effectively.* Business in Vancouver.

Du L, Lu W. 2016. *U.S. health-care system ranks as one of the least-efficient.* Available at www.bloomberg.com.

GSBSHS. *Global School-based Students Health Survey.* Kuwait: 2011 Fact Sheet.

GSBSHS. *Global School-based Students Health Survey.* Kuwait: 2015 Fact Sheet.

Green LT et al. Health promotion planning an educational and environmental approach 4th ed. McGraw-Hill. 2005.

GSSCPD. *Midrange Development plan 2010/2011-2013/2014*. General Secretariat of Supreme Council for Planning and Development, 2010.

GSSCPD. *Kuwait mid-range development plan 2015/2016-2019/2020.* General Secretariat of Supreme Council for Planning and Development, May 2015a.

GSSCPD. *Draft Development Plan 2015/2016 – 2019/2020.* General Secretariat of Supreme Council for Planning and Development, January 2015b.

GSSCPD. *Annual development plan 2017/2018*. General Secretariat of Supreme Council for Planning and Development, February 2017a.

GSSCPD. *Develop and pilot National Performance Management Framework in Kuwait Government Sector:* Stage III – NPMF Pilot KPIs for sectors & implementation plan, General Secretariat of Supreme Council for Planning and Development, UNDP, The State Audit Bureau, July 2017b.

Huynen M, Martens P, Hilderink HBM. 2005. *The health impacts of globalization: a conceptual framework.* Globalization and Health 1:14.

IHME. *Global burden of diseases data*. Institute for Health Metrics and Evaluation; available at: http://www.healthdata.org/gbd/data; accessed on 11 October 2017.

INAHTA. 2009. *HTA glossary.* International Network of Agencies for Health Technology Assessment.

KFAS. 2017. *Identifying priority sectors in Kuwait. Kuwait Foundation for the Advancement of Science.*

KHIDI. 2018. Available at https://www.khidi.or.kr/board?menuId=MENU00781&siteId=null

Malik VS, Popkin BM, Bray GA, Després JP, Willett WC, Hu FB. 2010. *Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis.* Diabetes Care 33 (11): 2477–2483.

Ministry of Health. *Kuwait Nutrition Surveillance 2014.* MOH, 2015.

Ministry of Health. *Kuwait Nutrition Surveillance 2015.* MOH, 2016.

National Center for Health Information, Annual health report 2014, Ministry of Health, 2016a.

National Center for Health Information. *Main causes of death due to injury (2010-2014): in NCHI Brief. Ministry of Health, 2016b.*

National Center for Health Information. *Main causes of death due to diseases (2010-2014): in NCHI Brief. Ministry of Health, 2016c.*

Nagel, Stuart S. 2016. *Policy analysis methods*. Nova Science Publishers. p. 6.

NUMBEO. 2018. https://www.numbeo.com/health-care/rankings_by_country.jsp

OECD. 2015. https://www.keepeek.com//Digital-Asset-Management/oecd/social-issues-migration-health/health-at-a-glance-2015_health_glance-2015-en#page26

Omi S. 2000. *Regional guidelines for developing a healthy cities project.* WHO WPRO.

Pacificprime. 2018. https://www.pacificprime.com/country/singaporehealthinsurance/

The State of Kuwait. *New Kuwait 2035.* Available at http://www.newkuwait.gov.kw/en/plan/; accessed on 22 December 2017.

Statistics Bureau, 2016

TICG. *Mid-term objectives and goals across the seven focus areas*. A Kuwait Investment Authority, Kuwait Fund For Arab Economic Development & Oliver Wyman Joint Company, November 2016.

WebFinance Inc. 2016. *What is action plan?* Available at http://www.businessdictionary.com/definition/action-plan.html

WHO. 1998. *Health Promotion Glossary.* World Health Organization.

WHO. http://apps.who.int/gho/data/node.cco.ki-KWT?lang=en

WHO. 2015. *Technology, Health*. World Health Organization: Geneva.

WHO. C*ountry cooperation strategy for WHO and Kuwait 2012-2016. 2014.*

WHO. 2016. *Obesity and overweight.* World Health Organization: Geneva.

WHO. *Development of a New Health Sector Strategy for the States of Kuwait:* WHO Mission Report. WHO Regional Office for Eastern Mediterranean, 2017a.

WHO. http://www.who.int/health_financing/topics/public-health-taxes/en/

World Bank. https://data.worldbank.org/indicator/SH.XPD.PUBL.ZS?locations=KW

Young, John, Mendizabal. 2009. *Helping researchers become policy entrepreneurs*. Overseas Development Institute: London.

UNDG. R*esults-Based Management.* Handbook, United Nations Development Group, 2011.

UNITF. *Joint mission of the United Nations Interagency Task Force on the Prevention and Control of Noncommunicable Diseases, May 2017.*

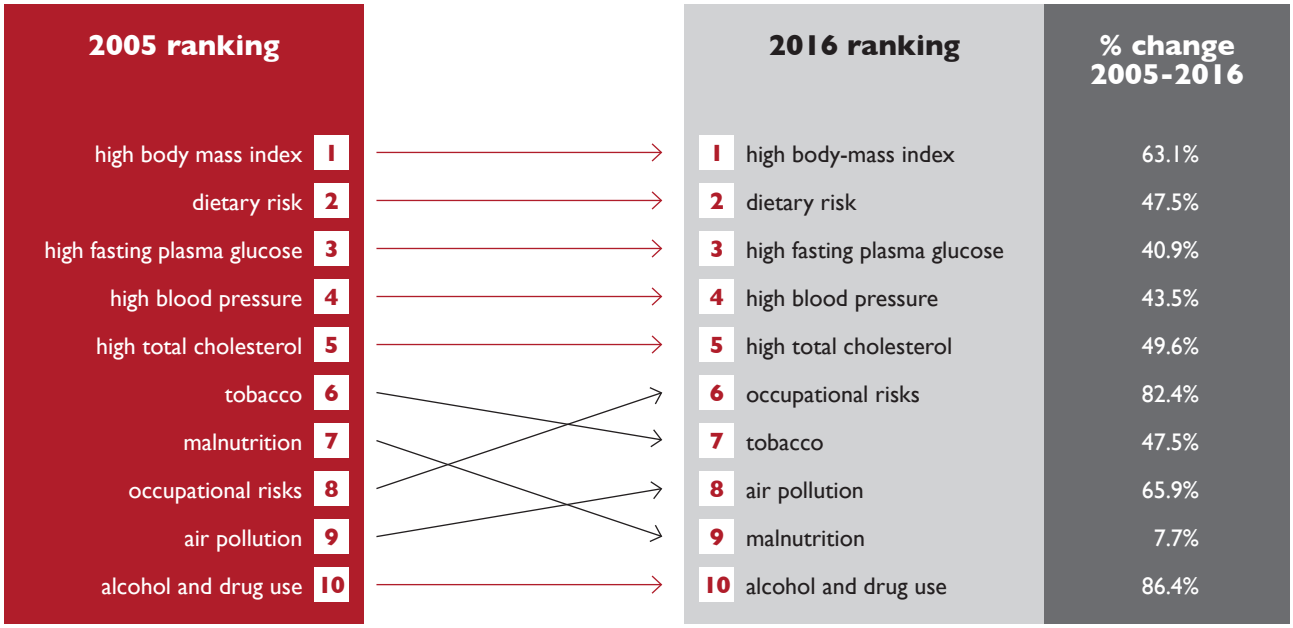
Urahn SK, Caudell-Feagan M. *Evidence-Based Policymaking*. MacArthur Foundation. 2014.

Appendix

Appendix 1. Health challenges: Top 10 risks contributing to DALYs
Appendix 2. Health challenges: Top 10 causes of death

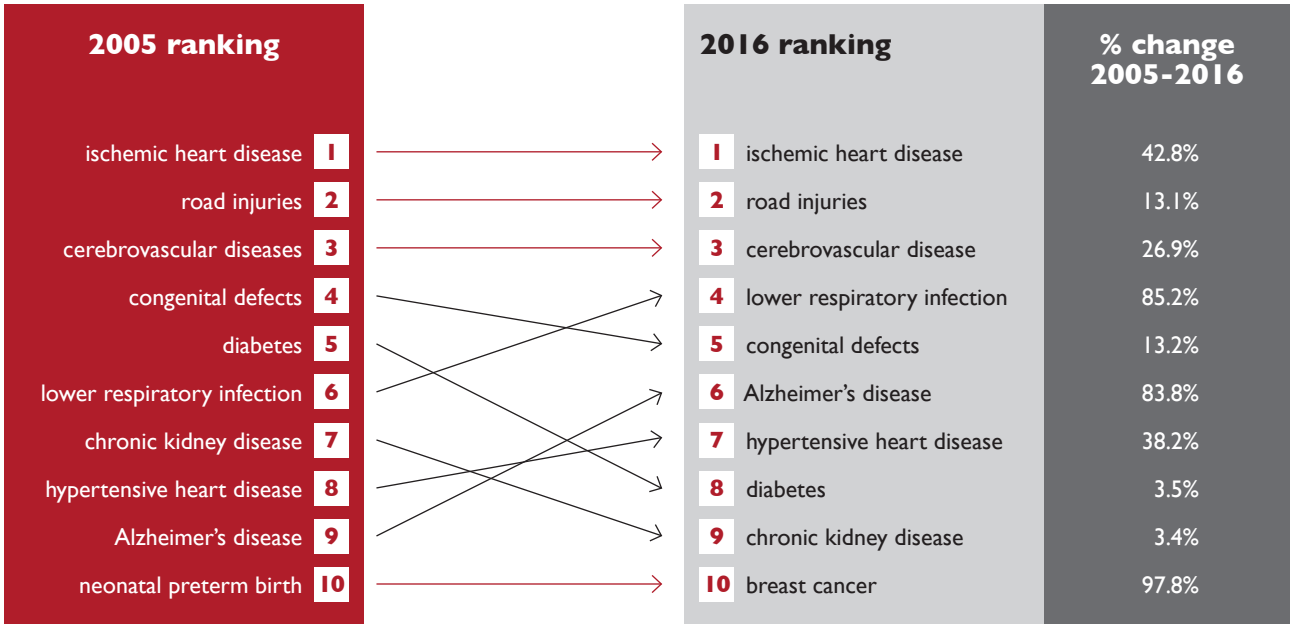
APPENDIX I

Health challenges: Top 10 risks contributing to DALYs



APPENDIX 2

Health challenges: Top 10 causes of death



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