Palestinian Health Research System: Moving Forward

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Abbreviations

HRS	Health research system
HCS	Health care system
HR	Health research
HRF	Health Research Financing
HRD	Health Research Department
HRD	Human Resources Development
HIS	Health Information System
HPSR	Health Policy and System Research
HRSA	Health Research System Analysis
HRCS	Health Research Capacity Strengthening
HRKTD	Health Research Knowledge Transfer and Dissemination
HRRC	Health Research Resource and Capacity
HRSHs	Health Research Stakeholders
HRSQ	Health Research Standardization and Quality
HRTUDP	Health Research Translation and Utilization into Decisions and Policies
HCIE	Higher Council for Innovation and Excellence
HSWG	Health Sector Working Group
HTN	Hypertension
WHO	World health organization
WB&GS	West Bank and Gaza Strip
EKNZ	Ethikkommission Nordwest- und Zentralschweiz
ENHRPs/ HRPs	Essential National HR Priorities/Health Research Priorities
EMR/EMRO	Eastern Mediterranean Region/Eastern Mediterranean Region Office
EBD	Evidence-Based Decision
EBPs	Evidence-Based Practices
ERC	Ethical Review and Clearance
EU	European Union
IDIs	In-depth Interviews
ICPH	Institute of Community and Public Health, Beirzeit
FGDs	Focus Group Discussions
FP	Family Planning
CHRD	The Commission on Health Research for Development
COHRED	Council on Health Research for Development
C&C	Coordination and Cooperation
COC	Code of Conduct
CVDs	Cardiovascular Diseases
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
PLC	Palestinian Legislative Council
PMC	Palestinian Medical Council
PCHR	Palestinian Council for Health Research
PCBS	Palestinian Central Bureau of Statistics
PNIPH	Palestinian National Institute of Public Health
PHC	Primary Health Care
PLO	Palestinian Liberation Organization
PNC	Post Natal Care
PPP	Public-Private Partnership
DM	Diabetes Mellitus
RTA	Route Traffic Accident
RCTs	Randomized Clinical Trials
LPHA	Lancet Palestinian Health Alliance
NHRS	National health research system
NHP	National Health Plan
NHRP	National Health Research Policy
NGOs	Non-governmental Organizations
NCDs	Non-communicable Diseases
NNU	Najah National University

	University, Palestine
IRB	Institutional Review Board
Swiss TPH	Swiss Tropical and Public Health Institute
SDGs	Sustainable Development Goals
SPHC	Supreme Palestinian Health Council
SRC	Scientific Research Council
K4P	Knowledge for Policy
KIPs	Knowledge-Informed Policy
MOH	Ministry of health
MOHE	Ministry of Higher Education
MOFP	Ministry of Finance and Planning
MAP-UK	Medical Aid for Palestinians
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MCH	Mother and Child Health
MER	Middle East Region
NTDs	Neglected Tropical Diseases

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Dedication

As far as I have certainly believed that this academic endeavor will spring a fruitful end, I am much more certain that the justice is going to find its way to heal the historical wound of the people of Palestine.

I want to extend my sublime dedication specifically to:

The slow dying besieged Gaza's people…

The rights confiscated West Bank people...

The captivated tongues of 1948-Palestinians…

The firm Palestinian identity of the diaspora…

And the pride and glory for all the Palestinians who are unjustly martyred, unlawfully detained, and finally the undefeatable will of the injured people…

"As a power, producing, processing, and putting knowledge into practice with better methodological trajectories is the central move towards deconstructing our social dilemmas, and that is could not be made happen without having a trustful stewardship which holds the independent decision to lead the change"

Mohammed AlKhaldi

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Summary

The importance of a Health Research System (HRS), as an instrument for developing and enabling health systems, is increasing, particularly in developing countries. As a consequence of this growing awareness also within the World Health Organization (WHO), there are many new approaches and initiatives to ensure the national HRSs be strengthened and well-functioned to address the countries' health needs through formulating and analyzing these systems particularly in fragile and resources constraint countries. Assessing the perceptions of system performers is an essential part of comprehensive system analysis, which seeks to recognize a system's strengths and limitations with a perspective towards achieving improvements. The present study focused on investigating four key pillars of the system in Palestine. First, it assessed the HRS concept and its importance among systems performers. Second, it evaluated their satisfaction with overall HRS performance and the political attention towards health research. Third, it examined the stewardship functions, governance, policy, and priorities, as a central pillar of this system. Fourth, it analyzed stakeholders' roles and the status of research capacity. Based on these four axes of analysis, key gaps and avenues of solutions towards achieving a comprehensive HRS strengthening in Palestine were identified. The study targeted three sectors, namely relevant government institutions, schools of public health and major local and international health agencies. A qualitative analytic approach was used where data was collected through 52 in-depth interviews and 6 focus group discussions (FGDs) with 104 policymakers, academics, directors, and experts.

In the first part, the study found the level of understanding of HRS concepts among health experts in Palestine is inadequate and not sufficiently conceptualized for the application. The second part found that the HRS in Palestine is remarkably underperforming with a significant lack of political support and engagement. The third part revealed that the stewardship functions are problematic, meaning that a system for health research in Palestine is still not

embodied mainly due to a missing structural and regulatory framework and dispersed HR work. It is also found that the Ethical Review and Clearance (ERC) is weak, a policy or a strategy dedicated to health research is lacking, and low levels of knowledge and experience in research prioritization amid of lack of consensus. The fourth part found key findings: low involvement of society, private, local and the international sectors; a substantial weakness in the role of international agencies in supporting health research; and significant deficit in HRS capacity. This deficit is due to the fact that research in Palestine is externally and individually-funded, limited and unsustainable, and importantly, moderate research quality, as well as knowledge transfer and translation are not well-conceptualized and inappropriately performed. The study also identified main further common gaps as follows: lack of HR culture, systems values and principles; structure; policy; resources; defined roles; connection and network; evidence-informed concepts; and politic impacts.

The study has recommended further empirical research to be investigated whether in Palestine and could be so in the region. Understanding the reasons behind the apparent lack of knowledge on HRS concepts and assessing the HR performance and impact, based on defined quantitative indicators, are essential research. Moreover, assessments on HR stewardship functions with regards to the institutional functionality and applicability, as well as a national HR capacity assessment using qualitative and quantitative measurements are deserve to be implemented. Once the HRS is structured, a national comprehensive system analysis is required to investigate inputs, processes, and outputs dimensions.

The study offered crucial actions to be translated into policy-making levels. First, launching a strategic dialogue on HRS strengthening among actors to ensure a solid commitment, a collective involvement, and a national consensus. This move should pave the ways towards two substantial actions, building a unified national HR body and formulating a national strategy, both are integrated into the structure of Palestinian HCS, that has to include

conceptual, regulatory, legal, technical and ethical aspects. Under this body and through this strategy, actions to improve HR prioritization, ERC, HRS awareness, HR performance, HR resources and capacity e.g. research quality, knowledge transfer, and translation, are fundamental components must be integrated and improved. In doing so, operational policies for HR resources and capacity have to be established, along with guidelines, indicators, and mechanisms for HR prioritization, performance, quality, knowledge diffusion and utilization that essentially required to be formulated and adhered. Also, effective networks communications, dynamic coordination, and systematic education and training programs are further feasible actions towards achieving a comprehensive HRS strengthening.

This study proofed very worthwhile because it met a longer-standing local demand, as well as was aligned with regional and global strategic directions. Consequently, getting the system pillars well-enabled is possible and yields meaningful benefits to the health system and other development sectors in Palestine. This system analysis attempt opened up new avenues for any future endeavors and for the new generation of health research, HRS, and health system strengthening in Palestine and in the region in general.

Chapter One: Introduction

1. Introduction

1.1. Overview and background

Global efforts have focused almost exclusively on Health Research (HR) for nearly a decade and a half, always emphasizes the substantial increase of investment in HR investments globally. These and other efforts highlight the important role of research and scientific knowledge in addressing the diseases and conditions that afflict people, particularly in the developing world (Pang et al., 2003a). Consequently, this paramount importance of HR is growing due to its major contribution to Healthcare System (HCS) reform through offering evidence to decision-makers about HCS dynamic and performance, health determinants, and defining best use of technological advancement in improving health (The Council on Health Research for Development COHRED, 2000).

In general, research is defined in World Health Organization (WHO) strategy on research as "the development of knowledge to understand health challenges" (WHO, 2012a): Page 5) through an effective and efficient Health Research System (HRS) to address society's needs. HR has been broadly defined as "process for systematic collection, description, analysis, and interpretation of data that can be used to improve health" (Maarten O. Kok et al., 2012a; WHO, 2012a). While HR is a fundamental pillar in improving health, it also forms a valuable and vital instrument in achieving Sustainable Development Goals (SDGs), aimed at reducing the impact of poverty on health and promoting social and economic development, through direct and indirect means (ESSENCE on Health Research, 2014; Ijsselmuiden and Jacobs, 2005). Investment in global HR is crucial for (Lee, 2003), defining and removal of various social, cultural, and logistical barriers confounding and hindering efforts of global health programs and initiatives (Unite For Sight, n.d.). HR is a true public concern and national prerequisite, and it is also needed to be applied regionally and nationally as it forms an important domain in building HRS within a wider frame to HCS strengthening and responds

to the national health needs (WHO Regional Office for the Eastern Mediterranean, Cairo, 2008).

1.1.1. International landscape and efforts

International debates started to address HRS through forming The Commission on Health Research for Development (CHRD), an independent international initiative, in late 1987. The concept of Essential National HRS (NHRS) was developed with the aim of improving the health of people in developing countries by focusing on research (The Commission on Health Research for Development, 1990). For more comprehensive framework and in terms of functions, processes, and institutions, the concept of NHRSs emerged from the international conference on HR for development held in Bangkok in 2000. This was an attempt to understand the relationship between health and HR and to explore ways of strengthening these systems for better response to health and HCS priorities at national, regional and global levels (World Health Organization, 2001). Another an important Ministerial Summit took place in Mexico in 2004 which proposed four imperatives to strengthen HCSs and development efforts through investment on HR; proper HR management and priority setting; more science and knowledge confidence and access, and on knowledge and evidence-informed policy-making (WHO, 2005).

Above all, the NHRS concept has undergone numerous refinements, including the development of conceptual frameworks and operational analyses and related approaches for understanding and strengthening it (Andrew Kennedy and Carel IJsselmuiden, 2006; Pang et al., 2003; Ritu Sadana et al., 2006; WHO, 2001). These frameworks and approaches were developed as an attempt to bridge the 10/90 gap where less than 10% of global research funds, by private and public sectors, are devoted to diseases that account for 90% of the global disease burden (Louis J. Currat et al., 2000b; WHO, 1999). Accordingly, CHRD called for 2% of health expenditures and 5% of development aid to be devoted to research and

development (R&D). An additional significant global ministerial forum held in Bamako ratified strategies for sustainable HR capacity by improving the environment and institutional incentives; promoting infrastructure; management and partnership. Likewise, in 2010, WHO strategy on research has been approved with an emphasis on five principles:

(1) Strengthening the institutions by reinforcing the culture, management, and coordination;
(2) Capacity building by strengthening HRS;
(3) Supports the setting priorities;
(4) Create an environment for practice; and
(5) Enabling the greater translation of research evidence into workable policy (Stephen R. Hanney and Miguel A Gonzalez Block, 2016; WHO, 2012a).

1.1.2. HRS, HCS, and HSR relevance and operational definitions

Ideally, HRS would/should constitute a key pillar of HCS structure for attaining better health policies and equitable access to care (Decoster et al., 2012a; Mahmoud F. Fathalla, 2004) designed to manage all HR operations, in order to perform the HCS functions meaningfully (Chanda-Kapata et al., 2012a). In another words, HRS and HCS are structurally and functionally interconnected. Before demonstrating the philosophical, contextual, and functional aspects of the HRS, it is noteworthy to bring also other interrelated concepts to build a clear conceptual distinction among the following concepts: HRS, HCS, system, and health systems research (HSR).

As this current study deals with a system analysis, the "system" concept has been defined as a group of elements operating in organic harmony to achieve a common goal (improve health, prevent diseases, treat ill and rehabilitate). In recent times, the emerging concept of HSR is being extensively addressed and approached, where Mills et al. defined it as research "concerned with how health services are financed, delivered and organized and how these functions are linked within an overall HCS with its associated policies and institutions"

(Weber et al., 2010). While the definition of HRS delineated by Pang et al. as "the people, institutions, and activities whose primary purpose in relation to research is to generate high-quality knowledge that can be used to promote, restore, and/or maintain the health status of populations; it should include the mechanisms adopted to encourage the utilization of research". Moreover, HRS definition includes all actors involved in knowledge generation, research synthesis, and using research results in the public and private sectors (Pang et al., 2003a; Ritu Sadana et al., 2006a). This study has embraced the definition of HRS and its goals and functions, as a conceptual reference for assessing the understanding level of the stakeholders' perceptions across all subjects of the research project.

Building on these definitions, the three systems are designed to be knowledge-oriented and indeed sharing common health targets. Specifically, HSR is concerned with the research of HCSs' functions. While HRS is concerned with the overall HR, and it is addressing a particular context of a country falling within a wide-range intersection representing two complex and physically close systems, the HCS and the overall research system in Palestine, can be illustrated as in Figure 1 (Pang et al., 2003a).

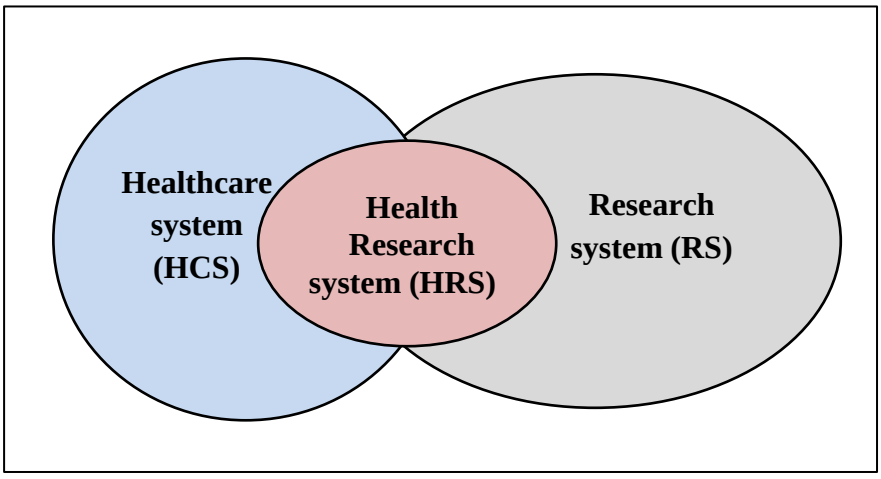

Figure 1.1: Locating the HRS at the intersection of the HCS and the overall research system (Pang et al, 2003)

This subset of the two systems captures the production of health-related knowledge which, when used appropriately, can contribute to health improvement. As early delineated, HR

involves many different types of research including biomedical, clinical, epidemiological, HCSs and policies research, socioeconomic and behavioral research contributions, besides ongoing programme evaluations, surveillance and operational research activities embedded within HCSs (Pang et al., 2003a; Ritu Sadana et al., 2006a; WHO, 2002a).

1.1.3. HRS values and functional framework

Based on that, the used framework is designed to delineate boundary and to provide a schematic diagram of the HRS to enable evidence-based advocacy and assist stakeholders in improving their understanding and foster development, adoption, and implementation of policies (Pang et al., 2003a). While stating the above, it is important to keep in mind the core values of HRS (WHO, 2002a): (1) Equity and ethics promotion; (2) Horizontal teamwork; (3) Decentralization of decision-making in research at both global and national levels; (4) Transparency in HR production, funding, and utilization and impact; and (5) Balance between excellence and relevance as Table 1.1 summarises.

Table 1.1: The functional components of HRSs as developed by Pang et al, 2003

Function	Operational component
Stewardship	• Define and articulate vision for a national HRS • Identify appropriate HR priorities and coordinate adherence to them • Set and monitor ethical standards for HR and research partnerships • Monitor and evaluate the HRS
Financing	Secure research funds and allocate them accountably
Creating and sustaining resources	Build, strengthen, and sustain the human and physical capacity to conduct, absorb, and utilize HR
Producing and using research	• Produce scientifically valid research outputs • Translate and communicate research to inform health policy, strategies, practices, and public opinion • Promote the use of research to develop new tools (drugs, vaccines, devices, and other applications) to improve health

The framework proposes that an effective HRS should include four key operational functions: (Pang et al., 2003a; Ritu Sadana et al., 2006a):

(1) **Stewardship**, which is defined as being concerned with oversight of the entire HRS, which is usually the mandate of government with involving key players. This function includes four components:

a) Defining and articulating a vision for an NHRS;

b) Identifying appropriate HR priorities and coordinating adherence to them;

c) Setting HR ethical standards; and

d) Monitoring and evaluating (M&E) the HRS.

(2) **Financing**, including secured research funds and optimal allocation. This includes efforts to mobilize funds from national public or private sectors, international donors and through the extensive effort of academic exchange programs among local and international institutions.

(3) **Creating and sustaining better human and physical capacity** to conduct, absorb and utilize HR. It is important to note that such objective is attainable through fostering the capacity of local institutions in the area of HR, but also through cooperation with international research entities and mandated agencies such as WHO under the MOH stewardship.

(4) **Producing and using research**, including disseminating it to inform health policy, strategies, practices and public opinion, and promoting it to develop and implement policies and program interventions. The key concept in this area would be a translation of knowledge into action and bringing in the desired change through evidence. Advocacy in this area forms a key tool and involvement of government, civil society, and academic actors are essential.

1.2. The importance of HRS understanding and conceptual framework

Based on that, the current NHRS framework is widely known and used with modifications fitting the country contexts, along with defining boundaries to be evaluated and operational development. After adapting it, this research project has genuinely embraced the framework with WHO system analysis approach as a complementary applied basis for conceptualizing and mapping the Palestinian HRS (Pang et al., 2003a; Ritu Sadana et al., 2006a). Building on

this mixed analytical framework, system thinking perspective in mapping HRS, which is also applied in the HCS, has been essentially adopted in this assessment (Don De Savigny and Taghreed Adam, 2009). In view of that, understanding the HRS and analyzing its components is indispensable and prerequisite to embarking on building or strengthening the national HRS. In this perspective, two overall intrinsic goals for this understanding: (1) advancing scientific knowledge, and (2) utilizing this knowledge to improve health and health equity. In Figure 1, Pang et al. NHRS conceptual framework displays the technical details (Pang et al., 2003a). This study genuinely used this framework along with Pang's functional and the principles of WHO strategy on research as analytical determinants guiding to apply practically system analysis. The components of these frameworks were adapted based on the setting context and it steered the key objectives of this study by formulating questions about each one.

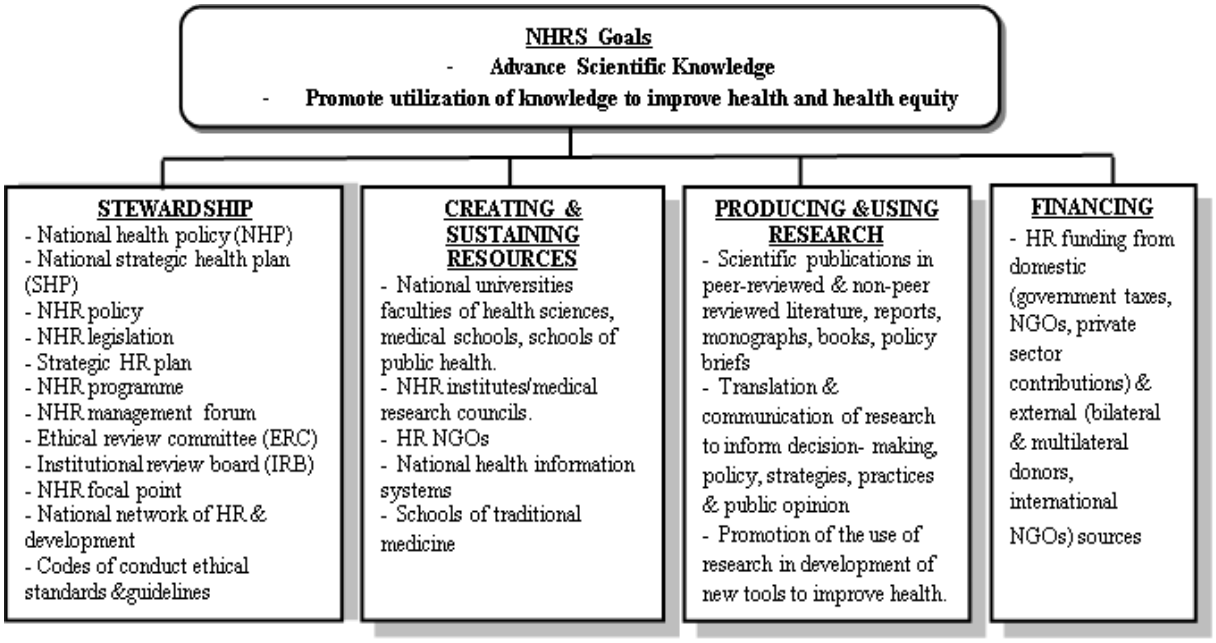

Figure 1.2: NHRS conceptual framework adopted by Pang et al. (2003)

System analysis and understanding through this framework was thought to reinforce a deeper and authentic contextual analysis acknowledging that the system is certainly complex and has tangled contextual differences due to the diverse players and interconnected sectors (WHO, 2002a). For a comprehensive understanding, the current research targets relevantly diverse

stakeholders from varied fields as HRS in Palestine involves not only the health sector but also other key sectors such as science and technology, education, and development, and sometimes international or private sector organizations (Andrew Kennedy and Carel IJsselmuiden, 2006a).

1.3. Research importance

1.3.1. Health research pitfalls in the region and Palestine

Regionally, countries across the Middle East face unprecedented health challenges, combined with demographic change, a dual disease burden, rising health costs, and the effects of the ongoing crisis and population movements (S A Ismail et al., 2013). Diverse health systems within the Middle East region continue to experience a high degree of variability with regards to accessibility, capacity, and the quality of care due to the governance gap, inadequate infrastructure and financing, and social and environmental instability (Dent et al., 2017). Health actors in the region are not well positioned to respond to these challenges through HR due to several hindering factors, mainly lack of formal HRSs, uncoordinated efforts with a critical deficit in system stewardship, political pelage (Kennedy et al., 2008a; S A Ismail et al., 2013), and capacity constraints (McGregor et al., 2014a). The issues of policy and priority formulation, insufficient stakeholders engagement, low HR productivity and quality form key challenges (Abou-Zeid et al., 2009a). Knowledge dissemination, utilization, and translation in the Eastern Mediterranean Region (EMR) and Palestine constitute a significant challenge in HRS owing to disintegration between researchers and policymakers and the degradation of HR institutional capacity (El-Jardali et al., 2012; Green et al., 2014; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). Furthermore, HR is an area with under-investment on a national level with a clear lack of awareness and recognition of research role in health development, and weak research priority setting at national, subnational, and institutional levels (Ayman Haj Daoud et al., 2012; El-Jardali et al., 2010; Fadi El-Jardali et al., 2015).

The Palestinian context does not demonstrate significant differences from the countries in the region in regards to HR status and health challenges. At first, the HCS constitutes of four healthcare providers: the Palestinian Ministry of Health (MOH), the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), NGOs, and the private sector with MOH being the main provider and the responsible governor (Khatib et al., 2017a). A defining feature of the HCS in Palestine is its fragmentation at the geographic, organizational, and programmatic levels, with governmental resources being mainly dependent on uncertain foreign aid. The health expenditures are on the rise, while health outcomes are below potential for current levels of spending. Overall health expenditures (public and private) more than tripled in the last decade, reaching 12% of Gross Domestic Product (GDP), one of the highest shares of GDP in the world. Public spending on health is close to 5% of GDP, exceeding the regional average of 2.6% and the low- and middle-income country average of 1.7% of GDP (WHO, EMRO, 2017; World Bank, Middle East and North Africa, 2016), while HR spending is clearly lacking.

Concerning HR, in fact, even in poor countries, implementing such system analysis is essential to establish a dynamic, efficient, high-quality HRS that would give clearer vision and stronger responsibility. Consequently, this would improve HCS performance and improve health with better responsiveness to essential health priorities. As this study's papers have concluded, relatively few efforts, formal and informal, were devoted to articulate and construct NHRS in Palestine and the research is being driven by donors and sometimes individual interest of academics. Moreover, it is clear that the Palestinian HR is growing (Sweileh et al., 2013a) despite the deficiency of sufficient understanding of HRS concepts, importance, and pattern of performance; absence of a regulatory context and tools; a political framework; and lack of agreed priorities and capacity. Also, it is reported that research outputs quality, transfer, and application into practice need policy and program attention

(Ahmed and Albuarki, 2017; Albarqouni et al., 2017a; Ayman Haj Daoud et al., 2012). Building or strengthening the HRS will remain difficult without adequate analysis of its pillars, identification of gaps and generation of useful, practical, and action-oriented recommendations to decision-makers. Any national analyses and eventual strategies to strengthen HRS, whether in Palestine or in the region, should, therefore, address comprehensively all concepts, functions, and goals rather than focus narrowly on research outputs.

1.3.2. Palestine context

A snapshot demonstrates the overall context of the research setting; this country is located in the EMR, shrinks and divided into two geographical entities, the West Bank and the Gaza Strip (WBGS). As illustrated in the Map. The total population is about 12.70 million distributed as follows: 4.88 million are inside Palestine, (around 2.97 million reside in the

West Bank and 2 million in the Gaza Strip), 1.53 million in 1948 Territory, around 6 million distributed around the world (Palestinian Central Bureau of Statistics, 2016). It is one of the largest refugee population in the world which is uniquely affected by the longest Israeli occupation, with its direct effects of the military actions, and its indirect pressures on human security, socioeconomic status, well-being and delivery of healthcare which constitute the wider determinants of health (WHO, EMRO, 2017). In spite of these tensions, the human development index is gradually progressing with a value of 0.684 for the year 2015 which put the country in the medium human development category and positioning it at 114 out of 188 countries and territories (United Nations Development Programme UNDP, 2016).

The Palestinian society is undergoing epidemiological and demographic transition. Although there are some improving indicators, for instance, communicable disease and mother and child health, however, it has various challenges disturbing its outcomes. Of these increasing burdens are Non-communicable Diseases (NCDs), as the main causes of morbidity and mortality, similar to neighboring countries. Moreover, the public health determinants like effects of the political turmoil and socio-economic problems, e.g. widespread poverty and unemployment, food insecurity, poor water, and sanitation lead to negative impact on Palestinians health (Ministry of Health, 2016).

1.3.3. Research significance and gaps

According to pertinent local and regional studies, including Palestine, few countries in the region have conducted such an analysis of HRSs (Hanney and González-Block, 2016a; Kennedy et al., 2008a; S A Ismail et al., 2013). Being the first national research, this important research project addresses the entire HRS components relying on the developed framework. As it is was not tackled in the WHO toolkit for HRS analysis (Ritu Sadana et al., 2006a), a supplementary imperative analysis was applied for understanding the overall HRS concepts, importance, and its performance level, based on the experts' perceptions across

three sectors in Palestine (government, academia, and local and international Non-government Organization (NGOs)). Several motives were behind undertaking this research:

(1) This research comes in response to the international and regional increasing interest in mapping and strengthening HRS (D'Souza and Sadana, 2006; WHO, 2012; WHO, Regional Committee for the EMR, 2011). The subject is also a strategic demand not only for the health sector but also to Palestine in general, as an emerging state in the light of fragility condition and resources scarcity.

(2) This analytical research is applicable to the national and regional levels contributing to advancement and sustainability of HRS based on stakeholders' conceptualization and institutionalization practices (Hyder et al., 2010; Stephen R. Hanney and Miguel A Gonzalez Block, 2016);

(3) Since HRS is a real investment in Palestine as an emerging and constrained-resource state, the question of its overall status is not yet fulfilled. Accordingly, this research is thought to be a necessary attempt to bridge the knowledge gap in light of a lack of understanding about HRS whether nationally or in the EMR.

1.4. The overall aim of the study

With all the above issues and concerns, the overall aim of this research was to understand comprehensively the Palestinian HRS with respect to its conceptual, structural, functional, stakeholders, and potential components. Through this assessment and based on the perceptions of system performers, the research sought to demystify uncertainty among these components status, identify gaps, and eventually propose demonstrable strengthening recommendations to decision/policy-makers to establish a successful and strong HRS. Recommended solutions were specifically tailored to each component, as well as for the national HRS. The research has been planned specifically with four different objectives as described below:

1.4.1. Research objectives

Objective 1: Understand the HRS conceptualization and its importance

Specific objectives:

1. Assess the level of understanding among health policymakers, academics and experts regarding the definition and conceptualization of the HRS concept; and to capture their perceptions of its goals and functions.
2. Determine how these stakeholders HRS in Palestine and the associated gains and losses of adopting or dispensing the HRS in the country.

Objective 2: Assess the satisfaction level of the experts on the overall HRS performance

Specific objectives:

1. Describe stakeholders' satisfaction on the overall performance pattern.
2. Assess the state of government political support and attention towards HR.
3. Identify the relevant performance gaps echoed by health policymakers, academics, and NGOs experts.

Objective 3: Analyse the HRS stewardship functions: governance framework, HR policy, and HR priorities

Specific objectives:

1. Investigate the current governance framework related to HR management structure and stakeholders' practices, coordination and cooperation (C&C) mechanisms, and HR ethical review and clearance (ERC) processes.
2. Assess HR capacity in terms of strategy and National HR policy (NHRP) in terms of availability, formulation, and implementation.
3. Evaluate HR priority (HRPs) setting and its alignment to the actual and active identified national health needs, and accordingly, to generate useful prospects for strengthening stewardship functions.

Objective 4: Explore the HRS stakeholders and its capacity

Specific goals:

1. Describe key national and international stakeholders with regards to roles, involvement, and level of influence in the area of HRS, as well as investigate the international role in HR in Palestine.

2. Assess the actual status, gaps, and opportunities for improvement in HRS capacity with respect to the infrastructure, human and financial resources.

3. Investigate HR potential to recognize the three vital capacities and competencies: HR Standardization and Quality (HRSQ), HR Knowledge Transfer and Dissemination (HRKTD), and ultimately, HR Translation and Utilization into Decisions and Policies (HRTUDP).

Chapter Two: Methodology

2. Method

2.1. Approach and design

A cross-sectional descriptive situation analysis was developed, based on data collected by conducting qualitative methods, in-depth interviews (IDIs) and focus group discussions (FGDs). An inductive approach was used to investigate the perceptions of HRS stakeholders in Palestine. As mentioned earlier, system thinking and comprehensive perspective approaches were adopted, both of which are helpful to understand and map HRS dynamics through a wide-range approach (Don De Savigny and Taghreed Adam, 2009; D'Souza and Sadana, 2006a). Furthermore, the study used the NHRS framework for system assessment as it is both sensitive to limited resources and enables local experience and understanding to be built to and serve as a starting point for NHRS improvement (Andrew Kennedy and Carel IJsselmuiden, 2006a; Ritu Sadana et al., 2006a). The research design is appropriate in light of the complexity of HCS and the HR environment, and help us to understand better the research subject from numerous perspectives (Pope and Mays, 2006). The research setting was in Palestine, WB&GS, which both are geographically segregated. The research ran from January until July 2016. The targeted different institutions in three sectors (detailed Table 2.1 illustrated below) as follows:

1. Six government bodies: Ministries of, Health (MOH), Higher Education (MOHE), Finance and Planning (MOFP), Palestinian Legislative Council (PLC), Palestinian Medical Council (PMC), and PCBS.
2. The academic sector: health and medical faculties in 10 major universities and colleges in Palestine, and expert from Lebanon who has intensively researched and written about this subject.
3. The local and international health NGOs: 10 international NGOs and 11 local Palestinian NGOs.

Table 2.1: List of selected institutions across the government, academic universities and local and international NGOs who working in Palestine

Targeted government authorities in Palestine				
No.	**Org. abbreviation**	**Department/institution name**	**No. of IDIs participants**	**No. of FGDs participants**
1.	MOH	Former MOH Minister and Deputy Minister	2	
		General Directorate (GD) of Hospitals		2
		GD of Primary Care	1	1
		GD of Health Information	1	2
		GD of International Cooperation		1
		GD of Pharmaceuticals and Medical Supplies		1
		Department of Surgeries at General Directorate of Hospitals		1
		Department of Health Research	1	
		Department of Cath. and Cardiac Care at General Directorate of Hospitals		2
		Department of Public Health		1
		Department of Education		1
		Department of Health Economic		1
		Department of Strategic Planning	2	1
2.	MOFP	Ministry of Finance and Planning		2
3.	MOHE	Ministry of Higher Education	2	2
4.	PLC	Palestinian Legislative Council	3	
5.	PCBS	Palestinian Central Bureau of Statistics	2	1
6.	PMC	Palestine Medical Council	1	
			15	**19**

Targeted academic institutions in Palestine			
No.	**Institution name**	**No. of IDIs participants**	**No. of FGDs participants**
1.	Birziet University, Institute of Community and Public Health	3	3
2.	Al-Quds University, School of Public Health	5	1
3.	Najah National University, Faculty of Medicine and Health Sciences	3	2
4.	The Islamic University of Gaza, Faculty of Medicine, Faculty of Nursing	2	2
5.	Al-Azhar University, Faculty of Applied Medical Sciences	2	1
6.	Al-Aqsa University, Faculty of Applied Sciences		1
7.	The University of Palestine, Faculty of Health Professions		2
8.	Arab American University, Faculty of Health Sciences	1	
9.	Palestine College of Nursing	1	
10.	University College of Applied Sciences, Department of Applied Health Sciences		1
11.	The American University of Beirut, Faculty of Health Sciences	1	

			18	**13**
Targeted international organizations in Palestine				
No.	**Organization abbreviation**	**Full name**	**No. of IDIs Participants**	**No. of FGDs Participants**
1.	UNRWA	The United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)	2	2
2.	WHO	World Health Organization, Palestinian National Institute of Public Health	2	
3.	UNICEF	The United Nations Children's Fund	1	1
4.	UNFPA	United Nations Population Fund	2	
5.	W.V.	World Vision		2
6.	SC	Save the Children		1
7.	MDM	Médecins du Monde		1
8.	MAP-UK	Medical Aid for Palestinians		1
9.	MC	Mercy Corps	1	
10.	QC	Qatar Charity		1
			8	**9**
Targeted local organizations in Palestine				
No.	**Organization abbreviation**	**Institution name**	**No. of IDIs participants**	**No. of FGDs participants**
1.	PFPPA	The Palestinian Family Planning and Protection Association	1	2
2.	PRCS	Palestinian Red Crescent Society	1	1
3.	HDIP	Health, Development, Information and Policy Institute		1
4.	UHWC	Union of Health Work Committee	1	
5.	UHCC	Union of Health Care Committees	2	2
6.	PMRS	Palestinian Medical Relief Society	1	2
7.	AEPBA	Ard El Insan Palestinian Benevolent Association	1	1
8.	Pal-think	Pal-think Centre for Strategic Studies	1	
9.	GCMHP	Gaza Community Mental Health Programme	1	
10.	WA	Welfare Association	1	
11.	JUZOOR	JUZOOR for Health & Social Development	1	
			11	**9**

2.2. Data collection

A purposeful approach to sampling was used. The initial list of potential participants across the three sectors was prepared based on the knowledge and experience of the first author, a Palestinian, who has worked more than nine years in the three sectors and has a background in public health. Participants were allocated to one of two groups: 52 of the political key-

informants were in the IDI, and 52 participants with technical expertise were assigned to FGDs, without double participation. Expert consultations and rigorous peer reviews were carried out to attain sample representation. Only then was the participant lists merged into one final list. To ensure knowledge saturation level, active participation, and adequate representation, mixed purposive sampling was achieved through four strategies. First, criterion sampling made it possible to select participants who could provide specific information on certain study topics. Second, critical case sampling targeted experts who gave critical and factual information on the topics under investigation. Third, snowball sampling determined other suitable participants, as we were aware that there were likely other key informants that were not known to us at the outset of the study. Finally, homogenous sampling brought together participants from a similar background and with similar experience (Kaplana M Nair et al., 2008).

The initial list of potential participants across three sectors was prepared based on the principal investigators' knowledge. He is a Palestinian, worked more than nine years in the three sectors with a background in Public health. Participants were allocated to two groups: fifty-two of the political key-informants for IDIs and a similar number of political and technical participants for FGDs, without double participation. Expert's consultations and rigor peer reviews were carried out to attain sample representation, and then participant's lists were merged into one final list. Inclusion and exclusion criteria were established to guide the selection process clearly at the institutional or individual; see Appendix 1. The study was designed to diversify participants based on their level of knowledge, experience and positions, and their levels of involvement in HRS across the three sectors. The principal investigator initially phoned and emailed potential participants and provided them with a copy of the study information sheet. Participants who did not respond to the initial contact, 7 experts, received another call and email after a couple of weeks. In total, 104 experts across the sectors agreed

to participate; their approvals were received via phone to participate whether for IDI or FGD. Prospective participants received the full agenda and discussion outlines in advance via email followed a few days later by an invitation. Selection equilibrium of participants was achieved between both areas, the WB&GS. Participants from executive political and front management levels of targeted HRS institutions were assigned to IDI, while participants from middle technical and management level were appointed to FGDs. The grouping was intended to get diverse reflections and comprehensive understanding.

For both IDIs and FGDs, open-ended questions were drawn up, assembled and adapted, according to the principles laid out in the relevant literature (Decoster et al., 2012a; El-Jardali et al., 2014a; Emanuel Souvairan et al., 2014a; Kaplana M Nair et al., 2008; Pang et al., 2003a; Ritu Sadana et al., 2006a; Sadana and Pang, 2004a; WHO, 2012a). Both instruments can be found in Appendix 2, 2a for IDIs and 2b for FGDs, where both focused on four themes:

1. HRS conceptualization and its importance
2. Stakeholder's satisfaction with HRS performance
3. HR governance, policy, and priorities
4. Stakeholders analysis, HRS capacities, and research financing in Palestine

To appraise trustworthiness and credibility, instruments' questions were discussed among the research team as well as with the support of international scientists and local experts in Palestine. The questions were piloted in, five IDIs and in one FGD to check their clarity and to provide a basis for cross-checking subsequent responses. Building on the pilot, we revised both questionnaire instruments. Forty-five IDIs were conducted face-to-face and seven by Skype call due to movement restrictions in the field. IDIs ranged between 45-60 minutes. Eighteen interviewees were academics from different health schools, 20 interviewees were decision and policymakers from the six-government bodies, and 19 experts were representing

10 ten local and 5 international agencies. Fifty-two participated in six sectoral FGDs, three in WB and three in GS, with only one FGD for each sector in both areas. Each FGD took approximately 90 minutes and included six to ten persons. Interviews and FGDs were conducted in the Arabic Language by the principal investigator, a middle-aged and male Palestinian, along with a trained research team. This research team is also contributed to coordinating and managing all data collection work and the principal investigator guided all fieldwork.

2.3. Data analysis

Data collected from IDIs and FGDs were audio-recorded. The discussions were held in Arabic and were simultaneously translated and transcribed in English into MS word sheets, which were then revised for precision, checked and cleaned for accuracy. The data were subject to both thematic and content analyses (Vaismoradi et al., 2013a). Themes and codes were deductively established based on the conceptual framework adopted in this research relying on relevant HRS literature. Field notes were kept and used during data collection and analysis. All transcripts were imported into the software, MAXQDA 12 (VERBI GmbH, Berlin), a software package for qualitative data management and analysis. Subsequently, the principal investigator created codes, read each transcript, line by line, and then linked texts' segments pertinently with the relevant codes. Data were then displayed in a particular matrix, according to the respective themes and codes, for analysis. Selected data or codes were reviewed and patterns of agreement and disagreement, meanings, and perspectives. Eventually, analyzed data were reviewed and discussed carefully with the team during drafting the research's manuscripts.

2.4. Ethical approval

The Research Commission of Swiss TPH approved the study (FK No. 122; approval date: 21 October 2015). Ethical approval was also obtained from the "Ethikkommission Nordwest-

und Zentralschweiz" (EKNZ) in Switzerland (reference No. UBE-15/116; approval date: 23 January 2016). Ethical and administrative approval from Palestinian MOH obtained on 28 April 2016, the institutional review board of Helsinki Committee in Palestine (reference No. PHRC/HC/73/15; approval date: 7 December 2015), and the institutional review board (IRB) at Najah National University (NNU) (reference No. 112/Nov./2015, approval date: 6 December 2015).

Chapter Three: Study results

3. Results

This chapter presents, in a comprehensive way, the general findings of the study. It includes two sections; (1) socio-demographic characteristics of participants and (2) the findings of the study' papers.

3.1. Socio-demographic characteristics of participants

Of the 115 experts from 38 institutions across the three sectors invited to participate, 104 agreed and actively responded to both methods of inquiry, while 11 invitees declined due to scheduling conflicts. As HR is conceptually broad (IJsselmuiden and Matlin, 2006a), participants came from diverse professional backgrounds and areas of expertise. They were selected to represent three disciplinary categories as follows; (1) public health, (2) medical and biomedical; and (3) economic and political. Public health covered various areas, such as health management, finance policy, nursing, community and mental health, child and women's health, nutrition, social policy, school health and education, NCDs, epidemiology, and water, sanitation, and environment. Medical and biomedical fields covered pharmaceutical, biology and laboratory, biochemistry, and clinical medical and surgical fields. Participants represented other disciplines, for instance, economic, political and legislative such as MOFP and PLC.

Table 3.1 describes the characteristics of 52 participants from the three sectors, 38 of which were male. The majority held Ph.D. degrees. Most of them had more than 20 years of experience, particularly in NGOs, but a few had less than 10 years. Eighteen academics, 10 of whom were senior faculty members, represented eight academic institutions. Of the 19 participants representing 15 NGOs (10 local and five international, eight were executive directors while the rest were heads of offices, departments, and programs. Fifteen participants represented five government institutions, four from Gaza and 11 from WB, where the central government sits. Seven government participants served in advanced-level leadership roles,

with respect to policy- and decision-making while the rest were directors or heads of departments.

Table 3.2 describes the six FGDs with 52 participants from 24 diverse institutions, performed in parallel for each sector. Two FGDs selected 14 academics; three were female and most had more than ten years' experience. The third and fourth FGDs included 20 government policy- and decision makers; five were female and participants mainly had post-graduate degrees in public health; 13 had experience of 10-20 years of experience in various high-level positions. The fifth and sixth FGDs comprised 18 experts from six local and seven international NGOs; seven were female, and notably, 15 held a master degree in public health. Most had more than 10 years; experience; five experts served in an executive directorate, while the rest were in the same executive level but with more operational and technical duties.

Table 3.1: Characteristics of the IDI participants

Ch.ch. / Sector	Age			Gender		Education level			Experience years			participants per locations				
	30-50	51-60	>60	F	M	BA/Dip	MA	PhD	<10	10-20	>20	WB	GS	Leb.	Jor.	Egy.
Acad.	7	7	4	5	13			18		11	7	10	7	1		
	Leadership positions											No. of institutions vs locations				
	VP	Dean		VD		HRD		Ass. Prof.		Assis. Prof.		4	3	1		
	1	5		2		2		6		2		Participants: 18, Institutions: 8				
Gov.	30-50	51-60	>60	F	M	BA/Dip	MA	PhD	<10	10-20	>20	No. participants and institutions vs locations (alike)				
	5	7	3	3	12	4	6	5	1	6	8	WB	GS	Leb.	Jor.	Egy.
	Leadership positions											11	4			
	FM/DM	NHM		GD		Director		HD				Participants: 15 Institutions: 5 and 9 departments				
	3	4		1		3		4								
NGOs	30-50	51-60	>60	F	M	BA/Dip	MA	PhD	<10	10-20	>20	No. of participants vs locations				
	11	8		6	13	1	13	5	3	4	12	WB	GS	Leb.	Jor.	Egy.
	Leadership positions											10	7		1	1
	ED	Director		HO		CO		PO				Participants: 19 Institutions: 15, 10 local NGOs and 5 INGOs				
	5	3		2		4		5								

Sectors: **Acd** : academic, **Gov** : government, **NGOs**: includes local and international non-governmental organizations
Gender: **F**: female, **M**: male
Education: **BA/Dip**: bachelor and diploma, **MA**: master, **Ph.D.**: doctor of philosophy
Location: **WB**: west bank, **GS**: Gaza strip, **Leb**: Lebanon, **Jor**: Jordan, **Egy**: Egypt
Position: **VP**: vice president, **D**: dean, **VD**: vice dean, **HRD**: head of the research department, **Asso. Prof**: Associate professor, **Assis. Prof**.: assistant prof.
FM/DM : the former minister or deputy minister, **NCM**: national council member, **GD**: general director, **HD**: head of department,
ED: executive director, **HO**: head of the office, **CO**: chief officer, **PO**: program officer

Table 3.2: Characteristics of the FGDs participants

Ch.ch / Sector	Age			Gender		Education level			Years of experience			Total		
												Participants (14)		Institutions (8)
	30-40	41-50	>50	F	M	BA/Dip	MA	PhD	< 10y	10-20y	>20y	WB FGDs	GS FGDs	
2 Acad. FGDs		7	7	3	11			14	4	6	4	6	8	
	Leadership position			D		FP			Asso. Prof.			Assi. Prof.		
				1		1			5			7		
2 Gov. FGDs	30-40	41-50	>50	F	M	BA/Dip	MA	PhD	< 10y	10-20y	>20y	Participants (20)		(18): 4 institutions 14 departments
												WB FGDs	GS FGDs	
	2	8	10	5	15	1	10	9		13	7	12	8	
	Leadership position			NCM		GD			D			HD		
				1		8			5			5		
2 NGO FGDs	30-40	41-50	>50	F	M	BA/Dip	MA	PhD	< 10y	10-20y	>20y	Participants (18)		(13): 6 LNGO 7 INGO
												WB FGDs	GS FGDs	
	3	12	3	7	11	3	15	2		8	8	10	8	
	Leadership position			ED				PM				SO		
				5				8				5		

FGDs: focus group discussions
Sectors: **Acd** : academic, **Gov** : government, **NGOs**: includes local and international non-governmental organizations
Gender: **F**: female, **M**: male
Education: **BA/Dip**: bachelor and diploma, **MA**: master, **Ph.D.**: doctor of philosophy
Location: **WBFGDs**: west bank FGDs, **GSFGDs**: Gaza strip FGDS
Position: **D**: dean, **FP**: full professor, **Asso. Prof**: Associate professor, **Assi. Prof**.: assistant prof. **NCM**: national council member, **GD**: general director, **D**: director, **HD**: head of the department, **ED**: executive director, **PM**: program manager, **SO**: senior officer

3.2. Findings from produced papers

The section of papers has four parts, where each part represents a paper addressing one of the HRS pillars and each paper answers each objective of this study as follows:

First part: Understanding the HRS with regards to its concept and important in Palestine.

Second part: Assessing system stakeholders' satisfaction with the performance of the Palestinian HRS.

Third part: Stewardship functions: governance, policy, and priorities of the Palestinian HRS.

Fourth part: The status of HRS stakeholders, capacities, and resources in Palestine.

3.2.1. First part: Understanding the HRS about its concept and important in Palestine.

Article 1: "Understanding the concept and importance of the health research system in Palestine: A qualitative study".

This article is accepted, will publish soon at *Health Policy and Research Systems journal, BMC.*

Understanding the concept and importance of the health research system in Palestine: A qualitative study

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Abstract

Background: The importance of a Health Research System (HRS), an instrument for developing and enabling health systems, is increasing, particularly in developing countries. Assessing the perceptions of system performers is a necessary part of system analysis, which seeks to recognize a system's strengths and limitations an eye towards improvement. This study aimed to investigate the perceptions of policy makers, academicians, and experts regarding the HRS concept and its importance to generate insights for system strengthening. The study was implemented in Palestine from January until July 2016, where HRS is just emerging. The country faces many challenges that could be addressed, in part, with HRS.

Methods: The study targeted three sectors, namely relevant government institutions, schools of public health and major local and international health agencies. Data was collected through 52 in-depth interviews and 6 focus group discussions (FGDs) with policymakers, academics, directors, and experts. Participants and institutions were selected based on stated criteria and peer review. Data were translated, transcribed, checked, and then imported to a software program (MAXQDA 12) for thematic and content analysis.

Results: One hundred and four experts participated in the 52 interviews (52 participants) and focus group discussions (52 participants in 6 FGDs). The HRS concept as defined by WHO was conceptualized differently among participants with unclear delineations between various components. Inconsistencies appeared when participants attempted to conceptualize HRS in broader contexts, though HRS goals and functions were sufficiently delineated. The majority of participants agreed that HRS correlates with notions of "improvement" and recognized HRS "as a significant gain". Neglect of HRS was perceived as a big loss.

Conclusions: The study revealed that the level of understanding of HRS among health experts in Palestine is inadequate and not sufficiently conceptualized for the application. Findings also underlined the need to establish a central governance coordination body that promotes HRS understanding, awareness, and culture as an enabler for HRS strengthening.

Keywords: Health experts, understanding, health research system, Palestine

1. Background

The development of health research systems (HRS) has become an international concern in recent years, particularly in middle and low-income countries. HRS is considered to be a key pillar of health care systems (HCSs) for better health policies and equitable care (Decoster et al., 2012a; Mahmoud F. Fathalla, 2004). Research is defined in World Health Organization (WHO) strategy on research as "the development of knowledge to understand health challenges" (WHO, 2012b) through an effective and efficient HRS to address society's needs (Maarten O Kok et al., 2012). Health Research (HR) defined as "the process for systematic collection, description, analysis, and interpretation of data that can be used to improve the health" (WHO, 2012b) (Page 12). The concept has undergone numerous refinements, including the development of a conceptual framework for National Health Research Systems (NHRSs) (World Health Organization, 2001), in an attempt to correct the 10/90 gap, whereby less than 10% of global research funds are devoted to diseases that account for 90% of the global disease burden (Louis J. Currat et al., 2000b; WHO, 1999). In addition to establishing the Global Forum for HR to address the HR gaps (WHO, 1999), the WHO launched an HR strategy focusing on HR culture, priorities, capacity, standards, and translation (Stephen R. Hanney and Miguel A Gonzalez Block, 2016; *The WHO strategy on research for health*, 2012).

This study adopts the WHO definition of HRS, as follows, "The people, institutions, and activities whose primary purpose is to generate high-quality knowledge that can be used to promote, restore, and or maintain the health status of populations. It can include mechanisms adopted to encourage the utilization of research" (Sadana and Pang, 2004a) (page 352). HRS is an emerging concept for many stakeholders who expected to conceptualize it and realize it in practice. HRS encompasses a wide range of actors, who are in charge of producing, consuming, managing, or evaluating the system (Stephen Hanney et al., 2010a). An inclusive

understanding of the system concepts, importance, and performance from multiple angles, incorporating the perspectives of various stakeholders, is essential (Andrew Kennedy and Carel IJsselmuiden, 2006b; Geoffery M Lairumbi et al., 2011; S A Ismail et al., 2013).

In the Middle East, HR still suffers from lack of investment. There is a paucity of studies on perceptions of the HRS concept and importance. Several countries have not yet sufficiently examined this critical part of system understanding, nor have they assessed the performance of this system with the aim of steering it properly (Ritu Sadana et al., 2006a; World Health Organization, 2001). Few countries have a formal NHRS, where building HRS is one of the challenges (S A Ismail et al., 2013). However, cultivating and improving an evidence-based culture is vital (COHRED, 2011). The Palestinian scientific research scene is unclear alongside the lack of research orientation (Ayman Haj Daoud et al., 2012). The study sought to demystify this ambiguity and to fill the knowledge gap in light of insufficient HRS assessments and scarcity of literature (Hanney et al., 2010a). Given that the WHO toolkit for HRS analysis does not address the perceptions aspect whether overall system understanding or assessing its performance (Sadana and Pang, 2004b).

A conceptual framework designed by WHO which aims to build an NHRS serves as a foundation for operational analysis (Pang et al., 2003a). In this respect, various challenges have been identified, two of which are addressed in this study, namely an inadequate understanding of research and an insufficient appreciation for HRS at the political level (Ayman Haj Daoud et al., 2002; Mahmoud Fathalla, 2004; Sweileh et al., 2014a; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). A deep understanding of the HRS concept and its performance is an enabling factor that could support HRS strengthening and application on the ground (A. Hyder et al., 2010a; Stephen Hanney et al., 2010a). This perspective would allow stakeholders to improve their conceptual understanding and technical potentials alike, which, in turn, would achieve good health outcomes and equity. Overcoming the inadequate

understanding mentioned above is considered one of the study's motives (Pang et al., 2003a). A better understanding of the HRS concept and its performance might also lead to improvements in other HRS components such as governance, capacity, policy, priorities, and stakeholders.

Such an understanding could lead to a sustainable HRS whereby HR culture and knowledge is promoted among stakeholders and HR is embedded as a philosophy, based on a shared conceptualization (Carol D'Souza and Ritu Sadana, 2006; Remme et al., 2010a) and institutionalization practices. A shared HR concept would contribute to decision making and policy development based on evidence. The present study is part of a larger investigative research project that explores holistically Palestinian HRS components. Three diverse and relevant sectors in Palestine have been purposively targeted: government, academia (public health schools), and health non-governmental organizations (NGOs) and international agencies. As a logical first step, this study gives an overview of the perceptions of health policy-makers, academics, and experts involved in HRS regarding their understanding of the HRS concept. Such an overview can provide a foundation on which to build and reinforce HR culture and strengthen other HRS pillars. The paper aims to:

1. Assess the level of understanding among health policymakers, academics and experts regarding the definition and conceptualization of the HRS concept; and to capture their perceptions of its goals and functions.

2. Perceive how these stakeholders HRS in Palestine and the associated gains and losses of adopting or dispensing with HRS in the country.

2. Methods

2.1. Design

A descriptive situation analysis was developed, based on data collected through qualitative methods, in-depth interviews (IDIs) and focus group discussions (FGDs), to investigate inductively the perceptions of HRS stakeholders in Palestine. System thinking and comprehensive perspective approaches were adopted, both of which are helpful to understand and map system dynamics through a wide-range approach (De Savigny et al., 2009; D'Souza and Sadana, 2006b). Furthermore, the study used the NHRS framework for system analysis as it is both sensitive to limited resources and enables local experience and understanding to be built to and serve as a starting point for NHRS improvement (Andrew Kennedy and Carel IJsselmuiden, 2006a; Ritu Sadana et al., 2006a). The study design suits the complexity of HCS and the HR environment, and help us to understand the research subject from numerous perspectives (Pope and Mays, 2006). The study was conducted in the West Bank and Gaza Strip (WB&GS) of the Palestinian territories, which are geographically segregated. The study was conducted from January until July 2016. We targeted institutions across three sectors (illustrated in chapter 2, Table 2.1) as follows:

- Six government bodies: Ministries of, Health (MOH), Higher Education (MOHE), Finance and Planning (MOFP), Palestinian Legislative Council (PLC), Palestinian Medical Council (PMC), and Palestinian Central Bureau of Statistics (PCBS).
- The academic sector: health and medical faculties in 10 major universities and colleges in Palestine, and expert from Lebanon who has intensively researched and written about this subject.
- The local and international NGOs: 10 international NGOs and 11 local Palestinian NGOs.

2.2. Sampling and data collection

A purposeful approach to sampling was used. The initial list of potential participants across the three sectors was prepared based on the knowledge and experience of the first author, a Palestinian, who has worked more than nine years in the three sectors and has a background in public health. Participants were allocated to one of two groups: 52 of the political key-informants were in the IDI, and 52 participants with technical expertise were assigned to FGDs, without double participation. Expert consultations and rigorous peer reviews were carried out to attain sample representation. Only then was the participant lists merged into one final list. To ensure knowledge saturation level, active participation, and adequate representation, mixed purposive sampling was achieved through four strategies. First, criterion sampling made it possible to select participants who could provide specific information on certain study topics. Second, critical case sampling targeted experts to give critical and factual information on the topics under investigation. Third, snowball sampling determined other suitable participants, as we were aware that there were likely other key informants that were not known to us at the outset of the study. Finally, homogenous sampling brought together participants from a similar background and with similar experience (Kaplana M Nair et al., 2008). Inclusion and exclusion criteria were established to guide the selection process clearly; (see appendix 1).

The study was designed to diversify participants based on their level of knowledge, experience and positions, and their levels of involvement in HRS across the three sectors. The principal investigator phoned and emailed potential participants and provided them with a copy of the study information sheet. Participants who did not respond to the initial contact received another call and email after a couple of weeks. In total, 104 experts from across the sectors agreed to participate, either the IDI or FGD. Prospective participants received the full agenda and discussion outlines in advance via email followed a few days later by an

invitation. Selection equilibrium of participants was achieved between both areas, WB&GS. Participants from executive political and front management levels of targeted HRS institutions were assigned to IDI, while participants from middle technical and management level were appointed to FGDs. The grouping was intended to get diverse reflections and comprehensive understanding.

For both IDIs and FGDs, open-ended questions were drawn up, assembled and adapted, according to the principles laid out in the relevant literature (Decoster et al., 2012a; El-Jardali et al., 2014; Pang et al., 2003a; Ritu Sadana et al., 2006a; Sadana and Pang, 2004; WHO, 2012), and can be found in supplement two (2a for IDIs and 2b for FGDs). Both instruments focused on five themes:

1. HRS conceptualization and its importance (the focus of this study)
2. Stakeholder satisfaction with HRS performance
3. Governance, policy, and finance
4. Stakeholders analysis, HRS capacities, and research priorities in Palestine
5. HRS challenges and insights for strengthening.

To appraise trustworthiness and credibility, questions were discussed among the research team as well as with the support of international scientists and local experts in Palestine. The questions were piloted in, five IDIs and in one FGD to check their clarity and to provide a basis for cross-checking subsequent responses. Building on the pilot, we revised both questionnaire instruments.

Forty-five IDIs were conducted face-to-face and seven by Skype call due to movement restrictions in the field. IDIs ranged between 45-60 minutes. Eighteen interviewees were academics from different health schools, 20 interviewees were representatives from the six-government bodies, and 19 experts from 10 ten local and five international agencies. Fifty-

two participated in six sectoral FGDs, three in WB and three in GS, with only one FGD for each sector in both areas. Each FGD took approximately 90 minutes and included six to ten persons. Interviews and FGDs were conducted in the Arabic Language by the first author, a middle-aged, male Palestinian. A trained research team coordinated and managed all data collection field work guided by the principal investigator.

2.3. Data analysis

Data collected from IDIs and FGDs were audio-recorded. The discussions were held in Arabic and were simultaneously translated and transcribed in English into MS word sheets, which were then revised for precision, checked and cleaned for accuracy. The data were subject to both thematic and content analyses (Vaismoradi et al., 2013a). Themes and codes were deductively established based on the conceptual framework developed by the relevant HRS literature. Field notes were kept and used during data collection and analysis. All transcripts were imported into the software, MAXQDA 12 (VERBI GmbH, Berlin). Subsequently, the first author created codes, and read each transcript, line by line. Data were then displayed in a particular matrix, according to the respective themes and codes. Selected data were reviewed and discussed carefully with the team to identify patterns.

3. Results

3.1. Socio-demographic characteristics of participants

Of the 115 experts from 38 institutions across the three sectors invited to participate, 104 agreed and actively responded to both methods of inquiry, while 11 invitees declined due to scheduling conflicts. As HR is conceptually broad (Carel IJsselmuiden and Stephen Matlin, 2005a), participants came from diverse professional backgrounds and areas of expertise. They were selected to represent three disciplinary categories as follows; (1) public health, (2) medical and biomedical; and (3) economic and political. Public health covered various areas, such as health management, finance policy, nursing, community and mental health, child and women's health, nutrition, social policy, school health and education, non-communicable diseases (NCDs), epidemiology, and water, sanitation, and environment. Medical and biomedical fields covered pharmaceutical, biology and laboratory, biochemistry, and clinical medical and surgical fields. Participants represented other disciplines, for instance, economic, political and legislative such as MOFP and PLC.

Similarly, Table 3.1 describes the characteristics of 52 participants from the three sectors, 38 of which were male. The majority held Ph.D. degrees. Most of them had more than 20 years of experience, particularly in NGOs, but a few had less than 10 years. Eighteen academics, 10 of whom were senior faculty members, represented eight academic institutions. Of the 19 participants representing 15 NGOs (10 local and five international, eight were executive directors while the rest were heads of offices, departments, and programs. Fifteen participants represented five government institutions, four from Gaza and 11 from WB, where the central government sits. Seven government participants served in advanced-level leadership roles, with respect to policy- and decision-making while the rest were directors or heads of departments. Moreover, Table 3.2 describes the six FGDs with 52 participants from 24 diverse institutions, performed in parallel for each sector. Two FGDs targeted 14 academics; three were female and most had more than ten years' experience. The third and fourth FGDs

included 20 government policy- and decision makers; five were female and participants mainly had post-graduate degrees in public health; 13 had experience of 10-20 years of experience in various high-level positions. The fifth and sixth FGDs comprised 18 experts from six local and seven international NGOs; seven were female, and notably, 15 held a master degree in public health. Most had more than 10 years; experience; five experts served in an executive directorate, while the rest were in the same executive level but with more operational and technical duties.

Interviewing the system actors was a basic step towards capturing the overall understanding of HRS. Building a sustainable system fundamentally needs a basis that enables an HR culture and an understanding of its actors. Only then is it possible to embark on strengthening other system pillars. Misconceptualizing a system may result in confusion and negatively affect its performance by creating duplications and inefficiencies, and affect the credibility of the research produced within this system (Remme et al., 2010a). For that purpose, the study began with the primary theme of conceptualization and an overall understanding of HRS among participants. The study contained two relevant sub-themes:

1) The overall understanding of the HRS definition of HRS, where interviewees and FGD participants were asked to delineate the concept and describe how they realized its goals and functions.
2) The thoughts evoked by the mention of HRS, and the perceived gains and losses associated with its application or disuse.

3.2. Conceptualizing HRS, its goals, and functions

Participants across the three sectors were asked in both IDIs and FGDs to define HRS as a concept and to describe its goals and functions. Not all of the participants' responses were fully consistent with the adopted definition. Answers to this question revealed obvious variations among the experts' conceptualization levels. Responses were extremely wide-

ranging. Most participants defined HR rather than the system, but a few gave accounts corresponding to the WHO definition. Differences in conceptualization may relate to their divergent backgrounds and expertise, and their knowledge and awareness of the HRS concept, goals, and functions.

The majority agreed that HR is merely a scientific process and tool. They considered HR an indispensable element to reinforce the Palestinian health system and to improve health based on evidence. Participants sufficiently recognized HR goals by stating that it generates knowledge that can be used for community benefits. However, a small number of respondents clearly conceptualized HRS and appraised its goals and functions. The views of eight respondents from the three sectors were almost consistent with the adopted definition: HRS is an integrated system that includes different institutions dedicated to producing scientific research on specific health phenomena, to find solutions that feed the decision-making level to formulate suitable policies. Many experts agreed that this system supports the health sector and its functions, guiding health needs, evaluating results and planning health interventions to reach a suitable health condition.

Selected responses illustrated above findings. One stated that, *"… A basic and essential system runs the HR and its policies including the priorities and methods of research. It also means using the research to support the HCS in Palestine as one unit along with other resources for better health services". [Academic Expert 12]*

A WHO expert took a wider approach to HR, delineating concerned people and system scope: *"… HR is a very wide domain and includes both basic and applied research. People concerned with this system comprise basic researchers (basic clinical), epidemiologists …etc." [WHO Expert 4].* While a different senior WHO participant, relying on his experience and national figures, emphasized that Palestine recognizes the meaning of HRS better than

other countries: *"…In Palestine, we have a better understanding of HR, more than any other Arab country". [WHO Senior Expert 3]*

A senior government planner expressed that the HRS is a network consisting of a spectrum of people, policies, and resources to tackle major health problems. Correspondingly, he reported its goals and functions: *"… It is a network of interested people in HR, who work together toward mobilizing the needed resources to strengthen health. As we know, HR is the cornerstone for the improvement and development of HCS services. It aims to reflect the community's real needs, and it is not a matter of using it as a tool to get a master or a Ph.D. degree. The goal of HRS is to address the serious health problem to promote the health of the population". [Senior Gov. Expert 12]*

The vast majority of IDIs perceptions were combined, where there was a common pattern among experts to describe HR in general rather than HRS specifically. In other words, most responses went in the same direction, with some defining HR as a static scientific approach that aims to identify the problems of development in health. Others indicated that HR is a scientific tool or process involving a range of organized activities that aim to examine health problems and to produce evidence that improves health through supporting informed decisions. One academic conceptualized HR as follows: *"…As a scientific approach, it seeks for development and improvement within the health sector aspects. It aims to explore the actual health problem by analyzing it, in order to conclude an effective solution, followed by integrating the outcomes and solutions inside the decision-making process". [Academic Expert 1]*

There was also quite general perception from other academics who did not define a system. One added that HR is an assessment that focuses on certain health problem to produce evidence to be used in the decision-making process. Likewise, a local NGO expert explained that HR is a process within an organized system and linked to decision-making to reflect the

impact on the community: *"...It is related to a scientific process that comes up with results that give a chance to the decision makers to integrate these results in developing the community on different levels. It is a process comprising organized steps that could lead to developing the community". [NGO Expert 6].* Supporting this perspective, one expert from an international NGO, working in Palestine, revealed that the concept of HRS is any research related to public health yielding credible scientific evidence to solve a particular problem.

Very few offered a consistent definition, where they broadly defined the HRS. Three academics described it as an observation, which stems from community needs and generates evidence that contributes to solutions. Other experts defined it in different ways; academic stated that it is "everything that is concerned with human health", while another said that it is "kind of activities". NGO participant expressed it as "Understanding the health problem"; "all research that targets health"; "prevailing problem for which there is a need to investigate its causes"; and "to produce results for problems in the health system". A very frequent response was that HRS is "anything that is related to public health". One government expert loosely delineated it as "trying to find out more about certain health-related aspects"; while another from the same sector, said that HRS is "using numbers to analyze data and describe the reality of problem". A national council member asserted that the concept of HRS differs from one culture and country to another. One academic prefaced their definition by claiming that the definition of HR is not well known and applied, while a second denied the existence of any system for HR, stating:

"...We do not have a system. I am against the idea of saying a system where the HCS in Palestine does not exist; there are some fragments, which we can try to unite to make a national system for a number of reasons. First, we are under occupation and this is a great challenge that creates many obstacles in front of us. Secondly, we do not have enough financial resources to improve our research unless there is some kind of international

organizations to finance research. However, these organizations usually control and steer the research according to their agenda. In our research institutes, we sometimes challenge aid providers because they force their own agenda against our national needs and priorities. For example, we have problems like NCDs and they are not targeted properly. We have a huge problem in meeting the needs of the society in HR. The main reason, after all, is the international organization and their goals along with the lack of attention to the importance of HR". [Academic Expert 16]

Regarding HRS goals, another common pattern emerged among experts' responses. Each of them mentioned at least one goal. The most frequent HRS goals identified were; to produce knowledge to develop the HCS and the community, and to find evidence to improve health services and solutions for health problems. Regarding HRS functions, most of the experts were not familiar with the main system tasks adopted by WHO as follows: (1) stewardship such as setting vision, priorities, and ethical standards, coordination, HRS monitoring and evaluating; (2) securing finance; (3) creating and sustaining human and physical resources; and (4) procuring validated outputs and translating them into practice (Sadana and Pang, 2004b). No response was consistent with the WHO conceptual framework for HRS functions. They roughly delineated these thoughts on system functions in the broad and everyday language. No one mentioned the stewardship concept for instance. Very few indicated the importance of vision and priorities, or stated the need to measure and evaluate the system. Many experts mentioned system financing and resources and capacity enabling, but those functions were not declared in their definitions.

3.3. Experts' perceptions of HRS

This second part of the study is dedicated to the expert's perceptions that emerged when HRS was mentioned. It also addresses their key thoughts related to the gains reaped when HRS is adopted and the losses when it is dispensed with. This too contributed to capturing the overall

understanding of HRS among leading persons and institutions. Almost all interviewees from all sectors responded to this section. Their responses are reported in Table 3.3. They agreed that mentioning HRS raised a variety of thoughts (themes) that essentially reflect HRS components. These thoughts/themes are ordered sequentially according to frequency and weight, as follows: (1) HCS and healthcare improvement; (2) resources; (3) burden of disease and population epidemiological status; (4) HRS vision and regulatory system; (5) HR culture; (6) political interest and issues related to academia, policy-making and planning; (7) development issues and priorities; (8) cooperation; (9) statistics; and (10) rationalization. This means that the experts thinking way was active and productive in delineating relevant thoughts, where all declared issues are inherently related to the system's elements. Furthermore, most saw that HRS is a true developmental model contributes to the improvement and progress of the health sector.

Responses in FGDs were largely consistent with those from the IDIs. Most centered on the purpose of HRS, improving health and lifestyle through finding solutions to prevent diseases. Respondents in FGDs agreed that HR is fragile, neglected and devalued. Severe lack of awareness about it was the most frequent concern. Other responses pointed to improper documentation and a plethora of unused data, or that HR is not linked with our lives and institutional activities. One quote by Academic expert 1, which represents the most common response among all sectors, emphasizing that "*HR is inherently personal-driven for self-development desires only, not vision-driven or initiated by national or institutional orientation. Also, the aspects of regulatory body and allocated budget and resources are questionable*". In general, experts bemoaned the absence of integration and emphasized the importance of cooperation between institutions and universities. Experts in government FGDs called for increased knowledge production by strengthening HRS pillars; other expressed that HRS scrutinizes systematically the national indicators and causes of disease to build useful

policies. An academic described the concept as an "*unrealistic political logo and discourse*", but two others noted that it linked with public health. NGO experts believed that HRS is not aligned with actual needs and its outputs unlikely to be put into action. Another NGO expert stated that HR is commonly descriptive rather than operational and experimental.

Table 3.3: Main responses of IDIs participants when HRS was mentioned

No.	Theme	Quotes to support the theme	No.	Theme	Quotes to support the theme
1.	**HS and healthcare improvement**	- Concrete evidence could improve health work - A system concerned with health services development - HRS offers a continuous improvement of the health system - A system contributes to healthcare improvement and provided it properly - I think about improving the health system in Palestine - First glance raised is promoted the health care effectiveness and efficiency - Recalls me of problems, e.g. management problems in HRS - Mention the fruitful results of research to be invested in provided services - Improving the theories and tools which we need to deliver a better health system - Relates to services provided and its efficiency and effectiveness - Links with the effectiveness of medical intervention - Quality of health services - Brings hope and willing to develop our health system via well-developed HRS	**6.**	**Policymaking, planning, problem-solving**	- We recall poor policy-making and planning based on evidence - Health planning and problem-solving - A precious chance to solve problems scientifically to be used in policy-making - All health interventions which must base on scientific research - The link between research, policy, and intervention does not exist
2.	**Resources and fund**	- A serious lack of national resources which are linked to funding - There are no funds and donation for HRS - We think about even the financial support as a major obstacle, we have knowledge and qualities which are available, but the problem is in funding - Due to the limitation of resources, a need to link the HRS with research efficiency, effectiveness, and	**7.**	**Development linked,**	- A precious opportunity to be linked with development and vis versa. - To study the needs of society, we do not want to do research just for research, it has to be

		decision-making - A lack of researchers in some specific areas of research - We are working on the theoretical aspect, not the practice because we do not have laboratories or research centers to sponsor operational health research. - Severe lack of both financial and human resources - Financial support constitutes an obstacle for NGOs to conduct research		**strategies, priorities and society needs**	based on social priorities and needs - We do not have priorities in HRS - Identifying priorities and strategies for HRS - We do studies essentially based on national priorities
3.	**Epidemiology status, Burden of Diseases (BODs), Non-communicable Diseases (NCDs), communicable, population, mortalities**	- I recall the burden of disease such as NCDs - I consider TB, AIDS, neonatal mortalities - Directly connected with epidemiology - Research related to the diseases that threaten the Palestinians life - Remembering topics such as communicable diseases and NCDs - Gazans people who live in a highly populated limited area - Documenting BODs among Palestinian refugees - Determines the health problems and provides solutions to be tackled - We have many problems, e.g. neoplasm diseases	**8.**	**Association and cooperation**	- Disassociation between institutions which produce and use research - Networking, cooperation, and coordination - HRS means that researchers have to be allied with each other - HR is the mutual language between scientists and links us with the international community
4.	**Vision, system or regulatory and evaluating**	- A system involves all actors, make the health system integrative without duplication - The absence of system or governing body, and no well-known entity responsible for HRS processes - One unified body adopts and supervises HRS, but we do not have it - HRS needs to be controlled and supervised by professionals, not by unprofessional people, which also evaluate its activities - We do not have a clear vision for tackling the health	**9.**	**Statistics and data**	- There are no accurate statistics in Palestine - There is a clear inconsistency on data completeness and availability in Palestine.

		problems - A need for health research to evaluate the skills of health workers, managers, policy makers or researchers - Finding ways to improve HRS, identify and overcome challenges			
5.	**Culture, interest and academia-related**	- Health research in our region is sporadically controlled by the donor and conducted particularly with short-term, rarely for long-term projects - Previous attitudes on HRS were neglected, but nowadays in the interest, HRS affected culturally in its progress, and with lack of required attention - We do not have enough attention for HRS, which is seasonal. - Related to academia, operational research is undeveloped, most of the research done in public health schools which are neglected and utilized - Many universities and institutions cared of HRS, the orientation status is more developed than before	**10.**	**Rationalization**	- Rationalization, research helps us to identify the best options along with cost-effectiveness and efficiency, without any agenda the research process is illogical

This section addresses the degree of importance or unimportance experts give to HRS. Experts were questioned on what we gain and what we lose from using or not using HRS. The following Table 3.4 a+b shows the responses from both tools, which were mostly focused on seven sub-codes under the gains-loses codes. Both codes revealed how HRS both positively and adversely effects: (1) population; (2) HRS and HCS; (3) planning, policy, and development; (4) technical services; (5) priorities and needs; (6) evidence and decisions; and (6) resources.

The majority fully agreed that we would gain a lot from adopting HRS. The most frequent responses were associated with the sub-code technical aspects. This means that HRS is seen as improving healthcare and offering proper management. The next most frequent code was population, meaning that HRS contributes to promoting health by combating risks and finding solutions. Moreover, codes (2) and (6) were to some extent saturated by experts. Both codes indicate that HRS strengthens HCS and plays a major role in successfully planning and developing strategies that lead to health development. Another less frequent sub-code was feeding credible evidence to the decision-making levels. Also less frequently expressed were the sub-codes indicating that a system contributes to prioritizing our needs, and promotes optimal uses of resources. One of the most comprehensive and prominent quotes was expressed by a government policymaker, *"HCS and HRS are considered two sides of the same coin, and a driving force to steer the wheel of health work. HRS supports and evaluates HCS pillars and updates its staff knowledge and potentials"*.

Likewise, under the code loses, responses could be subdivided into seven comparable sub-codes. All experts agreed: "we will lose nothing". They were mainly concerned about technical aspects: without HRS, we risk uncoordinated health care and duplicate, mismanaged, ineffective, and inefficient research activity. The second most frequent sub-code was HCS. Meaning that in the absence of HRS, HCS will not be improved and problems will

remain unsolved. The next sub-codes were policy and planning, which can only succeed with HRS, and otherwise consist of different visions and an unclear picture. The resources sub-code received responses to the point of saturation, whereby the majority expressed that lack of HRS could lead to constant resource waste and limited workforce knowledge. Other less expressed sub-codes were priorities and needs (meaning that neither would be determined). One government official noted, "*... Missing HRS creates different visions and agendas in the health field, the scene of this field will be unclear, as we are working in a dark room which reflects negative effects on health interventions".* In addition, an academic member said, *"... We will not achieve a good health status for people and there will be many unsolved health problems."*

Table 3.4a: Responses from IDIs and FGDs on what we gain from HRS

Theme	Code	Sub-code	Quotes from sectors		
			Government	Academic	NGOs
HRS Understanding	Gains	**Population**	Identify hidden issues to find solutions, identify causes and risk factors of disease and formulate plans to eliminate them	Prevent health problems, improve health status, guide health research to address social needs, tackle the problems facing patient and environment	Understand national indicators and problems, produce knowledge to reduce BODs, address community threats, all health challenges will be tackled, and improve people conditions
		HRS-HCS	Health system and HRS are two sides of the same coin, steer the wheel of health work, support health system pillars, evaluate the system and update staff knowledge	Clear path to see where we are heading, HCS improvement, reform health system policies and evaluate interventions	Determine HCS strengths and gaps, developed a health system
		Planning, policy, development	Proper planning, develop effective health policies based on evidence	The essence of development devoted to solving health dilemmas based on evidence and scientific approach, solving problems by converting its results into policies, policies based on evidence	Gives guidelines for strategies, changing policies
		Technical-services	No repetitions of programs, equity,	Collaboration with great outputs and gives an advantage to the interdisciplinary spirit, improve certain medications, public health and health services promoted, better health services and our goals will be achieved	Better health care, evaluate programs, minimize duplicated studies, increase the quality of care, organized research actions, management-based evidence, care effectiveness, efficiency, quality, care cost containment, effective interventions, improve health care, technology and knowledge, regulated duties and satisfied clients and decision makers
		Priorities-needs	Generate priorities reflect needs, determine our real needs		Prioritize needs, meeting our needs

		Evidences-decisions	Perfect solutions based on concrete evidence, findings to be considered in policies	Add value to rational and evidence-based decisions, better effectiveness in decisions and efficiency, having evidence-based policies and actions	Reliable evidence-based answers for use by policymakers, evidence-based information, help decision making, new policies, expanding knowledge, evidence on problems, results from available resources
		Resources		Better resources, a guidance to harness limited resources effectively	Save resources

Table 3.3b: Responses from IDIs and FGDs on what we lose from HRS

Theme	Code	Sub-code	Quotes from sectors		
			Government	**Academic**	**NGOs**
HRS Understanding	**Loses**	**Population**	Economic collapse, unknown risk factors, and causes	Will not get a good health status for people, many unsolved problems	Increase economic and social burden of disease, the high prevalence of diseases and disabilities
		HRS- HCS	HS problems cannot be solved and tackling them will be random and improvisational, losing everything within health system pillars	We cannot dispense of HRS, the value and importance of research will be declined, failure will be our fate due to HRS missing which is the essence of HCS, we would not lose if research is done appropriately	Cannot improve health system
		Planning, policy, developme-nt	Different visions and agendas, random policies, the picture will be unclear as we work in the darkroom which affects negatively on health	Lack of policies based on research, we cannot measure, predict and change in the health field	We cannot improve and evaluate health sector
		Technical-services	No cooperation and each Institute works separately, repeating our efforts without progress, research conducted unsystematically-randomly which will not reflect	Will lose harmonic work among partners, health care will be disorganized, ineffective and inefficient	Ineffective management, evidence to measure the quality of care will be lost, duplication of studies and activities, health care will be duplicated and cost ineffective,

			reality, research duplication, losing connections		quality of care cannot be improved
		Priorities-needs		Cannot determine priorities and needs	Inability to identify serious problems, losing solutions for problems
		Evidences-decisions	Limited knowledge and poor application, accidental and random decisions	HRS outputs unexploited in decision making then unconsidered actions, actions taken without evidence, inaccurate and ineffective decisions, a total disaster for decision makers	
		Resources	Losing human resources to be updated with knowledge and skill	Missing resources, wasting efforts, time and resources, disperse our efforts	Ineffective resources allocation, wasting human resources, resources can be lost if research did not add value, wasting efforts, inability to control research resources and meet the society needs

4. Discussion

In this study, the approach offered a deep understanding of the importance and performance of HRS for developing a well-functioning national research system (Maarten O Kok et al., 2012; WHO, 2002b). We focused on the following two topics: exploring the understanding of the HRS concept, its goals and functions; and determining the key concerns related to HRS in terms of what we gain and lose when it is adopted or neglected.

Study participants across all sectors were highly responsive to the thematic questions. The importance of HRS, its role in the health field and its potential for strengthening this system was acknowledged by most. However, they confessed that this system and enabling environment is not yet established. IDI and FGD responses were largely consistent with each other, without a prominent difference of perceptions among the three sectors. The overall understanding of HRS and its relevant components, as defined by the WHO, was inadequate, particularly the concept of HRS, where descriptions from most of the policymakers, academics, and NGOs experts were not fully aligned with the WHO definition adopted in 2004 (Ritu Sadana et al., 2006b).

A lack of system understanding meant that the majority of experts were only familiar with and sufficiently aware of "health research" as a broader concept, as demonstrated by a study on defining research to improve HCS (D'Souza and Sadana, 2006b). Our study intersected with a previous one that found that the largest deficits were in understanding HR from a systems perspective (Pang et al., 2003a). Similarly, deficient levels of awareness and lack of appreciation for an HR culture problematic factors contributing to system underperformance (Ayman Haj Daoud et al., 2012). In other words, experts' delineations on HRS do not aligned with the WHO's definition, adopted in this study, is generally inappropriate. There are different explanations for this finding, including the complexity of this system and its constituents (Carel IJsselmuiden and Stephen Matlin, 2005a), the concept of HRS being an

emergent one (Louise Caffrey et al., 2016), the weakness of the curriculum in schools of public health where scientific research is not adequately endorsed, and the lack of leadership concern and unsupportive environment around developing HR culture and practice. Aggravating the situation is the absence of a political will; HR is not on the agenda of the Palestinian government and was found to be one of the main obstacles to better system performance (Palestinian Council of Ministers, 2016a). These factors are exacerbated by poor incentives, political difficulties, conflicting priorities and unappreciated research culture (Ayman Haj Daoud et al., 2002; Ismail et al., 2013a; Sweileh et al., 2014d, 2014b; WHO, EMRO, 2008; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). Findings do show, however, that experts have conceptualized the goals of HRS to some extent, with responses aligning with those of another relevant study (Pang et al., 2003a). The experts pointed out that the main goal of HRS is to generate knowledge for use in policies to improve health and community. Other studies assert that HR is needed to attain the Sustainable Development Goals (SDGs) (Ritu Sadana and Tikki Pang, 2003). This response is compatible with the definition of health policy and systems research (HPSR) (Chigozie J. Uneke et al., 2010). The conceptual framework of HRS functions as outlined by the WHO initiative (Sadana and Pang, 2004b) was not appropriately recognized by experts. Among the functions commonly identified by all respondents were guiding health needs, evaluating the results and planning health actions to achieve suitable health conditions.

The policymakers, academics and NGO experts we met were enthusiastic in their responses, and provided many key thoughts and perceptions about HRS mentioned, raising some critical issues. The diversity and volume of thoughts and insights captured contribute to a better understanding of the Palestinian context as it relates to HRS. During their conceptualization, respondents recognized 10 themes, half of which could be categorized as development ideas and half as the difficulties associated with HRS. Most of the identified themes largely

coincided with findings from a particular study that discussed these themes as HRS challenges (Ayo Palmer et al., 2009; WHO, 2012a). These were HCS and service improvement; insufficient resources; population health problems and burden of disease; absence of a regulating system and vision; a donor-driven research agenda rather than a culture-driven or academically based agenda; and policy, planning, and decision-making. These six issues were mentioned most frequently, while other less frequent themes addressed the failure to adopt HRS as a development tool and to identify its priorities based on community needs and a general lack of cooperation and connection. The last two themes were data unavailability and accuracy and HRS as the best option for cost-rationalization (S A Ismail et al., 2013).

The study also pointed to strengthening factors of HRS in practice, as perceived by experts. HRS was seen as essentially contributing to health status improvement through finding solutions to prevent chronic diseases and to improve lifestyle. This perspective has been emphasized by another recent study (Stephen R. Hanney and Miguel A Gonzalez Block, 2013). So far, HR is still fragile, neglected, devalued and little known or understood. This situation can be attributed to weak political will and concern to adopt officially HRS as a strategy and to take the necessary steps to strengthen HRS. Without political interest, it is not possible to develop most HRS components (Ayo Palmer et al., 2009). A national unified strategy that endorses actual community health needs is a critical need in Palestine. This should be accomplished by a national policy developed with wide consultation and consensus of the stakeholders that also allocates financial resources and incentives to strengthen HRS across all sectors (Geoffery M Lairumbi et al., 2011). At the same time, international organizations can be motivated and become a catalyst success. Our findings regarding the main obstacles and strengthening actions correspond to conclusions drawn by others (Miguel A Gonzalez Block and Anne Mills, 2003a; S A Ismail et al., 2013), namely that those

challenges are not only prevalent in Palestine as a low-resource and unstable country, but also throughout the Middle East region in general.

The concept of HRS raised some pivotal issues. We found that there has been an improvement in research productivity in Palestine, as in Eastern Mediterranean countries overall (S A Ismail et al., 2013). Yet, the quality of research produced by many Palestinian institutions has not yet reached a satisfactory level (Loai Albarqouni et al., 2017). What is worrying, however, is that these efforts inherently stem from personal desires for self-development; they are not motivated by or performed according to a visionary institutional and national agenda. This reinforces the hypothesis that the HR is inefficient and ineffective, where most experts were dissatisfied with its system performance. There is an absence of national vision and dynamic regulator, as well as a lack of integration and cooperation among interested stakeholders. This conclusion coincides with relevant evidence from WHO (WHO, 2008). Correspondingly, system underperformance is the result of non-participatory coordination among HRS stakeholders (Miguel A Gonzalez Block and Anne Mills, 2003a; S A Ismail et al., 2013).

The study found that HRS is generally appreciated, but it is unfortunately not realized on the ground. Most of the experts elaborated numerous fundamental thoughts, which were reflected as themes, during their conceptualization. The study assumed that the gains of HRS identified indicated its importance, whereby the goals and functions of HRS were similarly characterized. In contrast, the stated losses from HRS were assumed to indicate unimportance. The overall perceptions indicated that HRS was seen as important, particularly toward guaranteeing HCS and healthcare improvements, proper management and evidence for decisions. It was also seen as contributing to the overall development of resource-poor countries by helping to address its problems, support successful planning and policy formation, encourage optimal use of resources, and ultimately, identify priorities and needs

(Ijsselmuiden and Jacobs, 2005; Stephen R. Hanney and Miguel A Gonzalez Block, 2013). In contrast, neglect of HRS was seen to lead to enormous technical losses in the form of random and uncoordinated health care actions, research duplication and inefficiency, and ineffectiveness and mismanagement. Moreover, at the system level, neglecting HRS is seen as leading to unimproved HRS and HCS and unsolved problems, unsuccessful planning and policies, different visions, continuous wasting of resources, and shallowness of priorities and needs. Evidently, ensuring that we do not lose sight of the goals and importance of HR would allow us to see the significant benefits of research in everyday practice (Anne Andermann et al., 2016; Pang et al., 2003a).

The study has some limitations. Relevant literature, particularly studies investigating the perceptions of HRS players, were not adequately implemented. This deficit could be due to poor political attention and culture towards HR. Furthermore, movements of the research team were restricted in the field to access other relevant institutions and experts. Time limitations prevented us from involving more leadership levels across sectors, but this was addressed through assistance from the key experts who facilitated intensive communication and cooperation of their senior partners across institutions. Some interviews and FGDs were shorter than the expected time, and some questions were not sufficiently answered, either due to limited knowledge, practice or time constraints.

5. Conclusion

HRS is increasingly appreciated globally as a substantial pillar of the HCS structure to improve health (S A Ismail et al., 2013). Hence, there is a need to link research functionally to HCS. To achieve this, a shared understanding of HRS concepts is an important first step towards developing this system. By realizing these concepts, relevant actors are likely to increase their commitment and involvement, which may ultimately lead to better outcomes in research management, production, and utilization. This requires performers to conceptualize the system, which may also create a pioneering orientation among health policymakers to coordinate their actions with each other and with other development sectors. Varying definitions or vague conceptualizations may cause confusion and become an obstacle to progress (Remme et al., 2010a).

The study assessed the perceptions of policymakers, academics, and experts to emphasize the importance of addressing their conceptual understanding pattern of the HRS, which is a basic requirement in system analysis towards system strengthening (Pang et al., 2003b; Ritu Sadana et al., 2006b). The overall understanding of the Palestinian policymakers and experts on the HRS concept is strikingly inadequate. The importance of the system and its benefits were certainly recognized. We, therefore, conclude by calling for a serious move to increase understanding and awareness of HRS (Ayman Haj Daoud et al., 2012; S A Ismail et al., 2013; Sweileh et al., 2014c).

The concept of HR is more understandable among respondents than the system, as evidenced by the ambiguous and imprecise conceptualization of the system and its components compared to the WHO definition. There are significant HR attempts among respective researchers and policymakers. However, the process of increasing awareness and understanding remains sluggish, which suggests that HR is not sufficiently internalized or embedded in the culture. Another interpretation is that HR is not performed in a systematic

way based on a collective vision, but rather spontaneous and individually, which may have limited yields.

Many of the system components, such as governance, policy, finance, knowledge sharing, and coordination, are not practically applied in the Palestinian health sector. The importance of the system is fully appreciated by most of the experts as a major gain while neglecting it is recognized as a great loss. However, the goals and functions of the system, as delineated (COHRED, 2011; Hanney and González-Block, 2016b; Maarten O Kok et al., 2012), were sufficiently recognized. Moreover, the concept of HRS correlates with improvement approaches (Sadana and Pang, 2004a), where most respondents linked HRS to developmental ideas (e.g. HCS improvement, meeting societal needs, effective policies and planning, correct decisions, tackling health problems, and resource conservation). In contrast, others more readily associated HRS with the difficulties or challenges facing the system.

The analytical approach used in this study, based on stakeholders' perceptions, could be a useful analytical framework and basis for broader system analysis. Stakeholders' perceptions of other system components could be investigated. This approach was not adequately addressed in most of the respective attempts to analyze the system (Pang et al., 2003a; Ritu Sadana et al., 2006a; Sadana and Pang, 2004a; WHO, n.d.). A qualitative investigation to assess conceptualization patterns could reflect the real internal mentality and state of thinking among those involved in the system. Additionally, it may also be used as a complementary and operational assessment method alongside other known approaches, leading to a better and inclusive understanding of HRS (Pang et al., 2003a; Sadana and Pang, 2004a). More empirical research is needed to identify the more clearly the reasons behind the apparent lack of awareness and knowledge about the HRS concept and its uses and applications.

To conclude, enhancing the level of HRS knowledge and culture among researchers and policymakers is indispensable for HRS strengthening. Knowing the stakeholders'

conceptualization patterns contributes to enabling system practices and applications, creating opportunities for successfully institutionalizing appropriate system components within the Palestinian HCS. In other words, a well-conceptualized system makes the research work a practical and essential tool for analyzing and solving health problems. If this issue is successfully addressed politically, HR and its system in all sectors could become a reality, rather than just rhetoric. To embed the system concept and its components in research culture and to make it recognized among policymakers and experts, HCS decision-makers should adopt the following strategies:

1. Inform the decision-making levels, though a national workshop, of the key findings of this study and explain to them the importance of strengthening the concept and application of HRS within the Palestinian HCS.
2. Strengthen national political will and decisions (e.g. among senior MOH staff with international support from WHO) to support cooperative efforts towards enabling the HRS concept as an integral element of the national health strategy,
3. Invite all stakeholders for a strategic dialogue to formulate a national HR policy, leading to a national body integrated into the Palestinian HCS that takes responsibility for creating appropriate institutional mechanisms to carry out system functions.
4. Enable this body to steer all relevant stakeholders and apply the HRS framework, including forming research leadership, resources, priorities, roles, and coordination. At the forefront of four central operational steps is promoting the awareness and culture of the HRS concept among research producers and users, and the importance of its application- the first building block towards successfully implementing the action framework through:
    - Establishing a national institutional policy that focuses on raising HRS awareness among health system policymakers and professionals. This can be carried out through

intensive education and capacity building programs and on-the-job training activities to develop their HRS potentials, with an incentive mechanism to encourage them.

- Redeveloping the curricula of academic programs for public health schools, to become more research-oriented, including HRS components into curricula.
- Promoting the local and international knowledge exchange programs, provided by WHO and Council on health research for development (COHRED), through platforms, policy dialogues, publications, workshops and meetings on the HRS concept, goals, functions, and applications.
- Eventually, establishing alliances and mutual partnerships, targeting HCS stakeholders, to expand their knowledge and understanding of HRS conceptual frameworks, related HRS concepts, approaches, applications, and utilization, through dynamic knowledge dissemination channels.

Abbreviations

HRS: Health Research System; HCS: Health Care System; HR: Health Research; WHO: World Health Organization; NHRS: National Health Research System; NGOs: Non-governmental Organizations; IDIs: In-depth Interviews; FGDs: Focus Group Discussions;; WB&GS: West Bank and Gaza Strip; MOH: Ministry of Health; MOHE: Ministry of Higher Education; MOFP: Ministry of Finance and Planning; PLC: Palestinian Legislative Council; PMC: Palestinian Medical Council; PCBS: Palestinian Central Bureau of Statistics; NCDs: Non-communicable Diseases; COHRED: Council on Health Research for Development; Swiss TPH: Swiss Tropical and Public Health Institute; NNU: Najah National University; EKNZ: Ethikkommission Nordwest- und Zentralschweiz.

Declarations

Ethical approval

The Research Commission of Swiss Tropical and Public Health Institute (Swiss TPH) approved the study (FK No. 122; approval date: 21 October 2015). Ethical approval was also obtained from the "Ethikkommission Nordwest- und Zentralschweiz" (EKNZ) in Switzerland (reference No. UBE-15/116; approval date: 23 January 2016). Ethical and administrative approval from Palestinian MOH obtained on 28th April 2016, the institutional review board of Helsinki Committee in Palestine (reference No. PHRC/HC/73/15; approval date: 7 December 2015), and the institutional review board (IRB) at Najah National University (reference No. 112/Nov./2015, approval date: 6 December 2015).

Consent for publication

Not applicable

Availability of data and materials

To keep data protected, data from the experts through interviews and FGDs are saved in the principal investigator official laptop. These data are stored in highly secured laptop with a secured key file entry, under the control of the principal investigator MK and the supervisor MT, and only both have the right of accessibility to review and use these data.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MT, YA, CP, AA, and MK contributed to the conception and methodological design. AA and MK contributed to the collection and analysis of data. The fourth author contributed to the interpretation of results and drafting of the manuscript. All authors mentioned read and approved the final manuscript.

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3.2.2. Second part: Assessment of system stakeholders' satisfaction on HRS performance

Article 2: "Assessing policymakers', academics', and experts' satisfaction with the performance of the Palestinian Health Research System: A qualitative study"

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Assessing policymakers', academics', and experts' satisfaction with the performance of the Palestinian Health Research System: A qualitative study

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Abstract

There is a growing demand within international health agencies to ensure health research systems (HRSs) are strengthened and well-functioning to support health care systems (HCSs). Understanding HRS performance through system actors is an indispensable move in analyzing this system. This study aims to examine policymakers', academics' and experts' satisfaction with overall HRS performance, while also investigating their perceptions about political will and attention towards health research. Ultimately, we want to identify gaps related to performance and generate insights on how to move forward for HRS performance strengthening.

Methods: This study was carried out in Palestine targeting three sectors: government institutions, public health universities and major local and international health non-governmental organizations (NGOs). Semi-structured, in-depth interviews (IDIs) and focus group discussions (FGDs) were conducted with participants. The institutions from the three sectors were selected based on stated criteria and peer reviews. Data were translated from Arabic into English, transcribed, content checked by the principal investigator, imported to a software program (MAXQDA 12), and then coded. The thematic content analysis was used.

Results: 104 experts participated in 52 IDIs and 52 experts participated in 6 FGDs. Findings revealed three dominant domains. First, the HRS in Palestine is remarkably underperforming, and the majority of experts were unsatisfied. Participants perceived the system as ineffective and inefficient, poorly managed and lacking systematic assessment. Second, the factors behind system underperformance were: unstructured system and uncultured research, namely lack of governing body or policies; health research is individualistic, non-development driven and unutilized in policy decisions; and considerably deficient coordination and essential resources. The third finding showed inadequate political support and engagement, which then also related to system underperformance.

Conclusions: The Palestinian HRS is perceived as underperforming by health experts at different levels, where research is not on the leadership agendas. Potential actions should be taken to actively engage the state health decision makers and inform them of the importance, uses, and impacts of performance assessment. Findings urge policymakers and legislators to build an inclusive and national body of governance with agreed strategies including fundamentally hybrid and aligned performance assessment mechanisms, such as a research observatory platform. In addition, it is recommended to establish a strategic plan to expand professionals' research awareness and abilities, as well as to empower the institution's research monitoring and evaluation capacities.

Keywords: health experts, satisfaction, health research system performance, Palestine

1. Background

Health research systems (HRS) form a key pillar of health care systems' (HCSs) structure, guiding them to deliver better health policies and services. Research performance in terms of functions and processes does not automatically contribute to better health action; the more useful issue is the process of knowledge generation in order to better understand health problems (WHO, 2012b). Therefore, developing effective and efficient HRS performance is an important step towards addressing society's needs (Maarten O Kok et al., 2012), and consequently, understanding system performance is vital for strengthening it (Sadana and Pang, 2003). This is considered a priority in the context of international efforts to correct the 10/90 gap and to address various Health Research (HR) gaps (Hanney and González-Block, 2016b; Louis J. Currat et al., 1999, 2000a; WHO, 2012b). The starting point of HRS analysis is to have a clear picture of current HR, and the necessary development actions (Andrew Kennedy and Carel IJsselmuiden, 2006c). This first requires a deep understanding of the system actors' perceptions, be they research funders, producers or users, to investigate HRS pillars, particularly assessing their performance and political commitment to HR. Palestine and the region have seen important improvements in research productivity while overall research performance is poor with critical deficits in stewardship, capacity, translation, and problems attributed primarily to both financial and political constraints (El-Jardali et al., 2014b; Miguel A Gonzalez Block and Anne Mills, 2003b; Sweileh et al., 2013b, 2014b).

It is difficult to assess the stewardship owing to the complexity of the HRS and the diversity of players and sectors (WHO, 2002b), with multiple roles in managing and evaluating the system (Hanney et al., 2010a). The journey from research production to evidence-based practice and health impacts is usually long, non-linear and multi-faceted (Neufeld et al., 2014). These stages need to be thoroughly understood in order to identify what HRS does and how it performs and works (Andrew Kennedy and Carel IJsselmuiden, 2006c; Lairumbi et al.,

2011). This study employs a system perspective as proposed by the World Health Organization (WHO) and the Council on Health Research for Development (COHRED) (Andrew Kennedy and Carel IJsselmuiden, 2006c; Pang et al., 2003b; Ritu Sadana et al., 2006b; Sadana and Pang, 2003; WHO, 2002b) with its various conceptual analysis approaches. This study adopts those approaches that include key aspects needed to carry out such a performance assessment. This approach serves to both observe the system performance and its processes as well as offer a platform from which actions for system improvements can be identified (Andrew Kennedy and Carel IJsselmuiden, 2006c).

Based on perceptions analysis, this assessment comprises stakeholders' satisfaction, a description of the actual status of HRS performance and political attention, and performance deficiencies and solutions identification during research financing, production, or utilization phases. Any system without systematic monitoring and evaluation is blind, and HRS performance is an essential element falling under the stewardship function (Sadana and Pang, 2003). Making this system performance effective means employing evidenced-based practices, while efficiency engages correct practices with valuable benefits at low costs (Odette Madore, 1993). In light of lacking standards or quantitative indicators to monitor and evaluate research and its societal benefits, this study fills an important knowledge gap because it focuses on performance and its deficiencies which are rarely addressed in Palestine and in the region because formal HRSs are lacking (Ismail et al., 2013a). As used by other authors, this descriptive study employs a qualitative "snapshot" assessment and a complementary approach of HRS performance analysis (Anas El Turabi et al., 2011; Kirigia et al., 2016b; Ritu Sadana et al., 2006b; Sadana and Pang, 2003; WHO, 2002b).

Any HRS has a wide range of stakeholders, who all have interests and influence on how research is defined, performed and used. Three relevant sectors have been purposively targeted in Palestine: government, academia, and local and international non-governmental

organizations (NGOs). It is worth investigating the technical views of various actors in different sectors to understand the trends of their perceptions (Hanney et al., 2010a). Moreover, varied perspectives on topics such as satisfaction with system performance or political support to HR allow the system to be understood from multiple angles, where actors suggest innovative ideas and strategies for application and strengthening interventions (A. Hyder et al., 2010b; D'Souza and Sadana, 2006b).

This study is in line with the WHO strategic direction on research for health. It is necessary to fill the knowledge gap and demystify ambiguity on HRS performance and the political attention to HR in the face of literature scarcity and unrecognized status. This topic is not sufficiently addressed in the HRS analysis toolkit developed by the WHO (Ritu Sadana et al., 2006b). Locally, studies showed that the state of scientific research in Palestine is unclear, with a lack of orientation (Ayman Haj Daoud et al., 2002), and HRSs in developing countries, including Palestine, are not systemically evaluated to high standards hence varying assessment methods to analyze HRS are important (Kirigia and Wambebe, 2006; WHO, 2002b). Globally, evidence emphasized that this topic is a challenge (Sadana and Pang, 2003), as the WHO also underlined inadequate system understanding and the fact that HR is not politically appreciated (WHO, 2012b). Another rationale for this study is that understanding the overall satisfaction with performance and the status of State attention to HR is the main entryway to a functioning system, conceptually and operationally (Sadana and Pang, 2003), where awareness would be associated with practices. This understanding leads to a sustainable HRS by recognizing trends in HRS, whether performance is improving or declining, and this may reveal whether the Palestinian political attention to a developmental vision of HRS is sufficient or negligent. A lack of understanding misleads the system, may create duplications and inefficiencies, and may also negatively affect the credibility of the produced research (D'Souza and Sadana, 2006b; Remme et al., 2010b). The current study is

part of a national research project aiming to generate an overview of the satisfaction level of the Palestinian health policy-makers, academics, and experts on overall HRS performance and the political attention towards HR. Four objectives guide this study:

1. To understand stakeholders' satisfaction with the overall performance pattern;
2. To examine the state of political government support and attention towards HR;
3. To identify the relevant performance gaps echoed by health policymakers, academics, and NGOs experts;
4. To provide important implications and potential insights towards Palestinian HRS strengthening with regards to performance and political support.

2. Methods

2.1. Design

A qualitative cross-sectional descriptive situation analysis approach was used, by conducting in-depth interviews (IDIs) and focus group discussions (FGDs) along with using an inductive approach. This study approach is adapted from international models developed by the WHO and the COHRED in investigating the perceptions of HRS stakeholders on performance and political attention, holistically from a system perspective. Another reason for using this approach is that the system analysis relies on systems thinking perspective and comprehensive understanding (De Savigny et al., 2009; Ritu Sadana et al., 2006b). In addition, using the national health research system (NHRS) assessment framework helps to provide principles for system analysis and ensures long-term sustainable development, firstly, because it is sensitive to limited resources; and secondly, because it integrates local experience and understanding into the NHRS improvement process (Andrew Kennedy and Carel IJsselmuiden, 2006c; Ritu Sadana et al., 2006b). This design is appropriate in light of the complexity of HCS and the HR environment by helping to understand the research subject from numerous perspectives (Pope and Mays, 2006). The study setting was Palestine, West Bank and Gaza Strip (WB&GS), both areas being geographically separated (illustrated in Table 2.1). The study ran from January until July 2016. The targeted different institutions in three sectors (illustrated in supplement 2) were:

1. Six bodies in the government sector: Ministries of Health (MOH), Higher Education (MOHE), Finance and Planning (MOFP), Palestinian Legislative Council (PLC), Palestinian Medical Council (PMC), and Palestinian Central Bureau of Statistics (PCBS).
2. The academic sector: health and medical faculties of eleven major universities and colleges in Palestine, and from Lebanon whose teams wrote intensively on the study subject. Selecting this expert is to grasp the subject from the local as well as the regional

perspectives, and to get a complementary understanding from a relevant outsider perception.

3. Local and international NGOs: ten international NGOs and eleven local Palestinian NGOs.

2.2. Sampling and data collection

Purposive sampling was used. To reduce selection bias and to ensure knowledge saturation, active participation, and adequate representation, mixed sampling was used through four strategies. First is criterion sampling, to select participants who are able to provide particular information on certain topics under investigation. Secondly, critical case sampling was used to target experts who gave critical and factual information. Thirdly, snowball sampling determined other suitable participants that were not known to us at the onset of the study. The fourth sampling strategy was a homogenous group where participants from a similar background and with similar experience were brought together (Kalpana M. Nair et al., 2008). The initial list of potential participants across three sectors (government, academia, and NGOs) was prepared based on the first author's knowledge. He is a Palestinian with a background in public health, working more than nine years in the three sectors.

Participants were allocated to two groups: fifty-two of the political key-informants for IDIs and a similar number of technical participants for FGDs, without double participation. Expert consultations and rigorous peer reviews were carried out to attain sample representation, and then participant's lists were merged into one final list. Inclusion and exclusion criteria were established to guide the selection process clearly (see Appendix 1).

The study was designed with the diversity of participants' levels of knowledge, experience, and positions in mind. Potential participants were initially phoned and emailed by the principal investigator and provided a copy of the study information sheet. Participants who did not respond to the initial contact were sent another call and email after a couple of weeks. For those who agreed, totally one hundred and four experts, their responses were received via

phone to participate whether for IDI or FGD. Prospective participants received the full agenda and discussion outlines in advance via email, followed by invitation after a few days. A Balanced selection of participants was achieved between WB & GS. Participants from executive political and front management levels of targeted HRS institutions were assigned to IDI and participants from the middle technical and management level were assigned to FGDs.

For both IDIs and FGDs, semi-structured guides with open-ended questions were formulated according to the principles laid out in the relevant literature (Decoster et al., 2012b; Pang et al., 2003b; Ritu Sadana et al., 2006b; Sadana and Pang, 2003; WHO, 2012b). (See Appendix 2, 2a for IDIs and 2b for FGDs). Both instruments focused on five themes:

1. HRS conceptualization and its importance;
2. Stakeholders satisfaction on HRS performance, which is the interest of this study;
3. Governance, policy, and financing;
4. Stakeholders analysis, HRS capacities, and research priorities in Palestine;
5. HRS challenges and insights for strengthening.

To appraise trustworthiness and credibility, questions were discussed among the research team as well as with international scientists and local experts in Palestine. The questions were piloted in five IDIs and one FGD for clarity. Building on the pilot, both instruments were revised. The overall quality of this study is appropriate where a comprehensive model, internationally developed, was adopted along with a suitable design, a variety of methods and sampling, and a double check of the quality of data analysis and interpretation. These aspects were subjected to a rigorous and precise review by local and international experts. Moreover, for all relevant managerial levels and sectors, sample diversity and representation was achieved. However, it is noteworthy that a bias related to the political situation prevailing during the study period may have a relative effect on the outputs of the study.

Forty-five of IDIs were face-to-face, seven by Skype call due to movement restrictions in the field. IDIs ranged from 45-60 minutes. Eighteen academic interviewees were from different health schools, twenty interviewees were from government policy and decision-makers represented six different bodies, and nineteen experts were interviewed from ten local and five from the international agencies. Fifty-two participated in six sectoral FGDs, three in WB and three in GS, only one FGD for each sector in both areas. Each FGD took approximately ninety minutes and included six to ten persons. A trained research team coordinated and managed all data collection and the principal investigator guided all fieldwork.

2.3. Data analysis

IDIs and FGDs were audio-recorded in Arabic and were translated and transcribed verbatim in English. Transcripts were revised manually by the principal investigator for precision, checked and cleaned for accuracy. The data was analyzed using thematic content analysis (Vaismoradi et al., 2013b). Themes and codes were inductively established guided by the conceptual framework developed by the relevant HRS literature. Field notes were also used during data collection and analysis. MAXQDA 12 (VERBI GmbH, Berlin) software was used in the analysis. The first author analyzed transcripts line by line and created codes based on emergent themes. Codes were reviewed and patterns of agreement and disagreement established.

3. Results

3.1. Socio-demographic characteristics of participants

From thirty-eight institutions across three sectors, one hundred and four experts participated in both methods of inquiry, while eleven declined. The overall status of study participants is diverse and wide-ranging as HR is conceptually broad and interlinked (Carel IJsselmuiden and Stephen Matlin, 2005b). The characteristics of IDI participants are illustrated in Table 3.1, where the majority had a Ph.D. with more than 20 years of experience, particularly NGO's. Participants and their institutions were distributed as follows: Eighteen experts from eight academic institutions, nineteen from fifteen NGOs, ten local and five international, while fifteen participants from five government institutions. The participants were from the first leadership levels. Table 3.2 shows the six sectorial FGDs carried out, three in the WB, three in the GS, with a total of fifty-two participants. About one-third of participants were female, most of them aged more than 40 years old. The majority had postgraduate degrees with more than ten years' experience. Most FGD participants had more than 10 years' experience.

3.2. Concurrent experts' overall satisfaction with HRS performance

Respondents' overall satisfaction with HRS performance was remarkably inconsistent, falling into three categories; dissatisfied, relatively satisfied and satisfied. While most participants were not satisfied with HRS, a few expressed their satisfaction. Government respondents were relatively satisfied. Most of them strongly indicated that HR performed seasonally, but not for developmental and institutional reasons. Moreover, other views from academia were not fully satisfied either; there was an agreement that this system is neither well-performing nor effective and efficient. Two quotes reflect this result, one from a senior government official and the other from an academic:

"… Generally, there is satisfaction with the performance on HR but this performance does not reach the hopeful level. Some health research conducted by academic institutions and the international agencies are valuable and with a satisfying performance. Otherwise, we need further developmental actions for better performance." [Gov. Expert 2]

"… I am not satisfied with the HR performance. The production is not sufficient; students usually produce studies for degrees-related intentions, even without publishing them. A limited number of people produce research, hence, HR is not a core component in the HCS, which is not research-oriented. We have a HR unit at MOH containing 4 staff and in charge of a civil engineer officer. Even though research quality is a low and a big problem, and the gap between researcher and decision-makers is still existing without a dissemination process of knowledge which would conduct evidence for decision-makers. Moreover, the technical language of the HR outputs such as significance, T-test, Chi-Square.. etc. to be presented as policy briefs to the policymakers who do not really know these terms in HR is a problematic issue." [Acad. Expert 9]

The level of satisfaction throughout IDIs responses showed that a wide spectrum of experts was not satisfied with HRS performance, a limited number were relatively satisfied, and only a few experts were satisfied while there are no remarkable sector variations. Pertinently, the participants responded differently about the HRS overall performance in Palestine, where almost overwhelmingly experts emphasized that it is obviously weak and still does not reach the hoped-for the level. The majority of the study participants do not think that HRS is sufficiently effective and efficient, and only a limited number of experts expressed that it is effective and efficient.

"... It is not efficient and effective because it is not well-used in the decision-making." [Gov. Expert 12]

"... So, the outcomes of HR are poor, ineffective and not scientific and not from the developmental perspective." [Acad. Expert 9]

"... Actually, to be fair there are many types of research that are effective but generally we face the problem of lacking a quality control and the translation process which is not applied efficiently. So I can say that the HR effectiveness and efficiency in our country are very weak and I don't want to sound very negative but this is the fact." [NGO Expert 5]

It is reported that most of the perceptions across the three sectors were consistent. This can be clearly observed in the key comprehensive responses from NGOs and government perspectives. NGO experts were in line with other sectors' views, where most of NGO experts were to some extent satisfied with HRS performance. Some experts indicated it is performing quite well, where there was a variance in responses regarding the efficiency and effectiveness with many arguing that *"we do not meet both these criteria yet"*. Some of them pointed out that there are some research or individual efforts that have met these criteria, but absolutely not as a system. An expert from United Nations Relief and Works Agency for Palestine Refugees (UNRWA) outlined this aspect:

"... It is improving and getting better, but it is not as active as it should be. I think it still has a long way to go. The HRS in Palestine is not yet efficient and effective, because we have so many research questions to answer." [NGO Expert 1]

A former senior government expert who is involved in HR delineated in a comprehensive sense that:

"… Relatively satisfied with HRS performance, there is a weak conduction of clinical research, and most of them are being done for personal interests and academic degrees, they do not come from real national needs. There is no attention to research outputs. Most of the research conducted or being conducted is not derived from the actual needs of MOH, and without returning to the stated-agreed HRS priorities. The time and funding restrictions put tensions on the postgraduate students to do studies in a short time with fewer costs. Unfortunately, this makes the HRS effectiveness and efficiency almost nonexistent. Research success depends on how important that research is, and the serious problems addressed and the findings raised from the studies are not disseminated."[Gov. Expert 6]

3.3.Perceptions on the political support to health research

Political attention to HRS was also received negatively with a lot of controversy and disagreement among all sectors. The following quotes reflect the overall picture of the three sectors' perspectives, where the level of official interest in HR in Palestine is clearly weak. The first two quotes are expressed by two government officers, while the other sectors' perspectives were almost consistent.

"… There is an attention and it is modest from the formal level of the government, but this attention was in the past years." [Former Gov. Expert 2]

"… There is no attention to the HR because we have a lack of financial support, lack of experts and resources. Donors impose their agenda on the conducting of the HR." [Gov. Expert 9]

"… Of course, there is attention about HRS but not as fully considered as it should be. The attention to the HR from the official side is very poor." [Acad.

Expert 5]. "… The attention is not appropriate enough. I may say that this kind of attention is a propaganda that will not ever meet the needs of the HCS so that it can be changed and developed." [Acad. Expert 12]

"… HRS is not a priority for the government. Security, politics, and infrastructure are the main priorities for our government. However, none of the projects supported researches even though they are the key to every problem we are facing. Scientific research is not our strategy." [NGO Expert 13]

Remarkably, responses gathered from interviews and FGDs across sectors were in harmony. Distinctively, FGDs across all sectors revealed that most of FGDs's participants also were not fully satisfied, prominently stating in government FGDs that the research awareness and culture were not appreciated among the public health decision-makers and professionals, of course, that weakens its performance, effectiveness, and efficiency according to their perceptions. Additionally, they pointed out the lack of incentive policies for researchers and decision-makers, which reflects the weakness of attention on the political level. Above all, the perceptions of the academic sector FGDs have not been optimistic, referring decisively to the absence of an effective organized body which endorses the results of executed research. This was in addition to the deficit of resources which was seen as the most important problem. While NGOs experts perceived weakness in both the HR in general and the political commitment in particular, they attributed this weakness to the crumbling Palestinian entity and political power division, which led to the unconsolidated agenda and loss of agreement on HR priorities and needs alike.

3.4.Perceptions on the gaps behind HRS performance and political attention to HR

Despite their dissatisfaction with HRS performance, government respondents strongly indicated that HR performed unsystematically; they also agreed that resources and budget deficits, weak coordination, poor knowledge dissemination and evidence utilization and

dispersant data drove their perceptions. Moreover, they described HRS as non-institutionalized into HCS routine; the existence of donors influenced research agendas and importantly, political attention to HRS is not sufficient. A senior government expert added that he is generally satisfied with the translation of research outputs into practice through cooperation between academic institutions and national institute affiliated to MOH where particular health problems are concerned.

The issues that formed the academics' perceptions on performance, where academics were not fully satisfied, were: lack of a strategic political concern that research is conducted for academic purposes and not social needs. The following quote comprehensively reflects most of the experts' views:

> *"... I am not fully satisfied because HR is poor, and considered as an academic requirement and based on the will of donors, where most of it is descriptive more than applied. Most of the postgraduate studies are mainly quantitative more than qualitative. Moreover, the HR is debated relating to monitoring by relevant stockholders, for example, there is a problem in the usage of health schools studies and lack of concerns by MOH to invest in those studies. Attention to HR is not adequate while it is a tool for decision-making and it is not ready enough as a system. Therefore, the outcomes will be poor, ineffective and not scientific and not from the developmental perspective." [Acad. Expert 1]*

Moreover, three experts remarked on poor research quality as research is mostly descriptive, a shortage of resources; some stated that the unstable political conditions and the procedures of the occupation are adversely affecting it, but other experts clarified that HCS is not research-oriented. The majority pointed out that carrying out of research is seasonal and donor-driven while indicating that a culture aimed at improving the system performance and its efficiency and effectiveness is not promoted.

"… HR is limited to the academics and NGOs and they do research to meet their own purposes, for example, NGOs conduct research as a way to evaluate their programs. The lack of resources influences the performance of HR. There is attention on HRS but it is not as fully considered, as it should be. The attention of the official side is very poor. Most of the HR outputs are descriptive without in-depth investigation and behind this lies the lack of funding, resources, labs, and cooperation. Studies are mostly done by individual students for academic requirements." [Acad. Expert 5]

The issue of the link between policy-makers and research users and coordination was raised by most participants:

"… There is a complete disconnection between the research processes especially the academic institutes and the public sector. One of the reasons is that the research in the public sector comes from outside sources such as WHO, European Union…, so they control the field in the public sector studies. So, it is not at all effective and efficient." [Acad. Expert 3]

Another senior academic expert emphasized that there is no system for HR in Palestine. The expert outlined that HR performance varies greatly due to many reasons; one of them being lack of resources: some good Palestinian researchers would be able to conduct prominent research if they were given necessary resources. Additional thoughts delineated by this expert were mainly from a political perspective linked to the major health problems addressed by research:

"… There is no system. Palestinians cannot apply every single research they conduct. For example, one of the major problems that are related to health is water and environment. What can we do to solve this problem if 60% of the lands that

contain water are under the Israeli occupation control? We can solve problems in health services but we cannot solve major problems. If you want me to take action, we should reject the international aid for research if it does not serve the national needs of the society. However, there is a shortage in the research performance. The MOH actually knows the problems and how we can solve them but they cannot allow enough budgets to do so as many things are more important than HR." [Acad. Expert 16]

However, a variety of factors hinder the improvement of performance, the most prominent limitation being the unsatisfactory political interest and supportive leadership that has not yet adopted a clear vision and regulating body for HRS.

There was an identical commonality from most of the experts on the neglected role of government and other major health organizations towards HRS, which cannot be performed effectively under these circumstances. Other local NGO experts found that HRS is not a government priority, while other sectors such as security, politics, and infrastructure have priority. Two local NGO experts illustrate these views:

"... My satisfaction is limited where more improvement must be performed on cadre who teach scientific research. HR is not utilized in the decision and policymaking on the ground. It is supposed to be a developmental system, but I see that HRS is in a mess made by uncoordinated regulation on all levels. The system in Palestine is not completely successful; many success factors are missing. I would like to say that HRS is promising and needs support. Regarding research outputs, it is great and applicable but it was not employed in the decision-making process." [NGO Director 18]

The scarcity of resources, coordination, and the connection between policies and researchers were a point of convergence of most experts' views. Respondents also agreed that HR activities were carried out or are being carried out are in a fragmented way and depend on wavering interest, not systematically within a clear regulating system. This means that HR activities are not commonly performed and used from development targets. Along with the quality of research, this was a crucial concern of some of the experts as expressed by this NGO expert:

> *"… I perceive the HR in Palestine as weak and it needs more development and concentration on the research quality. Some researches in Palestine are strong and effective but they are few. The problem is that we miss the attention from the political leadership and this has many reasons, such as lack of financial support. For example, if research found out particular outcome or evidence, this cannot be applied due to financial resources, and there is a big problem in applied research. I think research is not always echoed into policies." [NGO Expert 15]*

This crucial statement echoed by an international NGO expert communicates an overall understanding of the HRS, specifically reflecting HRS performance, effectiveness, efficiency and political commitment. This same participant followed with:

> *"… The performance is quite good which is based on individuals. However, structurally, HR is not that good due to governance structure in Palestine. There is an attempt to establish a council for HR such as the PNIPH. This institute will ensure the issues of ethics, methodology, and findings and facilitating resources to the staff and researchers. I emphasize that the individual performance is amazing but systemically it is not that good. Instead, the political system, which controls the HCS, is not a good example of drawing attention to the importance of HR. We need also to find a way to effectively finance research in health. Actually,*

a great investment and economization can be benefited from this system because we spend too much money on services without looking at the findings of the HR that maybe would make fewer expenses. We need also to address the way of coordination between all health providers like UNRWA, MOH, and NGOs. This will save lots of money, guarantee user satisfaction, and improve health services. The researchers are good and they aim to improve the health service but these researches are not organized." [International NGO Expert 12]

4. Discussion

In this study, we aimed first to explore the satisfaction of experts across three sectors involved in HR in Palestine on the overall HRS performance. Second, we investigated their perceptions about the state political interest and commitment to Palestinian HRS. Third, we identified the actual gaps behind system underperformance and lack of official governmental support. Generally, the overall HRS performance in Palestine is perceived to be considerably low. Therefore, the satisfaction pattern was relatively paradoxical; whereas the academics and NGOs experts were comparatively satisfied, very few of their government counterparts were fully satisfied. Additionally, the majority of experts found HRS to be ineffective and inefficient.

We reached these findings through analysis of interviews and FGDs with stakeholders that often influence and lead this system. A well-functioning national research system requires a holistic understanding of the system's conceptual components and performance (Kok et al., 2012; WHO, 2002a). Ensuring a well-performing HRS supported by an official state commitment is essential, because governments and donors are increasingly interested in evaluating the benefits of their investments in HR (Sadana and Pang, 2003).

The strengthening of HRSs is key to meeting national health and economic needs, particularly the performance component, to monitor and evaluate system operations. Performance frameworks may consist of indicators and models, agreed upon nationally and built in the HCS structure, for systematic measurements. Besides using those conceptual frameworks, developed by international bodies, to assess HRS performance which compiled certain measurements (Anas El Turabi et al., 2011; Croxson et al., 2001; Kirigia and Wambebe, 2006; Sadana and Pang, 2003; WHO, 2002a), a combined analysis is also an additionally needed approach that could be useful in understanding the performance of HR from different aspects. Furthermore, using practical tools to measure HRS performance should be technically

recognized by system stakeholders on the one hand, but also understanding their views is crucial on the other hand. For that, integrating both approaches might better support an accurate understanding from a system perspective, hence, this understanding perspective is lacking (Sadana and Pang, 2003). This work represents only a modest development attempt by employing the descriptive perception analysis to realize the system processes and gaps to be strengthened.

Our study finds that the research performance measurements in Palestine, whether quantitative or qualitative, are not established. COHRED found that few Middle Eastern countries have a system of monitoring and evaluation for its HRSs (Croxson et al., 2001). For this reason, the study assumes that there is no HRS, as this concept is an emergent one and not fully conceptualized or appreciated (Ismail et al., 2013a; Kennedy et al., 2008b; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). The lack of M&E for HRSs raises two concerns: first, it means that HR is non-institutionalized into HCS and, second, it indicates a lack of stewardship. A study supported our findings that continuous monitoring and evaluation is required to ensure efficient resources use based on agreed priorities and conducting research appropriately in an ethical manner. It also clarified that assessing the HRS governance, which performs these tasks, will provide a broader picture of national HRS capacity and performance (Kebede et al., 2014a).

The results of this study are supported by findings from several other studies (Kirigia et al., 2016b; Lairumbi et al., 2011; Palmer et al., 2009) which identified relevant factors that result in HRS underperformance. These factors can be considered as problematic gaps that cause low HR performance in Palestine. An awareness deficiency and unappreciated culture on HR, as proved by a national study (Ayman Haj Daoud et al., 2002), and lacking incentive policies for researchers and decision-makers formed two of these factors**.** Moreover, the absence of an effective organizing body takes over the duty of research evidence-embeddedness into

actions, which is significantly not applied in Palestine and most of Middle East countries, into decision and policy-making (Yousef Aljeesh and Mohammed Al-Khaldi, 2014). In fact, there is no country in the Middle East reporting systematic efforts to feed research results into decision-making in the health sector (Kennedy et al., 2008b). Yet, cultivating and improving an evidence-based culture and practice is a crucial (COHRED, 2000). Other major factors for system underperformance were a shortfall of resources and missing political will which was seen as an obstacle throughout the Middle East region (Mohamed M. F. Fathalla, 2004). Both attributed to the weakness of the crumbling Palestinian entity, due to the Israeli occupation and internal political division. This causes an unconsolidated agenda, disagreed HR priorities and needs, and eventually the wasting of resources in this donor-dependent country.

Additional stated factors include that: research activities are seasonal, namely that they are geared by the donor and solicited by the Palestinian researchers' personal interests. Moreover, these activities are unguided developmentally and individual-driven, while COHRED considered HRS as an approach for achieving sustainable development (D'Souza and Sadana, 2006b; Marais et al., 2011; Remme et al., 2010b). It is reported that research addresses academic purposes rather than society needs which are not used for health decisions. Other literature stressed that HR is one of the main driving forces for improving the performance of HSs and ultimately the health of populations, as well as crucially needed for United Nations Millennium Development Goals (MDGs) to attain and track their achievements (Sadana and Pang, 2003).

Fractured, non-participatory coordination among stakeholders in knowledge production and data dissemination is also assumed to be a leading problem that results in underperformance and system frustration in achieving desired goals (Chanda-Kapata et al., 2012b; Ismail et al., 2013a; Miguel A Gonzalez Block and Anne Mills, 2003b). Lack of system performance means that evidence is not often utilized in decision-making, even in the EMR countries (El-

Jardali et al., 2012a; Hanney et al., 2003a). In addition, the quality of research produced by many Palestinian institutions is not satisfactory (Albarqouni et al., 2017b).

HR is obviously absent from the agenda and does not get attention at the official political level, yet political will and commitment is a necessary factor as described by WHO in strategy on research for health (WHO, 2012a). Most of the experts highlighted a lack of strategic political concern, where research is not a priority and legitimately embraced. Additionally, there was an identical commonality from most of the experts on the neglected role of government and other major health organizations towards HRS. The Palestinian government, MOH in particular, did not distinctly indicate health or scientific research as inherent components in neither its national agenda 2017-2022 nor in its central budgets (MOH, 2016; Palestinian Council of Ministers, 2016b). This means that the Palestinian official concern basically focuses on security, politics, crises management, and services-sustained systems, due to the exceptional political and security situation. For that, the government concern is intermittent and does not come in the context of a constant national perspective, which may also be reflected at the institutional level.

However, a variety of factors hinder the improvement of performance, the most prominent limitation expressed being unsatisfactory political interest and unsupportive leadership that has not yet adopted a clear vision and regulating body for HRS.

Our study strengths: (1) it is the first HRS descriptive research conducted in Palestine; (2) it sampled a very diverse group of stakeholders across three sectors, including policy makers, academia, and representatives from local and international NGOs; (3) we used IDIs and FGDs based on frameworks developed internationally; (4) our focus was primarily on the policy level of the HRS and system understanding; and (5) the study could be a significant basis for the national and international bodies in any upcoming strengthening endeavours such as MOH, WHO, and COHRED. The study limitations were as follows: (1) lack of sufficient and

up-to-date reports and data on the HR components, as well as lack of literature, particularly in investigating the perceptions of system players; (2) research team movement was restricted in the field; (3) preoccupation of high seniors, time is limited therefore to involve more leadership levels across sectors, some interviews and FGDs were shorter than the expected time as well as some questions were insufficiently answered, due to lack of knowledge, practices and time constraints.

5. Conclusion

HR in Palestine is progressing, despite the unprecedented conditions, instability, and fragility. However, there remain substantial windows of opportunity for actions to make positive changes in the HR structure and performance. Nevertheless, without systematic assessment and mapping mechanisms, HRS performance will remain below the satisfactory level. Several factors behind system underperformance have been recognized. First, the weakness of the research culture within institutions, and lack of political will and serious adoption and support; secondly, research activity is individualistic non-development oriented, non-invested in decision-making, along with fragility of coordination; and finally, the severe shortage of resources and, therefore, capacity.

Due to the serious insufficiency of literature in the local and regional levels regarding assessing the performance of HRS, it is very important to intensify further efforts to assess the performance of HR in Palestine using internationally adopted analysis frameworks. On the other hand, it is also valuable to conduct national studies to realize the impact of HR on the HCS and society alike.

In general, HR is neither ineffective nor efficient; however, serious development actions should be taken in order to establish integrated and well-functioning system components. In this respect, study findings can help inform and steer future plans and activities for the Palestinian health decisions makers in contributing to the development of not only the research performance assessment, but also the others system components to be cohesively structured and successfully functioned. This study proposes various policy development insights related to system performance in particular and other system pillars combined.

These suggestions depend on a myriad of actions that need to be shared on a basic level with Palestinian HCS policymakers and seniors. First and foremost is the availability of political

decision and willingness from the three sectors' leaderships with the support of international partners. Official political concern can be encouraged through political interaction, policy dialogues, and advocacy campaigns. In doing so, shaping governance structure and building a national body for HR unify all relevant stakeholders is essential. This body should formulate a national policy dedicated to HR; one of these policy components requires focusing on HR performance issues to be inherently promoted. This policy should focus on:

1. Actions to address the deficiency of research awareness and culture, as a philosophy and practice, among all health professionals through regular awareness and orientation actions;
2. A serious emphasis on tackling the lack of skills and capabilities by implementing systematic capacity building and educational programs targeted the decision and policy-makers on the topic of HR assessments;
3. To reduce unsystematic and individualistic research efforts, HR needs to be institutionalized and functionally performed from a development perspective, as well as unified in an interdisciplinary and well-coordinated manner. This should be based on established and agreed-upon performance guidelines, whether qualitative or quantitative, to be integrated institutionally and nationally. The guidelines or M&E measurements can be taken from developed international frameworks for HRS;
4. Concurrently, seeking to establish a national observatory platform for HR, led by MOH and academia, in order to assess the three phases of HR (financing, production, and utilization) and to track research trends in terms of quality, quantity, relevance, and impacts.

Abbreviations

HRS: Health Research System; HCS: Health Care System; HR: Health Research; WHO: World Health Organization; COHRED: Council on Health Research for Development; NGOs: Non-governmental Organizations; IDIs: In-depth Interviews; FGDs: Focus Group Discussions; NHRS: National Health Research System; WB&GS: West Bank and Gaza Strip; MOH: Ministry of Health; MOHE: Ministry of Higher Education; MOFP: Ministry of Finance and Planning; PLC: Palestinian Legislative Council; PMC: Palestinian Medical Council; PCBS: Palestinian Central Bureau of Statistics; UNRWA: United Nations Relief and Works Agency for Palestine Refugees in the Near East; PNIPH: Palestinian National Institute of Public Health; MDGs: Millennium Development Goals; EMR: Eastern Mediterranean Region; M&E: Monitoring and Evaluation; Swiss TPH: Swiss Tropical and Public Health Institute; NNU: Najah National University.

Declarations

Ethical approval

The Research Commission of Swiss Tropical and Public Health Institute (Swiss TPH) approved the study (FK No. 122; approval date: 21 October 2015). Ethical approval was also obtained from the "Ethikkommission Nordwest- und Zentralschweiz" (EKNZ) in Switzerland (reference No. UBE-15/116; approval date: 23 January 2016). Ethical and administrative approval from Palestinian MOH obtained on 28th April 2016, the institutional review board of Helsinki Committee in Palestine (reference No. PHRC/HC/73/15; approval date: 7 December 2015), and the institutional review board (IRB) at Najah National University (reference No. 112/Nov./2015, approval date: 6 December 2015).

Consent for publication

Not applicable

Availability of data and materials

To keep data protected, data from the experts through interviews and FGDs are saved in the principal investigator official laptop. These data are stored in highly secured laptop with a secured key file entry, under the control of the principal investigator MK and the supervisor MT, and only both have the right of accessibility to review and use these data.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MT, YA, CP, AA, and MK contributed to the conception and methodological design. AA and MK contributed to the collection and analysis of data. The fourth author contributed to the interpretation of results and drafting of the manuscript. All authors mentioned read and approved the final manuscript.

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3.2.3. Third part: The status of stewardship functions, governance, policy, and priorities, of the Palestinian HRS

Article 3: "The Palestinian health research system: who orchestrates the system, how and based on what?, a qualitative assessment"

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The Palestinian health research system: who orchestrates the system, how and based on what? a qualitative assessment

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Abstract

Background: The World Health Organization (WHO) Eastern Mediterranean Region committee, in 2011, launched a strategy for scaling up research in the region, to address the countries' health needs through formulating and analyzing the National Health Research System (HRS). Stewardship comprises three functions, governance, policy and priorities and is a central pillar of this system to ensure a well-organized and functioning HRS. This study aims at examining the perceptions of the HRS performers to understand these functions and to generate insights for system strengthening.

Methods: The study was carried out in Palestine. It targeted three sectors in the health field namely relevant governmental health institutions, schools of public health and major local and international health agencies. The data were collected through 52 in-depth interviews (IDIs) and 6 focus group discussions (FGDs) with policymakers, academics, directors, and experts. Participants and institutions were selected purposively based on a set of criteria and peer review.

Results: One hundred and four experts participated in the 52 IDIs (52 participants) and FGDs (52 participants in 6 FGDs). The stewardship functions are problematic and still insufficiently performed mainly due to a missing health research structural and regulatory framework and dispersed HR work. Despite the limited good practices, the majority of the participants described the Ethical Review and Clearance (ERC) as weak owing to the lack of agreed-upon national committee and procedural quality and ethics guidelines for noncompliance. A policy or a strategy dedicated to health research is lacking. The exercises of research priority setting appear to be evolving despite the lack of consensus and the low levels of knowledge and experience in research prioritization. Different common gaps such as weak political will and capacity support, the absence of a national unified regulating body, and the indirect effects of political conditions on strengthening the HRS as the other sectors are reported in this study.

Conclusions: the stewardship functions of the Palestinian HRS remain weak along with substantial political, structural, and resources and capacity gaps. The study emphasizes the imperative need to initiate strategic efforts led by the MOH and the Palestinian National Institute of Public Health alongside with other players to strengthen a national HRS through improving the stewardship functions. To achieve this, attention and support of decision-makers, involvement, mobilization and strategic dialogue are indispensable, in order to embark on building a well-regulated and coordinated structure, operational research policy, and prioritization of essential research.

Keywords: Health experts, health research system, Palestine, stewardship.

1. Introduction

Stewardship and governance are an indispensable pillar of health research systems (HRSs) and both are functionally two sides of a single coin for building and developing HRSs. Because of growing international concern, this study addresses the stewardship, where all functions are supposed to be vision-driven, well-operated, and priorities-based. There are two relevant studies (AlKhaldi et al., 2018, in press), the first dealt with the overall understanding of the HRS concepts, whilst the second tackled the HRS performance. The World Health Organization (WHO) profoundly emphasizes the importance of research to achieve universal health coverage, "No Health without Research", and also focuses on Health Research System Analysis exercise (HRSA), which includes the stewardship functions encompassing governance, policies, and prioritization, to be embedded into HRS (Pang et al., 2011; Sadana and Pang, 2004a). Since Health Research (HR) often fails to be prioritized, is politically unvalued, and poorly organized, the WHO has called for a cohesive management based on effective policy and a priority for HR, to build national HRSs (WHO, 2012b).

Certainly, a successful HRS essentially builds on stewardship, which is a contemporary concept and a model of governance (Andrew Kennedy and Carel IJsselmuiden, 2006c; Lee and Mills, 2000a; Marais et al., 2011). Stewardship is characterized by (1) a regulation and coordination structure with a normative dimension; (2) adopting a clear strategic HR policy; and (3) a dynamic priorities setting derived from needs (Saltman and Ferroussier-Davis, 2000a). A strong political will is crucial for the development of a HRS and to make important and sometimes difficult right decisions about health improvements (Greer et al., 2016). Health Care System (HCS) is defined as "The people, institutions, and activities…"; this indicates that governance is one of HCS's building blocks in the light of system thinking (De Savigny et al., 2009). Governance falls under stewardship, which, in turn, is defined as the "responsible management of the well-being of the population" (Mikkelsen-Lopez et al.,

2011). These functions are assumed to be the tasks of policymakers with the presence of a well-functioning system to generate, adapt and apply HR results to address challenges (D'Souza and Sadana, 2006b). The aim of HRS analysis is first to understand its concepts and performance (AlKhaldi et al., 2018, in press) and subsequently its functions and capacity. This will ensure that, based on a strategic vision, the system is well-governed and resourced. Governance sub-functions include system vision, structure, policy formulation, priority setting, monitoring and evaluation, advocacy, and the setting of norms, standards and ethical frameworks (Andrew Kennedy and Carel IJsselmuiden, 2006c; WHO, 2012b).

Although it is rarely conducted, conceptualizing the role of HCS governance is a valuable necessity (Mikkelsen-Lopez et al., 2011). Being poor should not disqualify a country from such conceptualization, because effective research management gives these countries much stronger responsibility related to essential priorities. HR is not only one of these priorities but also a fundamental pillar for achieving the Sustainable Development Goals (SDGs) (IJsselmuiden and Jacobs, 2005). Evidently, political support, governance, and resources are essential to enhance system performance (Emanuel Souvairan et al., 2014b) as hinted by AlKhaldi et al., 2018, in the press. Good practice in research systems is required for aid effectiveness, as well as understanding the system context and governance capacity is essential for system strengthening (WHO, ESSENCE on Health Research, 2014).

In many developing countries, bad governance, poorly functioning policy, and a lack of prioritization still pose obstacles and remain the weakest pillar of HRSs (Kebede et al., 2014; Marais et al., 2011; Ritu Sadana et al., 2006b; Yagui et al., 2010). HRS functions are often not recognized where many of them operate almost in an "ad hoc" way and isolated from other research endeavors (Kennedy and Ijsselmuiden, 2006a). Building HR capacity by understanding these practicalities is imperative to improve HR ethics and quality (Luyckx et

al., 2017a). Therefore, governance is essential to promote a good HR that complies with ethical guidelines and is relevant to the needs of the society (WHO, 2012b).

Donors' support for countries to build proper research institutions is often inadequate (Lee and Mills, 2000a). This weakness may be at its most extreme in the Middle East Region (MER), where formal HRS and functions are considerably fragmented and uncoordinated in the region. As its concepts are often not understood (AlKhaldi et al., 2018, in press), basic building blocks for HRS, including stewardship, are lacking, alongside with deficit in political pledge (Ismail et al., 2013b; Kennedy et al., 2008c). Policies and prioritization are inadequate owing to stakeholders' disengagement, data unavailability, and capacity constraints (McGregor et al., 2014b). Published HR in the region do not align with stated priorities, as well as governance represents the main gap in Health Policy and Systems Research (HPSR) (Fadi ElJardali et al., 2015).

This study meets the international calls and regional demands for analyzing HRSs and its results are expected to have a positive impact on health and other sectors. Assessments in fragile settings such as Palestine are needed to understand options for strengthening HRS (Woodward et al., 2016a). Such understanding is a national strategic need in Palestine because it is a state in the process of being built. Out of this fact, an urgent need emerged to build a system able to economize resources and improve health. Like other MER countries, Palestine is facing a real crisis in governance and leadership, mainly because of the Israeli occupation and political instability (Ambrogio Manenti et al., 2016; Stephen Deets, 2017; Transparency International, 2010). There are other gaps, such as insufficient resources and strategic planning, inequity and poor quality of care, fragmented information, and other interconnected development challenges (WHO, Regional Office for the Eastern Mediterranea, 2016). To realistically address these gaps, a responsive, effective, and both resilient and flexible HRS is required.

A certain shortage of HRS literature has been reported. However, this study seeks to bridge the knowledge gap by putting this vital component, HRS stewardship, under the microscope to generate visions to strengthen it. As a logical progressive step, the study is the third in a larger investigation that aims to examine Palestinian HRS in order to achieve a comprehensive and system understanding. The study intends to investigate the landscape of stewardship functions and recognize the relevant gaps by exploring the status of HRS governance, policy, and priority setting. This study examines the perceptions of relevant health experts to realize the following objectives:

1. Investigate the current **governance framework** related to HRS management structure and stakeholders' practices, coordination and cooperation (C&C) mechanisms, and HR ethical review and clearance (ERC) processes.
2. Assess **HRS capacity** in terms of strategy, and National HR policy (NHRP) in terms of availability, formulation, and implementation.
3. Evaluate **HR priority (HRPs) setting and its alignment** to the actual and actively identified national health needs, and accordingly generate useful prospects for a strengthened HRS stewardship, integrating its three functions; governance, HR policy, and priority.

2. Methods

The study's approach applied the methods and setting of other similar studies (AlKhaldi et al., 2018, in press). System analysis frameworks were used, mainly the framework according to Pang et al., as illustrated in Figure 1.2 (Pang et al., 2003b), together with other approaches such as system thinking and comprehensive HRS assessment (Andrew Kennedy and Carel IJsselmuiden, 2006c; De Savigny et al., 2009; Pang et al., 2003b; Ritu Sadana et al., 2006b; Sadana and Pang, 2004b). These approaches help to provide the groundwork for system improvement, and contribute to better understand the subject from different perspectives (El-Jardali et al., 2014b). The participating institutions' profile across, government, academia, and the local and international non-governmental organizations (NGOs), inclusion and exclusion selection criteria as well as the study tools were similar to another study (AlKhaldi et al., 2018, in press). The study setting was in Palestine, West Bank and Gaza Strip (WB&GS), and ran from January until July 2016. Two qualitative methods, IDIs and FGDs, have been used to assess inductively the perceptions on the stewardship functions based on different system analysis frameworks (Decoster et al., 2012c; El-Jardali et al., 2014b; Ritu Sadana et al., 2006b; Sadana and Pang, 2004b; WHO, 2012b).

Diverse participants have been purposefully selected equally from both sites, WB&GS based on advance knowledge and experts' consultations. For attaining good information adequacy, participation, and representation, four strategies were performed; criterion sampling, critical case, snowball, and homogeneous sampling (Kalpana M Nair et al., 2008). Fifty-two IDIs, lasting on average 45 minutes, and six sectorial FGDs were conducted with 52 participants for one hour and a half on average. Data collection was performed by a research-trained team and supervised by the principal investigator. Data were audio-recorded in the native language Arabic, translated into English and transcribed into MS word sheets at the same time, precisely revised, checked and cleaned for accuracy. Thematic and content approaches were

applied using MAXQDA 12 (VERBI GmbH, Berlin), a software package for qualitative data management and analysis. All these procedures, along with data revision and coding for IDIs and FGDs, were performed by the principal investigator.

3. Results

3.1. Socio-demographic characteristics of participants

As described elsewhere (AlKhaldi et al., 2018, in press), of the one hundred and fifteen experts from thirty-eight institutions across three sectors invited to participate, one hundred and four agreed and actively responded to both methods of inquiry, while eleven persons declined due to scheduling conflicts. As HR is conceptually broad (IJsselmuiden and Matlin, 2006b), participants came from diverse backgrounds, expertise, and public health disciplines.

3.2. The status of Palestinian HRS governance

Based on the perceptions obtained from the same participants and from the same IDIs and FGDs, our findings covered the following three aspects: overall governance landscape, C&C, and ERC.

3.2.1. Governance landscape

The vast majority of participants overwhelmingly agreed that Palestine lacks a clear governance national body. As Figure 2 portraying the Palestinian national governance structure, shows, HR governance is still fundamentally unstructured and dysfunctional. The absence of a collective and organized national body is seen as a key problem by a range of experts, government FGDs' views attribute this to unconsolidated HR agendas. A former official argued that multiple bodies result in conflicting vision, agenda, and scattered efforts. This negatively restricts the contributions of the stakeholders. A government expert clearly echoed:

> *"... Actually, there is no good governance body for HRS on the ground, due to a variety of HR entities in Palestine. However, these entities are not functioning well and their entire efforts are not well-coordinated. Most importantly, these bodies do not have a complete HR common vision; all the relevant HRS stakeholders do not work on*

the same track. This dissipates their contributions and weakens their roles, and mainly affects the performance of health governance and management. Institutionally, we may see a form of HR governance because these institutions have organizational rules and regulation." [Gov. Expert 2]

Further consistent views by a Palestinian Legislative Council (PLC) member admitted the existence of several HR departments within health institutions; however, a national system linking these departments is absent. This prospective system could play a role in establishing a legal framework if it was supported by the government and MOH leadership. Academics largely shared this view, one of them stressed that: *"The governance concepts are not ready enough or applied as a system and not adopted as a tool for decision making, while many attempts have been made to establish a national HR council, most of them have failed." [Acad. Expert 1]*

Structurally, several experts from the three sectors noted that HR is not a core component of the HCS, since this system is neither research-oriented nor evidence-guided. The expert added that without HRS, the harmony between all institutions is lost. Moreover, one academic gave a comprehensive view of the governance: "*Each institution is independent, whether it is NGO, academic, or governmental, and each one has its own management. So, we do not have a common policy for all institutions.".* Another academic view contrasted with the overall perception, as this view reflected political reality:

"… It is difficult to understand the concept of governance under occupation. We could not adopt this concept because we do not have control over resources. Governance is controlled by Israel, they collect our tax money for themselves, and they even control importing and exporting the goods. There is no system, yet there are good individual attempts to collaborate with one another to produce research. The research, which forms policies, does not exist. Priorities are political because we are under occupation. I can name our situation as 'population in danger'. The GS is an open

prison, people are suffering, and they are living a true torture. On the other side, the WB undergoes occupation and threat to the lives of people. I can clearly see that priorities are not in favor of HR for many reasons; first, political instability and disintegration; secondly, lack of salaries and income. We have a structural problem." [Acad. Expert 15]

Most NGOs' perceptions were actually consistent with this view and reflected on the lack of structural governance and policy built into the Palestinian HCS architecture. This perception intersects with views held by government and academic sectors. One of these views was stated by an UNRWA officer;

"… HR is organized by the international community. Recently, the Palestinian universities played a role in organizing research but their role is still not very robust. This is because most of the HR is done by students, and also it is solicited and controlled by donors. HR is not systematic and not a leadership concern, and not fully integrated into the HCS, which functions separately. In fact, a group of brilliant and qualified academics and professionals are exclusively working in HR in Palestine." [INGO Expert 2]

Several experts held the view that uncertain HRS governance is due to individualism, lack of coordination, and competitiveness rather than complementarity. An INGO expert asserted *"Efforts made to improve the Palestinian HRS are individualistic and uncoordinated due to the lack of a clear structure to guide the HRS actions" [INGO Expert 3]*. Furthermore, HCS and HRS are currently experiencing an identical challenge which is ineffective management and improper resources distribution. Many experts revealed the weakness of the MOH's organizing role of HR, due to the lack of serious political decision. A variety of FGDs' views stated that the MOH seems to be perceived only as care provider with very limited HRS capacity. There was a claim for engaging the MOH and demonstrating transparency in HR policy and practice. Others referred low facilitation in HR activities to the lack of an enabling

environment. Many experts, particularly academics, criticized the interference of political conditions and bureaucratic government procedures, which negatively affect the strengthening of the HRS. Three local NGO experts raised this point:

> *"… The problem of HR is that we still confront a gap and lack of organization and communication between the policymakers and the education sector. There is no national policy that manages the work of HR and we always refer to the MOH as a key player to do this task. I can explain it as due to the lack of priorities and the fact that the MOH's role is vague, is it a service provider or is it a regulator?." [LNGO Expert 5]*

Two NGO experts and the academics reflected a range of views. An INGO expert stated that the government does not invest strategically in education through research because of the small budgets allocated to research. For this reason, the other view stressed the fact that because of the weak economic position of the Palestinian government, HR is not a priority. The academics blamed the NGO sector for being preoccupied with other humanitarian projects.

Moreover, some government seniors frequently attributed the absence of an organized system to the fact that HR is donor-controlled, and based on short-term projects and consists of a multiplicity of bodies and unclear HR leading accountability or duty. They revealed that HR does not receive a political concern, while the resources and economic constraints make building a unified body difficult. In contrast, one response indicated that HRS is not reflected and institutionalized in the Palestinian HCS structure. A concluding viewpoint was stated by an expert: *"we are currently in a chaos status; scattered initiatives without a united reference body."* [NGOs FGDs]

NGO experts delineated that HRS should not be the individual or unilateral responsibility of a particular party but rather a collective effort synergized among all relevant stakeholders. Governmental and NGO experts voiced that the Palestinian Council for HR

(PCHR) had a respectable start in terms of establishing HRS governance and priorities, but this role had markedly declined. Many were not satisfied with this body's performance, because it existed only nominally and was functionally ineffective. Some NGOs' experts trusted the Palestinian National Institute of Public Health (PNIPH), while many criticized its current role regarding HRS. The following bodies have been proposed to be able to orchestrate HRS governance activities prospectively.

(1) PNIPH, an independent body operated by the government and WHO through a collaboration started in 2013, headquartered in WB with limited presence in GS;

(2) MOH, particularly Human Resources Departments (HRDs) as a regulator; one department exists in WB and one in GS;

(3) Major universities as host institutions such as the Institute of Community and Public Health (ICPH);

(4) MOH and PCBS jointly;

(5) PCHR; and

(6) The Supreme Palestinian Health Council (SPHC).

This emphasizes that the aspect of who governs or could govern and how to build and manage this system, have been controversial points in the perspectives from all three sectors. Another significant and concise response outlined by an NGO expert summarises these findings: *"as long as we do not have an organizing framework, we will remain in a closed circle of chaos regardless of how much coordination we made."*

Figure 3.1, portrays the existing national structure of HRS governance and the relationships among the principal involved institutions. The principal investigator designed this illustration based on the experts' perceptions and realistic depiction. HRS structure seems unclear and hard to be comprehended, where the actors' tasks, responsibilities, and relationships overlap on three levels – national, inter-sectoral, and interinstitutional – because of an absence of a national inclusive body, clear strategy, and regulating policy to HR practice.

Figure 3.1: Palestinian health research architecture

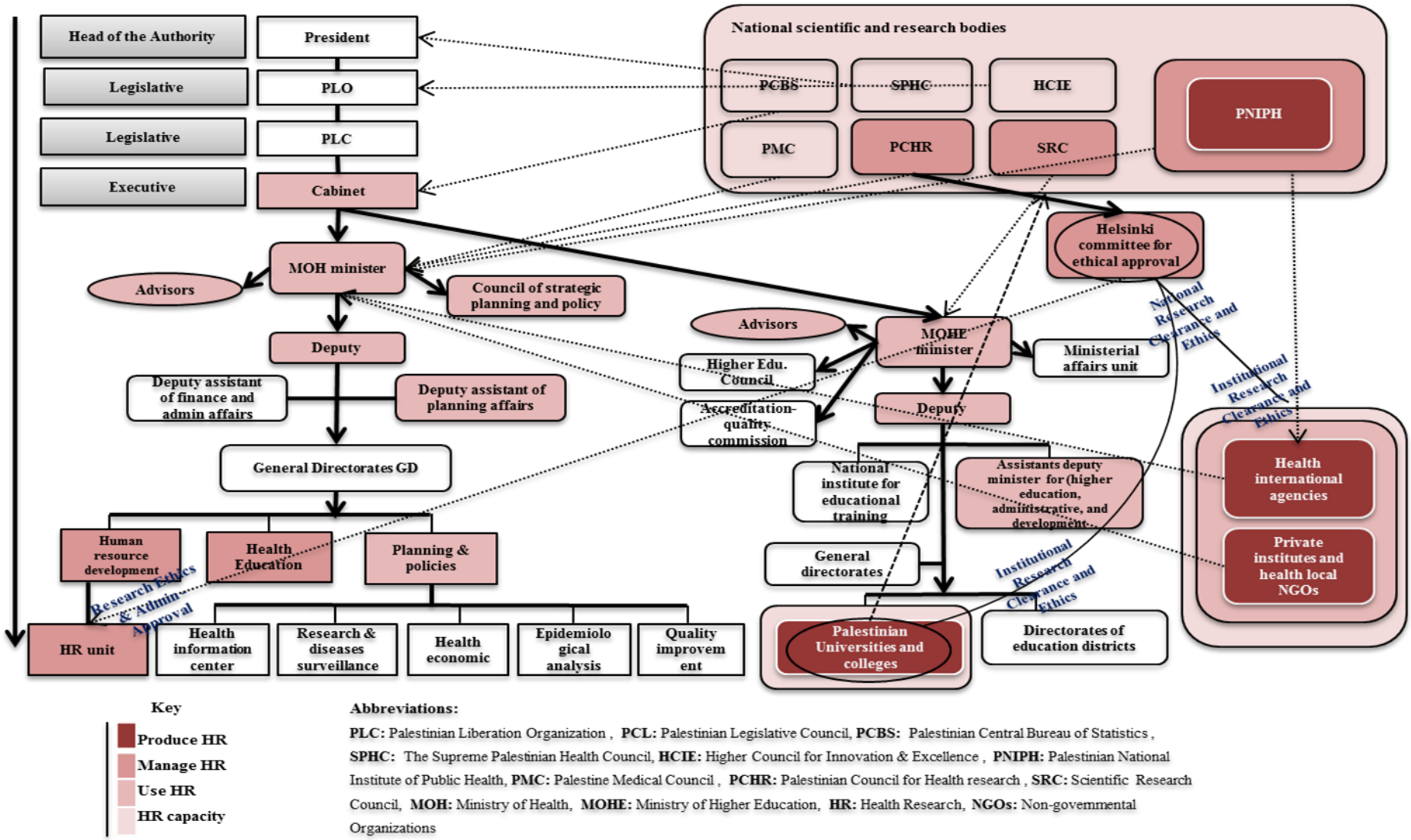

Table 3.5, annexed, illustrates the perceptions concerning the common challenges hindering the foundation of a good HR governance system. Challenges were classified into three types: national/structural, prevailing environment, and technical. Structural challenges stated, were an unconsolidated vision, unclear framework, and absence of political reference; bodies multiplicity; HRS non-embeddedness into HCS frame and being individualistic; adverse effects of ministerial changes; and centralized and bureaucratic HCS with lack of legal framework. The common environmental challenges detected, were mainly political, economic, and social pressures; burdens of the occupation; and lack of state sovereignty over resources. The technical challenges were seen as follows: lack of HR quality, coordination, leadership, supportive environment, accountability, transparency, Monitoring and Evaluation (M&E), qualified staff and resources; HR not a priority, unvalued politically and donor-driven and lastly, HR and Evidence-based Practice are not embedded in the culture and not well-executed. For improving HRS governance, the overall perception suggested building a national HRS comprising a legal and organizational framework under an advisory board. This body should be run by the MOH with international support. The process should be fostered by a robust political will. The main duties of this body would be to formulate an agreed HR vision, build an effective policy, set regular HRPs and allocate resources, reinforce C&C and organize the stakeholders' roles. Other key duties would be entrenching HRS concepts, practices, and interdisciplinary research. Table 1 also shows the prospects for speeding up improvements.

Table 3.5: Responses of HR governance challenges and improvement opportunities

Governance			
Theme / Sector	**Theme 1: Challenges**	**Theme 2: Improvements**	**Theme 3: Opportunities**
Gov.	- Non-aligned vision and work fragmentation - The deficit of legislation framework and laws - Unclear political reference to lead research which is driven by donors mostly for short-term - Lack of national unified HR policy - The unstructured and unclear framework - HR is not institutionalized and sustainable - HR actions are malpractice due to the absence of collective regulating body - HR is unconsidered politically and unvalued - Lack of accountability and HR awareness - Individualism rather than collectivism - The economic crisis, resources scarcity, the political situation - Research non-linked with our life activities and institutional processes - HR regarded into NHS but yet is not implemented - Ministerial inauguration changes - Research duplication and bodies multiplicity - No research M&E	- HR national committees - National governance entity by MOH - Intergovernmental governance and C&C, sufficient-secured fund and staff - Certain vision to formulate a national policy leads to a national body - The regular setting of HR priorities by a collective body - Develop a legislation framework regulates all HR actions - Promote C&C - Gov. and MOH should take the responsibility of leading HRS and allocate 5% of its budget for HR - System reform is needed - MOHE is required to cultivate inherently research philosophy in the education system	- PNIPH-PCBS to take the lead - Public health law - HR department at MOH and universities, and MOH-academia inclusive partnership - Availability of excellence centers - MOH mandate and responsibility - Exploit PMC and PCHR existence - Qualified enough alumni and experts - Previous initiatives to build on - The general believes that HR is a benefit - HR is regarded in the Palestinian NHS
Acad.	- The multiplicity of entities and fragmented existing national councils or committees - Transparency and EBD are missing in the health sector - HR is not a core part and priority in the HCS - Lack of state independence and stability - Political unwillingness nationally and institutionally - Low state capacity and occupations effects	- Research national council or committee, led by MOH, involving all stakeholders to set strategies and priorities - This research by the need to be a centric inclusive adopted by the state to respond to social needs and coordinate HR actions - National policy and brainstorming	- State institutions are under developing - Mounting importance of HR - A key pillar of the country infrastructure

	- Institutions autonomy and centralization - Lack of qualified staff and effective body - Lack of sovereignty and structural problems - Limited role of MOH and Universities - Resources scarcity and agreed priorities are missed - Low research credibility and quality - The fragility of C&C and partnership - Lack of enabling research environment - Individual effort-oriented	workshop addresses the issues of HRS - Activate the role of PCHR and HRD at MOH for proper research facilitation and translation - Delineate the roles of HRS players - Permanent annual budget and commitment - More an official attention to HR - More C&C among academic thinkers, health providers, and international funders	- PNIPH as a platform and reference - Activate PCHR and HRD at MOH - HR is a pure academic role - MOH leading role of national priorities setting
NGOs	- Indistinct role of academia to lead initiatives - Research-externally solicited and controlled - Individualism purposes and scattered efforts - HRS is not embedded in HCS, lack of leadership, policies, resources, and community interest - Structural organizational dilemma - HR not a prioritized and undesirable concept by gov. - Centralization and bureaucratic political system - The absence of national HR policy and poor EBD - The disconnection between researchers and policy making - General social, political, and economic factors - The inefficiency of MOH management, resources mal-distributed, and its role is a vague mandate, provider or regulator, to lead HR - Paradoxical of stakeholders' interests - Fund deficit in gov. and academia to HR - Bodies multiplicity and low research awareness - Being HR confined in some individuals prevent to not practiced widely due to no system - Limitations of time and management support - The weak legal framework in academia and often does not exist in NGOs	- National HR supervisory committee to set the actual priorities - All stakeholders should agree on national and institutional policy - HR governance should be non-centralized - A clear strategic structure is needed to guide HR efforts, identify its priorities and translate evidence into actions - Support the young researchers and adopt a multidisciplinary research - An inclusive national HR association, combine gov., academia, NGO and private - Commitment and construct HR policy and activate a collective body with a platform for HR priorities setting - The state, MOH, should lead and involve all actors in a national body - Allocating sufficient resources - Establish HR legal framework to validate research validity and quality - More support from the international	- PNIPH presence and other bodies, its governing body, and trusted capacities, although it is criticised - Plenty of qualified postgraduates and researchers - Collaborative ties among WHO, MOH, and UNRWA - MOH governance structure - A belief that HR is a strong weapon - Identified health priorities - Existing institutional strategic structures and internal policies - MOH-academia partnership - MOH-PNIPH partnership - Existence of Supreme health council mandate and working under WHO umbrella - Pioneer and active role of some universities to cooperate - Presence of HSWG, HRC - Agreed COC across NGOs

	- Chaos status and scattered-reactive HR initiatives - All health actors are not represented in decision making - No governance causes lack of research quality	agencies	- The assistive role of UN agencies

3.2.2. The status of HRS coordination and cooperation

Table 3.6, supplemented, illustrates the overall reflections about HRS coordination and cooperation (C&C). The majority of experts confirmed that C&C constitutes a major gap echoed in these notions; *"lack of C&C", "fragile, weak, and fragmented and non-institutionalized", "individualistic-driven", "unsatisfactory", "fluctuated and seasonal", "competitive", and "overlapped"*. Some experts described C&C as being one of the weakest HRS components, while a very limited number expressed the existence of good relationships. Some NGOs' experts echoed that research C&C in the NGOs is well-coordinated without duplication, but uncoordinated at the macro level.

The major structural gaps of C&C stated, characterized by the lack of substantial elements, were: a cohesive body, a common vision for an agreed on HR strategy and coordinating plans, mechanisms, and policy; the spirit of harmonized teamwork, the existence of state bureaucratic procedures, and communications and partnerships. Other arguments were more technical, notably: HR is externally-driven, non-systematically performed based on irrelevant agendas and not on agreed HRPs, duplication of activities, lack of resources and awareness on HR, mistrust of institutions, disconnection between policymaking and researchers, as well as difficulties of knowledge and data dissemination and accessibility. The last gaps were political problems resulting from the occupation, alongside the intra-political division: these problems led to a significant decline in national and institutional relations and C&C. Experts suggested the following ways and means to improve C&C:

(1) Advancing PNIPH capacity or developing a collective HRS body with an advisory board;

(2) Investing in developing consolidated C&C mechanisms by using technology and a platform such as the Lancet Palestinian Health Alliance (LPHA);

(3) Launching serious policy dialogues to develop agreed HR agendas geared nationally by forming a joint priorities' committee including MOH, PNIPH, academia, and NGOs;

(4) Forming real partnerships to build HRS capacities with the division of stakeholders' roles;

(5) Promoting incentives, resources, HR culture, teamwork, and multidisciplinarity; and

(6) Establishing a reference commission between policymaking and research people.

Table 3.6: Responses on HR related to coordination and cooperation (C&C) status, gaps, and improvements

HR related to C&C			
Theme / Sector	**Theme 1: the status of C&C**	**Theme 2: C&C Gaps**	**Theme 3: C&C improvement ways**
Gov.	- Very fragile, independent, fragmented and random efforts weakening the stakeholder's contributions - Weak, poor, lack of international exchange programs, - Not well established but PNIPH plays C&C role - Competitive more than cooperative or integrative, especially between universities - Still passive without any effective and institutionalized ties, but some good individual connections exist - Lack of C&C with some limited links among players - Relationships are poor and at the lowest level - There is no integration, all are working independently - Good between gov. departments, there is a regular C&C among ministries through advisory committees - Individualistic swinging based on interests - There is still a gap between relevant parties except for respective bilateral collaborations e.g. WHO and MOH - Biased relationships in research actions - The worst element in the health sector in general - Fluctuated due to changing executives inauguration	- The absence of a collective body or integral system - Each institution does a great effort at the micro institutional level, but the collective is missing - C&C is not established whereas completely personal relationships - No national and institutional policies for managing actions - Political instability and HR is not a priority, - Lack of awareness and resources - No spirit of collective teamwork - Non-supportive attitude - Fund and time limitations - Knowledge is not disseminated among producers and decisions makers, where they are disconnected - Data for research are not completely shared and accurate	- Develop a collective regulatory body to attain better communication and interaction, - Consolidate C&C mechanism with all stakeholders, mainly academia and gov. - Technical advisory committee to monitor HR priorities and allocate resources - Make real partnerships, recognize and divide the roles based on a common vision to prevent a repetition - A need for serious and cooperative dialogue between all stakeholder's - A unified platform for exchange - Promote the sense of we all complement each other, get rid of donor control, financial independence, and using technology to enable connections - Achieve the sectors integration - MOH role in promoting the HR culture - Define the stakeholder's research roles - PNIPH is a key player to improve HRS - Collaborative capacity programs to develop researchers competencies

Acad.	- C&C is poor, very weak and literally paralyzed - There is no C&C, which is the only personal basis - A complete disconnection between organizations which is mainly individualistic and selective - Differentiated visions, driven by personal relationships and interests - We are not cooperative with each other - Weak connection between academia and gov. - Most often, there is C&C, but some individual - No agreement on the priority among all stakeholders - Recessive C&C between MOH and academia, which is not either organized not effective based on reactions - Not fully satisfied but there are some partnerships - No clear relationships, policymakers rely on internal reports to take decisions - No system, commonly successful individual attempts - Generally dissatisfied - Weak C&C which deprives Palestine of good opportunities in successful in building external collaborations while failed national or locally - Most of the HR efforts are unorganized	- The MOH apathy to invest in schools research production - Most of the public sector research is driven and controlled by external bodies such as WHO, EU...etc. - Because HR is non-institutionalized without a C&C strategy - Individual priorities and interests - Non-integrated institutional work - Mistrust between health institutions - Duplications and disconnection - Government bureaucratic system - Weak C&C even in intergovernmental departments and nongovernmental institutions - Duplication of research activities - Most relations are individual and personal connections - Political internal division affect negatively on relationships - Most of the universities are private who keep working independently - C&C subject to personal networks and funding parties	- Develop agreed agendas, vision, and policy with a focus on the research types and quality - C&C mechanisms and strategic partnership (gov., academia, and NGOs) - More investment in the annual meeting of Lancet Palestinian Health Alliance (LPHA) - A platform for meeting and discussions - Exploit the plenty of INGOs in building capacity and partnerships to implement advanced research and technology - Form a national research body or committee led by MOH involving all stakeholders to set strategies, needs, regulations, ways for knowledge sharing and develop staff competencies - A clear and inclusive C&C policy updated regularly and connect HR funders, producers, and users - incentivize researchers and reduce teaching loads - Less bureaucracy and more supportive environment - Public-private partnership (PPP) along with gov.-academic-NGO partnerships and academic unified association - Multidisciplinary research is crucial
	- There is no connection - Scattered and non-linked agendas - Lack of communication between HR producers and users hinders evidence translation - Good relationship but not integrated	- Research is unsystematic and personal-performed - Stakeholders reliance on external sources with uncommon visions - Difficult knowledge accessibility	- Finding an integrated system to make the parties more cooperative, and research outputs more shared and applied - A united HR strategy, each party takes a certain role

NGO	- A key weakness to be investigated and treated - Relationships are weak and competitive instead of collaboration - Very weak, interrupted and disorganized - There is no C&C between all entities - Competitive rather than complimentary - C&C is seasonal and vague - Poor C&C based on destructive competition - Quite good especially at INGOs level, but between providers and academia is regressive and PNIPH is too far from others - Moody, temporary and competitive - Weakest pillar in the HCS at all - Lack of knowledge accessibility and sharing	and sharing among stakeholders - Lack of organization and communication between policymakers and scientists - All HR activities are occasional rather than systematic - Research conducted just for programs evaluation - The absence of organizing body - Public-private partnerships are lost - Lack of faith in C&C and the spirit of teamwork - Overall worsening situations	- All stakeholders must collaborate in identifying the health priorities - Policymakers need to motivate creating collaborations, increase fund, and set HR priorities - Local C&C mechanisms between policymakers and academics such Lancet forum as an excellent initiative to be exploited - A need for MOH and MOHE leading role - Create a network and promote the teamwork in a complementary approach - C&C agreements and sectoral partnerships - Established agreed and C&C term of reference - Widening the awareness on HRS

3.2.3. Ethical review and clearance of HRS in Palestine

Table 3.7, annexed, displays selected perceptions from three sectors addressing the ethical review and clearance (ERC). Most of the views revealed a major weakness in the ERC, which was described as not well-regulated. Some stated that it is unstructured and not performing well due to: (1) a governance gap, ERC being just a nominal process, lack of standards, low quality and slow and non-rigorous procedures, and insufficiency of expertise; (2) knowledge limitation concerning ERC outside the institution and lack of conviction for the good application of research ethics and compliance with international standards.

Diverse perceptions of national and institutional ethics committees were reported. A limited number of experts mentioned the Helsinki ethical approval committee in GS, the only ERC national committee, which manages and examines the HR ethics of submitted research proposals by relevant institutions. As Figure 2, supplemented, shows, all ERC bodies in Palestine, mainly the Helsinki committee which affiliates to the Palestinian Council for Health Research (PCHR). This council is hosted by MOH and comprises diverse members on its board. The Helsinki committee interconnects with three sectors, mainly the HR unit of the MOH for HR administrative and technical facilitation. Many experts were not pleased with this committee's performance, and its political and legal reference is still missing and uncertain.

The majority asserted that the Institutional Review Board (IRB) exists essentially in academia. However, a few experts confirmed the existence of certain ethics procedures, especially in the NGO sector. These procedures or even committees reflect only the internal institutional context, which cannot be considered alone in the ERC process and without being nationally accepted. For a well-functioning ERC system, most of the experts voiced the need for two actions as follows: (1) Establish an integrated NHR body that will develop and embed regulatory, technical, scientific, administrative and legal frameworks. (2) Reform an approved

ERC mandate based on this framework. Addressing both areas would make ERC more professionally effective, credible and representative of all health disciplines and stakeholders based on solid guidelines.

Table 3.7: Wide-ranging quotes from experts on the Ethical Review and Clearance (ERC)

Expert No.	Key quotes
Gov. Exp. 2	"There are ethical reviews such as HELSINKI committee, equally, there are committees at the institutions level but they are not well structured and need to be organized and developed"
Gov. Exp. 4	"In MOHE department, research that targeting students at schools should get an informed consent, especially in lab tests, from the parents, students themselves, and the officers. There are no obvious and known processes where our focus basically to get this consent for questionnaires on behaviors in general"
Gov. Exp. 6	"PCHR was established to be a regulatory body in Palestine including the ethical committee to supervise and appraise the ethical aspects of submitted research. Our research department at MOH is responsible for protecting studies subjects from harmful interventions"
Aca. Exp. 1	"The ethical review process is nominal, we do review academically. The weakness that is not nationally and legally supported. HELSINKI committee is not officially active and has no specialization for all health research. E.g. in the Al-Quds University, we do not have a committee to review the research; we do this process academically"
Aca. Exp. 3	"There is no governance at all for research in Palestine; It all about individual efforts. And there is no coordination between organizations, regulatory body, regulation of ethical standards, neither scientific nor strategic point of view"
Aca. Exp. 4	Nationally no, but there are institutional ethical committees, even at my university, which is not reflected the national level.
Aca. Exp. 6	"We have ethical committees, of which at university and one in MOH which is weak. Plus "Helsinki" in GS, and local committees in WB, but their review quality and procedures are questionable, but at least, we have some with the lack of experience. E.g., we are measuring a clinical trial on some medications; we do not know the right department at MOH, who charge this procedure"
Aca. Exp. 10	"On the level of the university, we have a committee called Ethical Committee, hence, there is a good progress regarding the ethical review, but it lacks a clear structure"
Aca. Exp. 11	"To some extent, there is a clear policy dedicated to ethical arrangements in conducting health research under MOH duty"
Aca. Exp. 12	"Research proposals reviewed by HELSINKI, which has a slow process, are mostly not ethically harmful. In my university, we are about designing an IRB for students' researchers. A need for a national ERC supported officially by the government"
Aca. Exp. 13	An ethical committee with clear reviewing process is the first step when a decision-making body established. Our experience in this component is still weak. We need national, regional, institutional ethical committees in academic institutions.
INGO Exp. 1	"My knowledge about the ethical review is limited, whether they have any ethical committee. In UNRWA, we just have internal ethical procedures, so we just follow this"
INGO Exp. 2	"We do not have a national health committee, such HELSINKI in Gaza is not very well-known, and do not know if its functions performed efficiently"
INGO Exp. 4	"ERC is crucial for all research targeting human participants and seeking fund, to check the clinical trial protocol appropriateness, ERC is a part of MOHE, where needs further development, such awareness and educating researchers on research ethics"

INGO Exp. 5	"I am not convinced that the ethical issues in our country are well applied, and the ethical committee should follow the international rules"
INGO Exp. 11	"In UNICEF, we have criteria where we reviewing our research via regional committee not national or local. The review was before three or four years, and then we conducted this study. In that time, I did not know if there were any committee concerns in ethical reviews locally"

3.3. National health research policy in Palestine

The findings revealed that one of the most prominent pitfalls of the national health research policy (NHRP) is clearly the absence of a formulated national HR policy or strategy. Meanwhile, there is a consensus only on the availability of internal policies for HR within some health institutions. The responses for NHRP availability were as follows: (1) the majority voiced *"absence of policy or strategy governing HR"*. (2) particular respondents said *"there are certain policies, plans or guidelines"*; while few echoed that the national health strategy (NHS) addresses HRS in its draft. Others described existing policies as old, while many declared they were not applied. (3) a very limited number of experts did not know about NHRP availability.

Table 3.8, annexed, presents the experts' perceptions concerning the reasons underlying the absence of NHRP and also shows the insights facilitate to build an effective NHRP. Some experts depicted the NHRP as one of the most prominent HRS problems. Cross-sectorial responses were converged. The most frequent and common reasons mentioned among all experts were:

(1) The lack of a strategic vision for HRS, governance and leadership weakness, and lack of an organized body;

(2) Low awareness and knowledge about HRS;

(3) The scarcity of resources, the fragility of C&C, and unconstructive competitiveness and duplication in HR work among stakeholders;

(4) HR not embedded in HCS and not prioritized in the government agenda;

(5) Malpractice in the HRPs setting;

(6) Donors' influence and inconsistent agenda; and, ultimately,

(7) The repercussions of political turmoil in Palestine.

Building NHRP requires initially having a political will to step vigorously towards establishing an integrated national governance body. This body would take the mandate of formulating NHRP and updating its agendas. The policy that is supposed to be formulated needs to include technical and legal guidelines. Further, HRS culture and awareness among policymakers need to be entrenched along with providing adequate resources to HRS. It is also important to urge the MOH and stakeholders to assume leading roles within HRS support from INGOs. Moreover, forming a national health policy forum is needed to build, advance and monitor this policy. To achieve the above actions, experts proposed the presence of a national HR strategy, active roles of some players and bodies, existing partnerships, availability of expertise and institutional HR policies.

Table 3.8: Responses on the status of National Health Research policy (NHRP), gaps, and improvements

NHRP			
Theme / Sector	**Reasons of NHRP unavailability**	**Improvements**	**Opportunities**
Gov.	- The weakness of systematic governance structure - We are under emergencies, short-term planning - No official body, regulating rules, and code of ethics for HR - The absence of HCS needs, insufficient budget, conflicted agendas - HCS is emergency-based, to maintain staff wages and care continuity - Political-economic crises conflicted priorities, HR is not a priority, economic and resources crisis - HR culture and awareness is lacking - Lack of political attention, adoption, leadership, absence HR from the agendas - Lack of resources, HR staffing, and guiding protocols - Researchers competition and low HR credibility - C&C and organized HR efforts are missing - HR is not a gov. priority - Donors playing a major role in formulating policies - Lack of political stability - HCS structural vibrations due to the political-environmental turmoil	- Unified national organizing body to be integrated into HCS to regulate all HRS processes, mainly policies - A clear HR policy reflects the HR priorities and country' needs and applies its results - Political willingness and vision - Affording budgets and fund - Rules enhancement and real sectorial policy dialogue - Acknowledging HR importance, hiring staff for HR especially community social researchers - MOH needs to build a policy promoted C&C among players and enable HR in their facilities - Increase awareness about HR and evidence translation among policymakers - Consistent and persistent HCS non-affected by politics factor - Active team to develop HRS pillars - Establish research national agendas updated by MOH and academia	- We have a good strategic health plan, some HR areas e.g. NCDs and MCH have good improvements - We are developing but still in a random and individualized way - MOH and WHO guiding role - PHRC to take governing lead and HRD at MOH to coordinate - Qualified enough of experts - HR is stated in the NHS
	- Insufficient culture and willingness to change the traditional paradigm, HR in NGOs sector depends on donors and not in its system, the biggest duty of HR on academia which considered it academic need not national, the absence of regulated guidelines	- Allocated sufficient fund and upgrading HRS infrastructure, improve the culture and education curricula on HR, encourage decision makers to be research-oriented	- Gov. sector is in the

Acad.	- Donor-imposed agendas - The poor fund, resources, and budgets - MOH attitude is not HR-oriented unlike academia - Problematic due to stakeholders competition not C&C, political instability and a fragile economy - No governance and gov. decision and strategic trend to HR tackle health needs, weak academia role, and C&C, differed health priorities, and legislative bodies and rules are ineffective - Non-experienced policy makers - HCS is not research-oriented and HR is not a core component, a gap between stated plans and HR application, poor health system studies and lack of motivation - Political and power conflicts in decision making, lack C&C, fund and unified plan - Missing stated priorities and unplanned research - Institutional and personal independence, lack of officials attention - HR is not the main part of our plans, weak culture of HR and evaluating them - Policies may control the innovation spirit of researchers, misapplied, individually-driven not a system to avoid objectivity biased	- Expanded meeting to create national agendas and reference well-regulated body to govern HR activities - Formulate a policy with deducted fund from central budget for HR based on society priorities - Stimulate academic role in putting pressure on DM level to formulate HR policy to be applied as well, more workforce investment and motivation on HR - Founding a gov. HR body and then a committee to inform evidence to DM - Frequent needs update, HR policy developed and updated regularly by all stakeholders with active sectorial C&C - Comprehensive policies and regular priories setting - Promote the concept of evaluating our HR and motivation for researchers and - No need to reform policies but set guidelines built on society needs to give researchers freedom and to guide them technically	most need for HR concept and its application, the biggest pioneering role of academia in HR - Existing institutional policies and research committees - A great academic potential to convince policymakers - WHO-PNIPH partnership and their attempts to set agreed HR priorities - Previous attempts by SRC
NGOs	- A key problematic issue of Palestinian HRS - A clear vision and well-designed system is missed but mostly HR are institutional-performed for their programmatic needs, community interest on HR - Inadequate resources and budgets - HR is not part of HCS, lack of researchers and leaders - Lack and non-agreed priorities due to financial and political tensions, interests and variability	- Regulated institutional HR policies, viable health policy forum, regular HR M&E - PNIPH policies reflect the national priorities but need to be developed by all stakeholders to be adopted - A clear HR structure is desperately needed - Political interest and commitment to HR development - An organized and clear HR framework and	- Previous attempts by MOH to set national health priorities, - The existence of PNIPH and its policies - We always refer MOH as a reference regulatory body of

	- Vague and weak role of MOH and PNIPH is not well-linked with all stakeholders - No spirit of teamwork, duplication, competition, and improper C&C and communication gap between sectors, policy and research groups - Malpractice in setting and applying HR priorities - Misconduct of HR publication and dissemination process - All HR is individualistic, not developmental run in a competitive way leads to improper conduction - No political commitment and inability of leadership and managerial roles - The absence of a collective governance body or policy - Lack of a strategic vision for sustainable health development - Human value is under-valued - HR is a new culture and concept - Documented policies for propaganda without real application - Lack of policy leads to the accumulation of unused HR and kill the enthusiasm among researchers - No rewarding and incentive system for the research community	reprioritize regularly our HR areas - A body included an internal system or platform and involves all stakeholders to determine HR priorities and to follow up HR - National policies and strategies for HR - Activate the MOH mandate to lead a national body and involve all stakeholders under PNIPH framework - Partnerships with the local and international scientific community, political tensions should be separated from the development process, a collective platform, academia-state C&C, reallocate resources for HR and budgets for academia to enhance research-based education and mutual programs - A legal HR framework for technical and ethical guidance, quality, validity, and utilization - More role and support from international agencies and NGOs - HR managing duties should be collaboratively divided among stakeholders	HR - The existence of the national council for HR which is inactive where NGOs are not represented in its board - INGOs and national NGOs interests and initiatives in sponsoring and using evidenced-knowledge production in their interventions - Palestine is better than some Arab countries on HR - The existence of health sector working group HSWG - HR policies stated in NHP 2011-2013

3.4. The pattern of HR priorities

A consensus is reported on the non-existence of essential national HR priorities (ENHRPs). Instead, many denied that setting ENHRPs is systemically exercised, applied and complied with, institutionally and nationally. The responses were classified into three categories, *"there are no national ENHRPs, which are not institutionalized yet",* which is the most frequent one. The response *"yes, there are ENHRPs or formulating efforts"* was expressed less often or only nominally echoed among experts. However, a very few answered that they "*do not know"* about ENHRPs. Some experts stated that formulating ENHRPs and committing to them is a key problematic issue. Others pointed to the fact that current ENHRPs do not fully reflect the national needs and are influenced by a political agenda. Governmental experts emphasized that efforts to establish a directory for HR priorities had been carried out collaboratively by the MOH and PCHR in 2013, on top of a bilateral initiative in 2014 executed by the MOHE, through the scientific research council (SRC), and the Islamic University. Moreover, NGO experts added that many of the documented and agreed ENHRPs were not being applied. They criticized the dissemination mechanism of these priorities among the stakeholders.

Regarding the alignment of ENHRPs with the HCS and essential national priorities, perceptions were very diverse. Some government experts stated that health policies were based on real needs determined through scientific methods and evidence. Likewise, a few academics and NGO experts declared that HR stemmed from national priorities concerning health, but without systematic approaches. Conversely, experts from the three sectors characterized HR in Palestine as "messy" and "fashion", not driven by national agendas, but responsive to donor agendas and individualized purposes. Many NGO experts and academics revealed that several public health projects and research are carried out by institutions, among them the PNIPH. These projects are partly driven by a national need but without significant

impact due to different factors: (1) The influence of the donors and their inappropriate demands; (2) Research for the purpose of evaluating programs, and (3) A lack of stakeholders' involvement. Eventually, the building of a national HRS body, to address the challenges and to gear the donors towards national goals is the central priority. This common perception was a consensus among experts.

As Table 3.9, annexed, demonstrates that most of the common gaps related to ENHRPs setting were almost convergent. These gaps focus on the absence of a unified body and strategy as well as insufficient political concern in HR, where all current research efforts are dispersed. Moreover, the table reports technical gaps, malpractice of ENHRPs setting, unsystematic exercise, non-updated, misconduct in sharing and applying them. There is no a national consensus regarding HR priorities because of conflicting research interests and agendas of stakeholders. Additional reported gaps were related to weak C&C, decision-making and research disconnection, as well as the scarcity of resources and an unsupportive environment. Insights were stated on how to make ENHRPs process effective and reflective of society's needs. Most notable is a need for political motivation to support the building of a national reference body leading a unified HR policy. Also, a systematic, active and participatory ENHRPs setting and allocating essential resources, increasing the knowledge and professionalization of ENHRPs exercises is essential. In addition to entrench a strategic policy dialogue, enhancing C&C and communication mechanisms, and regular oversight and guidelines on ENHRPs. Similarly, the donors' agendas should be geared towards the national ENHRPs. All these proposals should be reinforced alongside previous HRPs initiatives and already existing partnerships and bodies. Furthermore, the advantages of the LPHA should be maximized and used as a national exchange platform for ENHRPs.

Table 3.9: Responses on the pattern of HR priorities (HRPs), gaps, and improvements

HRPs			
Theme / Sector	**Gaps**	**Improvements**	**Opportunities**
Gov.	- Lack of HRPs setting exercise - Not often updated, applied, unsystematic, non-compliant - Insufficient studies generate knowledge - Conducted HR are mostly derived from personal and donor desires with few are met HRPs - HRS and HRPs are not a political priority - No organized system, non-agreed strategy or HRPs - HR productivity is messy and scattered - Lack of resources and fund - Conducted HR is mostly a response to an emergency condition - No accountability and transparency in sharing HRPs - The sluggish role of MOH and government towards HR in general - PNIPH is still not completely ready - Many HRPs attempts, affected by donors agendas, are not completely scientific process - A gap between policymakers and researchers	- Political commitment, regular setting, technical advising committee from all parties - Collective system integrated into HCS supervised by MOH to manage HRPs and more sectorial C&C - Trusted data, statistics, and evidence - Allocate enough resources - Recruit full-time researchers - Realistic and dynamic HRPs setting based on actual needs - Increase the HR culture and background of policymakers - Serious and real sectorial dialogue and teamwork to formulate systematically HRPs - Research exchange programs to raise experience and knowledge - HR policy ensuring good HRPs exercise, sharing, and application	- Previous attempts, PNIPH efforts in HR prioritization - HRPs have been set by SRC under MOH embracement - We have pioneered human resources and potentials
Acad.	- There are efforts reflect the academic viewpoint, not health providers - No national body and policy to lead HR - HR are produced for promotion and academic goals but not nationally-driven and planned to improve the society - Many unsystematic attempts were not identified HRPs	- Direct our HR though national strategies under the unified organized body to set a unified vision reflects the actual society needs - A regular HRPs exercise should be performed considering the global HRPs - Empower the infrastructure	- Previous stated HRPs through PNIPH and other to build on - Hopefully, PNIPH could take this lead - Institutional HRPs guiding the national

	in a scientific efficient way where all have produced a list of wishes - HR and PHRs are donor driven and influenced not nationally - HR in academia and NGOs are occasionally conducted for special purposes, e.g. evaluate their programs needs - Paradoxical individual interests on HRPs and lack of national consensus - Lack of C&C - A failure of HRPs application and compliance - HR is not the MOH priority with the absence of enabling an environment - HR production and application gap - Centralization is unhelpful - A huge gap between improving public health services and HR	- Allocate generous financial and human resources - Promote learning organization approach - Improve the sectorial C&C - Avoid the health sector from any political issues - HR should be based on society's needs - Unified governance regulating the body, e.g. a state council, includes academia and government to set national HRPs and policies - Policymakers and researchers involved in HRPs exercises - Reject the external aids if do not serve the national needs - SPHC-WHO and other partnerships should be promoted in HRPs setting	efforts - The initiative includes Palestine, 9 countries have formulated a relevant policy to HRPs in 2009 - HRPs guidebook made by IUG and MOHE - PNIPH became more focused on other important HRPs - SPHC-WHO previous HRPs exercise in 2013 - SRC-PCHR cooperation
NGOs	- HRPs are driven by institutions based on their own agendas - HR is not a priority of the government - Existed HRPs are not endorsed by decision makers and shared with researchers - HRPs exercise is not dynamic and regularly updated for - Donor agendas and politicized money that inconsistent with local needs - The absence of a collective body and strategic agreed vision - Lack of communication, C&C, and team working with stakeholders and prioritization malpractice - Contradicted NHPs which are affected by the financial and political circumstances - HR is defined and conducted based on individual	- An HR regulatory policy under a collective and well-organized body - HR should take into account the international guidelines - HRPs National consensus reflects our needs based on research evidence - Accurate and shared database for PHRs - HR topics should be matched with identified HRPs - A clear sectorial strategy to ensure C&C in HRPs setting and systematic M&E - Support from the international support to the local HR and encourage them to adopt the local needs - Develop the human resources capacities in determining NHRPs - Guidelines should be established to regulate NHRPs	- A new draft of HRPs conducted by PNIPH 2017 - UNFPA priorities reflect the population needs - National priorities are listed in the SNP of the MOH - UN agencies and MOH partnerships

	interests with few are priorities-based - Inability to apply NHRPs due to the absence of managing system - HRPs is not long-term and changing priorities due to country emergency status and instability - Conducted HR are scattered and not fully compatible with priorities, where performed for certain purposes, e.g. programs evaluation needs and researchers preferences or self-career - Most of HR are duplicated and disorganized - MOH depends on their own reports when identifying the society needs while other providers and partners are existing	setting - A committee to set HRPs - HR must be effective, efficient and disseminated to decision making to fulfill the needs - Policymakers attention should be drawn to the importance of HRPs and appoint HR advisors to them - Education curriculum development to be research-oriented and needs-reflected - National political unity and vision and not to politicize the vital sectors - Founding research units across the institutions	- The active role of academia in this regard - A need to support the efforts of PCHR MAP-UK and ICPH partnership through LPHA

Table 3.10, supplemented, reflects three ENHRPs setting exercises, many participants in this study also took part in two other exercises. Both other exercises involved all sectors, the first was held by the SRC of the MOHE in 2014, the second was organized by the PNIPH and MOH in August 2017. This study represents the third exercise. ENHRPs identified by the first two exercises were mainly technical, while this study's ENHRPs were more general. HCS areas were almost consistent among the three exercises, except for the current study's government sector, which focused on the burden of medical referral costs. NCDs, its determinants and causes were common ENHRP among the three exercises. This also applies to the nutrition area. Another agreement area among all experts, except the academics, was mental illnesses, disability, and its services. The environmental areas were not also a priority for the academic sector. Infectious diseases have also been a research concern of all except the government experts. Importantly, the area of research policy does not receive priority status. Other miscellaneous HR areas were varied: medical diagnosis and molecular and genetic diseases receiving the attention of the first two setting exercises. In the current study, the government experts outlined the causes of mortality and antibiotics resistance as a key research priority.

Table 3.10: Comparison among three national HRPs setting exercises, SCR's manual, PNIPH workshop and the current study's perceptions

National setting exercises	SRC's manual on HRPs, 2014	PNIPH workshop on HRPs, 2017	HRPs identified by study's experts		
Areas			**Gov.**	**Acd.**	**NGOs**
HCS	Health financing, HIS, workforce capacities, education and medical accreditation, coordination, management system	Access, coverage, workforce, PHC, health financing, HIS	Cost of referral abroad	Governance, resources allocation, health economic, care quality	Financing and policy, accesses, workforce, care quality, efficiency
MCH	Healthcare and protocols evaluation, school health, nutrition, anemia, child obesity, FP, early detection of genetic disease	Maternal, PNC, FP, women's' health, vaccination, nutrition	Child Behaviour	MCH	MCH and youth
NCDs	Causes and risk factors, assessing prevention-promotion, diagnosis and management, health care quality and providers performance	Preventive care, tobacco control, healthy lifestyle, cancer, CVDs, stroke, HTN, DM, determinants	NCDs, cancer	NCDs	NCDs, cancer, social determinants
Nutrition	Anaemia, providers roles, association with NCDs, food toxicity and pesticides, obesity	Anemia, vitamin deficiency, obesity	Nutrition, anemia	Nutrition, thalassemia	
Mental health	Causes, addiction, suicide, prisoners, wounded and wars victims, care quality	Psychosis, stress-related, disability		Mental illnesses	Mental illnesses, disability
Environmental health	Water, air and soil, and diseases, wars remnants, industrial effects, medical waste management	Water quality, waterborne diseases, toxins, safety, traffic safety, buildings	Water and environmental health, RTA		Water and environmental health
Infectious diseases	Risk factors and causes, assessing of prevention-promotion programs and protocols, surveillance	Meningitis, leishmaniosis, foodborne diseases		Infectious diseases, NTDs	Infectious diseases
Research policy	Interdisciplinarity in basic, clinical and community sciences, excellence centers, evidence-based medicine, medical education, ethical and jurisprudence	HR capacity, accessing grants, publishing papers, data sharing, and analysis		Medical education	

Others	Dental care, advancement of medical diagnostic methods, genetics and molecular biology, pharmaceuticals and natural plants use, medications financing and supplying		Mortality causes, antibiotic resistance	Osteoporosis, Genetics diseases, molecular biology, medical diagnoses	Socio-economic and political determinants

4. Discussion

The overall findings indicated that stewardship within the Palestinian context is generally disappointing, not only in the HRS but also in the whole Palestinian HCS (Ambrogio Manenti et al., 2016; Transparency International, 2010), as in many developing countries (WHO, EMRO, 2016). The study found that a national governance structure for HRS is not clearly framed and defined yet. Different studies affirmed the absence of a formal NHRS (Hazou, 2008a; IJsselmuiden and Matlin, 2006a; Kennedy et al., 2008a). Moreover, the functions of HRS governance and relationships among stakeholders are not well-articulated and not well-performed. In return, some HR institutions demonstrate good practice in terms of the established governance structure. Other consistent findings revealed that only four out of 10 countries had national HRS governance structures, whereas the overall research performance was poor with a critical deficit in stewardship function (Ismail et al., 2013b; Kebede et al., 2014b).

As shown, HRS architecture in Palestine is not clear-cut and to a large extent fragmented. In fact, it even appears to be uncertain regarding the functional and organizational flow of tasks and relationships. As HRS is complex (IJsselmuiden and Matlin, 2006b), several national bodies were identified to lead HRS in Palestine bi- or unilaterally whereas the performance of these bodies leadership are unsatisfactory. The current HRS map, MOH, alongside with three bodies, PNIPH, PCHR, and SRC seem to be those who are currently leading HRS, but not in a harmonized and synergic manner. Suitability of PNIPH to lead HRS remains controversial, since it is a project-based initiative formed via an agreement between the government, the WHO, and a Norwegian donor, and geographically not well represented (WHO, EMRO, n.d.). In contrast to the known international standards, Palestinian universities and some NGOs and national agencies are HR producers, while the government is supposed to be only an HR user, as two studies revealed (Ayman Haj Daoud et al., 2002; Sweileh et al., 2013b). HRS capacity

in Palestine, while still weak, is present mainly in academia and NGO sectors (Ayman Haj Daoud et al., 2002; Sweileh et al., 2014d). Importantly, this study found a wide discrepancy of perceptions concerning the functions and capacity of these institutions to act as a governance body. Because HRS governance is a collective and conjoint responsibility and cannot fall under one leadership. HRS entities require substantial reshaping and a harmonization of their efforts to be comprehensively placed into a unified national perspective (Andrew Kennedy and Carel IJsselmuiden, 2006c; Hanney and González-Block, 2016b). This could be ensured by a collaborative strategic governance framework and a very clear, well-negotiated definition and description of the roles of each actor (Hanney et al., 2010a; WHO, 2012b).

Two dimensions of governance challenges impede the establishment of a coherent HRS, (1) national, and (2) structural and technical. Nationally, disagreement on HRS visions, which dispersed the efforts, created parallel bodies with autonomous performance and significant inefficiency in using available resources. Furthermore, lack of sovereignty over national resources and political instability caused by the Israeli occupation and intra-Palestinian division remain a key national challenge. The key features of the occupation affecting not only HRS but also all sectors are the closure of the international crossings and the geographical segregation, whether blockage of the GS or checkpoints in the WB, which constrain the freedom of movement of people, mainly patients, delegations, and researchers, as well as goods entry (Gisha center for freedom of movement, 2016; Rafiq Husseini, 2017; WHO, EMRO, 2017). Other effects are the excessive use of force; settlements expansion; illegal exploitation of natural resources; destruction of institutions' and private property; and violation of international humanitarian and human rights laws affecting the social and economic conditions of the people (Ambrogio Manenti et al., 2016; United Nations, Economic and Social Council, 2017). The intra-Palestinian division has affected the unanimity of Palestinian decisions and the institutions' structure, which caused a severe decline in services and reduced the wages of public servants due to tensions between the

authorities in the WB&GS (Omar Shaban, 2017). Recently, a reconciliation agreement was signed between the Palestinian parties (Nidal al-Mughrabi and Omar Fahmy, 2017), and this political shift may resuscitate the development of all sectors, essentially HCS and HRS.

The overwhelming technical and structural challenges are: HRS concept and practice are not fully entrenched in the health sector, as evidenced by a study (Sadana et al., 2004a), lack of leadership, accountability, M&E, regulated policy and C&C. This provides two indications:

(1) HRS governance is individualistic and non-complementary.

(2) Scientific research and HR are not on the government's core agenda, both do not get enough political attention.

Most of these findings are consistent with other studies (Ayman Haj Daoud et al., 2002; Decoster et al., 2012c; Hazou, 2008a; Ismail et al., 2013b; Kebede et al., 2014b; Kennedy et al., 2008c; Marais et al., 2011; Sweileh et al., 2013c), whereas those studies revealed other gaps, most notably the lack of a conducive research environment and poor overall research performance, which is due to critical deficits in system stewardship, governance, and infrastructure, lack of strategies, and political transitions. It is important to address these gaps while working on HRS strengthening and developing strategies or allocating resources (Kirigia et al., 2016a). It is expected that donors should work towards a unified HR agenda, internal challenges and lack of a unified vision concerning HRS repeatedly cause diverse and negative influence of donors on HRS (IJsselmuiden and Jacobs, 2005), which prevent this system from gearing its priorities appropriately (Ali et al., 2006a). This paper argues that the above-mentioned gaps impede any serious actions towards restructuring HRS governance to reflect the national priorities.

Based on that, many studies coincide with this study's recommendations of how to address these gaps (Ayman Haj Daoud et al., 2002; Fadi ElJardali et al., 2015; Hazou, 2008a; Ismail et al., 2013; Kebede et al., 2014; Kennedy et al., 2008a; Sweileh et al., 2014d). The emphasis on the importance of political commitment towards the creation of a unified and clearly

structured governance body embracing a legislative and organizational framework under an advisory board is essential. It is suggested that such a body should hold three assignments. Initially, to embed HRS values and the concept of stewardship into HCS and to develop an effective NHR strategy that includes instrumental policies. Afterwards, to establish a regular and needs-driven ENHRPs mechanism that involves all stakeholders. Lastly, to promote the consolidated C&C and divide the roles of actors, as well as to exploit the existing efforts and opportunities.

This study noted that C&C for HRS is currently at a low level of performance. Its findings of a considerably fragmented C&C concur with other studies (Ayman Haj Daoud et al., 2002; Ismail et al., 2013; Kennedy et al., 2008a). Experts described C&C as being fragile, unsatisfactory and vague, with currently limited relationships and performance based on personal interests. Strikingly, one study refuted these findings, revealing that the international collaboration in research is evidently growing in Palestine (Sweileh et al., 2014d). Locally, it is recognized that C&C is a real challenge not only in HRS but also in HCS (Ambrogio Manenti et al., 2016). As in the governance part, the current poor C&C status of HRS is an inevitable reflection of the absence of a policy framework regulating the roles and responsibilities. Likewise, the lack of partnerships and teamwork is a key organizational gap. Another technical gap that contributed to poor C&C is the influence of donor agendas on HR (Ali et al., 2006a). All this leads to HRS work duplication and inconsistency of agendas. Besides, there is the scarcity of resources and a disassociation between the decision-making and researchers' levels (Yousef Aljeesh and Mohammed Al-Khaldi, 2014). These gaps create difficulties in data flow and knowledge sharing among HRS stakeholders (Sombié et al., 2017). Again, the political obstacles, whether induced by the Israeli occupation or the intra-Palestinian division, remain the main challenges for HRS development (Khatib et al., 2017b; Sweileh et al., 2014b) and clearly caused a structural and functional breakdown in the national institutions and relations. So, ending the occupation can unleash the Palestinian HCS,

particularly HRS, and restore its full potential and capacity (Rafiq Husseini, 2017). Also, unifying these institutions under a clear reference authority (Chanda-Kapata et al., 2012b) is the nucleus for adopting the C&C model of COHRED which calls for establishing well-synergized mechanisms for better HRS (COHRED, 2012). Regarding ERC in Palestine, there is a common perspective that ERC is weak with unpersuasive performance. Palestine is no real exception here, as different MER countries have insufficient ethical review and assessment capacity (Abou-Zeid et al., 2009b). Two levels of ERC processes are performed: national and institutional. Nationally, so far, ERC has not been given much attention, although many Arab countries have recently started giving it the attention it deserves (Diaa Marzouk et al., 2014; Yakubu and Adebamowo, 2012). There is only one national ERC board, called Helsinki, which was established in 1988 and involves various experts and academics, to assess the ethical aspects of HR. This committee is affiliated to the PHRC, while its political and legal ties with the MOH still need to be legally institutionalized. As ERC is structurally lacking, it is striking that the geographical work scope of this non-institutionalized committee is limited to review research in the GS, while this committee seldom scrutinizes HR submitted from the WB. There is an urgent necessity to advance its professional performance and to make it more geographically representative.

Other flaws of the ethics committee are the unavailability of an ethical and legal national framework due to governance deformities, and, consequently, we observe a lack of guidelines and standards under the umbrella of the existing research ethics international guidelines (WHO, 2011) at the national level. A comparative study reported many differences to international guidelines in ethical practices in the MER (Alahmad et al., 2012). However, certain institutions have institutional ERC or IRB or particular ERC procedures, notably in academia and some local and INGOs. This study and other relevant studies emphasized the importance of improving the efficiency of ERC (Bhutta, 2002; Diaa Marzouk et al., 2014; Yakubu and Adebamowo, 2012) by founding a unified HRS. This would include an

accountable and appropriate national REC board; one of its components is a regulatory, technical, scientific and legal framework aligned with the international guidelines. Furthermore, efforts regarding the institutional ERC and capacities of professionals and researchers need to be enhanced. This can be realized through political decisions and guidance as well as the enactment of national legislation. Interestingly, ERC was not essentially addressed in the articles of the Palestinian Public Health Act or even in the MOH and PNIPH strategies; only regulations for the health professions, medications oversight, and healthcare improvement have been tackled (MOH, 2016b; Palestinian Council of Ministers, 2016b).

For NHRP, the findings show that a policy devoted to HR in Palestine virtually does not exist. In fact, only two countries out of ten in the region have dedicated NHRPs (Kennedy et al., 2008a; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). There is a belief that absence of NHRP is a hindering factor for strengthening the HRS, together with the governance pitfall. On the other hand, as many experts affirmed, there are institutional HR policies organizing research work. The Palestinian National Health Strategy for the years 2017–2022 (MOH, 2016b) stated HR peripherally, which means that HR is not inherently a core component of this strategy. The reasons behind the absence of this policy are poor insight into the necessity of creating a strategic HRS vision as a basic component of the Palestinian HCS, low awareness and HRS culture, and deficit of resources (Fadi ElJardali et al., 2015; Ismail et al., 2013; Kennedy et al., 2008b; Sweileh et al., 2013b; Yousef Aljeesh and Mohammed Al-Khaldi, 2014), while other less important sectors have the biggest share of the state's public budgets, plus HR is not on the government's agenda. Concerning the C&C, inappropriate collaboration and unhelpful competition as well as work duplication hinder efforts to build a unified NHRP. Likewise, misconducting ENHRPs makes the HR activities ill-directed and also restricts any strategic move to give precedence to designing an HRS regulatory framework. The last reason, as delineated earlier in HRS governance, is the impact of politics,

primarily the disintegration of the political and social system, on top of the donors' imposition of their agendas at the expense of the national needs. In fact, it is of paramount importance to create an NHRP framework, which is a keystone of an effective NHRS (Andrew Kennedy and Carel IJsselmuiden, 2006a). As many experts revealed, challenges related to NHRP can be tackled through unwavering political and sustained financial support under the inclusive regulatory body and policy framework supervising the implementation and evaluation of this policy. This policy comprises a set of mechanisms and guidelines taking into consideration all HRS components (Alger et al., 2009; Andrew Kennedy and Carel IJsselmuiden, 2006c; Kennedy and Ijsselmuiden, 2006b). Concurrently, the culture of HRS needs to be enhanced, and the existing strategies and bodies need to be re-employed to build this policy synergistically.

As far as ENHRPs are concerned, this is the last part of this study, it is noticed that the exercise of HRPs setting in Palestine is growing. This does not necessarily provide the agreed national HRPs that Palestine lacks (Yousef Aljeesh and Mohammed Al-Khaldi, 2014). Some studies emphasized that there have been no previous setting exercise in HPSR in MER (Fadi El-Jardali et al., 2010), only three countries in the region have set national HRPs (Kennedy et al., 2008a). Three important domestic exercises for HRPs setting have been reported, in addition to other bilateral or multilateral institutional HRPs workshops. The first exercise was initiated by the MOHE with the PHRC in 2014 and resulted in the production of research priorities manuals for all disciplines, including health. However, this exercise has been limited to Gaza during the period of intra-Palestinian division; therefore, this exercise cannot be scaled-up unless it has national agreement and involvement, political adoption, and a follow-up. The second was carried out in the WB, it was initiated by the WHO via bilateral cooperation with the PNIPH. This study constitutes the third attempt building on the previous two exercises and offering a common ground with them. Certainly, this study views these

attempts as an essential step leading to further progress, although, these attempts largely do not reflect the needs of the society in the area of HRS.

Additionally, there are various gaps concerning the prioritization, mostly the lack of political power and prioritization may be influenced by social, political and environmental factors to meet specific interests, be they the government's, the donors' or personal (WHO, 2012b). Furthermore, a deficiency in knowledge and expertise is observed where these exercises are not practiced systematically in an integrated national perspective. Also, the issue of stakeholders' compliance to the outputs of these prioritization exercises, along with the scarcity of resources are problematic. The findings of inappropriateness in the application of stated ENHRPs and also improper dissemination agree with relevant research and are therefore considered as areas with a critical gap. For the proper ENHRPs setting, it is necessary to build on what has been achieved locally and to institutionalize exercises in a dynamic, inclusive and systematic approach (McGregor et al., 2014c). Actions are needed such as getting a political commitment, a regulatory body, a national consensus on proper approaches of priorities setting (Viergever, 2010). These three prerequisite actions could ensure agreed ENHRPs and a good steering of the donors' agendas. These actions could also form a strengthening pathway to develop all other HRS components. Developing them would mean providing the required resources and carrying out training to expand the knowledge and expertise of experts in ENHRPs setting, encouraging the strategic dialogue and linkage between decision-makers and researchers, adopting viable monitoring and updated mechanisms in prioritization, guaranteeing that ENHRPs are disseminated appropriately among all parties (Bryant et al., 2014; McGregor et al., 2014c). On top of that, the previous and current exercises and the existence of PNIPH and LPHA need to be developed and well-exploited.

Through a comparison of the three HRPs exercises implemented in Palestine, three thematic areas were identified according to frequency and ranking. The most important priorities to be

addressed by HRS in the areas of health governance, financing, and policy. These findings closely intersect with a local study which found that these areas are the main concern of ENHRPs (Marina Tucktuck et al., 2016a). Other regional research agrees that financing and workforce are priorities (Fadi El-Jardali et al., 2010b). Further common ENHRPs are non-communicable and communicable diseases, nutritional conditions, disability, and environmental issues; these areas form the major burden and causes of deaths and are the most affected by the escalation of instability and crises in the region (Abu-El-Noor and Aljeesh, 2015; Viergever et al., 2010; World Bank, 2013). The priorities of this study were intersected with priorities in Yemen and Oman and also agreed with priorities were covered by LPHA in its research series (Kennedy et al., 2008a; Watt et al., 2014a). The area of medical diagnosis and genetic and molecular diseases was less frequently mentioned, meaning that it received low research priority. Two studies revealed the local discrepancy in priorities, both indicating the opposite that the area of medical diagnosis and genetic-molecular disease had a high HR priority, while it got the seventh rank of published research of Palestine, and it also received concern in Lebanon's HRPs (Kennedy et al., 2008a; Sweileh et al., 2014d).

Our study has four main strengths: (1) It is the first participatory study examining three important HRS components in Palestine, while this subject is inadequately investigated in the MER; (2) The participants stakeholders were very diverse, including policymakers, academia, experts, professionals, the private sector, local and international NGOs; (3) Using mixed qualitative instruments was helpful for getting high trustworthiness of perceptions; and (4) The purpose of the study is to generate insights to boost the three components, HRS governance, policy and priority. So, this study is one of a larger investigation project that will lead to a comprehensive strengthening of the perspectives for the Palestinian HRS.

The study limitations were as follows:

(1) A great paucity of relevant literature, reports, and data on the subject, whether local or regional, thus not allowing meaningful comparative synthetic analyses and discussions, and making it impossible to use quantitative tools in analyzing the HRS in Palestine;

(2) Some time-constraints in questioning more participants and targeting of additional relevant institutions to determine all opinions, suggestions, and views;

(3) As other studies revealed (AlKhaldi et al., 2018, in press), field obstacles to the freedom of movement of the research team as a result of the geographical segregation and closure of security checkpoints; and

(5) The signing of the reconciliation agreement between the Palestinian political factions in October this year is likely to generate a positive political transformation that may affect some of the study findings, especially those related to the impact of internal political factors on the HRS and the HCS in Palestine.

5. Conclusion

Attention to HRS functions is mounting, and there is a consensus that strengthening this system is imperative, especially in developing countries like Palestine. A well-functioning HRS is an inevitable reflection on an appropriate visionary management and policy. Therefore, the study provides a valuable snapshot of the three most important stewardship functions, an investigating attempt to understand them, to determine the obstacles and generate solutions for a national well-performing HRS. The study primarily emphasizes the importance of understanding the experts' conceptual pattern of the three important functions, which is a basic demand in system analysis towards strengthening HRS. The importance of the study lies in its three dimensions. (1) Locally, it is the prominent research addressing this subject. (2) It contributes to filling a knowledge gap in the region. (3) It corresponds to international calls, notably by the WHO and COHRED, encouraging countries to analyze their HRSs in order to boost national development.

The study found that the three stewardship functions are still not performing as they should do. A structural HRS governance framework is missing; most of the HR activities are scattered and uncoordinated. Despite limited demonstrated good practices, the process of ERC is still weak due to the lack of an agreed national committee, lack of procedural quality, and noncompliance with ethics guidelines. Indeed, a functioning HRS cannot exist without a strategic national operational policy and regulatory mechanisms, this policy is lacking in Palestine. However, the exercises of prioritization appear to be evolving despite the deficiencies, essentially a lack of consensus and low levels of knowledge and experience. It is noticed that the lack of political pledge and resources and capacity support, the absence of a national unified body and the effects of the political conditions are the key factors impeding the strengthening of the HRS stewardship functions in Palestine.

In order to cover this subject fully, further empirical research is needed to explore the more evident institutional HR operations related to the three functions, as well as to examine the applicability of the HRS functions and its compliance with international approaches, models, and guidelines.

There is an imperative need to initiate serious efforts to develop a national HRS in Palestine through focusing on strengthening the three functions. Initially, the attention decision-makers in the various sectors should be drawn by informing them of these facts and obtaining political commitment and more mobilization through a strategic policy dialogue. This dialogue shall involve all stakeholders to establish national consensus and agreed-actions on three tracks towards enabling the three functions of the system:

First: The importance of founding a unified national HRS body – the MOH is likely to be given the lead mandate to orchestrate this body regarding stewardship, resources mobilization, and regulation. The PNIPH could be that body – it was authorized by the state last year – but only after redeveloping it to become more representative and well-institutionalized nationally.

Second: The necessity to start the formulation of a national policy for HRS through this body. This policy needs to comprise a technical, scientific, administrative and legal framework, to ensure that the three HRS functions are appropriately working. More importantly, there is a need to reform the existing ERC for it to become a national and integrated professional committee that adopts international standards and has precise and clear procedures in the ethics process.

Third: Such a policy could essentially address the exercises of ENHRPs setting that need to be reviewed and combine all implemented exercises under a unified national entity. This is necessary in order to ensure a national consensus, comprising an inclusive involvement, systematic prioritization, priorities-needs matching, and well-disseminated priorities and with

a follow-up its application. On top of that, raising knowledge and expertise concerning this exercise among stakeholders is essential.

These proposals constitute an important roadmap that could inspire all stakeholders to move forward. In fact, enabling the stewardship functions is a fundamental move and it would have a great benefit to the state authorities, who should take the mandate to regulate all HRS activities with unwavering support and utilize the outputs from HR. The other key stakeholders such as academia, NGOs, and the private sector are also required to involve themselves actively in terms of HRS assignments, whether by funding, production or use. This should be realized through a well-shaped and coherent HRS framework where the roles are defined and coordinated, the operational policy is formulated and unified, and priorities are exercised systematically.

Therefore, ensuring the implementation of these strategic proposals even in a country like Palestine with all its difficulties such as Israeli occupation, resource scarcity, instability, etc., can give a precious opportunity towards strengthening these system functions. This would encourage the Palestinian institutions to produce meaningful knowledge and useful evidence to be utilized for three benefits: optimal use of existing resources, improving the performance of the Palestinian HCS, and thus promoting the health of the people.

Abbreviations

C&C: Coordination & Cooperation; COC: Code of Conduct; COHRED: Council on Health Research for Development; CVDs: Cardiovascular Diseases; DM: Diabetes Mellitus; EBD: Evidence-Based Decision; EKNZ: Ethikkommission Nordwest- und Zentralschweiz; ENHRPs: Essential National HR Priorities; ERC: Ethical Review and Clearance; FGDs: Focus Group Discussions; FP: Family Planning; HCIE: Higher Council for Innovation and Excellence; HCS: Health Care System; HIS: Health Information System; HPSR: Health Policy & System Research; HR: Health Research; HRD: Health Research Department; HRD: Human Resources Development; HRS: Health Research System; HRSA: Health Research System Analysis; HSWG: Health Sector Working Group; HTN: Hypertension; ICPH: Institute of Community & Public Health; IDIs: In-depth Interviews; LPHA: Lancet Palestinian Health Alliance; M&E: Monitoring & Evaluation; MAP-UK: Medical Aid for Palestinians; MCH: Mother & Child Health; MER: Middle East Region; MOH: Ministry of health; MOHE: Ministry of Higher Education; NCDs: Non-communicable Diseases; NGOs: Non-governmental Organizations; NHP: National Health Plan; NHRP: National Health Research Policy; NNU: Najah National University; NTDs: Neglected Tropical Disease; PCBS: Palestinian Central Bureau of Statistics; PCHR: Palestinian Council for Health Research; PHC: Primary Health Care; PLC: Palestinian Legislative Council; PLO: Palestinian Liberation Organization; PMC: Palestinian Medical Council; PNC: Post Natal Care; PNIPH: Palestinian National Institute of Public Health; PPP: Public-Private Partnership; RTA: Route Traffic Accident; SDGs: Sustainable Development Goals; SPHC: The Supreme Palestinian Health Council; SRC: Scientific Research Council; STPH: Swiss Tropical and Public Health Institute; UNFPA; United Nations Population Fund; UNRWA: The United Nations Relief and Works Agency for Palestine Refugees in the Near East; WB&GS: West Bank and Gaza Strip; WHO: World Health Organization.

Declarations

Ethical approval

The Research Commission of Swiss TPH approved the study (FK No. 122; approval date: 21 October 2015). Ethical approval was also obtained from the "Ethikkommission Nordwest- und Zentralschweiz" (EKNZ) in Switzerland (reference No. UBE-15/116; approval date: 23 January 2016). Ethical and administrative approval from Palestinian MOH obtained on 28 April 2016, the institutional review board of Helsinki Committee in Palestine (reference No. PHRC/HC/73/15; approval date: 7 December 2015), and the institutional review board (IRB) at NNU (reference No. 112/Nov./2015, approval date: 6 December 2015).

Consent for publication

Not applicable

Availability of data and materials

To keep data protected, data from the experts through interviews and FGDs are saved in the principal investigator's official laptop. These data are stored in a highly secured laptop with a secured key-file entry, under the control of the principal investigator MK and the supervisor MT, and only these two together have the right of accessibility and to review and use these data.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MT, YA, CP, AA and MK contributed to the conception and methodological design. MK, AA, RH, RS, MI, SA, II, IJ and HM contributed to the collection and analysis of data. MK contributed to the interpretation of the results and the drafting of the manuscript. All authors mentioned, including SH and AS, contributed to technical enrichment, reviewed, and then approved the final manuscript.

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3.2.4. Fourth part: The Palestinian HRS stakeholders, capacity, and resources

Article 4: "Palestinian health research system under the microscope: unfolding its stakeholders and exploring its capacities"

This working paper has been reviewed by co-authors and will be presented to *Eastern Mediterranean Health Journal.*

Palestinian health research system under the microscope: unfolding its stakeholders and exploring its capacities: a qualitative study

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Abstract

Introduction: There is a growing international and regional interest in Health Research Systems (HRSs) among stakeholders and system capacities within the frame of health improvement. The Council on Health Research for Development (COHRED) in collaboration with the World Health Organization (WHO) proposed a framework and global strategy for strengthening stakeholders' active involvement and adequate resource allocation for good research quality, transfer, and translation. Despite the growing research productivity, aspects of stakeholders and capacity in Palestine have rarely been investigated with regard to uncertainties. This study aims at analyzing perceptions of HRS performers to understand stakeholders' roles, recognize the status of research capacity, identify key gaps, and eventually to offer policy solutions to achieve stakeholders engagement and a comprehensive HRS capacity strengthening in Palestine.

Methods: This qualitative study targeted three local Palestinian health sectors namely governmental health institutions, schools of public health and major local and international health agencies. Data were collected through 52 in-depth interviews (IDIs) and 6 focus group discussions (FGDs) with policymakers, academics, directors, and experts, and then analyzed by using MAXQDA 12 (VERBI GmbH, Berlin). Participants and institutions were selected purposively based on a set of criteria and peer review.

Results: The overall stakeholder's roles were unsatisfactory with the low involvement of society, private, local and the international sectors. The role of international agencies in supporting health research is substantially weak due to conflicting agendas and lack of a guiding body. Despite the availability of competent human resources, the overall HRS capacity such as infrastructure, facilities, and financing form a central challenge. Research is basically funded, limited and unsustainable, through two sources, external and individual. The public and private funds are largely in shortage with resources misallocation and donors' conditionality. Research quality is moderately perceived by experts while knowledge transfer and translation are not well-conceptualized and inappropriately performed. Lack of HR culture, structure, policy, resources, defined roles, connection and network, evidence-informed concepts, and politic impacts are the main common gaps.

Conclusions: The overall HRS capacity in Palestine is evidently weak with inadequate performance, low involvement, and undefined roles of the stakeholders. The emphasis on expanding the stakeholders' involvement, identifying their roles, and strengthening HRS capacity is an imperative step for improving HRS performance at large. In the absence of serious national actions, strengthening actors' performance and HR capacity in Palestine could be an impossible mission. These actions should include political commitment, consolidated leadership structure, operational capacity building-strengthening strategy, and resources mobilization, strategic dialogue with donors, databases improvement, and effective communication mechanisms. Importantly, sovereignty restoration over national resources and protecting the health from political rebounds are fostering factors.

Keywords: Health experts, health research system, stakeholders, capacities, Palestine.

1. Introduction

Health Research System (HRS) is a system encompassing people, institutions, and activities to generate high-quality knowledge to be utilized to promote, restore, and/or maintain the health status of populations (Pang et al., 2003b). HRS involves not only the health sector but also key actors and institutions that may not consider themselves part of this system, but rather part of health, science, and technology or development systems, or indeed part of international or private research systems (Kennedy et al., 2008a). This paper addresses two key pillars of the HRS, stakeholders and system capacity. Both are interconnected and indispensable for any successful HRS, and it is essential to tackle them in a system analysis and mapping. Therefore, the WHO definition of HRS has delineated tow levels of stakeholders, people, and institutions (Pang et al., 2003a). The primary task of these actors is to boost the HRS capacity through allocating the needed resources to produce high-quality knowledge to be utilized in the decision-making process for health improvement (Sadana and Pang, 2004a).

HRS is a complex issue with diverse actors and contexts (Hanney et al., 2010b) and the lack of a common understanding is rooted in its multi-disciplinary and interdisciplinary nature. Since it has impacts on and relationships with other key systems, such as health, education, and sciences as well as technology, economy, and development, a holistic building and analyzing approach is required. This approach contributes to fulfilling the system potential in order to attain health, social and economic development (Andrew Kennedy and Carel IJsselmuiden, 2006a). Different conceptual HRS frameworks have identified system boundaries to help the stakeholders in strengthening it based on a better understanding from various perspectives (Geoffery M Lairumbi et al., 2011; S A Ismail et al., 2013). Of them Pang et al. is the approach which comprises multifaceted purposes; first, it is a conceptual framework for analyzing HRS, and second, its emphasis on operational capacity components,

specifically those comprising research financing, sustaining resources, and producing and using research (Pang et al., 2003a).

HRS stakeholders are the dynamic engine of all Health Research (HR) operations; consequently, grasping their roles, relationships, interests, strengths, and level of involvement is essential. They can affect or are affected by the HRS and they are considered an important source of information and providing critical perspectives (Schiller et al., 2013a). For a deep understanding and implementing the concept of mapping HRS actors and capacity, a wide-range analysis framework is used alongside with the stakeholder analysis technique (Hyder et al., 2010). This is a useful technique for identifying stakeholders' influence and importance that may significantly impact the success of the system (Health Knowledge, 2010; Schiller et al., 2013b), and also for examining their engagement, whether producers, users or funders, from the early stages of setting HR priorities until disseminating results (Concannon et al., 2014). The advantage of involving stakeholders lies in the increase of HR utilization and to promote the health of the population and the Health Care System (HCS) performance and to reduce inequities (Fadi El-Jardali et al., 2010; Jacobs and Haan, 2003). In turn, stakeholders' disengagement and capacity constraint result in inadequate HR policies and priority formulation (McGregor et al., 2014b).

The HRS capacity, including resources and knowledge quality, transfer, and application, constitutes the solid base and an imperative priority for any HR work. Building research capacity is an ongoing process of empowering individuals, organizations, and nations as for HR production, knowledge dissemination, translation and resources allocation (Abdul Ghaffar et al., 2008). Globally, the WHO, COHRED, the Global Forum on Health Research and other agencies explicitly emphasized this issue (Abdul Ghaffar et al., 2008; Lansang and Dennis, 2004a). It is known that HR capacity in sub-Saharan Africa remains one of the world's unmet challenges besides the allocation of less than 0.5% of national health budgets for HR

(Lansang and Dennis, 2004a) in the context of 10/90 gap (Louis J. Currat et al., 2000b). Recently, Health Research Capacity Strengthening (HRCS) strategy is implemented worldwide to improve the ability of the developing countries to tackle the persistent and disproportionate burdens of disease they face. The strategy has gained a substantial investment from donors; hence, they are increasingly interested in evaluating the benefits of their investments in HR (Pang et al., 2003a). Embracing the HRCS scope in this paper is a realistic guide for the conceptual and operational framework. The terms of "capacity strengthening" and "capacity building" are often used interchangeably; the first refers to establishing a research infrastructure, while the second more precise term means enhancing a pre-existing infrastructure (E. E. Vasquez et al., 2013).

Regionally, HR is under-invested on a national level across the Eastern Mediterranean region (EMR) countries, with critical skills shortages, weak governance, financial and knowledge application capacity, and low research productivity (Kilic et al., 2014a; S A Ismail et al., 2013). As AlKhaldi et al., 2018 (in press) revealed, this correspondingly applies to Palestine, where there is a knowledge gap about the reality of HR capacity, and insufficient research attempts addressing both pillars, the stakeholders' pattern of the Palestinian HRS and its potential and resources. Furthermore, understanding the system capacity is required to ensure that international aid is used effectively (WHO, 2014a), where donors' support to build proper research institutions is often inadequate (Lee and Mills, 2000a). The role of international institutions operating in Palestine, as one of the main aid recipients, in supporting and developing HR needs to be addressed in more detail in order to ensure that there are no negative influences on the local agenda (Ghandour et al., 2017; IJsselmuiden and Jacobs, 2005). Therefore, investigating the system stakeholders and capacity offers a clear outlook for realizing the actors' roles on the one hand, and grasping appropriate insights towards system building and strengthening on the other, especially in the fragile and under-established

countries such as Palestine. Thus, teaching and research constitute fundamental pillars of sustainable healthcare development in regions of instability through structured investment and international collaboration (Penfold and Ali, 2014).

In light of this, the study is characterized by the importance of the research subject, which is a strategic necessity not only for the health sector but also for Palestine in general as an emerging state. It is the fourth one in a larger research project that investigated other components of the HRS such as conceptual perception, satisfaction on system performance, and lastly, governance, policies, and priorities. This national study is the first one to address two central components, stakeholders and capacity; it could also be at the regional level examining both components for strengthening it. Hence, capacity includes three major aspects: HR standardization and quality (HRSQ), HR knowledge transfer and dissemination (HRKTD), and HR translation and utilization into decision and policies (HRTUDP). The overall purpose is to comprehend both components in order to bridge the knowledge gap and provide demonstrable strengthening insights to decision-makers. This was achieved by investigating the perceptions of a diverse group of experts from three relevant sectors in Palestine, government, academia, and local and international Non-governmental organizations (NGOs). Thus, the following three objectives are formulated to fulfill the study's general aim:

4. Explore key national and international stakeholders with regards to roles, involvement, and level of influence in the area of HRS, as well as investigate the role of international organizations in HR in Palestine.
5. Assess the actual status, gaps, and opportunities for improvement in HRS capacity respecting infrastructure, human and financial resources.
6. Investigate HR potential to recognize the three vital capacities and competencies: HRSQ, HRKTD, and ultimately, HRTUDP.

2. Methods

The study forms part of a large research, which has used a similar design (AlKhaldi et al., 2018, in press). System analysis frameworks were used, mainly Pang et al.'s framework (Pang et al., 2003a)**,** and other approaches such as system thinking and comprehensive HRS assessment (Carol D'Souza and Ritu Sadana, 2006b; Pang et al., 2003b; Ritu Sadana et al., 2006c; Saltman and Ferroussier-Davis, 2000b). A combination of these approaches is expected to help provide insights on HRS improvement and offer a better understanding of the research subject from various perspectives (El-Jardali et al., 2014). Two qualitative methods, IDIs and FGDs, have been used to assess inductively the perceptions on the HR governance, policy, and the setting of HRPs. Participating institutions' profile across the three sectors, inclusion and exclusion criteria and the study tools were similar to another study (AlKhaldi et al., 2018, in press). Tools, however, were constructed using different literature (Decoster et al., 2012a; El-Jardali et al., 2014; Emanuel Souvairan et al., 2014; Pang et al., 2003a; Ritu Sadana et al., 2006b; Sadana and Pang, 2004a). The study was undertaken in two geographical areas in Palestine, West Bank and Gaza Strip (WB&GS) from January until July 2016.

Diverse participants have been selected equally from WB&GS, and purposefully chosen using four sampling strategies; criterion, critical case, snowball, and homogenous. Identified participants were contacted and a limited number, seven of them, declined participation. Data were audio-recorded. The discussions were held in Arabic and were simultaneously translated and transcribed into English into MS word sheets, which were then revised for precision, checked and cleaned for accuracy. All transcripts were imported into the software, MAXQDA 12 (VERBI GmbH, Berlin), a software package for qualitative data management and analysis. Subsequently, the principal investigator created codes, read each transcript, line by line, and then linked the texts' pertinent segments with the relevant codes. Data were then displayed in

a particular matrix, according to the respective themes and codes, for analysis. Using thematic and content analyses, selected data or codes were reviewed and patterns of agreement and disagreement, meanings, and perspectives were extracted. Eventually, the analyzed data were reviewed and discussed carefully with the team during the drafting of the research papers.

3. Results:

Based on a comprehensive and diverse understanding of the Palestinian HRS stakeholders and its capacity, the overall responses answered by participants in both tools, IDIs and FGDs, were sufficiently convergent. Findings cover three domains:

1. Socio-demographic characteristics of study participants
2. Responses on the state of the system's local and international stakeholders role, and
3. The current infrastructure and capacities of the HRS, knowing that the second axis comprises three major components including HRSQ, HRKTD, and HRTUDP.

3.1. Socio-demographic characteristics of study participants

As illustrated in a previous paper (AlKhaldi et al., 2018, in press), the socio-demographic characteristics of participants were quite identical across these studies. To briefly sum up this section's findings, there are one hundred and four participants representing thirty-eight institutions from three sectors related to the subject of the study. Participants came from various backgrounds across public health and other related fields reflecting three contexts of public health; medical and biomedical and economic and political. The majority of participants in IDIs and FGDs in both geographical areas were on the first leadership level and held postgraduate degrees with an extensive experience in the health fields across the three sectors.

3.2. The status of HRS stakeholders

To get a precise realization of HR stakeholders (HRSHs) involved in HR in Palestine and map appropriately their roles and influence, the study approached the participatory stakeholders' analysis through three methods relying on experts' perspectives, the principal investigator's knowledge that has been formed over the research stages of the study subject, and pertinent literature. The analysis was built through three analysis approaches, mainly the conceptual

context of experts (participants' perceptions), the HRSHs involvement-roles continuum, and through the HRSHs power-interest grid.

3.2.1. The role of HR stakeholders

As table 3.11, presented below, demonstrates, the findings on the role of the HRSHs were combined, where the national stakeholders' roles were not appreciated by most experts. Most of the responses were distributed into two categories. Responses to the first category were the most frequent and reflected a conservative and displeased perception about the role of HRSHs. The negative perception of the role of HRSHs was provided by a diverse spectrum of remarks. Experts described the actors' roles of HR as follows: *"non-robust and weak", "fragmented and seasonal", "unsatisfactory and inadequate", "unfulfilled", "competitive and non-integrative",* and few echoed*, "there are no stakeholders"*. In contrast, the positive and more specific category, pointing to the positive role of the stakeholders, was less frequent. Responses were as follows *"somewhat cooperative", "impressive at the micro-institutional level", "a pivotal and good academic role while weak at the governmental level"*, and *"all roles are improving and can be better"*. Three remarkable quotes reflect this, a government expert said: "*All HRSHs are working independently"*, an academic added: "*weak role due to the producer-user gap where HR production is personal"*, while an NGO expert echoed "*each party does its best but the overall role is not as wished".*

In a relevant context, a number of experts agreed principally on the importance of the binary-role of the MOH and academia in HR. Experts emphasized the unilateral regulatory and governing role of the MOH through the Palestinian National Institute of Public Health (PNIPH), and to remain a major reference, funder, and user for HR. However, some NGOs experts in FGDs strikingly disagree on the mandate and capacity of the institute with regards to HR. Nevertheless, a number of academics and NGOs experts criticized the government's role in managing, funding and directing HR; few praised the role of the MOHE in embedding

scientific research in curricula and supporting research initiatives, where some described these initiatives as individualistic. The question of who can share the role of MOH and other government ministries was controversial. Some suggested the academia could take up this role jointly with state parties, others referred to the WHO, and a few expressed the opinion that all relevant parties need to be involved. Some experts argued that the academic role is limited to HR production only, although two academics criticized the low-level of this role. Remarkably, the financing role of both private and local and international NGOs sectors is criticized by a group of experts among the three sectors. An NGO expert echoed that the INGOs are important in the HR scope. In contrast, an expert from the same sector refuted this perception by emphasizing the significant contributions of some local and international NGOs such as professional fellowships sponsored by the Welfare Association, which is a Palestinian NGO, and the Lancet Palestinian Health Alliance (LPHA) initiative supported by the journal *Lancet*.

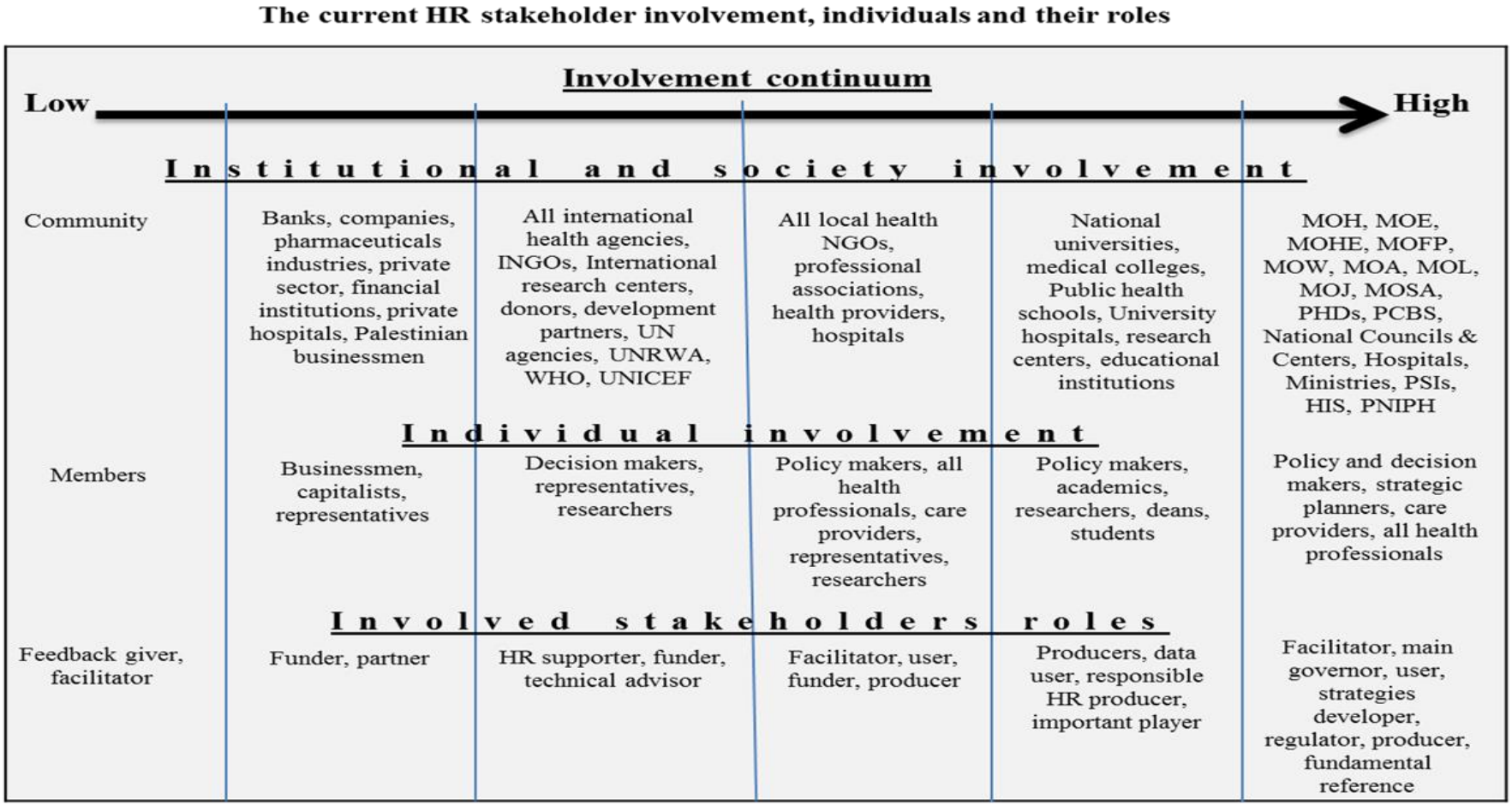
Table 3.11: Responses on the role of HR stakeholders (HRSHs)

HR Stakeholders role (HRSHs)	
Gov.	- Not strong - Vital academic role - Still Weak - A great at the micro-institutional level, - To some extent cooperative role - Cannot evaluate their disorganized role due to no system - All SH are working independently - Overall role is not satisfying,
Acad.	- Their roles are negatively performed - Not good due to disorganized and unvalued HR among care providers - Competitive roles rely on personal interests - Insufficient role with unclear tasks - Limited and need empowerment - All do not perform their role as required due to individualism and system gap - Their roles are dispersed - Weak roles due to the producer-user gap and producing HR for personal goals - There are no stakeholders - Individual roles and agendas
NGOs	- Each party do its best but the overall role is not as wished - Disintegrated sectorial work with a shortage in their assigned roles - Inadequate where most of their role is just services provision - Lacking a good linkage among all with unsatisfactory roles of gov. and academia - Vague roles, care provider or HR regulator - Difficult to evaluate their roles while no structure or system - Academia role is good but the government is inefficient - Fragmented and seasonal efforts - All Stakeholders are playing an important role - They do not work collaboratively - Their role is improving and can be better - A competitive role rather than complementary teamwork - No, they are not well-performing with a server performance shortage - Many attempts but unsatisfactory roles - Current roles are completely fragmented

Figure 3.2 illustrates the involvement level of HRSHs, which also reinforces many of the aforementioned pertinent perceptions. The continuum figure represents the actors through three dimensions: institutional and societal, individual, and the assigned roles. The continuum has a dualistic explanation; (1) depicts the current level of engagement of the HRSHs according to the demonstrated three dimensions, (2) indicates that the current representation is a factual reflection of a successful HRS, but on condition that the scaling up of the three

dimensions to a higher level is ensured. In other words, tri-involvement, society-institution-individual, needs to be constantly maximized, so that each role becomes representative and weighted in HRS. Certainly, the first dimension showed the government and academia as the most involved parties, while the private sector and community were insufficiently involved. Likewise, government and academic policymakers and representatives were more engaged than other sectors, with representatives and community members as least involved in HR. Finally, as experts delineated, most of the assigned roles of the HRSHs in the continuum are almost identified realistically, with varying levels of government and academic involvement in HR, but both actual roles remain weak. Unsurprisingly, only one academic and one NGO expert have outlined that community is a player, too, and should be involved as a partner in HR. The roles of the private sector, the international agencies, and the community in HR are passive with the lowest involvement level.

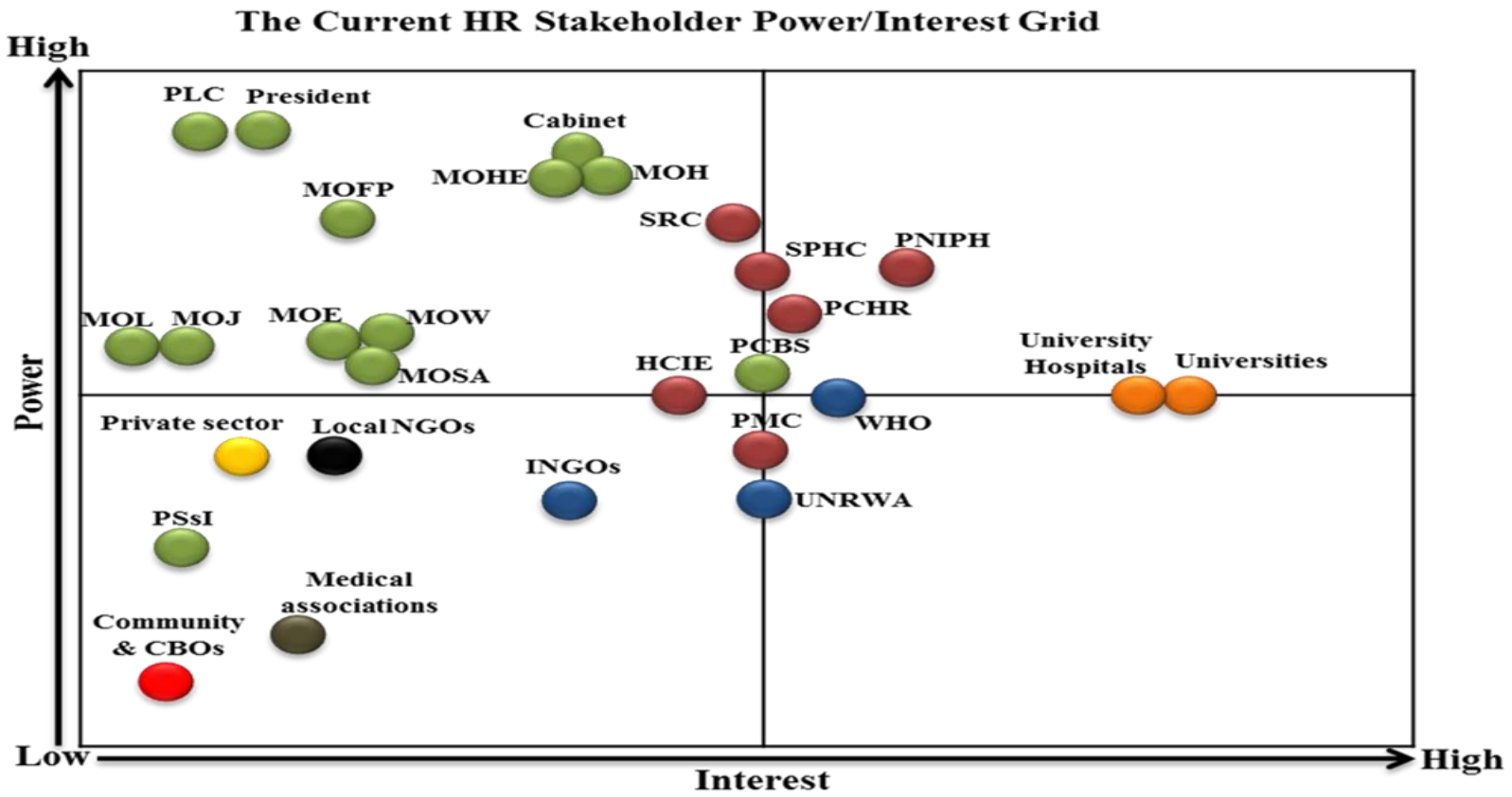
Figure 3.2: Current HR stakeholder's involvement, individual, and their roles



Abbreviations: MOH: Ministry of Health, **MOE:** Ministry of Environment, **MOHE:** Ministry of Higher Education, **MOFP:** Ministry of Finance and Planning, **MOW:** Ministry of Water, **MOA:** Ministry of Agriculture, **MOL:** Ministry of Labour, **MOJ:** Ministry of Justice,, **MOSA:** Ministry of Social Affair, PHDs: State Public Health Departments, **PCBS:** Palestinian Central Bureau of Statistics, **PSsI:** Palestinian Standards Institution, **HIS:** state Health Information System, **National Councils & Centres:** (**SRC:** Scientific Research Council, **SPHC:** The Supreme Palestinian Health Council, **PCHR:** Palestinian Council for Health research, **HCIE:** Higher Council for Innovation & Excellence, **PNIPH:** Palestinian National Institute of Public Health, **PMC:** Palestine Medical Council), **NGOs:** Non-governmental Organizations, **INGOs:** International NGOs, **UN:** United Nations, WHO: World Health Organization, **UNRWA:** The United Nations Relief and Works Agency for Palestine Refugees in the Near East, **UNICEF:** United Nations Children's Fund

Figure 3.3 displays the distribution grid of HRSHs in Palestine with two axes: horizontal representing the players' interest, and the vertical representing the power. To reduce subjectivity bias, the principal investigator relied mainly on participants' perceptions, and then on knowledge and active participatory involvement in the subject. This analytical grid aims for a better understanding of the actors' interactions and influence and it comprises four quadrants. Four national bodies, academia, and WHO are almost located in the first quadrant, high power-high interest, where most of the Palestinian academic institutions are national NGOs. The second quadrant shows high power-low interest, most of the government ministries and the highest sovereign institutions, headed by the president, Palestinian legislative council (PLC), Cabinet, and MOH. Low power-high interest is the third, which shows the lowest stakeholders' representation except some of the academic institutions and INGOs. The last quadrant is low power-low interest; few national bodies, most of INGOs, local NGOs, the private sector, professional associations, and community are situated in this quadrant. Importantly, the overall reflection, simulating an approximate landscape of reality, clarifies that the majority of national and governmental bodies have all power, but with a low interest in HR. In return, international and local NGOs, private and community institutions have low power; excluding academia and some INGOs who possess a moderate power and a prominent interest in HR and they contribute best to HR; unlike local NGOs, the private sector, associations, and civil organizations.

Figure 3.3: Current HR stakeholders Power/interest Grid



Abbreviations: PCL: Palestinian Legislative Council, **MOHE:** Ministry of Higher Education, **MOH:** Ministry of Health, **MOFP:** Ministry of Finance and Planning, **MOL:** Ministry of Labour, **MOJ:** Ministry of Justice, **MOE:** Ministry of Environment, **MOW:** Ministry of Water, **MOSA:** Ministry of Social Affair, **PCBS:** Palestinian Central Bureau of Statistics, **PSsI:** Palestinian Standards Institution, **SRC:** Scientific Research Council, **SPHC:** The Supreme Palestinian Health Council, **PCHR:** Palestinian Council for Health research, **HCIE:** Higher Council for Innovation & Excellence, **PNIPH:** Palestinian National Institute of Public Health, **PMC:** Palestine Medical Council, **NGOs:** Non-governmental Organizations, **CBOs:** Community Based Organizations, **INGOs:** International NGOs, WHO: World Health Organization, **UNRWA:** The United Nations Relief and Works Agency for Palestine Refugees in the Near East

3.2.2. The role of international actors in health research in Palestine

As demonstrated in Table 3.12, the general perception indicates that the international role in supporting HR is essential, currently indispensable, and ineffective, whereas the majority of experts believed that this role is still at a low level. Few experts hailed the role of international agencies in supporting HR financially and technically, but on an ad-hoc basis with a non-strategic motive and value. A substantial agreement across the three sectors was observed with regards to the factors behind the weakness of this role:

1. Political factors, represented in the conditionality of funding, and the prevailing donor agendas and ideologies and political mandates.
2. Factors concerning the donor's roles, which are described as unclear, unsystematic, influencing the process of formulating national HR priorities, donor resources, are unsustainable, unpredictable and inadequate, and essentially as NGOs participants in FGDs clearly emphasized, HR is beyond their interests.
3. Factors related to their operational role in supporting the health sector, as mainly emergency-based, humanitarian-oriented, project-driven, with a short-term scope, non-developmental, donors' activities do not meet the local needs, and eventually, their selective support to HR is often for evaluating their implemented programs.

Two policymakers delineated *"plays a positive role but insufficient and unsystematic in supporting advanced HR",* an academic viewed that *"this role is not efficient and unsustainable, and far from our interest",* while NGOs that *"the role is majorly humanitarian-focused".*

The findings came with a range of reinforcing thoughts for solutions to enhance this role. One important solution, which was frequently expressed by experts, is the need to speed up forming a unified national advisory policy entity for HR; a few suggested the PNIPH for this assignment. This body's mission with the involvement of all HRSHs would be to formulate a

national strategy, including a national fund for regulating, prioritizing, and funding the HR. In light of this strategy, it is important to focus on revitalizing the leadership role of MOH and/or PNIPH to allocate and manage the international fund appropriately towards HR components, mostly, investing this fund in human and infrastructure capacity building. Furthermore, a strategic dialogue led by MOH with local and international donors needs to be launched, to formulate a common and long-term vision linking their fund structurally with the local HR needs and priorities. Other perceptions emphasized that maximizing and diversifying our fund sources for a sustainable funding pledge is indispensable and should be managed by appealing to national institutions, individuals, and communities abroad. Furthermore, paying attention to optimizing the use of resources and prioritize HR on a regular basis through solid technical and governance procedures. Another reported enhancing factor is defining the role of the donors in supervision, monitoring and evaluation of this fund without their control and should be done under the state leadership. Lastly, donors should be urged to establish HR units associated with the national HR body.

Table 3.12: The international role in HR in Palestine

The role of the International players in HR		
Sector	**Description of the role**	**Enhancing factors**
Gov.	- Supports some HR, clearly, do not reach the required level - No remarkable role and their HR minimally address our needs - Unclear role and performed according to their agendas - Funding some scientific events and selective HR with limit involvement depending on their agendas - Do not know sufficiently, but generally based on initiatives and remains inadequate - Do not know well but I think they fund HR based on need - A valued role but focuses only on finance assistance - Plays a positive role but insufficient in supporting advanced HR such radiation exposure, oncology, etc - Plays an important role but in unsystematic approach - Their role depends on their agenda - Essential role and indispensable sponsor - Our HR relies on donors due to no state budget and body	- Agreed national HR vision and agenda to gear this role - Helping in HR utilization and benefiting from their experience - Regular prioritization exercise - Technical and financial support together - An optimal use of resources
Acad.	- The majority implement relief projects rather than HR - Funding is decreasing, health is not a priority instead of the security sector and projects-based - Seeks to fulfill their agenda, should not be relied on - Funding their own agenda and HR is not their priority - A fundamental role but influences HR priorities - Not that efficient and sustainable, it is far from our interests - The main source but its role is questionable - There a key role but insufficient - Conditioned fund according to their goals - It is supportive technically - Funding HR that are related to their projects and serves their ideologies	- Urge to promote the role of the influential role and guiding duty - Long-term funding with solid commitment based on national HR developmental strategy - A reform HR strategy to improve its operations - Collective national involvement includes international players in HR planning and implementation relying on national health needs - A national health institute or council could be the PNIPH, to be a body to manage the international efforts - A strategic dialogue to find a common point gaping the donor agenda and the national priorities

	- It is emergency and relief-oriented - Relies on donor goals with lack of attention to HR does not meet our needs - Selective and based on projects meeting their priorities - Supports HR according to their ideologies	- Fund diversification, not relying on one source and maximizing the national funding through companies, banks, diaspora Palestinians communities, and associations. - Urge the donor's fund to be invested in capacity building programs and resources provision - Partnerships with internal and international players
NGOs	- Do not think that it is important where their goals are political - Political and does not consistent with the Palestinian population needs - Mentioning their role makes me nervous where Palestine is out of their priorities - It is a prominent role - Actually, do not know but there are some research projects supported externally - An important role but imposes their agenda where HR is not in their scope - Have its own agendas - Most of the donors work on relief and emergencies and support HR to evaluate their programs - Helps the government with technical and finance to support the health system and research - It has a major role mainly in humanitarian crises - It neglects to establish HR body without attention from MOH - Do not think that it has a major role in HR where the huge fund goes to the MOH operations - It is the second source works on agendas and directed for relief projects not purely for HR - Finances HR according to its agenda - It is limited and does not meet the scientific research needs	- Promote their role in getting a state political independence - Using it in empowering our human resources - Founding a national supervisory committee to guide this fund appropriately - This fund needs to be linked with a clear strategic vision reflects the society needs and - Government leaders should build a collective body and national HR network and need to settle HR and to be guided by other abroad successful experiences - A solid agreed HR vision which must not be shaken by all kinds of funding while this funding should serve this vision - Donors duty is to monitor and evaluate the fund but not to impose agendas - Palestinian institutions and donors should focus on needs not on finding and irrelevant agendas - Institutional HR units across local and donors need to be established

3.3. HR resource and capacity in Palestine

3.3.1. HR infrastructure and human resources

Table 3.13 presents the findings on the HR resource and capacity (HRRC), where these are classified into three themes:

(1) The overall description of the HRRC,

(2) Obstacles related to HRRC, and

(3) Visions to improve the capacity.

For the first theme, the experts described the status of the HRRC as generally experiencing a noticeable shortage. However, some experts pointed to plenty of qualified human resources, particularly in academia, but highlighted the fact that these are untapped and, as many experts alleged, not adequately trained. Various academics remarkably revealed that MOH chronically faces a scarcity of essential medical supplies, academia sharply suffers from financial crises, and the lack of most resources is due to absolute control and restrictions imposed by the occupation. All responses about HR resources themed into two description categories, the first category is the most frequent and represents the vast majority. The descriptive remarks ranged from *"severe lack", "very weak", "limited", "scarce",* and *"inadequate"*. While the other responses, which formed the minority, were comprised: *"resources exist", "good"*, and *"good but unsophisticated and insufficient"*. Participating in FGDs, academics referred to a poor performance of HR to weak potentials. They admitted to the availability of resources and good capacity, but managing HRRC is said to be a central difficulty. Government experts recognized the lack of research budgets where they called for a 5% of the central health budget to be allocated to HR. Conversely, NGOs experts alleged that the national health plan 2011-2013 allocated 1% to HR, but other experts argued that this is unreal.

The second theme reflects on the main obstacles facing the HRRC being mainly correlated with the absence of a regulatory framework. Mismanagement of resources, a weak strategic leadership, duplication and individuality in HR efforts, brain drain, and insufficient experience and skills of current human resource were common hurdles reported by experts. Others pointed to other factors such as lack of sustainable and national funds, political turmoil, time constraints, and lack of investment plans in infrastructure innovation and technological development in all sectors. The third theme presents perceptions to tackle these hurdles; the majority agreed on the centrality of having a political support to initiate a strategic dialogue to build a national HR body. A development strategy and policy need to be framed by this body with emphasis on:

(1) Secure adequate and fixed budgets, stimulate the local support and invest donor funds appropriately to strengthen HR infrastructure;

(2) Advance the capacities of strategic planning and optimal resources management;

(3) Foster partnerships, fellowships, exchange programs, learning institution approach and capacity building programs, whether at the local or international level, to evolve the institutional and national HRRC; and lastly,

(4) Enrich approaches to research prioritization exercises, integration, intra-inter-trans-disciplinarity and networking for better resources and capacity identification, allocation and utilization.

Table 3.13: HR resource and capacity (HRRC) in Palestine

HR resource and capacity (HRRC)			
Theme / Sector	**Theme 1: description of HRRC status**	**Theme 2: Limiting factors**	**Theme 2: Enhancing factors**
Gov.	- Existed infrastructure and human resources - Existed but insufficient - Existed but insufficient and non-sophisticated - Insufficient with untrained staff - Very weak with good staff - Insufficient with good human resources - Insufficient with existed trained staff - Plenty of human resources - Only existed human potentials - Sufficient R&C, especially in academia - Limited R&C - Limited R&C - Weak R&C and infrastructure - Scarce except qualified staff - Scarce of R&C - Scare of R&C - Very weak R&C and infrastructure	- Brain drain and lack of manpower, data statisticians, and analysts - Limitation of equipment, technology, and advanced facilities - No specific budget and active body - Lack of national fund, and mostly externally-dependent - Lack of coordination - R&C insufficiency in all HR sectors - Duplication and fragmented institutional potentials - Resources inefficiency and misuse - Economic and political breakdown - Serious lack of specialized HR, cancer, genetic, molecular, RCTs - Poor academic curriculum - Time constrain to the researchers	- Develop the researchers and policy makers competency and expertise via continuous education - Boost the internal and external exchange programs - Encourage health professionals on in-job research - More investment in under and post-graduates in HR - Good management of better allocation and rational utilization, - Political will and certain capacity development vision - Fixed budgets allocation and founding a national fund (5% from MOH's budget for HR) - Expand the R&C of good HR prioritization and production such as experimental studies - Revitalize the international support - A system to govern and develop all R&C properly through a harmonized sectorial approach - Collective strategic thinking to identify our HR priorities and then the required national capacities
Acad.	- Existed capacity but untapped manpower - Existed facilities and qualified manpower - Great potentials and experts exist - Good R&C and advanced facilities - Existed R&C, especially in academia - Insufficient capacity with bright experts - Variable capacity with good manpower - Limited capacity and facilities with well-	- Lack of management and rules - Lack of sustainable national fund, mostly external and individual fund - Lack of leadership and support - Brain drain and lack of incentives - Time constrain to do HR - Lack of skills and competencies in advanced HR studies, methods..etc.	- Good management by MOH for optimal allocation of sufficient budgets and resources - Founding a system and reform strategy to set an empowering vision for upgrading the infrastructure - Promote the learning approach inside the Palestinian institutions - Capacity building programs for policy makers and researchers and allocate enough time for HR

	qualified staff - Limited R&C with certain infrastructure - Limited R&C - Limited and scarce R&C - Limited capacity and relative good experts - Weak capacities and potentials - Very weak infrastructure and skilled experts - Poor HR facilities and no infrastructure - Too limited R&C - Nationally, basic needs for the MOH are not existed, while institutionally yes - Severe lack of bright minds, but our R&C are controlled by Israel	- Individual HR for personal goals not for society benefits - Shortage of human resources - Academia curriculum is weak - Obstacles of the political context - Resources misallocation - Lack of university hospitals and infrastructure for specialized and basic HR, such RCTs - Gaza Strip is more capacity-constrained than West Bank - Unshared databases	- Avoid the politic impacts in health - Pay attention to experimental HR - A need for PNIPH role to develop HR capacities - Exploit the donor's support in the capacity advancement - Expand the local and international partnerships and exchange initiatives - Renovate the school's curriculum to be research-based and enhance faculty members loads - A need for an electronic national library, technical HR center, and university hospitals - Enhancing research prioritization exercise
NGOs	- Excellent R&C - Existed R&C, but need a proper use - Good R&C, but does not reflect on the HR performance - Good R&C and infrastructure - Insufficient and improving with good staff - Insufficient capacity and very inspired staff - Insufficient R&C - Insufficient R&C - Limited R&C - Limited and undeveloped R&C - Weak R&C - Weak R&C with bright manpower - Very weak R&C as no system and interest - Very weak R&C - Poor R&C and infrastructure and capable staff - Poor R&C - Scarce R&C in all sectors	- An organizing system is missing - Maladministration and resources misallocation - Unsustainable individual and external fund and deficiency of national, no specific budgets - Lack of advancing plans to R&C - HR is competitive for personal purposes and lack of coordination - Brain drain and HR is undervaluing - Financial crises in academia - Lack of manpower capabilities, training, and motivation - Lack of technology use, advanced libraries and well-equipped facilities for RCTs or applied studies - Duplication and fragmented institutional potentials	- A collective national body, PNIPH can take this lead - A political will and attention should be presented - Investment and sustainable and national official fund - Urge the international agencies to assist the country research R&C advancement - Regular priorities setting to determine the required R&C - Sponsor and support the senior and junior researchers through incentives and exploit the postgraduates - Maximize the optimal resources use and allocation - Capacity buildings programs - HR value and orientation should be enhanced - Adopt the multi-disciplinary approach in HR - Promote the R&C of the operational and clinical studies - Complimentary HR environment rather than competitive and public-private partnership - A national network includes the state, academia, and

	- Non-existed capacity but very good experts		NGOs, to coordinate and mobilize R&C - The active role of the SRC and LPHA

3.3.2. HR financing

Table 3.14 shows the findings on the status of HR financing (HRF), which comprises four themes: (1) the state of funding, (2) its sources, (3) gaps, and (4) the steps needed to improve HRF. Concerning HRF status, the findings show an overwhelming consensus on extreme fund deficiency directed to HR. The majority of experts harmoniously echoed that the hands of Palestinian government and institutions are tied in spending to HR. This was evidently emphasized through their reflections that *"no specific HR budget and allocation", "HRF is insufficient, scattered, unsustainable, and project-based", "HR is not a priority and underinvestment", "external, conditioned",* and *"a major challenge"*. With regard to the sources of this fund, the experts overwhelmingly agreed on the two main sources of HRF, the first and mainly from external resources and donations through international organizations, and the second source is an individual resource, which means that researchers are financing their research at their personal expense.

The most important gaps that hinder appropriate and sustainable HRF were focused on three dimensions: the first associated with the low official interest in HR, the absence of regulatory frameworks, financing, and investment strategies, and also that less important sectors were allocated greater funding. The second is notably related to bureaucratic procedures for financing and the conditions of the donors. The third dimension is the scarcity of national resources and the political conditions. For better HRF, promoting the importance of HR and to develop national HR agendas to identify and guide resources appropriately is essential.

To sum up, the findings indicate that a political commitment is essential to ensure sustainable financial resources for HR through possibly different channels, such as:

(1) Establishing a national fund under the MOH-PNIPH joint patronage with proper resources allocation and management, and

(2) Stimulating domestic financing and optimizing international funding on the basis of a long-term strategic partnership to ensure the pillars of HRS are firmly in place.

Table 3.14: Health research financing in Palestine

Health research financing (HRF)				
Theme / Sector	**Theme 1: the status of HRF**	**Theme 2: HRF sources**	**Theme 3: HRF gaps**	**Theme 4: Improving the HRF**
Gov.	- No specific budget in MOH - Not sufficient fund at all - Generally is minimal - Scattered fund and donors are working randomly without sustainable funding sources - Underinvestment which is not given a priority politically - We do not have a fund at all - HR is itemized in the gov. budget for HR and academia and NGOs alike - The funding mechanism is enough, sufficient, and sometimes are plenty	- Mostly comes from external donors, little from national such gov., banks, companies..etc. - Mainly from donors then some national sources and MOH rarely funded HR - Mostly funded individually (self-funding) e.g. postgraduates and others from external donors directed to national institutions	- The bureaucratic process to secure fund - The absence of financing strategy for HR based on priorities - No political interest in HR - Lack of the gov. financial resources - Research funding and agendas are donor-driven - The absence of a collective body	- Good resources management - Set priorities to allocate fund based on them - Academia should play a role in funding HR
Acad.	- There is no available national or institutional fund - We have a problem with funding with no interest of banks and another possible funder - There is no funding except foreign which means no staff allotted for HR - Inadequate, unsustainable, conditioned serve donors ideologies - The lowest gov. priority, and budgets unavailable - Lack of fund which is a key barrier - No gov. allocation	- Externally or self-funding from postgraduates, without gov. fund - Foreign sources - Mainly depends on external sources with complicated procedures - Local researchers personally financing their descriptive studies which are less expensive - From NGOs and some gov. institutions e.g. MOHE - Mostly self-funded or from donors - MOH fund is completely not existed - Usually by donors and individuals	- The unwillingness of serious political decisions - Funder restrictions and control - The scarcity of national resources, simply, MOH does not have money for securing pharmaceuticals - The absence of sponsoring body - Political deterioration and siege	- Allocate sufficient fund through establishing a national fund or central gov. budget allocation - A need for national and international cooperation - Allocated HR sustainable fund from the GDP - Mobilise local fund and initiate the external NGOs support for HR based on clear society needs

	- Donor agenda-driven	- Lower from institutes and gov. and bigger from external		- Agreed national agendas steering the external donors
NGO	- No specified fund in UNRWA for HR, which is part of NCDs budget - Absolutely no local fund - Seasonal without significant gov. fun - The is a lack of funding - We do not have special budget allocated for HR, this aspect is an institutional challenge - HR fund is based on programs, rarely has a separate budget - Externally and unsustainable - No institutional fund and individual - Unsustainable due to unpredictable political situations - Unsustainable and its channels is weak	- Internationally funded - Individual-based or donor-dependent e.g. World Bank, Japanese and Norwegian govs, WHO, and UNFPA - External donations - Mostly international, sometimes academia funded partially and indirectly - The individual fund, but sometimes WHO, USAID, and EU funding HR - Mostly international, private funding for HR is weak as well as the gov. - Mainly international, such as the Lancet through LPHA and limited comes from MOHE and NGOs as fellowships or in-kind fund	- HR is not itemized in the gov. budget - Lack of investment sense, huge spending on services instead of HR which costs less - Donor policies and agendas - Large fund for applying operational and clinical research projects are mainly unaffordable - Significant spending on other sectors (security) - External fund to HR cut off from humanitarian and relief projects not developmental	- Secure sustainable fund through political and financial commitment - Many fund opportunities to develop HRS in Palestine to be invested - Activate the international role in supporting HR, financially and technically - Initiate national proposals to big donors sides, like Bill and Melinda Gates Foundation, John Hopkins University, and many other - Promote the conviction and importance of HR

3.3.3. Health research capacity related to standardization and quality, knowledge transfer, and knowledge translation

3.3.3.1. Health research concerning standardization and quality

Table 3.15 compares the pattern of HR in Palestine against the best quality practices and standards of international research. Findings are almost inconsistent and were categorized into two groups. The first group of experts perceived that HR standardization, guidelines, and quality (HRSQ) in Palestine are satisfactory and considerably improving, this is clearly outlined by one government participant: *"yes, at the publishing stage where international journals have rigors guidelines"*. The perceptions of the second group viewed HRSQ as less than satisfactory level, where they considered this issue a big gap and a serious problem. This is clarified by an NGOs expert, who said: *"there is an immense number of HR with lack of quality".*

Based on the above, it can be concluded that the most frequent gaps facing HRSQ can be sorted into two groups; (1) institutional and environment gaps and (2) gaps related to research and researchers. The first included the lack of HR policies and priorities, resources and capacity, the lack of specialized excellence research centres, and weak institutional review of research, and the second included lack of researchers' orientation and linkage with the international research landscape, the scarcity of prestigious-high impact local journals, the weakness of health schools' curriculum, and research individualism as serious problems.

Consolidated perceptions generated five improving insights towards appropriate HRSQ, as follows:

(1) Providing political will and agreed HR policies and priorities putting the issue of quality inattention;

(2) Mechanisms should be developed to facilitate greater openness to international HR expertise, strengthen partnerships, and exploit the technology and communication facilities for exchange programs;

(3) Systematic capacity building and education programs to increase stakeholders' knowledge and competencies about fundamental topics of good HR quality such as design, methods, analysis, writing, and publication and dissemination;

(4) Entrench the HR teamwork and invest in existing research initiatives such as LPHA, and

(5) Establish a national HR quality, monitoring, and evaluation mechanism.

Table 3.15: HR standardization and quality (HRSQ)

HR standardization and quality (HRSQ)			
Theme / Sector	**Theme 1: the status of HRSQ**	**Theme 2: Limiting the HRSQ**	**Theme 2: Enhancing the HRSQ**
Gov.	- Yes, it is standardized and HR responsible are qualified - Yes, most of HR meet the international HRSQ - Yes of course, where we have a quality education system - Yes, standardized and meet HRSQ - HR in Palestine is of high quality and meet HRSQ - Some HR meet the international standardization when they get published in high impact factors - HR relies on international standardization endorsed by WHO, but we cannot say that it is efficient and standardized - We attempt to meet the HRSQ - Barely meets the HRSQ criteria, some researchers do high-quality research. We have many HR published internationally - At the publishing stage yes where international journals have rigors guidelines - In the average level - In fact, I don't know - It is hard to judge - No, every university has different ways of HR - HR is under the quality level, only for promotions	- Unsupportive environment and culture, poor capacity building programs, weakness of school curriculum, the absence of clear policies and agreed priorities - Our abilities, experiences and will are very limited - Inadequate funding - Lack of experts in HR - Shortage of data that observe the national productivity of HR - HR time, effort and cost - Lack of specialized national HR center	- Addressing carefully these gaps - Need more budgets, good HR management, coordination among all stakeholders - Capacities and experiences need to empower - Encourage the academic exchange programs with others - Self-development, sufficient resources, and political support - Formulate laws and effective policies will increase our HR quality - Education programs in scientific research
	- Yes, academia has a very high quality and reach inter. guidelines - Not a lot but some HR performed with good quality	- Noncompliance with the international HR guidelines - Brain drain	

Acad.	- We often publish properly - There are some good HR with high quality - To some extent, HR reaches the appropriate quality - Moderately, high HR quality often done by foreign co-authors - Our HR has a moderate quality - Relatively, we have researchers produce HR with good quality - HR quality is variable, some are good and some are bad - Majority HR lacks good quality - Our HR quality is not good enough despite many good publications - Quality is low and not comparable with international standardization - No clear national policy includes guidelines - No, HR production is a very low quality and quantity, do not meet HRSQ - Poor quality with a huge gap with the international guidelines	- HR performs for personal purposes - Lack of resources and infrastructure - HR plagiarism and researchers bias - Weak researchers competencies and skills in different research expertise - Gaps related to HR design, methods, analysis, data quality, and interpretation - Lack of international experiences - Time constraint - Shortage of financing - Lack of good journal accessibility - Lack of experimental HR - Lack of excellence HR centers and weak official sponsorship - Nobody to monitor HR quality - A gap in the schools' curriculum	- Good investment in HR productivity - Allocate appropriate financial support and resources - Overcome plagiarism and promote HR objectivity - HR should be focusing on priorities - Systematic capacity building programs to develop HR leaders, experts, and postgraduates skills in research critical thinking, design, writing and publication - Pay attention to the international orientation to exchange knowledge and expertise - Effective HR policies addressing HRSQ
NGOs	- HR is conducted in a good quality way but still weak against inter. Stand - It is satisfying and based on scientific methods - There are HR with a high quality - HR quality is improving and requires long way - There are some HR with quality, researcher striving to get high quality - It is variable - We have conducted a good HR but still quality is still weak - I perceive it is weak, there is a quality problem	- HR is unsystematic and lack of strategic HR policies or unified body - Shortage of resources and facilities - Low researchers qualities and skills - Inattention and unwillingness to HR - Quality data but disorganized, unanalyzed and used in practice	- More exposure to the international HR experiences - Investment in LPHA to expand our HR capacity and expertise - The research team working group is essential - HR should meet the local needs - Annual national forum for HR - Dynamic HR monitoring and evaluation system in Palestine

	- Very weak - HR is not of high quality yet and does not meet international guidelines - Weak and it is a real problem - Do not meet the international guidelines - Poor quality, it needs more improvement - An immense number of HR with lack of quality - We still have not reached the required HR quality - No way, but there are some individual attempts reached the quality	- Discontinuity of HR process - Lack of orientation and linkage with the international HR - Lack of local high impact journals - Weak of institutional HR reviews - HR duplication - A gap in education curriculum of the health professions - HR performs for individual not society goals	- Unifying the HR concepts, methods, priorities, practices, uses and guidelines. - Promote the use of communication and technology - Capacity building programs in HR concepts, methods, and good practices

3.3.3.2. Health research knowledge transfer and dissemination

Table 3.16 demonstrates the findings of capacity for HR knowledge transfer and dissemination (HRKTD). The study presented primarily the level of agreement of experts on HRKTD pattern, besides the three themes; (1) the main hindrances of HRKTD, (2) improvements, and (3) prospects to be invested. IDIs and FGDs views consistently showed a consensus on the unsatisfactory level of HRKTD and non-systematic and improper sharing of evidence. The most noticeable descriptions are *"completely dissatisfied", "not performing well and below the required level", "barely transferred or shared", "almost paralyzed",* and *"poor and limited"*. Equally, views from government FGDs described the HRKTD as worse, where HR outputs are unused and retained on the shelves. However, a limited number, mainly academics and government experts, expressed that the HRKTD pattern is often good and growing.

Six gaps were identified by experts concerning HRKTD:

1. Gaps related to this process such as the immature culture of sharing, lack of tools and mechanisms; particularly with regards to key conferences, local journals, periodicals, workshops, libraries, and platforms. Moreover, HRKTD is selective but non-inclusive, meaning that it is limited to micro-institutional and individual level but not national.
2. HR is carried out for researchers' personal purposes and/or a donor's particular agenda.
3. HR is an incomplete performing process and the role and skills of researchers in the dissemination and translation are lacking.
4. Most important is the lack of a regulatory framework, policy, resources, and poor communication and coordination between producers and users with very weak international networking.
5. Decision makers' rely on the internal report and they are not evidence-oriented and practiced in the decision-making process.

6. Data inaccessibility, a high degree of disorganization, and a tendency to the monopoly of the data whether collected by researchers or the national vital statistics, as well as blockade and barriers due to political instability.

Conversely, the findings presented solutions needed to advance HRKTD. The most substantial action is obtaining the political support to establish a national body to guide the HR policy, to mobilize resource, to delineate the stakeholders' roles, and to enhance coordination. It is also necessary to increase the awareness and skills of researchers and decision-makers on HRKTD. By using technology and interactive facilities, the need for investing in advancing HRKTD mechanisms and tools such as the center for Knowledge to Policy (K2P), Strategic Policy Platform, and Research-Decision-making Lab. Finally, ensuring the information and databases system is organized, accessible, and transparent, and entrenching the spirit of research teamwork and incentives to encourage publication. Interestingly, the experts presented a set of opportunities that, if exploited, will foster the advancement of the HRKTD process such as the abundance of published and unpublished research, existing partnerships, running bodies, excellent experts and students, and relevant academic initiatives.

Table 3.16: HR knowledge transfer and dissemination (HRKTD)

HR knowledge transfer and dissemination (HRKTD)			
Theme / Sector	**Theme 1: Limiting factors of HRKTD**	**Theme 2: Enhancing factors of HRKTD**	**Theme 3: opportunities to build on**
Gov.	- Unified system and policy are missing - Weak HRKTD tools (e.g. journals and periodicals) with lack of advanced technology infrastructure - Weak recognition and immature sharing culture - Selective unsystematic HRKTD and unclear roles - Miscommunication and lack of coordination and cooperation - Data inaccessibility and unsystematic - Limited HRKTD at micro institutional while absent at the macro national level - No specific central HRKTD platform - Researchers disregard to share their works with personal desires - Officials inattention to use HR as a decision-making tool - HR from academia is not disseminated and unexploited - Lack of intellectual integrity and right - HR redundancy and discontinuity - Conducted HR is rarely needs-driven - The deficit of specialized HR (surgery, internal medicine ...etc) - Lot of descriptive HR and weak applied HR	- Effective HRKTD mechanisms and entrench communication channels - Integral-institutionalized system by activating a unified body and building HR strategy - Political will and guidance - Resources and incentives are needed - Divide stakeholders roles - Raise the awareness of HRKTD - Real C&C should be enhanced and promote a national scientific-policy dialogue between researchers and decision-makers - Provide rewarding measures - A need for effective and reliable central computerized information system - Allocate sufficient resources	- Plenty of published and unpublished HR - Certain connections and cooperation - Well-developed health information unit which has a good collecting method - LPHA and PNIPH presence - Excellent students and experts - Some respectable HRKTD academia attempts
Acad.	- The absence of HRKTD mechanisms - HR either for personal interests or getting fund - HRKTD is only limited to workshops and conferences without a well-informed DM - Publication incompetence and cost, time limit and academic overloads to perform HRKTD	- coordination, partnership, and teaming - Agreed vision and policies - Incentives focus on HR quality, credibility, publication and HRKTD abilities - HRKTD platform or communication such as Knowledge for policy (K4P),	- Good HRKTD by many academic institutions - A critical function to get decisions informed

	- Uncompleted researchers role with lots of unpublished, not disseminated and underutilized HR - Resources and fund insufficiency - Communication gaps and researchers are not involved in decision-making - Unreliable, inaccessible and not well-analyzed data which is descriptive - Some HRKTD performed for graduation or personal needs - The difficulty for decision makers to read and understand English publication and knowledge - Decision makers are not interested in evidence - Lack of the role-play culture among producers and users - Policymakers reliance on internal reports - Lack of local good journal	agreed database, encourages dialogue and research-decision making the linkage - More investment on HRKTD, and a supervisory inclusive body - PNIPH should be exploited to manage HRKTD properly - Decision makers involvement in HR - Institutional HRKTD means and encourages Arabic publications and specialized conferences - Supportive climate and HR centers with information accessibility (e.g libraries, labs, training) - Awareness on role-playing in HR - Train human resources in HRKTD	evidently - Some universities implemented campaigns on HRKTD - Plenty of HR - PNIPH could be an HRKTD platform - Human resources with good potentials - WHO and private sector funding role
NGOs	- Regulating body and leadership is lacking - Selective HRKTD not inclusive - Lack of local high impact journals (e.g Arabic), decent conference, and libraries - Lack of linkages and coordination and cooperation among producers and users and institutions - Inattention to read HR findings - Researchers incomplete role in HRKTD - Poor roles of MOH to lead and academia to feed - State database is disorganized and inaccessible - Unstructured HRKTD and a common platform is missing - International connections are limited - Blockage and political conditions - Individual and donors interests impede HRKTD - Lack of publication competence and writing an informative policy analysis	- MOH should establish a clear governance structure and policy to manage HR effectively in decision-making - More attention to HRKTD and HR importance and evaluation - Promote team working and coordination and cooperation - Set a dynamic and structured HRKTD platform, use technology and encourage policy dialogue - Annual expanded Congress to share all relevant national HR outputs - A committee to ensure HRKTD - Scientific publication needs to	- MAP-UK- ICPH partnership in LPHA as the best platform for HRKTD - High experts - International agencies to promote HRKTD - Technology advancement and distance learning - International publications by local researchers - Local conferences

	- Low HR credibility and quality - Data monopoly	encouraged	

3.3.3.3. Health research translation and utilization into decision and policies

This last section explores the pattern of HR translation and utilization into decisions and policies (HRTUDP) in the Palestinian health sector. As Table 3.17 illustrates, there was a remarkable concord among experts' perceptions in IDIs and FGDs that the outputs of HR are not inherently and methodologically applied and relied upon in the decision-making process. The spectrum of echoed descriptions ranged as follows: *"no application", "weak and poorly-translated", "disappointing", "un-embedded", "ineffective and inappropriate", "producer-user huge gap", "improper KTD", "HRTUDP received executive's inattention and it is not a tool in decision-making", "HRTUDP is unmet issue",* and *"most of the decisions are not evidence-based"*. On the other hand, a limited sectorial group believed that there are practices to apply and utilize HR production, but these practices are performed in an individual, selective, occasional, interest-driven, and unstructured way in the health decision-making process. However, very few experts expressed their lack of knowledge about the HRTUDP pattern.

The study found critical gaps that adversely affect HR application and translation into practice. These gaps are divided into three types according to prominence: conceptual, technical and gaps related to the HCS and HRS at large. Conceptually, decision and policy-makers are not research-oriented with a lack of knowledge and culture of the evidence-based decision (EBD) and knowledge-informed policy (KIP) in general. Technical gaps revealed a huge connection and coordination gap between researchers and decision-makers, poor KTD and sharing mechanisms and tools, problematic issues such as HR quality and credibility, much of individual research does not reflect crucial priorities, plenty of descriptive HR but scarcity in the applied and experimental, academic HR production is not seriously invested by the state. The last shortcomings of the two systems were the absence of a unified regulatory

frame, policy, and priorities, resources dedicated to HR, institutional instability, and management changes, and national political and economic conditions.

Towards a dynamic HRTUDP process into health sector operations, several proposals were delivered by experts and classified into two tracks, structural-policy and technical-procedural. The first track referred to the need of founding a regulatory framework that includes unified policy and priorities ensuring effective communication across all HRSHs and to build local (state-academic integration) and international partnerships to make HRTUDP functionally applied. Also, political influences in the decision-making and planning process should be prevented. For the technical-procedural track, it is indispensable to:

(1) Ingrain the concepts, practices, and tools of HR, EBD, and KIP among decision makers across sectors and also the concepts and approaches of KTD among researchers, as other studies clearly emphasized (AlKhaldi et al., 2018, in press),

(2) Create dynamic communication channels between the research and policy communities through knowledge-policy forums or centers, journals clubs, policy workshops, and national policy briefs and summaries, and

(3) Encourage dissemination and distribution of research and knowledge through creative technological institutional and national well-linked channels.

Lastly, the most important enabling opportunities to be exploited are existing bodies, initiatives, and previous attempts to push for improved HRTUDP, among them PNIPH, PHC, SRC, and the Lancet annual conference, Lancet Palestinian Health Alliance (LPHA).

Table 3.17: Health research translation and utilization into decisions and policies (HRTUDP)

Health research translation and utilization into decision and policies (HRTUDP)			
Theme / Sector	**Theme 1: Limiting factors of HRTUDP**	**Theme 2: Improving factors of HRTUDP**	**Theme 3: opportunities to build on**
Gov.	- Each entity has its own evidence without sharing them with other - Financial shortage - Gaps in coordination, communication, and conflicting interests, no sectorial coordination between producers and users - Ineffective evidence and knowledge dissemination, researchers do not share their results - State management changes hinder a constant HR translation - Poor qualification and funding - Policymakers preoccupation to read policy briefs - A plethora of unused information and knowledge - Weak attitude and culture on HR - Plenty of descriptive HR rather than experiment - The absence of agreed body implements HR outputs - Quality of HR is a questionable	- Agreed policy maintains results application - A comprehensive cooperation is needed based on agreed priorities - Promote communication and C&C among acad. and gov. - Reactivate journals clubs to review HR findings to be utilized - Decision makers must be convinced of HR evidence in planning and decision-making - Increase awareness of evidence-based decision-making - Sponsoring researchers and develop their abilities - Systematic policy workshops discus all implemented research - More focus on clear and regular policy briefs to decision-making and planning	- PNIPH existence and role to take this mandate - PHC can play an important role
Acad.	- HR outputs from health schools are untapped and it is not a methodology of state policymaking - The political agendas and some donors influence - No transparency and the culture of Evidence-based practices (EBPs) is immature - Limited funding and resources - The gap between researchers and decision-makers with unshared knowledge through clear interpreted	- A need for system adopts the HR routine translation process to be well integrated, urge decision makers to be research-oriented and develop their capacities in EBPs - Effective, efficient and timed translation into des-making practices by good evidence	- Some few successful attempts which are evidenced-based such as NCDs screening) - WHO explicit role to

	findings - Many of unpublished research and not priorities-based - Policy makers are not research-oriented and dependent on political inputs rather than evidence with a low technical research background - Time limited to academics and their weak role in the dissemination - NGOs are dependent and captive to donor's wills - HR are restricted to academia and not address HCS needs - Lack of experimental studies and quality is an issue - Most HR do not address health improvement, are conducted for personal interests, poor dissemination - Contradicted goals and a way to obtain fund - Health actions are spontaneously performed not based on HR - HR credibility is a problem - Unused HR because of ends on the shelves - Ineffective role of HR departments in adopting and dissemination its outputs	dissemination and communication between researcher and decision makers with get them involved - Training to raise awareness and skills on HR dissemination and application - Organizational planning is needed - Encourage publication and dissemination - Convince decision-making level to adopt new policies dedicated to EBPs and work collaboratively - Set a roadmap involved all players on how to translate evidence into decision-making - Sectorial research-policymaking coordination and cooperation based on agreed priorities in research topics selection, conduction, and dissemination - Forming a high scientific research body to take the duty of HR translation	develop HRS and seize Lancet annual meetings - With Evidence-based decisions (EBDs), will get a valued and more rational decisions, but without it will lose resources, unimproved health, and incorrect decisions - If applied, HCS and care will be met and improved - Birziet University and LPHA have been achieved good achievements
NGOs	- Lack of policymakers awareness and interest in HR - System or body is missing without decision-making follow-up - Produced evidence does not reflect the national priorities or connected with the society needs - Lack of communication among all stakeholders - Weak outputs dissemination to policymaking - Lack of HR quality and data credibility - No agreed HR priorities - The negative impact of social, political and economic instability on decision-making - Lack of a clear HR strategy or policy	- A clear structure to guide HR, foster knowledge transfer and translation, a solid link between researchers and policymakers - MHO should embrace EBDs in policymaking processes - Support to encourage human resources - A body to implement evidence translation, local-international networks to benefit from their experience and to get accessibility - Politic tensions should be separated from	- Major PNC and ANC improvements based on evidence - PNIPH to lead improving EBPs and

	- No influence on decision-making and HR is a personal interest - Most of HR done in health schools are neglected and unutilized - The inability of state legislative boards to use HR findings in their decision-making, good HR selection is an issue - The abundance of evaluative and statistical studies with a deficit of experimental - Lack of policy informing and briefing skills	development decisions - Partnerships provide empowerment programs, allocate resources, academia-state integration - HR culture should be enhanced and integrated into the decision-making process - All health interventions need to be based on evidence-based and aligned with HR priorities	knowledge transfer - Utilizing the presence of SRC

4. Discussion

This study dealt with one of the most important pillars of the HRS (Sadana and Pang, 2004a), analyzing the involved HRSHs and exploring the system resources and capacities. As HRS is a complex and diverse context (Hanney et al., 2010b; Kennedy et al., 2008a) and under growing attention (Andrew Kennedy and Carel IJsselmuiden, 2006a; Decoster et al., 2012a; Pang et al., 2003a), the findings of this analysis are expected to offer a contribution to the understanding of both components in order to move forward towards a successful HRS based on active participation and well-strengthened capacity and resources.

The first pillar under investigation is HRSHs which form the primary driving force of the HRS; analyzing their views gives a better understanding of how to improve their roles and performance (Nabyonga Orem et al., 2013). The study found that the overall role of the Palestinian HRSHs is below the required level (WHO, 2001), evidently described as unsatisfactory and scattered. In other words, such roles have been criticised as being severely deficient in terms of HR funding, production, and application. Such findings largely intersect with another pertinent study (AlKhaldi et al., 2018, in press) which found that fragmented HRSHs roles are assumed to be a leading problem resulting in system underperformance. The proposed bilateral functional roles such as the MOH with academia or with other bodies is not a magical and effective solution under diverse and varied system contexts. Hence, as the literature suggests (Hanney et al., 2010a; WHO, 2001b), a participatory, representative and an inclusive approach would be more appropriate under an agreed governing framework.

In the Palestinian HR context, the government and academia, whether institutional or individual, are clearly involved, but still play an insufficient role and participation with an imbalanced involvement. This lack hinders the strengthening of research-policy interface and HR outputs translation into sound health policy (Hyder et al., 2010). In return, the less involved stakeholders such as private, NGOs, and community are likely related to structural

system problems. It is certain that weak involvement indicates that all parties have different and sometimes conflicting agendas and also a lack of serious official call for inclusive participation in and dedication to HRS. These results were notably inconsistent with the WHO's HR strategy, that resonated for the necessity of sectorial inclusiveness and strategic partnerships among all HRSHs (WHO, 2012b). Likewise, literature urged for harmony between the system and HRSHs goals (Hanney et al., 2010) and HRS values and principles (WHO, 2001b), as HR agendas are increasingly shaped by players' involvement (Schiller et al., 2013a).

In fact, a power-interest interface is a valuable supplementary approach for a better understanding of the actors' interaction in HRS. In this study, it was observed that the government's bodies own the power factors with a significant low interest. This may be interpreted as the need to satisfy and consult these bodies carefully to meet their needs. Moreover, investing their power and increasing their involvement and interest is essential to their becoming influential mediators to lead changes, as AlKhaldi et al., 2018, in the press and other literature supported (Hyder et al., 2010). However, actors with a moderate power and a good HR interest, such as academia, PNIPH, and WHO, are required to expand their roles and involvement (Waleed M. Sweileh et al., 2014). It is reinforced by a study that these parties basically are the central actors with strong relationships, mainly with the state powers such as MOH and MOHE (Hanney et al., 2010b) with paying a serious concern to those who have high power-interest. The overall indication on this issue is the lack of official attention, orientation, and investment in HR, which is consistent with AlKhaldi et al., 2018 (in press) and other literature (Ayman Haj Daoud et al., 2012; COHRED, 2011; Mahmoud F. Fathalla, 2004; S A Ismail et al., 2013). Conversely and importantly, the state's decision-makers are not only the key HR actors, but also the community, private-industry, and INGOs sectors, who are in an inactive role in HR, are important groups as two papers emphasized (Gonzalez

Block and Mills, 2003; WHO, 2001b). These groups are rich in potentials but they are an untapped pushing power, therefore, there is an urgent demand to keep them updated with meaningful communication to push them towards active involvement (Hyder et al., 2010; Pang et al., 2003a; Ritu Sadana et al., 2006b; Schiller et al., 2013a).

Undoubtedly, the donors' role in supporting HRS in fragile settings is indispensable as long as it is directed meaningfully to serve both crisis management and development (Woodward et al., 2016b). Their role in building proper research institutions is perceived as weak and unclear in Palestine (Ali et al., 2006b; Lee and Mills, 2000a; M. Kent Ranson et al., 2008a). Consequently, donors rarely run HR but from ivory towers by investing in HR serving selected areas driven by external agendas with unsustainable funding (Lansang and Dennis, 2004a). Likewise, their interventions are mostly emergency-based, short-term projects. Therefore, this role needs to be reviewed to reduce fragmentation and to aid the resource-constrained settings in building their systems to tackle health threats (IJsselmuiden and Jacobs, 2005). Because Palestine faces unstable political, economic, and social pressures, this fund should be harnessed jointly and optimally in HR as a vital development pillar to meet the urgent and long-term national needs. To achieve this, a collective national body, which may be led by the MOH or another national entity, such as PNIPH, should harness this fund and technical aid usefully aligning with a national vision (Kok et al., 2012b). In addition, local and donors' strategic dialogue must be launched to advance a collaboration strategy based on this vision that helps in building a structured and sustainable HRS. Paris Declaration-Accra Agenda for Action and ESSENCE are initiatives dedicated to donors' efforts alignment on HR. Such international decrees are needed in the Palestinian HRS to improve the coordination and harmonization of research capacity investments (The Organisation for Economic Co-operation and Development, OECD, 2005; WHO, 2014a).

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Concerning HRRC, the overall HRF is persistently scarce, as AlKhaldi et al, 2018 and other different studies have affirmed (Albarqouni et al., 2017a; Ayman Haj Daoud et al., 2012; M. Kent Ranson et al., 2008a). However, limited and volatile individual and institutional financing efforts (Albarqouni et al., 2017a) could have an impact if structured and brought into a collective framework. Certainly, as a relevant study proved (AlKhaldi et al., 2018, in press), HR is still not high on the government priorities list due to many conflicting concerns. Different factors behind the lack of HRF, which harmonized with some studies, are: (1) HR and evidence-based concepts are not well-entrenched among decision-makers (Hanney et al., 2003a; Yousef Aljeesh and Mohammed Al-Khaldi, 2013); (2) weakness of advocacy and pressure campaigns to initiate a serious movement towards strengthening the HRS. Even with the donors' limited role, the Palestinian HR primarily depends on the unsystematic external and individual funding with a clear lack of public domestic funding. In contrast, another study revealed that public investment is the main source in the region's countries and HR funding is among the lowest globally and WHO Regional Office is a key body offering HRF (S A Ismail et al., 2013). There are other funding gaps concerning the donors' conditions, influence and procedural difficulty (Ghandour et al., 2017; Yousef Aljeesh and Mohammed Al-Khaldi, 2013) and the scarcity of national resources due to the political conditions. For sustainable HRF, HR should receive the commitment of a fixed budget, at least 1% of the national health expenditure (Pang et al., 2003a), along with a national integrated and pooled fund under government stewardship financed by Palestinian and non-Palestinian entities' contributions (Lansang and Dennis, 2004a; S A Ismail et al., 2013).

In the context of the overall HRRC, generally, skilled human resources in Palestine are increasing in spite of challenges. Other literature disagreed, indicating that research personnel are limited with a lack of qualified experts (MOHE, 2010), where their distribution is challenging as they are concentrated within academia and government. In addition, the

competencies and freedom of movement of those personnel need to be improved, especially for those from the GS. The Palestinian researchers in full-time equivalents are nearly 2,000 equivalent to 564.1 researchers per one million inhabitants (PCBS, 2014). The teaching faculty make up 44% of the workers in the Palestinian higher education institutions; this ratio is not in harmony with the international standards (two thirds for teaching and the rest as administration and services). Compared to that in the region, Egypt has almost 600 researchers, while Jordan is the highest with around 1,900 (S A Ismail et al., 2013). Overall, the number of researchers from the EMR is relatively low (ranging from 29 to 1,927 per million people) (El-Jardali et al., 2012b). However, the workforce can be seen as promising and improving compared with other HRRC components such as infrastructure, facilities, and funding, where these components remain structurally and functionally weak not only in the HRS but also in the HCS alike, and strengthening them is often neglected (Gonzalez Block and Mills, 2003; Lansang and Dennis, 2004a; Penfold and Ali, 2014).

Due to a state fragility, national institutions, mainly government and academic, face severe financial crises, which negatively affect performance (Robinson, 2010). This scene not only hampers any HR development effort but also threatens the continuity of public services, particularly education and health. Furthermore and as another study revealed, in view of capacity gaps, building a robust HRS will be unattainable as long as we lack a governing framework, strategic thinking in resources and capacity allocation, and sustainable investment for HR (Kilic et al., 2014b; Penfold and Ali, 2014; S A Ismail et al., 2013). In recent years, a growing number of projects have supported the Palestinian HR capacity through international and local parties, for instance, European Union-Horizon 2020, academic partnerships, the Islamic Development Bank, Palestinian-French joint committee, Qatar Charity, and Welfare Association. To gain a greater impact, such projects are required to be structured, strategic,

and focused within the inclusive national framework and they ought to follow a long-term development vision.

Brain drain forms another intractable challenge in Palestine (MOHE, 2010) due to a lack of incentives and discouraging environments. This issue is the focus of the international debate in HR area (Pang et al., 2003a) and also regionally, Arab states lose 50% of their newly qualified physicians and 15% of their scientists annually (S A Ismail et al., 2013). Therefore, building or strengthening HRRC effort is a truly urgent priority. The effort of retaining and bringing back the intellectual capital to the country should be applied at the individual and institutional levels as part of a comprehensive developmental move. To attain this target, three approaches could be followed: (1) HRCS strategy (Vasquez et al., 2013), (2) HRS operational framework (Pang et al., 2003a), and (3) ESSENCE seven basics for strengthening HR capacity (WHO, 2014b). Also, applying these approaches in tackling the three components; HRSQ, HRKTD, and HRTUDP is also essential, in order to move synergistically to the empowering of the capacity of all HRS components. These three operational components related to HRRC must be fundamentally embedded and well-functioning in any HRS (Pang et al., 2003a).

It is shown that the level of research quality and compliance with good HR standards is still insufficient and needs more attention. A study found that in Palestine this subject is under the satisfaction level (Albarqouni et al., 2017a), although research quantity in the region is not only increasing, but the quality is improving, too (Scully, 2011). The reasons behind the low level of HR quality and non-compliance with HR standards can be related to institutional and environmental challenges. Namely, the lack of cohesive policies and priorities; capacity and resources; and institutional quality ethical reviews, as one study proved (AlKhaldi et al., 2018, in press). Other gaps are limited researchers' knowledge and international exposure to HR quality standards and expertise. This has been refuted by a study which indicated that

international collaboration in research output was clearly reported (Waleed M. Sweileh et al., 2014). Moreover, the shortage of trusted and high-quality local Journals, individualism instead of interdisciplinarity in HR production, and more importantly, a severe lack in basic research subjects to be tackled inherently by the health schools' curricula.

Five practical steps may improve the HRSQ:

(1) Political support and a national policy that put the quality of HR at the forefront of the unified priorities,

(2) Technological mechanisms are needed to link external HR knowledge and expertise with the local HR community through interactive electronic platforms, networks, or hubs and promoting the collaborative HR as a key mechanism to improve academic research quality and quantity (Waleed M. Sweileh et al., 2014).

(3) The guidelines, stated below, for improving HRSQ are needed to be embedded into health schools' curricula and also integrated into capacity building programs to develop the researchers' skills and capabilities. These include: CONsolidated Standards of Reporting Trials (CONSORT), strengthening the Reporting of Observational studies in Epidemiology (STROBE), Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), Standards for Reporting of Diagnostic Accuracy (STARD), CAse REports (CARE) and Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis (TRIPOD) (Albarqouni et al., 2017a).

(4) The task of strengthening HR ethical and technical review, evaluation, and follow-up, as AlKhaldi et al., 2018 (in press) suggested, is a central step for increasing the quality-value of the HR in Palestine.

The current study further evidently revealed that knowledge generally and research outputs, in particular, are not disseminated regularly and appropriately, where the evidence diffusion process remains weak mainly due to inadequate utilization and demand for research (El-

Jardali et al., 2012b). A comparable study showed that building HRSs to support HRKTD for improved health is one of the major challenges across the region (S A Ismail et al., 2013).

Several reasons were suggested to be an impediment to a good practice of HRKTD:

(1) Shortage in culture and awareness among seniors and researchers on HRKTD or evidence-informed policymaking concepts, and even HR culture as indicated by AlKhaldi et al., 2018 (in press) and others (COHRED, 2011),

(2) HRKTD mechanisms and tools are lacking such as platforms, forums, peer-review journals, press releases, policy briefs, and libraries such as HINARI (Smith et al., 2017a) and as WHO recommended (WHO, 2014b), and the HRKTD practices are often limited at micro-institutional and individual, rather than through a systematic and inclusive national approach (El-Jardali et al., 2012b).

(3) HR is carried out for personal purposes or for donors' agendas, where the publication and dissemination part is often missing and disregarded.

(4) Different studies emphasized the absence of a regulatory framework such as body and policy, inadequate resources, and local and external poor coordination; this creates confusion in HR production, dissemination, and utilization. Finally,

(5) Difficulties related to data quality and availability, whether vital national statistics or data collected from HR, are displayed, as well as the conditions of closure and movement obstacles that prevent the flow of researchers and materials to and from Palestine. Another study added further gaps such as the low level of engagement in the HRKTD activities due to the little support available in HRKTD environment, including the lack of incentives (El-Jardali et al., 2012b).

For better HRKTD, as highlighted before in the HRSHs analysis part, there is a need to increase the involvement of the political level and advance a regulatory framework for HR. This move should make it possible to define the stakeholder's roles, to improve coordination

and the concepts of HR and HRKTD among decision-makers and researchers alike (El-Jardali et al., 2012a; S A Ismail et al., 2013; WHO, 2012b; Yousef Aljeesh and Mohammed Al-Khaldi, 2014). More investment is necessary to establish HRKTD strategy including innovative tools using technology, for example, national science pooled-archive (Smith et al., 2017b), national platforms such as KIP (WHO, n.d.), K4P, strategic policy platform, or research-decision making center or lab. This strategy may embrace the helpful WHO model in HRKTD (WHO, 2014b). A national and institutional databases reform is needed to improve quality, organization, accessibility, and transparency, and enhance the local and international partnerships and collaboration in HR production and dissemination (Pang et al., 2003a).

The study found HRTUDP a central concept emphasized by WHO Eastern Mediterranean Regional Office (WHO-EMRO) in its strategic directions for research for health, a pivotal tool for health development and informing health policy improvement (El-Jardali et al., 2012b). HRTUDP was first demonstrated by the Canadian Institute of Health Research (CIHR) to bridge the knowledge-practice gap and is being now widely used with interchangeable terms in the literature (e.g. knowledge transfer, research utilization, evidence implementation) (Khoddam et al., 2014). Interestingly, although HRTUDP is constrained-practices, so far, it is not a key tool in the decision-making process in the Palestinian HCS. Identifying knowledge and policy gaps is imperative to enhance the research-policy interface (El-Jardali et al., 2012d). The problem of unsupportive culture should be tackled where decisions or policies are mostly not evidence and knowledge-based, and decision-makers are not knowledge-oriented (Armstrong et al., 2013). This is also consistent with AlKhaldi et al., 2018 (in press) on the deficient conceptualization level on HR or HRS at large. In return, a study denied the presence of negative attitudes among policymakers towards research evidence, its use, and benefits in practice, therefore fostering evidence-informed

policymaking requires a clear understanding of the national contexts in which policy decisions are made (El-Jardali et al., 2012b).

Other identified technical constraints are a deficit in trust and inconsistent relations (Kirigia et al., 2016b) between the knowledge-producers and decision-makers, which weakens knowledge diffusion. Moreover, academic knowledge production was found to be an area of low investment by the state. Further limitation related to HR quality and credibility is HR deficiency to address real priorities with a plenty of descriptive studies compared to a paucity of experimental studies, which offer evidence that is more trustworthy. This is clearly emphasized by a similar study (Orem et al., 2014). Finally, the absence of good HR governance, policies, and priorities, scarcity of resources, and institutional management changes, and political instability as literature demonstrated (Bowen et al., 2009; El-Jardali et al., 2012a, 2012c; Hanney et al., 2003b; Vasquez et al., 2013; WHO, 2001b), knowledge and research-informed policymaking will remain impossible unless these fundamental hindering issues are addressed. Therefore, substantive structural and technical-procedural changes should be implemented to promote knowledge translation and decision-making practices and to eliminate preference-based decisions, and thereby the HCSs could eventually be strengthened (Fadi El-Jardali et al., 2010; Kirigia et al., 2016)

These changes shall include:

First: urgent synergized efforts to establish a well-structured HRS with a good involvement to organize all HR components, including HRTUDP. This is largely consistent with the debate at the Global Forum 2015 which attributed the low uptake of evidence partly to weak governance and sub-optimal collaboration and engagement among research, industry, policymaking, and community societies (Kirigia et al., 2016).

Second: the concept of HRTUDP and evidence and knowledge-based practice, as others such as HR, HRS values, goals, and stewardship functions, HRSQ, and HRKTD concepts, decisively need to be entrenched among HCS's decision-makers and researchers.

Third: building knowledge translation strategies consisting of effective communication channels and interactive integration spaces mandated by MOH and academia, as proposed in HRKTD, such as national HR or knowledge-policy networks, forums (WHO, n.d.), models (The National Collaborating Centre for Methods and Tools (NCCM, n.d.), journals, labs, centres, clubs, policy briefs magazine, and media releases (Kirigia et al., 2016a; WHO, 2014b).

Fourth: the importance to maintain HRTUDP and HRKTD synergistically promoted in a two-way interactive and dynamic mechanism, but non-linear as a study revealed (Orem et al., 2014), where both complement each other.

Fifth: on top of that, capacity building and education programs on HRKTD should be provided in collaboration with local and international partners. In Palestine, some active bodies, such as local universities, PNIPH, and different initiatives, such as LPHA, are likely to be driving forces to achieve that.

The study limitations can be summarized as follows:

(1) Knowledge gap of relevant literature and reports on the subject, whether local or regional;

(2) Time constraint in exploring the actual HRSHs roles and contributions, in mapping the definite existing capacities across the sectors, as well as in targeting more participants and targeting of additional relevant institutions;

(3) Difficulties related to gathering quantitative data on HR stakeholders and capacities in Palestine due to lack of data availability, quality, organization, and accessibility;

(4) Field obstacles represented in the lack of freedom of movement to the research team as a result of the closure and security checkpoints; and

(5) Environmental and political fluctuations and institutional changes that may escalate or reduce the role of the stakeholders on the one hand and funding flow to the health sector in general and to HR activities in particular on the other hand.

The study proposes some prospects that could not be addressed in this study to become research ideas in the future. Among the most important of these ideas, initially considered also at the outset, is a sectorial and more empirical study to determine the real roles of the stakeholders towards HR based on pre-stated indicators. A national needs assessment study or quantitative study may be useful in determining precisely HRRC such as assets, resources, and facilities at the institutional and sectoral levels. Finally, there is a need to examine, perhaps by using observation or case study methods, specific knowledge transfer and application practices at the institutional, sectoral and national levels.

5. Conclusion

Stakeholders and capacities are the central components of the HRS where both are its functional driving force. Understanding both interconnected components is indispensable and a prerequisite for any strengthening effort. Indeed, actors' roles are to regulate HR activities, to mobilize resources, and to produce the needed knowledge leading to evidence-based decisions and policies. This study is in harmony with regional and international concern and with the WHO's research strategy. Likewise, the study is an attempt to bridge the knowledge gap in the literature on HRS and it can form a basis on which to build on in the foreseeable future for strengthening the HRS. Therefore, the overall aim of the current study is to attain a clear understanding of the two components to identify gaps and generate solutions.

The performance of the HRSHs is generally below the required level, although both academia and MOH moderately play important roles. Distinctly different from the development and services NGOs, it is worth mentioning that the majority of universities in Palestine are national NGOs, where their poor representation in public decision-making and potential scarcity hinders a growing academic interest in HR. In summary, the weakness of HRSHs roles and involvement is the result of political, organizational, and technical shortfalls. Imbalance in the interest-power pattern among stakeholders is considerably reported. The critical need is to enhance the involvement balance and correcting pattern of a power-interest factor among all stakeholders to get them all involved, interested, and influential. All HRSHs roles should be appropriately redefined and invested at the official level and work synergistically to reach a high power-interest. Undoubtedly, as it is also applied to the capacity components, establishing a clear strategy with a collective involvement is a serious demand. It is clear that the role of external donors in supporting HR is substantially inadequate given the paucity of domestic resources and instability. This role needs to be

strengthened through a long-term plan that reflects the national needs and a comprehensive strategic dialogue among local and international parties is important and desirable.

Although the scarcity of HR funding in the region, HR in Palestine is often funded by external donors and individual and institutional sources, with a considerable lack of government funding. The reasons behind the scarcity of financial resources include the difficulty of donor conditions and procedures, allocation malpractices, and prevailing political conditions. Therefore, a plan to establish a national HR fund with a sound and adequate budget perhaps by allocating 1% of the total MOH's budget to reach 5% by the fifth year, as well as ensuring diverse financing sources and a collective pooled contribution may be a viable solution to explore.

The HR capacity for infrastructure, facilities, supplies, and logistics is generally limited, despite dozens of relevant projects that have not been implemented through a national strategic approach. HRCS strategy can be adopted to improve the ability of the Palestinian government to strengthen HRRC. Interestingly, human resources are considered a promising side in HR compared with some other countries in the region. There is a necessity for investment in empowering the knowledge and competencies on HR subjects, enhancing an effective incentive system, and providing the required facilities and supportive environment to face the rising brain drain.

There are strong opportunities to invest in the capacity of HRSQ, which is observed at an average level, through embbeding international guidelines in teaching, research, and professional settings. Moreover, improving the professional level of the ethics reviews, whether national or institutional, is an imperative tool contributing to the strengthening of the HRS. HR and knowledge harvests do not disseminate properly, where lack of culture among seniors and researchers on HRKTD, shortage of HRKTD mechanisms and coordination, lack of data quality and availability, and environmental restrictions are substantially needed to be

addressed. This can be achieved by obtaining a political participation, HRKTD strategy, and local and international partnerships. Knowledge utilization is remarkably constrained in Palestine, where the HRKTD is not an essential decision-making methodology due to gaps of culture, actors disconnection, HR credibility, applied research, and governance and resources and management and political changes. An organizing framework, entrenched HRTUDP concepts, and HRTUDP strategies and mechanisms linked structurally with HRKTD need to be implemented.

Abbreviations

COHRED: the Council on Health Research for Development, EBD: Evidence-based Decision, EBPs: Evidence-Based Practices, EMR/EMRO: Eastern Mediterranean Region, EMR-office, EU: European Union, FGDs: Focus Group Discussions, HCS: Healthcare System, HR: Health Research, HRCS: Health Research Capacity Strengthening, HRF: HR Financing, HRKTD: HR Knowledge Transfer and Dissemination, HRRC: HR Resource and Capacity, HRS: Health Research System, HRSHs: HR Stakeholders, HRSQ: HR Standardization and Quality, HRTUDP:Health Research Translation and Utilization into Decisions and Policies, ICPH: Institute of Community and Public Health-Berziet University, Palestine, IDIs: In-depth Interviews, K4P: Knowledge for Policy, KIPs: Knowledge-Informed Policy, LPHA: Lancet Palestinian Health Alliance, MAP-UK Medical Aid for Palestinians-UK, MOH: Ministry of Health, MOHE: Ministry of Higher Education, NCDs: Non-communicable Diseases, NGOs: Non-governmental Organizations, NHRS: National Health Research System, PNIPH: Palestinian National Institute of Public Health, RCTs: Randomized Clinical Trials, Swiss TPH: Swiss Tropical and Public Health Institute, UNFPA: United Nations Population Fund, UNRWA: the United Nations Relief and Works Agency for Palestine Refugees in the Near East, USAID: United States Agency for International Development, WB&GS: West Bank and Gaza Strip, WHO: World Health Organization.

Declarations

Ethical approval

The Research Commission of Swiss TPH approved the study (FK No. 122; approval date: 21 October 2015). Ethical approval was also obtained from the "Ethikkommission Nordwest- und Zentralschweiz" (EKNZ) in Switzerland (reference No. UBE-15/116; approval date: 23 January 2016). Ethical and administrative approval from Palestinian MOH obtained on 28 April 2016, the institutional review board of Helsinki Committee in Palestine (reference No. PHRC/HC/73/15; approval date: 7 December 2015), and the institutional review board (IRB) at Najah National University (NNU) (reference No. 112/Nov./2015, approval date: 6 December 2015).

Consent for publication

Not applicable

Availability of data and materials

To keep data protected, data from the experts through interviews and FGDs are saved in the principal investigator's official laptop. These data are stored in highly secured laptop with a secured key-file entry, under the control of the principal investigator MK and the supervisor MT, and only these two together have the right of accessibility to review and use these data.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

MT, YA, CP, AA and MK contributed to the conception and methodological design. MK, AA, HM and HA contributed to the collection and analysis of data. The fifth author contributed to the interpretation of results and drafting of the manuscript. All authors mentioned, including SH and AS, contributed to technical enrichment, contributed to the writing, review, and then approved the final manuscript.

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Chapter Four: General discussion

4. General discussion

HRS is fundamentally a foundation stone of any HCS attempting to achieve the best performance of this system and to improve people's health. Building or strengthening the capacity of HRS to conduct and use research is often a challenge, especially in low- and middle-income countries (Hanney and González-Block, 2017). As chapter 1 highlighted, exploring the acute issues surrounding HRS in conflict and fragile states, such as Palestine, is becoming another necessary theme. Also, there is a growing global and regional demand through international organizations, such as WHO and COHRED, to address this crucial topic in light of the increasing challenges and the widening 10/90 gap (Andrew Kennedy and Carel IJsselmuiden, 2006a; Decoster et al., 2012a; Kirigia et al., 2015). All efforts whether analyzing, understanding or strengthening this system are also an imperative national homework for the states. This is an indispensable and primary task that needs to be completed: to recognize HRS strengths that need to be reinforced and to identify the weaknesses that have to be addressed. Therefore, this research was carried out consistently with this context, as well as from the perspective that getting a well-established HRS is truly in the national interest and a supreme investment. This investment can yield knowledge, economic and social benefits, which may lead to one national target, well-being and prosperity, through two tracks: improvement of HCS and attainment of comprehensive human development along with different sectors (Andrew Kennedy and Carel IJsselmuiden, 2005).

The general aim of this study came up as a comprehensive understanding of HRS from different sectorial perspectives. As illustrated in chapter 2, the analytical approach and methods used in this study, which has been designed by the scientific community (Hanney and González-Block, 2016a; Maarten O. Kok et al., 2012a; Pang et al., 2003a; Ritu Sadana et al., 2006b; Sadana and Pang, 2004a; WHO, 2001a) offered a valuable contribution. This reinforced and added value to this study through embracing the approach of system thinking

along with the perspective of HRS frameworks as a novel way to attain an adequate understanding of system components and dynamics. Moreover, diversified instruments, which were developed through relevant international models and piloted and rigorously peer-reviewed by local and international experts, may increase the study's trustworthiness. However, for a more coherent and deeper understanding, quantitative tools, as supplementary ones, are needed to be used and more technical groups must to be involved in such HRS analyses. For this study, data collection has been managed under direct supervision, quality criteria, and rigorous review by the principal investigator. This promoted the collection of purposeful data and reduced the conflict of ideas or misunderstanding during IDIs and FGDs. Due to fieldwork movement difficulty, members of the research team were commissioned to carry out a group of IDIs and FGDs in the WB under indirect guidance, and follow-up. This approach is likely to basically contribute to move towards a successful HRS. Interestingly, the participants across the three sectors, for both study instruments, were highly interactive and responsive. This is clearly noticed in chapter 3, particularly in part 3.2.1, where the majority perceived HRS as an important issue for the Palestinian HCS together with a broad level of participation and representation. Consequently, all of the above have contributed towards attaining a good internal and external validity of the study.

This chapter illustrates three central parts: (1) the overall summary of findings of this system analysis, and (2) the study outlook and implications.

4.1. The overall findings

This first part has four themes covering the central pillars of HRS:

a) The conceptual part includes understanding the HRS concept, importance, fundamentals, functions, and goals through investigating experts' and decision makers' perceptions about these components, whether they are funders, producers, or users of research.

b) The technical part comprises recognizing the pattern of HRS performance and obstacles and the official attention to its development.

c) The structural and organizational part, where the status of HRS stewardship functions is addressed by exploring governance, policies, and priorities, underlining the obstacles to these functions.

d) The pattern of the relevant HRS stakeholders and capacity whether financial or physical.

In the **first theme, the conceptual part**, we aimed to assess two vital conceptual topics, the understanding of HRS concepts, goals, and functions, and the gain-loss from this system. It has been revealed that the overall understanding of most of the policy-makers, academics, and NGOs' experts about HRS concepts and its relevant components was inappropriate. HR concept alone was sufficiently conceptualized. This finding intersects with the literature that emphasized the large deficits of understanding from a system perspective and the low levels of awareness and unappreciated HR culture, particularly in Palestine, where both form problematic factors contributing to system underperformance, as chapter 3 outlined in part 3.2.2 (Ayman Haj Daoud et al., 2012; Pang et al., 2003a). On top of that, the conceptual views of participants were not fully associated with the internationally-approved definition and delineations, as adopted by the WHO (Pang et al., 2003a; Ritu Sadana et al., 2006b; Sadana and Pang, 2004a).

In the view of the conceptual framework used, it has been revealed that the HRS functions are inappropriately understood where guiding health needs, evaluating the results and planning health actions to achieve suitable health conditions are the only common functions identified by experts. These functions are different from those outlined by Pang et al.' framework (Pang et al., 2003a; Sadana and Pang, 2004a) which are stewardship, financing, creating and sustaining resources, and producing and using HR, whilst the goals of HRS were moderately recognized and responses were inconsistent with specified goals in this framework. Experts have overwhelmingly stated that HRS aims to produce knowledge for use in policies to

improve health and community. This response agrees with the definition of health policy and systems research (HPSR) (Chigozie J. Uneke et al., 2010), the need of HR for attainability of the Sustainable Development Goals (SDGs) (Ritu Sadana and Tikki Pang, 2003), and that HR is beneficial to society (Nass et al., 2009). This is clearly reinforced through important perceptions linked to development and challenges when HRS mentioned to experts. These development perceptions or thoughts were attributed to HCS improvement, meeting societal needs, and tackling burdens of diseases (Hanney and González-Block, 2016a; Lansang and Dennis, 2004b; S A Ismail et al., 2013); proper management and successful policies and decision-making (Sadana and Pang, 2004a); well-defined priorities; resource reservation and cost-rationalization (Stephen R. Hanney and Miguel A Gonzalez Block, 2013); and thus to the overall development (Ijsselmuiden and Jacobs, 2005). Some studies' results coincide with this finding (Ayo Palmer et al., 2009; WHO, 2012a). In return, the absence of system regulation, vision, and coordination; a donor-driven research rather than a culture-driven one; and then data unavailability, disorganization, and inaccuracy have been seen as the main obstacles and difficulties for the whole system.

Despite all of the above, HR is still fragile, neglected, devalued and little known or understood as a local study demonstrated (Ayman Haj Daoud et al., 2012); we interestingly found a clear recognition on the part of the Palestinian health leaders and actors of the HRS's importance and its major role in improving Palestinian HCS. Certainly, this conceptualized importance is unfortunately practically not realized on the ground although the potentials exist for strengthening it. A similar study indicated that HRSs exist more in theory than in reality in sub-Saharan African countries (Chanda-Kapata et al., 2012a). This leads us to consider our findings as an encouraging evidence which can be built upon in light of the growth in research quantity in Palestine, as in EMR overall (S A Ismail et al., 2013), and the quality, which has not yet reached a satisfactory level (Albarqouni et al., 2017a).

There is a belief that HRS's visionary values, guiding principles, and the system concepts and culture combined constitute the basic building blocks of HRS. For that, an increasing concern to entrench these concepts and to raise the level of HR culture among individuals and institutions, especially the high-management level, is perceived. Without such as understanding and culture, development efforts can be difficult. To attain this, factors that underpin the mis-conceptualization and inadequate awareness of the topics surrounding HRS essentially must be addressed. Importantly, along with the factors mentioned in all parts of chapter 3, there are other factors that we believe have a direct influence on weakening this understanding of this system and its constituents in light of increasing its complexity (IJsselmuiden and Matlin, 2006) and as being an emergent concept (Louise Caffrey et al., 2016). Pre-university and university educational curricula, specifically health faculties, appear to be substantially weak, where scientific research is not appropriately embedded. This could raise the need for reforming these programs (Ahmed and Albuarki, 2017), increasing the awareness, and also educating the public about HR concepts and uses as well as conducting research to evaluate education curricula (Nass et al., 2009).

Furthermore, the lack of leadership interest and the unsupportive environment in entrenching the concepts and practice of HR, HRS, and evidence transfer and utilization, have to be politically addressed with a well-structured system. This could promote changing the mind-sets of the Palestinian institutions towards embracing the institutional learning approach and the research orientation in their philosophy. Furthermore, strengthening efforts should essentially stem from a visionary national agenda rather than unsystematic individualism, by tackling the lack of disintegration among stakeholders, as well as addressing the exacerbation of political difficulties and the lack of resources and strategies. Undoubtedly, knowing the stakeholders' attitudes contributes to enabling system applications and institutionalizing system components within the Palestinian HCS. The research has shown that exploring the

knowledge level of stakeholders on HRS is not explicitly addressed in most of the respective international analytical frameworks on HRS. This may add value to this research and can be considered as a strength, because varying definitions or vague conceptualization may cause confusion and become an obstacle to progress (Remme et al., 2010).

In **theme two of the study, the satisfaction pattern on HRS performance and the political interest** towards HR were explored. System's stakeholders perceive the overall HRS as considerably underperforming, which means neither effective nor efficient. Measurements to monitor and evaluate this performance, whether quantitative or qualitative, are not established where few MER countries have M&E mechanisms (Croxson B et al., 2001). This clearly raises the assumption that institutionalized system and stewardship are absent, and this fully correlates with the findings of chapter 3, parts 3.2.1 and 3.2.3, that HRS and its functions are not well-conceptualized and structured (S A Ismail et al., 2013; Yousef Aljeesh and Mohammed Al-Khaldi, 2013).

On top of that, significant findings such as the weakness of rewarding policies, structural problems, and a shortfall of resources, are linked and reported as common impediment factors behind the HRS mis-conceptualization, as stated in the first theme, and the system incompetence. It turned out that the seasonality and individualism of HR activities, which are not developmentally-oriented and mismatched with society's needs, are also an issue of underperformance. These findings stand in contrast to the studies that have proven that HRS is a feasible approach to achieving SDGs and is a driving force for improving the performance of HCSs and people's health (Carol D'Souza and Ritu Sadana, 2006; Debbie Marais et al., 2011; Remme et al., 2010; Ritu Sadana and Tikki Pang, 2003). Likewise, agreed studies clarified that poor coordination among stakeholders in the HR production, dissemination, and use limits the performance of this system in achieving its goals (Miguel A Gonzalez Block and Anne Mills, 2003; Pascalina Canada-Kapata et al., 2012; S A Ismail et al., 2013). Other

studies have viewed the unutilized evidence in decision-making as an indication of this deficit, which obviously exists in the MER countries (Fadi El-Jardali et al., 2012; Stephen R Hanney et al., 2003), along with the low quality of research (Albarqouni et al., 2017a). Most of these findings are in accord with all sections of chapter 3.

In fact, although it is a basic requirement as described in WHO strategy on research for health (WHO, 2012a), when an official and strategic political attention remains weak and intermittent, this can be interpreted that HR is not a priority and legitimately embraced. Similarly and importantly, the majority of experts revealed the neglected role of government and other major health organizations towards HRS. This finding certainly overlaps with different study's sections in the third chapter, particularly sections 3.2.3 and 3.2.4. An explanation could be that other sectors, such as security, politics, crises management, and services-sustained systems, acquire a greater interest. Due to political tensions and crises situations, this evidently appears in the Palestinian government's strategies and budgets (MOH, 2016; Palestinian Council of Ministers, 2016b), which did not inherently address health or scientific research. Therefore, addressing the gaps of HRS performance, as well as other system pillars, is an imperative national demand to ensure efficient resources use based on agreed priorities and conducting, disseminating, and using research appropriately (Kebede et al., 2014; Maarten O Kok et al., 2012). This could be fostered by building a routine performance observatory policy that ensures M&E mechanisms for HR in Palestine within a well-structured and resourced system.

The third central theme examined the understanding of stewardship functions as a core pillar of HRS including governance, policy, and priorities of HR. Generally, stewardship in Palestine is disappointing and remains a key problem, not only in the HRS but also in the HCS as a whole as in many countries (WHO, EMRO, 2012). In other words, this system is unsystematic in terms of the functional and organizational flow of tasks and relationships, as

different studies have demonstrated (Ayman Haj Daoud et al., 2002; Ismail et al., 2013; Kennedy et al., 2008b). As introduced in chapter 1 and firmly underlined by many study's findings, in chapter 3, it is clear that miscoordination and disintegration in both systems are a significant challenge (Manenti et al., 2016). As evidently emphasized by studies on the absence of NHRS (Hazou, 2008a; IJsselmuiden and Matlin, 2006; Kennedy et al., 2008a) and poor HR performance with critical stewardship functions (Ismail et al., 2013; Luyckx et al., 2017), we found other indications confirming this, namely that HR has an unclear structural hierarchy and dysfunctional governance functions and relationships. Nevertheless, some institutions demonstrated a good institutional governance.

Related to system complexity and the fact that governance cannot fall under one leadership, we noticed that several Palestinian bodies, MOH, PNIPH, PCHR, and SRC seem to be those who are currently leading HR in a non-synergistic way. Furthermore, the leadership entitlement of PNIPH is debatable since it is not geographically well-represented and project-based. This discrepancy about who orchestrates HRS can be tackled by involving all Palestinian stakeholders under a well-reformed and institutionalized PNIPH, empowered by the government and MOH, supported by local and international actors, and characterized by assigned and clear roles, to be a stewardship midfield regulator, as studies have revealed (Ayman Haj Daoud et al., 2002; Sweileh et al., 2013b). In doing so, all HR entities need to be substantially reshaped to build a collaborative strategic and clear governance framework with the well-negotiated definition of the system terms and stakeholders' roles (Hanney et al., 2010a; WHO, 2012b), because HR governance is a collective responsibility needs to be placed into a unified national perspective and not the duty of a particular party (Hanney and González-Block, 2016b; Saltman and Ferroussier-Davis, 2000b).

The study noticed two challenges impeding building a solid HRS which overlaps with different sections of chapter 3 and is also outlined in chapter 1. These challenges are (1)

national and (2) structural and technical. Nationally, the challenges are vision disagreement; bodies pluralism with efforts dispersion and performance inefficiency; and political instability with lack of sovereignty over resources. Two political factors affecting not only the HRS but also all social and economic sectors include the Israeli occupation by settlements expansion; resources control; institutions and houses demolition; and violations (Manenti et al., 2016; United Nations, Economic and Social Council, 2017). Moreover, including an imposition of blockage and geographical isolation, which strictly constrain the freedom of movement of people and goods entry (Rafiq Husseini, 2017; WHO, EMRO, 2017). The other factor is that an intra-Palestinian division between WG&GS has caused a substantial decline in services and reduced public servants' wages due to the un-unanimity of Palestinian decision and the institutions' governance. Therefore, any positive political shift, whether at the level of ending the occupation or the intra-Palestinian division, may radically resuscitate the development of all sectors, essentially HCS and HRS. Furthermore, lack of leadership, accountability, M&E and regulated policy, as well as other technical governance gaps, were largely matched with the study's first and second parts of chapter 3. Our findings are consistent with other revealed further challenges (Andrew Kennedy and Carel IJsselmuiden, 2006c; Ayman Haj Daoud et al., 2002; Hazou, 2008b; Ismail et al., 2013; Kennedy et al., 2008b; Luyckx et al., 2017; Nair et al., 2008; Sweileh et al., 2013b), mainly donors' influence on the HR agenda and the lack of a conducive research environment. Both problems are a result of a deficit in system stewardship and infrastructure, which are aggravated by the non-complementary system and inadequate official attention to scientific research and HR.

As a part of the stewardship theme, ERC in Palestine needs to receive attention and to be improved along with improving the first three pillars mentioned in chapter 3, including HRS understanding, performance, and the structure of governance, despite the existence of national ERC such as Helsinki and institutional ERC reviews such as IRB. However, ERC, in general,

is structurally and professionally lacking. This deficit is also seen in different MER countries (Abou-Zeid et al., 2009b) while these countries have started to give ERC more attention (Diaa Marzouk et al., 2014; Yakubu and Adebamowo, 2012). The study argues that the critical weakness of three aspects (ethical, technical, and legal guidelines) are behind this weakness accompanied by other factors, mainly low political interest and structural and resources shortcomings. In the context of overall stewardship strengthening, ERC essentially needs to be more representative and advanced by institutionalizing these three aspects in light of the international guidelines (WHO, 2011). This can be shaped by an accountable framework, whether in the Palestinian Public Health Law or MOH and PNIPH strategies, as suggested in the third part of chapter 3.

Similarly, the last two components of the third theme are HRP and EHRPs. The non-existence of HRP in Palestine, where only two countries in the region have dedicated national policy, is likely to be an obstacle for HRS strengthening, which is closely linked with the stewardship deformities. Additional gaps are attributed to poor strategic vision, politics impacts, and the misconducting of EHRPs, which make the HR activities ill-directed unless a regulated and agreed HRP is formulated consistently with the strengthening of the other system pillars. With reference to EHRPs, promisingly, research setting is mounting and Palestine implemented two exercises, but the missing critical issue is the national consensus and setting constancy with the presence of political influences and conflicting agenda. Furthermore, deficiencies in knowledge and expertise of prioritization, stakeholders' compliance to the outputs, and scarcity of needed resources are major problems which need to be resolved as well as the addressing of the inappropriate application of stated EHRPs. There is a clear evidence that EHRPs' poor practice is not limited to Palestine, but also occurs in MER, whereas only three countries have set EHRPs (Kennedy et al., 2008b) and setting exercises in HPSR is extremely scarce (Fadi El-Jardali et al., 2010). Interestingly, this study formed a common ground

attempt along with the previous first two exercises where the most important HRPs categories were identified as follows:

1. Health governance, financing, and policy;
2. NCDs, communicable diseases, nutrition, disability, and environmental issues; and
3. Medical diagnosis and genetic-molecular diseases.

Generally, the study concludes that there is compatibility between local and regional priorities, and different studies reinforced this, especially the first category of HRPs (Bryant et al., 2014; Marina Tucktuck et al., 2016b). Also, most of the second category are virtually the major burden and causes of death and are affected most by the region's instability (Abu-El-Noor and Aljeesh, 2015; World Bank, 2013), on the one hand, and are intersected with other countries and LPHA research series on the other hand (Kennedy et al., 2008b; Watt et al., 2014b). This utterly applies to the third category of HRPs which were found in the local and Lebanon concern (Kennedy et al., 2008b; Sweileh et al., 2014b). In short, along with improving other pillars collectively, upgrading these exercises are critical in the context of a well-structured national entity via two ways: raising the knowledge and competency on prioritization, and ensuring the national consensus with inclusiveness, systematic, needs-driven, and proper priorities sharing and follow up.

The **fourth theme of this study was to assess two pillars; HRSHs and HRRC**. This assessment is important in order to improve HRSHs' roles and performance, where those actors are the primary driving force of the HRS (Nair et al., 2008). It was observed that their roles are undesirably weak and obviously unassigned in terms of HR funding, production, and application (Decoster et al., 2012b). This is an inevitable reflection on the aforementioned system deficiencies, underlined in chapter 3, related to awareness on HRS, stewardship functions, resources, and political intentions. The findings from the second part of chapter 3 reinforce this theme and reveal that these fragmented roles result in system underperformance.

Moreover, many of these findings are probably also associated with limited HRRC, the topic to be discussed later in this theme. For better HRSHs understanding, approaches of involvement continuum and power-interest interface have portrayed a clearer picture of actors' roles, engagement, and influence. We noticed the scarcity of literature on HRS in general, but strikingly on HRSHs and research capacity. What the study has shown is an imbalanced involvement of parties in HR with modest government and academia involvement and a low one for private, NGOs, and community. This weak involvement could undermine any potential effort towards strengthening HRS, as well as it may also lead to significant cracks in all stages of HR process, starting with developing HR ideas until the end of translating it into policy (Schiller et al., 2013b). Most importantly, the large disparity in power-interest interface also raised the emphasis on the involvement weakness, where parties retain the power in HR, such as government's institutions, without interest in HR, as academia maintains, and vice versa (Schiller et al., 2013b; Sweileh et al., 2014e). With an emphasis on its importance in the context of Palestine (Woodward et al., 2016c), the inappropriate and unclear role of international actors has been noticed (Ali et al., 2006c; Lee and Mills, 2000b; M. Kent Ranson et al., 2008b). This seemingly indicates that HR is no longer at the core of their agendas because their interests have become focused more on emergency interventions due to disastrous conditions. This topic has to be revisited in order to guide this role aid usefully aligning it with an organized national framework (Maarten O Kok et al., 2012) and to improve harmonization in HR capacity investment, as urged globally (Bazzano and Landoni, 2011; WHO, 2014a).

Thus, creating serious solutions to the common reasons behind this scene, including weak political orientation and investment, structural system problems, and conflicted agendas, and is important to be concerned about the dynamic roles and performance of the HRSHs. As part 3 in chapter 3 outlined, a stewardship mandate is a collective assignment, it, therefore, seems

that two issues essentially need to be revisited: (1) Uni-bi-trilateral roles or relationships, because as such these modalities are not just magical and effective solutions in the light of the diversity and complexity of the system (Hanney et al., 2010a; WHO, 2002b), and (2) Exclusiveness of sectors-groups and their potential, which is contrary to the principles of HRS (Pang et al., 2003b) and as all concerned groups are important (Miguel A. Gonzalez Block and Mills, 2003; WHO, 2002b).

To achieve this as the WHO also recommended, the study suggests adjusting the scale of involvement and power-interest. This can be achieved through ensuring well-harnessed power and well-expanded interest, entrenching inclusiveness and involvement of all sectors, encouraging partnerships and communication (Pang et al., 2003b; Ritu Sadana et al., 2006c; WHO, 2012b), and attaining harmony between HRSHs's goals and HRS's values and principles (Hanney et al., 2010a; WHO, 2002b). Without attaining these goals, which also strengthen other system pillars such as HR government, policy, and priorities, performance, and capacities, HR activities or the system as whole will remain fragmented and meaninglessly-produced and utilized with a depletion of the limited resources, as these findings will be reinforced in the following part. This explanation has summarized key thoughts that have also frequently been addressed throughout the four parts.

In the context of HRRC, we have assessed the following: HRF, human resources, HRSQ, HRKTD, and HRTUDP. To begin with HRF, which is another main challenge characterized by scarcity, unsustainability, and individuality, as some studies affirmed (Albarqouni et al., 2017b; Ayman Haj Daoud et al., 2002; M. Kent Ranson et al., 2008b). It is mostly externally-dependant regardless of the weak role of donors and their conditions. This brings to the attention that the lack of public investment, perhaps, is attributed to the country's financial crises and the tendency of the government to cater towards sustaining the public and emergency services. The HR in the successive budgets almost does not itemize in light of the

lack of regional HRF (Ismail et al., 2013). Furthermore, as illustrated in the stewardship part, it is lacking and likely to be a problem because HRF could have an impact if it was structured. Associated with previous themes, there is the scarcity of resources, affected politically by perpetuating the Palestinians' loss of control over their resources, and the organic association of external funding flows with a political progress. Therefore, a sustainable HRF is key in strengthening HRS by ensuring a political-financial commitment along with securing diversely pooled fund by Palestinian and non-Palestinian entities (Ismail et al., 2013; Mary Ann Lansang and Rodolfo Dennis, 2004). However, despite a plenty of skilled human resources in Palestine, the HR personnel, specifically, remains moderate and inadequate with a need for further focus on training, tapping, and distributing them. Some other literature contradicts this and indicated that the brain drain is rising (MOHE, 2010). In harmony with earlier stated shortcomings, and in light of this scene, this may propose a crucial question related to discouraging environment and the weakness of a real strategic investment in the Palestinian human capital retention and quality, in the HR and health sector and other sectors alike. This assumption is reinforced by the fact that HR manpower is controversial internationally and regionally (Pang et al., 2003b).

In the last part of this theme, we finally assessed three constituents, HRSQ, HRKTD, and HRTUDP. Indeed, the increasing attention to post-graduate education and the production of research in and on Palestine (Sweileh et al., 2014b) may not necessarily mean that HR is of high quality, properly disseminated, or translated into policies. The study’s findings have shed light on this significant weakness in the three vital operational codes of HRS, especially in the stewardship part of chapter 3. In Palestine, HR quality is insufficiently performed and interested to (Albarqouni et al., 2017b), while, research in general in some region’s countries is improving (Tony Scully, 2011). Perhaps this indicates the specificity of deficiencies in Palestine, which must be strengthened, mainly the lacks of: environmental and institutional

aspects; knowledge, expertise, and curricula of health schools; as well as in ethical and technical reviews and international standards compliance. Some of these clearly overlap with the first and third parts. An inappropriate and unsystematic HRKTD is plainly noticed (El-Jardali et al., 2012a), which is not only a local problem but also a regional challenge (Ismail et al., 2013). Relevantly, to end with the issue of HRTUDP, whereas it is strategically underlined by the WHO, it has not been a better case. HRTUDP is the most important goal before the ultimate goal of integrating HR outputs into policy to improve health interventions and people's health. It comes to the mind that the poor HRTUDP is surrounded by different problems that have been outlined in chapter 1 and they corresponded with findings throughout all parts of chapter 3. These problems are poor decision-making, HR producer-user miscommunication, lack of HR quality and its results of mistrust (Kirigia et al., 2016c) and lack of knowledge-based approach (Armstrong et al., 2013). Add to that the low attention and investment which founded organizational, policy and priorities, and financial problems, as some of the literature has demonstrated (Bowen et al., 2009; El-Jardali et al., 2012a, 2012c; Hanney et al., 2003b; E. Vasquez et al., 2013; WHO, 2002b). In short, strengthening the three practices in the context of the overall construction of the HRS is inevitable.

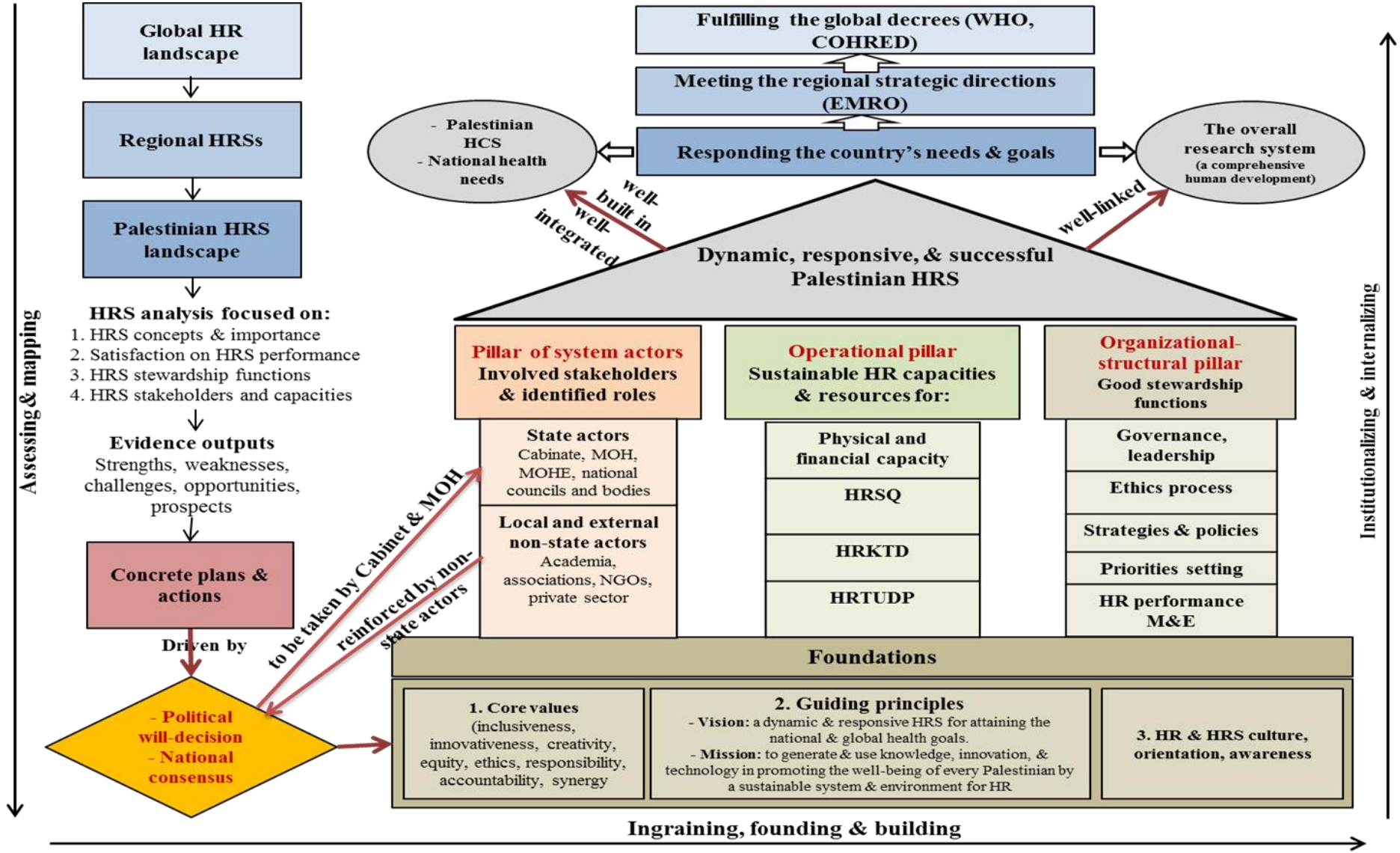
4.2 Outlook and implications

Building on the above-mentioned findings and conceptual understanding in chapter 1, Figure 4.1 portrays a larger picture of the holistic structure of this study, as well as providing the building architecture of HRS. This illustration presents three strategic trajectories: (1) the analytical trajectory of HRS, (2) the structural constructivist trajectory, and lastly (3) the enabling institutional trajectory. The first trajectory emerged from international and regional strategic directions aiming at promoting health through investment in this system. In responding to that, a thorough analysis of all HRS components has been carried out in Palestine, since it is an emerging and resource-constrained country and given the vital

importance of HR to become a philosophy, policy, and practiced through a system. This study has described the reality, identified gaps, and has generated solutions, which ultimately must be translated into policies and actions based on two central elements: (1) political will and decision, and (2) national consensus on system strengthening. With these two elements, the recommendations of this study are capable of being implemented. To achieve this, state and non-state actors are required to work jointly in a collective effort. This then leads us to the basic constructivist trajectory where system's visions, principles, and understanding must be established. Although they are absent in Palestine, these three elements constitute a basic brick of HRS on which the other pillars are based on. Finally, the third trajectory, in which three main pillars should be formed and structured.

The first organizational pillar consists of governance, ethics, policies, priorities, and oversight of the system's functioning. The second operational pillar includes resources, HR quality, dissemination, and translation into practice. The third pillar involves equally all HRSHs led by the Palestinian MOH and the Government through the PNIPH with support and commitment from the local and international parties. In the same vein, all of this will lead us to create a strong and sustainable HRS that is organically connected to three spheres, importantly and primarily with the Palestinian HCS for the sake of achieving its goals and needs through integrating HRS into its basic and operational structure. And also well-linked with the national research system in an inter-multi-transdisciplinary approach responding the overall human development goals, as well as complying with regional and international directions. From a public health perspective, there is a fact that regional circumstances and national issues such as poverty, unemployment, politics, and economy are impossible to be addressed without including health and vice versa. In short, this system is a real necessity to face this complex and overlapping scene and also a strategic tool for attaining the comprehensive health improvement and the national growth and prosperity on the other.

Figure 4.1: A macrocosm illustration of HRS in the context of this study



Chapter Five: Conclusion and recommendations

5. Conclusion and recommendations

This work was the first of its kind aligning with the international and regional calls. It assessed in its studies comprehensively the landscape of the Palestinian HRS through addressing the conceptual understanding of health policymakers, academics, and experts across three concerned sectors, government, academia, and local and international NGOs. This system analysis is a basic requirement towards system strengthening, where this approach could be a useful analytical framework for a better understanding along with a complementary operational assessment. This study has produced novel evidence, described the state of four fundamental pillars of the HRS, identified each pillars' gaps, and generated specific useful solutions for the policymakers to tackle these gaps. In addition, this study has established a benchmark for future HRS analysis and strengthening in Palestine, and in general, in the region. In summary, the following set of conclusions is offered for consideration.

We first evaluated the understanding pattern of system's actors, whether HR funders, producers, or users, on HRS concepts, definitions, functions, and importance. HRS concept and definition were inconsistent and broadly conceptualized, as delineated by WHO, while system's goals and functions were sufficiently delineated and referring the notion of improvement and a significant gain to this system. In a next study, the satisfaction level of experts with overall HRS performance and political attention towards this system were examined. HRS was perceived as ineffective and inefficient, poorly managed and not assessed systematically due to structural, cultural and resources gaps with a significant lack of political support. We later assessed the stewardship functions, including governance, policy, and priorities, revealing the absence of a HR structural and regulatory framework and the weak ethical review. Moreover, a policy or a strategy dedicated to HR in Palestine is lacking while HR priorities setting is evolving despite the lack of consensus and knowledge and experience

in prioritization. Eventually, stakeholders' roles and involvement level and the status of research capacity were investigated. Generally, their roles are unsatisfactory, with imbalance and low involvement of society, private, and local actors, as well as a weak international role in supporting HR. Moreover, despite the competent manpower, the overall HRS capacity is a central challenge because of resources misallocation, limited HR funding with a shortage of public and private, donors' conditionality, and untapped HR personnel. In addition to a moderate HR quality and inappropriate knowledge transfer and translation into policies.

In general, the common factors across the whole study's themes that stand behind the overall weakness of HRS in Palestine are centered around the low knowledge and political orientation; gaps in governance and policies; deficiencies in technical functions, resources, and capacity; and unstable environmental circumstances. Thus, in spite of these compelling challenges in the Palestinian context in general and the growing health threats and tensions on the national HCS, the issue of HRS remains a national strategic demand and it can be equated to the Palestinians' national struggle for freedom and survival and a pathway for a sustainable development.

5.1. Future research directions

Different areas of HRS with a high priority are recommended to be researched. These areas are necessary for Palestine and could be so in the whole region. The further empirical research topics to be addressed are:

5.1.1 Topics related to HRC conceptualization:

Understanding what are the reasons behind the apparent lack of knowledge and awareness among decision-makers and experts on emerging concepts, models, and approaches related to the HCS and its uses and application.

5.1.2 Topics related to HRC performance and impact:

In the light of insufficient literature at local and regional levels, it is important to intensify further studies to assess: (1) HR performance and (2) the impact of HR on the HCS and society alike. This research, using quantitative and qualitative approaches, might be more valuable after a monitoring system for HR performance is established.

5.1.3 Topics related to HRC stewardship functionality and applicability:

HCS stewardship is rarely investigated. It has to be explored in a deeper and specific assessment of the institutional HRS stewardship functions, and even more important in its applicability. This can benefit the two systems in Palestine, HCS and HRS, as stewardship is a central backbone of both structures.

5.1.4 Topics related to HRS stakeholders and capacity

The study proposes a future research project which determines the roles and contributions of stakeholders in their operations based on pre-defined technical determinants. Also, a national HR capacity assessment, using qualitative and quantitative measurements, is worthy to be implemented to determine precisely the real system capacity functions of HRSQ, HRKTD, and HRTUDP, along with assets, resources, facilities and infrastructure.

5.1.5 Topics related to a system perspective

Once the system is structured with a regulatory framework; a formulated policy; a dynamic prioritization setting; defined actors' roles; stated performance indicators; and allocated resources, a national comprehensive system analysis could be essential to evaluate its inputs, processes, and outputs. From a system thinking perspective, how is HRS, in Palestine and MER countries, trending and performing?. This linear assessment requires stated indicators considering inputs, processes, and outputs dimensions.

5.2 Direct actions and applications for the local and international global public health practice

Indeed, there is still a capacious window of prospect for HRS strengthening movement, starting with concerted efforts, effective findings dissemination with policy-making levels and actors, ending with guaranteeing five key success prerequisites and national enablers as follows:

5.2.1 National and policy-level recommendations

The state and non-state actors need to work synergistically in order to embark on these enabler components:

- A strategic dialogue between three sectors, government, academia, and local and international NGOs, to address ways of HRS strengthening;
- A solid political commitment from all stakeholders, mainly the state parties;
- High importance and top priority of the system strengthening and application;
- A collective sectorial involvement; and, ultimately,
- A national consensus on a system strengthening roadmap.

In addition to ensuring the region stability, it is of utmost importance to note that the continuation of political pressures from the Israeli occupation and the postponement in the unification of the national institutions in GS&WB presents a stumbling block in the way of efforts to enable the HRS, and international actors are urgently required to play an important role in achieving the reunification process. With these enablers, it is feasible to unleash the wheel of HRS development moving forward with the following practical recommendations stated below.

5.2.2 Health system and institutional-level recommendations

- **The emphasis on expanding the understanding and awareness levels of HRS concepts, functions, and applications among all system's players, through:**

In fact, establishing a national and institutional strategy that focuses on raising this understanding is crucial. This can be carried out through regular and intensive education, public awareness, capacity building programs and on-the-training activities. Importantly, and in order to entrench the HR concept over generations, there is a necessity to redevelop the curricula of public health schools to become more research-centered, including HRS issues into it. Furthermore, local and international learning exchange programs, policy platforms and meetings, scientific workshops, providing publications and materials, and building alliances and partnerships with academic institutions should be encouraged, which may pave the way to establish dynamic knowledge dissemination channels.

- **A serious emphasis on improving the performance of HR, through:**

Awareness and practice of HRS performance assessment is a basic aspect that essentially needs to be addressed, raising the knowledge and expertise levels of HCS's performers. Plus, to increase the focus on designing agreed HR performance guidelines and indicators, whether qualitative or quantitative, to be integrated at both levels, system, and institution. These M&E guidelines can be adopted from developed international frameworks for HRS. Concurrently, a national observatory platform for HR, led by MOH, PNIPH, and academia, is necessary in order to assess the three phases of HR, financing, production, and utilization, also to track HR quality, quantity, relevance, and impact trends of the national HR.

- **Putting the bulk of attention on the founding and strengthening of HRS stewardship functions, as an important starting move, though:**

As a central homework, a national inclusive HR body, led by MOH and PNIPH, with an equal and collective accountability to orchestrate this body regarding governance, resources mobilization, and regulation has to be implemented. This could pave the path to start the formulation of a national policy for HR through this body comprising fundamental frameworks, technical, scientific, administrative, and legal. Moreover and through this policy, ERC should be revisited to be more professional by adopting international ethics standards

and to be more geographically representative. Such a policy could essentially address the exercises of ENHRPs setting to become dynamic and agreed.

- **Dedicate efforts on involving all HRSHs and strengthening HR capacities, through:**

Under a unified national body, the roles and responsibilities of HRSHs importantly need to be redefined and assigned, along with encouraging the level of involvement and participation, especially private, NGOs, and community sectors. For financial sustainability, founding a national pooled fund for HR with fixed central budgets is crucial, and less contributing parties such as the private and the international agencies are required to contribute to HR funding. In addition, building a strategy for HRRC under a national agreed body is of paramount importance. This strategy can be guided by the global HRCS strategy, and it should ensure the strengthening of four substantial components: well-tapped and distributed HR personnel, sufficient and sustainable financial and physical resources, high HR quality-based known guidelines and good review, proper knowledge dissemination mechanisms, and eventually, feasible models for HR translation and utilization. Moreover, applying Health Technology Assessment (HTA) can be a useful approach for fostering the capacity of HRS.

To sum up, the investment in HRS is worthwhile, and analyzing it is the first practical step of embarking on its strengthening. Based on this perception, no doubt, this topic is compliant with the local, regional, and global strategic directions. Embracing (1) system thinking perspective, (2) building blocks of HRS frameworks, and the linearity building blocks illustration developed by this study, should be ingrained and essential in any future endeavors whether to analyze, understand, build, or even to strengthen the HRS. This applies not only to Palestine, despite the specificity of its circumstances, but also to the region's countries and other similar contexts. For ensuring the strengthening of the system, three enablers should be committedly guaranteed, (1) political will and commitment from all parties, (2) a national consensus, and then (3) a vision for HRS strengthening. In doing so as a roadmap drawn up

by this study, the pillars of this system ought to be strengthened in parallel, including the conceptual basics, e.g. values, principles, awareness and culture, organizational capabilities, e.g. stewardship functionality, and technical and operational capacities, e.g. resources and the capacity of HRSQ, HRKTD, and HRTUDP. Consequently, getting these pillars well-established through this perspective is possible and could yield meaningful benefits to the HCS and other development sectors in Palestine and other countries in general.

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Chapter Seven: Passed training and Principal Investigator Curriculum vitae

7. Training and Principal Investigator C.V.

7.1 Passed training during Ph.D. career

Course name	Institution	Teacher	ETCs
Interdisciplinary research in epidemiology and infection biology	Swiss TPH, University of Basel, Switzerland	Jurg Utzinger Jennifer Keiser	1
Epidemiological methods	Swiss TPH, University of Basel, Switzerland	Daniel Mausezahl Christian Lengeler	4
Health systems	Swiss TPH, University of Basel, Switzerland	Don de Sanginy Kasper Wyss	2
Cultural epidemiology, principles, and practice	Swiss TPH, University of Basel, Switzerland	Mitchell Weiss	2
Key issues in international and public health	Swiss TPH, University of Basel, Switzerland	Nino Kunzli Julia Dratva	2
Advances in infection biology, epidemiology, and global public health	Swiss TPH, University of Basel, Switzerland	Group of lecturers	1
Analyzing health systems and health systems performance	PPHS, University of Luzern, Switzerland	Rifat Atun	1
From evidence to implementation and evaluation of public health	SSPH+, Switzerland	Christian Lengeler	1
Ph.D. summer school on research on sustainability development	Sustainability research group, University of Basel, Switzerland	Paul Burger Patricia Holm Frank Krysiak	3
Conducting qualitative research in health: writing and getting published	SSPH+ and Ph.D. Program Health Sciences (PPHS), University of Basel, Switzerland	Brigit Obrist	1
Qualitative health research: advanced module	SSPH+ and PPHS, University of Basel, Switzerland	Brigit Obrist	1
Essential in health research methodology: health economics, public health, and policy, qualitative research, questionnaires and surveys	Ph.D. Program Health Sciences (PPHS), University of Basel, Switzerland	Group of lecturers	1
Summer school in health policy, economics and management "Bridging the gap between evidence and policy-making"	Swiss TPH, University of Lugano, Foundation Swiss School of Public Health (SSPH+), Switzerland	Andrew Street	1
Summer school in health policy, economics and management "health financing policies, health system performance and obstacles to universal health coverage"	Swiss TPH, University of Lugano, Foundation Swiss School of Public Health (SSPH+), Switzerland	David Evans Fabrizio Tediosi Pavlo Kovtonyuk	1
SSPH+ ScienceFlashTalk	Foundation Swiss School of Public Health (SSPH+), Switzerland	Alexis and Kathrin Puhan	
Writing to be published for the	University of Basel,	Stephan Meyer	3

social sciences and humanities	Switzerland		
Speaking and writing in the natural health sciences	University of Basel, Switzerland	Laurie Chicha; Riana Paola	3
English for tropical and public health	University of Basel, Switzerland	Hendrina Paola	3
Total passed ECTS			**31**

7.2 Curriculum vitae

Full name **MOHAMMED SH. ALKHALDI**

Email moh.alkhaldi@swisstph.ch , moh.khaldi83@gmail.com
D.O.B: 6th August 1983
Palec of birth: Gaza, Palestine
Nationality Palestinian
Languages Arabic (mother tongue), English (professional working proficiency)

Education

2001-2003	**Diploma Degree in General Nursing**	a program of health professions and science, the Islamic University of Gaza, IUG, Palestine	82 credits passed
2003-2006	**Bachelor Degree in Nursing Sciences**	Faculty of Nursing, the Islamic University of Gaza, IUG, Palestine	145 credits passed
2009-2012	**Master Public Health MPH, Health Policy and Management track**	School of Public Health, Al-Quds University, Jerusalem, Palestine	40 credits passed
2014-2018	**Doctor of Philosophy (Ph.D.); Public Health and Epidemiology.** (Expected by June 2018).	Department of Epidemiology and Public Health, Swiss Tropical and Public Health Institute (Swiss TPH), University of Basel, Basel, Switzerland	31 credits passed

Employment history

Oct. 2003-Sep. 2004	Logistics & Enviro. Healthy Supervisor, Municipality of Bureij, Palestine.
Nov. 2005-Dec. 2005	Team Leader, Central Elections Commission, Palestine.
June-Dec. 2005	Clinical Instructor, MOH hospitals, Palestine.
March 2005-April 2006	Community Health Officer, Al-Bureij Rehabilitation Society, Palestine.
July-Dec. 2006	Health Coordinator, Nuseirat Health Center-UNRWA, Palestine.
Sep. 2006-Dec. 2014	Health Researcher, Palestinian Ministry of Health, Palestine.
Jan.-July 2006	Health Project Manager, Community Services without Borders, Palestine.
July-August 2008	Management Skills Trainer, CIVITAS Institute for Civil Society Studies, Palestine.
July-Nov. 2009	Project Officer, The Union of Health Work Committees-UHWC, Palestine.
Jan.-July 2010	Health Coordinator and Researcher, Merlin International-UK, Palestine.
Sep.-Dec. 2011	Evaluation Team Member (master assignment), UHWC, Palestine.
2010-2011	Sub-Office Representative (voluntary), Life-Source Organization, Palestine.
June-August 2011	Researcher Assistant and FGDs facilitator, Ph.D. Project on Elderly

	Situation in Gaza, Palestine.
May-Nov. 2012	Health Coordinator, Mercy Association for Children, Palestine.
2012-2013	Health and Management Trainer, Medical Center for Rehabilitation, Palestine.
2013- 2014	Facilitator and Trainer in Social Accountability in Local Governance, Hope and Life Association and GTZ-German, Palestine.
2012-2015	Researcher, The Islamic University of Gaza IUG, Faculty of Nursing, Palestine.
2012-2015	Researcher, Pal-think Center for Strategic Studies, Palestine.
Sep.2012-2014	Initiatives Coordinator, Youth Forum for Tolerance and Unity affiliated to Pal-think Center for Strategic Studies, Palestine
2012-2014	Lecturer, The University of Palestine-UP, College of Health Professions, Palestine.
May 2012-present	Health Consultant, Association of Al-Bureij for Disability and Rehabilitation, Palestine.
Oct. 2013-present	Health and Development Consultant, Effects Company for Consultations and Development, Palestine.
2013-present	Consultant and BODs member, Brazilian Association for Development and Relief BADR, Palestine.
2013-present	M&E expert and Member, The Palestinian Evaluation Association PEA, Palestine.
2015-present	Health and Development Consultant, Alami for Consultations and Development, Palestine. Faculty member, Al-Zaiytona College of Sciences and Development, Palestine.
June-Sep. 2015	Technical consultant, Swiss Tropical and Public Health Institute (Swiss TPH) and WHO, collaboration with Roll Back Malaria Partnership, the Arabic version of Global strategy on "Action and Investment to Defeat Malaria 2016-2030". Switzerland.
Sep. 2014-June 2018	Scientist and Principal Investigator, Swiss Tropical and Public Health Institute (Swiss TPH), Basel, Switzerland.
June-Sep. 2018	Consultant, World Health Organization, Eastern Mediterranean Regional Office, Egypt, in hospitals preparedness and recovery in conflict areas.

Publications

AlKhaldi, M. (2009). Training Management for Health Workers-Nurses Staff Performance and Competence, Al-Shifa Medical Complex case. Al-Quds University, Palestine.

AlKhaldi, M. (2009). Management Policy and protocol of NCDs programs in Palestine. Al-Quds University, Palestine.

AlKhaldi, M. (2009). Healthcare Medical Waste Environmental and Health Impacts. Al-Quds University, Palestine.

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AlKhaldi, M., and et. al. (2009). Changing demographics: implications for physicians, nurses, and others health workers. Al-Quds University, Palestine.

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Madhoun, J., and Skaik, N., **AlKhaldi, M.** (2011). Evaluation of the Union Health Work Committees UHWC, Balance Scorecard Technique BSC. Al-Quds University, and *UHWC*, Palestine.

AlKhaldi, M. and Hamad, B., (2012). The Contributions of the International Funds to Developing the Palestinian Health Care System: Focus on Health NGOs, Palestine. (ISBN 978-3-659-48078-2), *LAMBERT Academic Publishing* LAP, Germany. (Master thesis)

AlKhaldi, M., and Hamad, B., (2012). The International Agencies Role in strengthening the health system capacities in Palestine. *ICBAS2 booklet*, Al-Azhar University, Palestine.

Shaban, O. and **AlKhaldi, M**. (2012). Gaza Strip Crossings: Visionary Solutions and Alternatives. (Policy paper), *Pal-think for Strategic Studies press release*, Palestine.

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Awards and Prizes

2014 Swiss Government Excellence Scholarships for Foreign Scholars for the Ph.D. program. Bern, Switzerland

2016 Obtaining the PPHS Award "Invite your expert", University of Basel. Basel, Switzerland.

2017 Winning the 3rd best poster award through 5th Symposium on Health Services Research. Swiss Academy of Medical Sciences (SAMS). Bern, Switzerland.

2018 Expected to be awarded Merit Scholarship Programme (MSP) for Post-Doctoral Research at McGill University-Canada, provided by The Islamic Development Bank (IDB), Sudi Arabia.

Professional and committee membership

- Nursing Syndicate, 2004, Palestine.
- Al-Bureij Association for Disability and Rehabilitation, 2007, Palestine.
- Future Society for Development and Environment, 2010, Palestine.
- Member of Life Source Organization, 2010, Palestine.
- Public Health Association and Forum, 2011, Palestine.
- Pal-think Center for Strategic Studies, 2012, Palestine.
- The Palestinian Institute of Youth and Policy-making (PIYP), 2013, Palestine.
- The Board of International Trainers in America (BITA), 2013, USA.
- Universal Studies Academy, Palestine, 2013.
- The Palestinian Evaluation Association (PEA), 2013, Palestine.
- Pal-Think Youth Dialogue Platform (PYDP), 2013, Palestine.
- Brazilian Association for Development and Relief BADR, BODs member, 2014, Palestine.
- Terri Des Hommes-TDH, Basel Canton volunteer group, 2014, Switzerland.
- The Subkult organization, team member, 2015, Lucerne, Switzerland.
- Council on Health Research for Development COHRED, 2015, Associate, Geneva, Switzerland.
- A consortium of Universities for Global Health CUGH, 2017, Washington, USA.

Software and computer capacity

- Office-Package (ICDL), Internet, Outlook, Typing, and Advanced Excel.
- SPSS Package, and data entry, management and analysis.
- MAXADL (professional).
- STATA, GIS, GPS, and Google Earth (Basic).
- Smart draw, BP Charter Program, and Office electronics machines.

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- **Marcel Tanner**, Professor, Epidemiologist, Swiss Tropical and Public Health Institute, Basel, Switzerland, marcel.tanner@swisstph.ch , Phone: +41 61 284 82 87. (Main Ph.D. supervisor)
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- **Bassam Hamad,** Associate Professor, Al-Quds University, Palestine, and senior consultant in health and development, DFID-UK, Palestine, ghsrcb@gmail.com, Mobil: +972 599351515.
- **Omar Shaban**, Director, Pal-think Center for Strategic Studies, Palestine, contact: omer@palthink.org , Mobile: +972 599402522.
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Chapter Eight: Appendices

8. Appendices

8.1 Appendix 1: Selection criteria of selected study institutions and participants

1. Inclusion criteria

1.1.Institutional level (sectors)

Academic

- To be official institutionalized status actually operates and regularly produces health research.
- It must be academic institutions officially registered; national or private will be included.
- Has a role and contribution in the health sciences and public health research production.
- Has health school, which offers graduate or postgraduate health specialties (public health, health management, epidemiology, environmental health, maternal child health, community mental health, nutrition, biology, laboratory, or any other relevant specializations).

NGO

- To have institutionalized and licensed entity, and actually operates.
- A non-profit organization and independent from the government.
- Not inherited, membership is voluntary, and is not based on blood or tribe.
- Works basically in the health scope and fully involved in producing and using health research in one of the targeted health research fields.
- The study considered the NGO sector as an including the health local Palestinian NGOs, international NGOs and private institutes which are essentially engaged in the health research actions in Palestine whether producer, users or funders.

Government

All of the relevant governmental ministries, including MOH, MOHE, MOFP, PLC, PMC, and PCBS, those bodies are mainly involved in health sciences and public health, and they are in charge of using research findings into policies, as well as funding the research. The following departments at MOH also will be given the most attention in this study as illustrated in complement (1). Moreover, the health committee at the PLC and any other national committee such PMC will be also embraced.

1.2.Individual level

The study participants from the targeted three sectors were based on these criteria:

From the academic sector, all of faculty members and researchers within the targeted faculties who are officially working and enrolled in the interesting research activities will be selected. In the government sector, all of legislators and experts from the national council and committee, policy and decision makers and directors of departments will be involved. The participants from the NGO, private and international agencies sector, organization's directors, researchers, and local, regional and international experts alike will be selected.

2. Exclusion criteria

The study participants at the institutional and individual levels who do not meet the above criteria will be excluded.

8.2. Appendix 2: The study Instruments (IDIs and FGDs)

8.2.1 Appendix 2a: In-depth interview questions

Introduction

Thanks for participating in this interview ….warm greetings, interviewer introduce himself, and explain briefly the purpose and nature of the interview, as well as its agendas and topics.
Socio-demographic ccharacteristics:

Age:_____ Gender:_____ Level of education: _____Year of experience: _____ Sector affiliation: _____Location: _____ Position: _____ Contact: _____

1. <u>HRS conceptualization and HRS performance</u>

As we are interested in the way our interviewees define HRS (rather than starting the interview with our own definition of it), we will ask all interviewees about how they perceive HRS.

- **Conceptualization**

- From your own definition, how do you define the HRS?
- How do you perceive the HRS in Palestine?
- When we mention HR in Palestine, what comes to your mind first?
- What we gain from HRS and what we will lose by giving that up?

- **HRS performance**

- From your perspective, are you pleased with how HR is performed, produced and used? Explain?
- From your perspective, is the attention of HRS is appropriate (developmental versus occasional)?
- Do you think that the HRS in Palestine is effective and efficient? Why?

2. <u>HRS governance, policy, and priorities</u>

- **Governance**
- Describe the governance structure or HR in Palestine?, who govern the system (bodies), manage the relationships, processes, and rules for making a decision within the system.
- Describe the ethical review processes or structures for HR in Palestine?
- **Policy**
- Based on your knowledge and experience, is there a national policy that managing the work of HR? Please justify?
- Where the problems that are related to HR policy lies at the three sectors government, academia, and NGOs?
- What could be done to boost the improvement of HRS policies?

- **Priorities**
- From your views, are there national priorities for HR? and does it constantly identified in accordance with the needs?
- Do not you think that HR which was applied and that still applies deriving from national health priorities and based on people needs?, and How do you prove that?
- What are the most important HRS needs and priorities for improvement?

3. <u>Health research stakeholders</u>
- Who are essential relevant parties should be engaged in HR field?
- What are the roles for each of them respecting to research producer and user?
- How do you evaluate these roles? And are they carrying out their responsibilities properly?
- In Palestine, what is the role of international agencies in supporting HRS? and what are the ways to accomplish that?
- How do you find the relationship and cooperation among the HRS stakeholders? What are the most appropriate interventions to develop it?

4. <u>HRS capacities, resources, knowledge transfer and application, and quality</u>
- Describe the actual HRS capacities at the institutional and individual levels?
- Do you think that there is a need to develop those capacities? how, and what are the priorities to attain this?
- Tell us the mechanism of funding the HR in Palestine, whether it is sufficient and sustainable? what is the hoped?
- Explain the reality of human resources in HR? and what further development opportunities in this direction?
- **Knowledge transfer and translation**
- Are you satisfied with the way of knowledge dissemination among research producer and user?
- What is required to improve and promote communication and networking between research producer and user?
- How do the research translation process work and what role does research play in decision-making?
- What could be done to boost the improvement of HRS policies and use of evidence in health policy decision making?
- **HRS versus standardization**
- Does the HR in Palestine meet the international standardization? , why, and what is required to achieve the highest level of its quality?

5. <u>HRS pitfalls and challenges, and insights for HRS strengthening</u>
- **HRS strengths, weaknesses, opportunities and threats (SWOT)**
- Could you summarize the HRS in Palestine in reference to SWOT?
- **HRS related to supporting HCS performance and health outcomes**
- How is the HR role in improving the performance of the HCS and national health indicators?
- **HRS challenges and obstacles**

- From your perspective, what are the challenges facing the HR in Palestine?
- Individual-level - Institutional level - National level
- **How can the debate around HRS in Palestine among stakeholders be reduced? What should be done?**
- **Based on your understanding, what you suggest recommendations and developmental actions for better production and utilization of HRS in the PHCS components at the institutional and individual levels, in order to support sustainable health development?**

Additional comments, is there anything else you would like to share with us or any questions you have for us? (This question already starts the debriefing, and the interviewer can even engage in a discussion here).

The end …

8.2.2. Appendix 2b: Focus group discussions FGDs

- **Focus group structure and protocol**
- **Preparation and reception**

- **Session information**

Participant affiliation: _____ , Number of participants: _____

Place/location: _____,Time: start _____ end _____

Date: _____

- **Introduction**

Hello, my name is Mohammed AlKhaldi. Thank you for taking the time to participate in a focus group on the needs of investigating the HR situation in Palestine. This FGD is part of a larger research project process that Swiss TPH is conducting to learn about the HRS in Palestine. We want to understand its pillars and environment properly, and to identify the strengths, weaknesses, opportunities and threats. Moreover, how we might promote it for better production, transfer, and utilization.

We would like to hear from you about the HR status generally from the side, and institutionally from the other side, and also your perspectives you would suggest in reference to the particular topic components. During this FGD, I will ask questions and facilitate a conversation and discussion about this topic. Please keep in mind that there are no "right" or "wrong" answers to any of the questions I will ask. The purpose is to stimulate conversation and hear the opinions of everyone in the room. I hope you will be comfortable speaking honestly and sharing your ideas with us.

Please note that this session will be recorded by assistant will be taking notes during the FGDs to ensure we adequately capture your ideas during the discussion. However, the comments from the FGDs will remain confidential and anonymous comments you make. We would like to emphasize on the interaction and active participation between or among group members. Do you have any questions before we begin?

- **FGDs themes for discussion**
- **Theme 1:** Overall understanding of HRS concept, goals, functions and performance in Palestine
- **Theme 2:** HRS governance, policy, and priorities
- **Theme 3:** Stakeholders and coordination status
- **Theme 4:** HRS capacities, knowledge transfer, dissemination and quality, and evidence application
- **Theme 5:** Identification of HRS SWOT, challenges, and perspectives for improvements

Theme 1: Overall understanding and performance of HRS reality

- **Conceptualization**
- When we mention the HR, how do you perceive this concept? what does it mean? and what are the most important elements joined with it?
- Let's do a quick round of the HR landscape, give us a comprehensive image of HR and its climate in Palestine?
- Where we are now, and are you satisfied with HRS in Palestine? why?
- **Performance**
- Is the HR performs appropriately in a right task? Are its activities achieving the goals?
- Is it manage and implement in an optimal way?
- How do you see the political commitment from policymakers and legislators toward HRS?, what is your explanation for that?

Theme 2: Governance, policy, and priorities

- **Governance**
- Describe the HR governance structure or mechanisms in Palestine?, who govern the system (bodies), manage the relationships, processes, and rules for making a decision within the system?
- Please, can we discuss collectively the HR governance, structure, and its management processes?.
- Describe the ethical review process or structure for HR in Palestine?
- **Policy**
- Are there clear and effective policies for HR at the level of your institution and at the national level as a whole?
- **If any,** what is your evaluation of such policies, and what needed to be strengthened?
- **If does not exist,** how do you interpret that?
- In the national health strategy or institutional strategic plan, are there items focuses on strengthening HR? can you justify that?
- **Priority/needs**
- What are the national health priorities in Palestine? at your institution level, what are the health priorities? Are both priorities formulated regularly?
- Is there a match between those priorities and the national HR priorities?
- What are the national HR priorities? and who set/how are the HR priorities and agendas determined at present?

Theme 3: Stakeholders and coordination status

- Who are the major actors in HR in Palestine? what are the roles of each of them? How do you evaluate their roles?
- How do you describe the status of cooperation and coordination pattern for HRS in Palestine?.
- What mechanisms exist for coordinating HR? And what are there mechanisms for avoiding duplication?

Theme 4: HRS capacities, knowledge transfer, dissemination and quality, and evidence application

- **Capacities and resources**
- How do you mobilize resources for HR at present/ what are the existing resource mobilization strategies?
- What have been the challenges?
- If any challenges, how have you addressed these?
- What can/could have been done differently?
- Who finances the HRS?, and What is the government role in allocating resources for HR?
- Have there been any challenges, in terms of budgeting, allocation, and utilization of funds in the area of HR?
- How might the government increase its budget allocation to HR?
- Are there any other national and international sources of funding for HR in Palestine? What is the role of external financing in this context?
- In terms of institutional and human resources and capacities, what is the existing capacity for HR? Are there any mechanisms or opportunities for capacity strengthening or training initiatives in HR?
- **If, yes, what are these? , If no, why not?**
- Do the universities have the capacity for producing researchers? What about in terms of HR? (How)
- What is being done currently?
- Are there any international collaborative relationships for training researchers? Who are the major actors?
- What is your perception of these relationships?
- What could be done differently?
- **Technically, In your opinion, what do you think the HR practice across the producer and user in reference to:**
- **Quality and standardization**
- Explain how do you perceive the quality of HR production?
- Does it meet the international guidelines?
- **Knowledge dissemination and evidence translation**
- Are there mechanisms for ensuring effective management and use of knowledge in Palestine?
- What opportunities exist for management and use of knowledge?
- Are there any challenges in the management and use of knowledge?
- In what ways and how could use of generated knowledge be improved?
- Are researchers required to deposit papers, findings etc. into a database/central repository?
- Do health researchers have access to the knowledge produced in Palestine?
- Do health providers, policymakers, and managers have access to the knowledge produced in Palestine?
- How could you evaluate the KT?, Are there any mechanisms/ systems in place aimed at ensuring increased access to knowledge?

- How could you evaluate the Knowledge application?, How or what mechanisms exist to ensure that research addresses the questions of policy makers?)
- Is there a database for storage of research findings, projects, and reports?
- Who is responsible for disseminating and translating HR knowledge?
- What can/could have been done differently to promote these practices?

Theme 5: Identification of HRS SWOT, challenges, and perspectives for improvements

- **SWOT**
- What are the prominent strengths and weaknesses of the HR in Palestine?
- Looking for the future, could you determine the opportunities to be promoted and threats to be tackled regarding HR development in Palestine?
- **Recognition the HRS challenges and gaps in Palestine.**
- Let us focus on challenges, can you summarize the HR gaps and constraints in Palestine at the: a) National level, b) Institutional level and c) Individual level
- **Recommendations for changes and improvements**
- Based on your understanding, what you suggest to strengthen the Palestinian HRS production and utilization at the: government, academia, local and international NGO sectors

Is there anything else we haven't discussed yet that you think is important about HR in Palestine, or additional comments would like to add to this theme and the others?

The end…