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**Resilience capacities of health systems: accommodating the needs of Palestinian refugees from Syria**

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## **Resilience capacities of health systems: accommodating the needs of Palestinian refugees from Syria**

### **ABSTRACT**

Resilience is increasingly recognised as a key process mitigating the impact of shocks and stressors on functioning. The literature on individual and community resilience is being extended to address characteristics of resilient service delivery systems in contexts of adversity. The validity and utility of a capacity-oriented resilience framework (including absorption, adaptation and transformation) is examined with respect to the functioning of United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) health systems in Lebanon and Jordan in the context of the Syrian crisis. We completed 62 semi-structured interviews (30 in Lebanon in November - December, 2016, and 32 in Jordan in January 2017) with professionals at primary care, area, and country management levels. Participants reflected on changes in population health status and health service delivery during the Syrian crisis, notably with respect to the influx of refugees from Syria. Interviews were analysed through inductive thematic analysis and used to critically interrogate health systems resilience against a pro-capacities framework. We find that UNRWA systems in Lebanon and Jordan were broadly resilient, deploying diverse strategies to address health challenges and friction between host and refugee populations. Absorptive capacity was evidenced by successful accommodation of increased patient numbers across most service areas. Adaptive capacities were reflected in broadening of collaboration and reconfiguration of staff roles to enhance service delivery. Transformative capacities were demonstrated in the revision of the service packages provided. While manifest as technical capacities, these clearly drew upon solidarity and commitment linked to the political context of the Palestinian

experience. The study adds to the limited literature on health system and organizational resilience and indicates that capacity-oriented framings of resilience are valuable in extracting generalizable lessons for health systems facing adversity. The proposed resilience framework promises to guide strategies for sustained care delivery in these contexts.

**Keywords:**

Syria; Jordan; Lebanon; Resilience; refugees; conflict; crisis; health systems

## Introduction

Despite differing emphases in its use across disciplines and contexts, resilience is generally recognised as the ability to absorb shocks or mitigate their impact in returning to an original state or transitioning to a new stable state (Holling, 1986). When focused on human functioning, resilience research has thus generally sought to identify factors and characteristics assisting persons in responding to extreme circumstances. Influential works in this area include Masten's research on resilience in children exposed to war and trauma (Masten, 2001; Masten and Narayan, 2012), the work of Eggerman and Panter-Brick on the narratives of hope and resilience in Afghan populations (Eggerman and Panter-Brick, 2010) and Barber's studies of Palestinian youth within the occupied Palestinian territories (Barber, 2013; Barber et al., 2014). With respect to the Ebola and Zika virus outbreaks especially, resilience has now emerged as a key concept in the health system discourse (Moon et al., 2015; Haldane et al., 2017).

The lens of resilience encourages an analysis of how health providers, national ministries of health, and/or other components of the health system cope with strain and shocks in the course of delivering health services (e.g. Barasa et al., 2017; Ager et al., 2015).

This paper aims to advance the understanding of the resilience of health systems by interrogating the appropriateness of a capacity-oriented resilience framing via a case study of the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).

Specifically, the paper tests the utility of Blanchet's 'absorptive, adaptive and transformative' resilience framing (Blanchet et al., 2017) by applying this critically to the UNWRA health

systems in Lebanon and Jordan in dealing with the on-going displacement of Palestine refugees from Syria. Essentially, UNRWA operates independently of, but in collaboration with, state and private provision in Lebanon and Jordan. We proceed by offering an overview of health systems oriented resilience research and further introduce the Syria crisis and its effects on the UNRWA health systems under study.

### ***Resilience of health systems***

Given resilience is a concept that has drawn from diverse disciplines such as engineering and psychology (Ager, 2013; Barasa et al., 2017; Masten and Narayan, 2012), the health systems literature on the topic is highly heterogeneous (Witter and Hunter, 2017). Despite this, we note the emergence of connecting themes.

### ***Uncovering resilience against a backdrop of stress and shock***

Similar to the literature on individual resilience, there is agreement that resilience is most visible and best researched in situations where services are strained due to, or systems are exposed to, situations of shock (e.g. conflict) or substantial stress and pressure (e.g. repeated health system reform) (Barasa et al., 2017; Gilson et al., 2017; Witter and Hunter, 2017). We distinguish studies on 'everyday resilience' (e.g. in relation to service functioning at the meso health system level in South Africa in response to chronic stressors; Gilson et al., 2017) from research into resilience in the context of acute shocks (e.g. in relation to service functioning of the Lebanese health system in response to the Syria conflict) (Ammar et al., 2016). While the former focuses on system functioning under 'routine strain', the latter extends to research into functioning under extraordinary circumstances such as conflict, natural disasters, climate change, austerity or outbreaks. Among the latter, notable examples include studies into health facility – i.e. micro level health system – functioning in Nigeria in areas directly affected by

Boko Haram insurgency (Ager et al., 2015) and research into health worker experiences of shocks and associated coping strategies in conflict/post-conflict and post-epidemic settings (Witter et al., 2017). Other studies have addressed macro level health system performance, such as work on the health system in Ireland in adjusting to the economic recession of 2007 (Thomas, 2013).

*Resilience as bounce-back or emergence?*

We note two principal framings emerging in relation to resilience and health service function. A first framing suggests a resilient system is one that can ‘bounce-back’ (Tanner et al., 2017) – i.e. resilience is a capacity that enables the health system to return to ‘normal and usual’ function when faced with a shock/stressor.

This view is appealing as it frames resilience as a potentially controllable variable (e.g. to be influenced via improved disaster planning) and allows for the practical appraisal of resilience (e.g. via pre- and post-shock/stressor comparisons of health systems function). However, such framing runs the risk of ignoring that shocks and stressors routinely reframe the ‘normal’: i.e. systems may legitimately not achieve (or desire to achieve) pre-shock functions and instead navigate towards a different yet stable state of affairs (Barasa et al., 2017; Gilson et al., 2017). Such alterations have been noted regarding resilience at the population level (e.g. Barber, 2013). For health systems, periods of extreme shock or stress have also been documented as potential windows of opportunity for health systems to undergo reforms (Bertone et al., 2014).

Acknowledging these points, a second framing of resilience – as a complex system capacity – is gaining popularity (Barasa et al., 2017, Tanner et al., 2017). Here, resilience is an organic

and emergent health system capacity exhibited both routinely and in situations of extraordinary shock (Barasa et al., 2017). This framing acknowledges that multiple stable states of affairs could emerge in the wake of shocks or periods of stress. It points to the utility of unpacking what lies at the core of health system functioning during such times: i.e. the system elements, resources, processes and structures that enable the emergence of resilience (Tanner et al., 2017). Such a framing is consistent with articulations previously offered by Masten and Narayan (2012, p1): “Resilience (...) can be defined as the capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development.” At the heart of such resilience are interlinked promotive and protective factors and capacities which enable adaptation and coping (Masten and Narayan, 2012).

#### *Resilience as the interaction of capacities*

In line with the above emphasis on dynamicity, we note the global literature on health systems also converging on the relevance of capacities (Ager et al., 2013). Rather than focus on traditional appraisals of health system building block functions (e.g. information systems, governance structures, emergency preparedness processes), research is moving towards identifying the diverse capacities sustaining, and strategies demonstrating, resilience (Barasa et al., 2017; Blanchet et al., 2017; Gilson et al., 2017) . While appraising system blocks is clearly relevant (Blanchet et al., 2017; Kruk et al., 2017, 2015), focusing research on capacities presents an opportunity to explore a broader range of resilience-related behaviors, prompt more structured and potentially replicable resilience research and to clearly delineate resilience research from previous studies on system strengthening (Witter and Hunter, 2017).

#### *Pro-capacity resilience framing*

Within this paper, we specifically examine the utility of a capacity-oriented framing of resilience (Blanchet 2017) in explaining behaviours and strategies enacted by the UNRWA health systems and providers in Lebanon and Jordan in dealing with the stressor of the Syria crisis and associated displacement.

Specifically, we distinguish three overarching capacities (including an Arabic translation proposed by the authorship team) as follows:

- a) Absorptive capacity (القدرة الإستيعابية): the processes and resources that help systems to address population needs within already available soft and hard system resources (e.g. cultural, human, financial resources);
- b) Adaptive capacity (القدرة التكيفية): the processes and resources that allow the system to adjust and modify how its resources operate in the short term, without prompting permanent change in system structure;
- c) Transformative capacity (القدرة التحويلية): the processes and resources granting the system the ability to create long-lasting changes in system structures – e.g. by creating fundamentally new services/systems of operation that did not exist prior to the shock/stressor.

Blanchet et al (2017) posit that these macro-level capacities are sustained, and indeed deployed most successfully, by health systems that effectively leverage knowledge of their own resources – both ‘hard’ and ‘soft’ (Sheikh et al., 2011) – when either anticipating or responding to shocks; engage actors beyond the formal and public health system in service delivery; and build legitimate health related institutions and processes with a mandate to offer services that prove acceptable to recipient populations. (Ager et al., 2013; Blanchet et al., 2017; OECD, 2014; Tanner et al., 2017).

***The shock of the Syria crisis and the displacement of Palestine refugees***

Since 2011, the armed conflict in Syria has resulted in the extensive fragmentation of social, political, economic and cultural structures sustaining the life and livelihoods of the population. By the end of 2015, 11.5% of Syria's population was estimated to have been killed or injured – equivalent to 10 deaths/10,000 persons and 1.88 million persons injured (Syrian Centre for Policy Research, 2016). Given widespread insecurity and considerable destruction of physical infrastructure across the country, recent estimates suggest over six million individuals have been internally displaced and a further five million persons have fled to neighbouring countries (UNHCR, 2017).

One displaced population stands out as particularly vulnerable: Palestine refugees, and their descendants, settled in Syria following the 1948 Arab-Israeli conflict and newly forced into migration due to the Syrian war (UNHCR, 2013). Palestine refugees in Syria – henceforth referred to as PRS – have a long history of displacement and, like most Palestine refugees (PR) settled across the Middle East, are characterised by poor socioeconomic status, high unemployment and limited socio-political rights within host countries (UNHCR, 2017). Most PRS displaced by the conflict sought refuge in countries already hosting substantial PR populations, such as Lebanon and Jordan. While absolute displacement to these countries fluctuated during the 2011-17 period, latest estimates suggest PRS comprise 7% and 1% of the PR population within Lebanon and Jordan respectively (Figure 1).

<INSERT FIGURE 1 HERE>

The civil and social rights for Palestine refugees settled in Lebanon and Jordan differ dramatically and affect the experience of newly arriving refugees from Syria. In the former, Palestine refugees are considered non-citizens irrespective of their length of settlement;

therefore, the incumbent PR population in Lebanon (PRL) and displaced PRS cannot access Lebanese public services, e.g. health care. Employment restrictions are also imposed, thus compromising PR's ability to secure income and provide for their families. Estimates suggest 23% of the PRL population is unemployed and 24% is food-insecure; among the displaced PRS, estimates are considerably higher: 52.5% of the population has no employment and over 60% is food insecure (UNRWA, 2017a).

In contrast, the majority of Palestine refugees registered in Jordan (PRJ) were granted citizenship: PRJ thus enjoy the same civil rights and socio-political and economic opportunities as the Jordanian citizens. In Jordan, PRS groups, however, are considered refugees and have limited rights within the country. Given the sizeable influx of both Syrian refugees and PRS, high unemployment has become a major challenge. In 2016, 87% of PRS had been categorized as vulnerable – i.e. at risk groups facing deportation/legal issues, extreme poverty, violence or social exclusion (UNRWA, 2016a). Some PRS are also restricted to living within specified refugee camps (Amnesty International, 2013; UNRWA, 2017a).

Throughout the text, we refer to Palestine refugees registered in Syria, Jordan and Lebanon as PRS, PRJ and PRL respectively. These identifiers – echoing accepted international terminology - reflect the unique legal status of each group, while reinforcing their shared identity as refugees from Palestine.

### ***The UNRWA health system***

Across the Middle East, UNRWA is the organization mandated with the care of over 5 million PR. Funded via contributions from the European Union, regional governments and

United Nations, UNRWA has over 30,000 staff members working across its five fields of operation: Syria, Lebanon, Jordan, the West Bank and Gaza. The organization provides educational, healthcare, relief and social services. It further supports Palestinian camps' infrastructure and improvement, microfinance and emergency assistance (UNRWA, 2017b).

This paper focuses on UNRWA health systems, specifically, the UNRWA Department of Health (UNRWA-DoH). This department oversees service delivery through 143 primary care facilities and coordinates referral to secondary and tertiary care throughout the region. Similar to other health systems globally, UNRWA-DoH is challenged by rising health care costs and the need to provide focused, effective and patient-centred services. Given epidemiological changes, an imperative to enhance service delivery in times of regional instability and contain health care costs, the DoH implemented a series of health care reforms in 2010-11. Notable reforms included the introduction of an electronic information system, e-health (a bespoke computerized electronic medical records and appointment system), and a 'family health team' (FHT) approach to primary care ('family health teams' each made up of one clerk, nurse and doctor were assigned to provide continuity of care across families).

Given the common model of care and structure of UNRWA health systems in Lebanon and Jordan, it is feasible to compare the performance of these systems. Identifying the mechanisms facilitating access to care and continued service delivery in these country settings, against a backdrop of regional conflict, substantive displacement and continued health system reform, is key to identifying the extent to which the UNRWA health system has proven resilient over the 2010-17 period. Further, the experience of UNRWA in seeking to maintain resilience in health systems functioning under such circumstances – and increasingly also facing substantive financial pressures (Ager, et al., 2018) – is of potential

value in informing wider health sector planning in the midst of growing instability in Syria, the Middle East region and other areas around the globe.

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## Methods

### *Research scope*

In line with OECD's guidance on resilience systems' analysis (OECD, 2014), we restrict the scope of our research to specific systems (UNRWA health system in Lebanon and Jordan) and time period (2010- 2017), a shock/stressor of interest (the Syria crisis and displacement of refugees) and the stakeholders most affected by the adverse conditions this shock generates (UNRWA health care providers offering services to the displaced population).

### *Design*

The study utilized a qualitative research design employing a series of key informant interviews with UNRWA health system professionals in Lebanon and Jordan to identify the elements of UNRWA health system resilience that supported the continued delivery of care despite the influx of PRS displaced by the Syria crisis. Interviews were informed and complemented by documentary analysis of UNRWA annual reports and working papers. We compared the fit of findings obtained via inductive analyses of interviews against the pro-capacities framework (Figure 2) identified from narrative review of recent resilience literature.

<INSERT FIGURE 2 HERE>

**Data Collection** We carried out 30 and 32 qualitative semi-structured key informant interviews in Lebanon and Jordan respectively. The interviews were carried out between November 2016 and January 2017 (see Table 1). We purposively sampled facilities and participants who would provide a diverse range of accounts related to UNRWA service

delivery during the period of the Syria conflict (2011 onwards). UNRWA Chief Field Health Officers advised on the selection of health care facilities to reflect geographical spread (urban vs. rural; camp vs. non-camp) and density of PRS populations served. In Lebanon we visited the following health centers: Bourj Shamali (camp; urban), Wavel (camp; rural) and Saida Polyclinic (non-camp; urban); in Jordan, we visited Zarqa health center (camp; urban), Irbid (camp; rural) and Nuzha (non-camp; urban). [A map indicating UNRWA's fields of operations in 2017 is provided as Appendix 1].

<INSERT TABLE 1>

<INSERT LINK TO ONLINE FILE 1 – APPENDIX 1>

In both countries, interviews were conducted with UNRWA area health managers (managing a group of clinics), health center staff (clinical, support and administrative) and members of local community associations. In addition, we interviewed country level staff responsible for coordinating health service delivery during routine and emergency operations within each country.

Data collection took place between November 29<sup>th</sup>- December 14<sup>th</sup> 2016 in Lebanon and between January 15<sup>th</sup>- 24<sup>th</sup> 2017 in Jordan. Interviews were carried out by a researcher (ZJ) in Arabic or English, privately with each participant consenting to participation. A semi-structured topic guide – developed on the basis of a prior study in Gaza – was used consistently across both settings after initial piloting. Interviews were audio-recorded or, if consent for recording was withheld, notes were taken; on average, interviews lasted 30 minutes.

Recordings were transcribed verbatim and translated by a researcher (ZJ); Arabic native speakers in the research team (MA, MF) verified translations. Transcripts were imported into Dedoose (Dedoose, n.d.), a web application for qualitative data analysis, and following repeated reading of the transcripts to gain analytic insight of the data, known as data immersion, inductively coded by two researchers (ZJ, KD, inter-rater correlation coefficient 0.78). Codes were iteratively refined and reduced to relevant categories (Glaser, 1965); emergent sub-themes describing systems behavior were first classified in relation to health systems building blocks (e.g. human resources, infrastructure, service delivery, funding (WHO, 2007) and further against one of the three resilience capacities of the Blanchet framework (Blanchet, 2017).

Through the process of iteration specified above, we came to operationalize capacities as follows:

- Absorption (الإستيعاب): system behaviors enacted within existing available resources and their configuration
- Adaptation (التكيف): behaviors involving the deployment of additional resources and/or reconfiguration of resources and
- Transformation (التحول): behaviors that radically change system structures and goals

To interrogate how capacity deployment occurs over time and how it corresponds to periods of extreme shock compared to more routine stress, we further aligned capacities to the time period in which they were deployed: initial phases of crisis and displacement (2010-11), medium term continuation of displacement (2012- 2014) and long-term settlement of refugees in host countries (2015- 2017).

### *Ethical approval*

In addition to obtaining UNRWA headquarters approval to conduct this study and to access UNRWA data systems, ethical approval was secured from Queen Margaret University and American University of Beirut (protocol number FHS.MA.24).

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## Findings

### The Syria conflict and PRS displacement: shocks to the system

Review of UNRWA annual reports indicates that the Syria conflict and associated displacement has put major stresses on the UNRWA clinic network (UNRWA, 2016b, 2015, 2014, 2013). Interviews with care providers across both settings confirmed these challenges.

In Lebanon, care professionals noted PRS displacement was overwhelming in the south of the country: workloads increased drastically and provision of care to a vulnerable population meant exposure to potential insecurity and substantial stress. Incoming refugees had wider expectations of care and this resulted in conflicts with care providers who were not able to meet their expectations (in Syria, PRS had access to Syrian public health care and were less reliant on UNRWA services).

“The load was very high, it increased 3 times more. Also dividing the reports was challenging (...) Dealing with the PRS is hard by itself, I don't know why. Maybe it's because of the language. For example, you'd spend some time counselling the patient and then later you'd find out that the patient didn't understand anything. That was very hard and stressful especially when you have big number of patients”. Clinical staff with administrative duties, Lebanon

“All PRS had everything they needed back in Syria, unlike PRL. PRS used to get admitted to any hospital in Syria and for free. They say so. So they have this mindset. Here, it's not the case. We have to go through a specific procedure and they're not

used to that. They want their things done immediately. This causes clashes between us, as staff, and PRS registered here at [the camp]” Administrative staff, Lebanon

In Jordan, the PRS represented a proportionally smaller part of the PR population and imposed less additional burden on the system. Health care professionals noted that a lack of awareness of UNRWA services among PRS and registration issues – i.e. lack of formal migration papers and medical history – were problematic, adding to workload and impeding referral to secondary care.

“We didn’t feel that the increase was major to the point that affected the work (...) every day, we receive 300- 400 patients; probably 10- 15 are PRS. When you compare their numbers to the numbers of PRJ, it’s negligible”. Clinical staff with administrative duties, Jordan

“It took a little bit before the numbers went high because at the beginning they (PRS) didn’t know where UNRWA is or what services they can get. And then by the word of mouth, people knew. (...) When they first came, they didn’t bring with them their official papers. For instance, you’d see a child who’s aged a year and a half that has no vaccination card”. Clinical staff, Jordan

Though substantial challenges arose across settings, interviewees noted that UNRWA systems proved to be capable of absorbing the shock precipitated by the displacement of PRS:

“Without any exaggeration, I would say our services to the PRS was very good for so many reasons. First, we didn’t suffer from any budget depletion. Second, our health care teams are very qualified and are able to fulfill the needs of their job. Also,

despite all that, we brought new staff to support them upon the managements' approval. Moreover, we were literally working with everyone on the field. Also, the UNRWA system is interconnected (amongst relief, health and education). This interaction was always seen so that we're able to serve PRS better." Management Staff, Lebanon

### **Resilient health system capacities**

Interview analyses identified three key themes and eleven related sub-themes of relevance to health system resilience. (Table 2) These themes and sub-themes generally fit well within the absorption, adaptation and transformation capacities of our proposed resilience framework (Figure 2). The deployment of capacities is not linear as they can co-exist at any point in time throughout the responses to the shock (Tables 2-3 illustrate). We focus our discussion below to resilience capacities and strategies put in place; Tables 2-3 also outline the vulnerabilities arising during the deployment of these strategies.

<INSERT TABLES 2, 3 AND 4>

#### ***Theme One. Absorption and immediate crisis response depends on the extent of both soft and hard system resources***

During the first waves of displacement towards both Lebanon and Jordan, systems were able to accommodate increased service provision via available organizational resources, including a deep commitment towards serving refugees, health care worker motivation and emergency preparedness plans.

#### ***Organizational mission and philosophy sustain service delivery***

The absorptive capacity of UNRWA Lebanon and Jordan is evidenced primarily by the system performance at the start of the crisis. During early displacement in 2011-12, both settings operated only using available resources and staff, offering care to any patient – whether PRL, PRJ or PRS presenting at the clinic.

“UNRWA dealt in a very positive way with all PRS. UNRWA registered them and was responsible for them during their crisis. (...) UNRWA supported them similar to any PRL.” Administrative staff, Lebanon

*Deep sense of solidarity and social cohesion bolsters health worker dedication*

To ensure service provision, staff went beyond the scope of duty, often working substantially longer hours. Empathy with the plight of newly arriving PRS and commitment to serve their PR community (UNRWA staff are themselves PR refugees), were motivating factors sustaining such behaviors.

“Most of the staff here are dedicated because they’re serving their own community or relatives sometimes... Sometimes, we’re so exhausted and we receive a patient at the very end of the working hours yet, we don’t reject anyone. We know that sometimes people borrow money for transportation to come to us. So we don’t turn down anyone. At the end, they’re our community.” Clinical staff, Jordan

*Logistical responsiveness mitigates the impact of the crisis*

We also note that during this insecure period, both UNRWA systems had plans and strategies in place to manage changing needs for medication procurement and logistics. Medicine stock

was redistributed to those facilities most affected by PRS migration and procurement orders were brought forward to ensure continuous medicine availability.

“The crisis started in 2011 and the displacement was minimal at that time (at least for the first 6 months). So the displacement was gradual. This alerted us at the management level, in health and in all UNRWA that the crisis may escalate and we may face huge amount of influx. So at that time, we started to plan (...) We bought medicine, 25% of our annual stock, as an emergency stock. We procured immediately to keep it in case anything happened.” Management staff, Lebanon

While stock-outs still occurred due to delays in procurement or high utilization, clinic staff noted that new medicines were available rapidly.

#### *Effective emergency preparedness plans require mobilization of funds*

Across settings, emergency preparedness was recognized as a key element in sustaining access to health care and service delivery. However, participants noted that preparedness was predicated on financial support and clear guidance from higher health systems levels in order to coordinate operations.

“It’s the continuous coordination and the prompt action taken to solve any problem we face [that allows the system to continue to provide services during adverse circumstances]. For instance, when the PRS came, within very short period of time, those refugees became entitled to all UNRWA services. (...) There’s an emergency plan for UNRWA (...) but if there’s a little bit more financial support, I think the

service would excel even more and more.” Clinical staff with administrative duties,  
Jordan

*Health system reforms: boon or bane?*

One notable difference between the Jordanian and Lebanese UNRWA functioning during the immediate crisis periods relates to newly introduced health systems reforms: i.e. the Family Health Team (FHT) model and E-Health system.

In Lebanon, FHT and E-Health had only recently been introduced when PRS started arriving; the high learning curve for both these reforms, as well as frequent electricity outages, coupled E-health’s initial inability to accept information entry for unregistered patients or PRS, put substantial pressure on staff and resulted in staff having to fill in both paper and electronic records. (See Tables 3-4) This increased the workload substantially.

“...People here need time to adapt to this system [FHT and e-health]. Also, like you saw today, there’s no electricity and the generator isn’t working so we need to go back to the paper system. (...) Of course, it makes our job much easier and faster except in the cases where they don’t have official papers and therefore no number at UNRWA.” Administrative staff- Lebanon

In contrast, these reforms had been implemented relatively early in Jordan. E-health appeared to be working well here, indeed staff noted that E-health’s appointment function was helpful in managing the high flow of patients.

“It’s very rare that you see a patient complaining because he’s been waiting at the clinic for a long time. This has changed since e-health was introduced (August 2015). Even the staff got relieved with the introduction of e-health and this has positively

affected the way we provide the service and deal with the patients because even at the pharmacy, the contact time has increased. Before e-health, I had to spend some time trying to understand the hand writing of the physician. Moreover, because many patients were waiting, we didn't have the proper time to explain everything we wanted to say to the patients. This has changed nowadays. Now, we're communicating more with the patients". Support staff, Jordan

***Theme Two. Resource exhaustion prompts adaptation: UNRWA services expand collaboratively***

As the crisis progressed, UNRWA resources became depleted. (See Tables 3-4) Medicine stocks in different regions were at risk of running out and despite best intentions, staff were increasingly challenged by high workload (in Lebanon specifically) and the social issues of their patients – prime among these registration challenges.

As regulations for migrating into both Lebanon and Jordan tightened, PRS registration issues started posing access problems for the population, thus increasing community frustration with UNRWA and wider country systems. Initially, UNRWA staff were instructed to provide services only to PRS officially registered in host countries, however problems with this policy became quickly apparent. During the 2012-2014 period, the movement of PRS to and from Lebanon was substantial: e.g. PRS continued to migrate into Lebanon to receive healthcare services, only to return days later to Syria.(UNRWA, 2013) The government-imposed ban on Syrian migrants in Jordan affected PRS communities as well(Amnesty International, 2013). Several community members were afraid to declare being in the country, leaving families socially and politically vulnerable.(UNHCR, 2013; UNRWA, 2014)

*Facilitating access to care through community links*

To resolve registration challenges, UNRWA worked with community members to ensure PRS were signposted towards services. Temporary registration cards (so-called service cards) were issued to enable delivery of services in the short-term.

“To get a registration card, it needs time to contact Syria Field and get all the information. So, at the beginning, in 2012 because the bulk of cases and refugees was significant in 2012 - the Field decided to issue a Service Card.” Management staff, Jordan

*Expanding the logistics and procurement network to sustain medicine supply*

The depletion of medicine stock was further exacerbated by additional challenges in procuring medicines: the conflict in Syria intensified and insecurity increased towards 2013-14 resulting in transportation challenges. To mitigate such vulnerabilities (Tables 3-4), alternative sourcing options were identified, including requesting and managing donations of medicines from other international health organizations operating in the region.(UNRWA, 2015, 2014, 2013)

“UNRWA buys medications in bulk and they’re stored in Beirut. What happened at some point isn’t because of the presence of the PRS, rather because the route to and from Syria was closed. One person at UNRWA Jordan buys the medications for all five sectors, and the amount used to be distributed through land shipping. When the route from Jordan was closed, we had to buy our own medications here from the local market.” Management staff, Lebanon

*Expanding and reconfiguring HR to enhance service delivery capacity*

Additional human resources were needed in Lebanon specifically as staff were unable to sustain prolonged periods of increased service provision on their own. New staff – PRS teams – were hired and allocated to clinics facing highest service utilization:

“When the numbers were high, we started requesting for more staff. UNRWA responded very fast and it was decided, based on the huge number of patients, to hire PRS team to support the staff at the clinic. It’s consisted of 5 or 6 new staff members such as a physician, nurse, pharmacist, and laboratory technician to help the staff already working at the clinic. That helped us a lot and enabled us to control the situation so that no patient was bothered or annoyed rather, each took what’s his right to take.” Administrative staff, Lebanon

Across both settings, staff also engaged in task-shifting upskilling to meet additional service delivery needs. UNRWA systems supported such behaviors by providing additional staff training and encouraging teams to share experiences and enhance communication to devise new ways to work cohesively. For example, in Lebanon staff noted that regular meetings were held to discuss gaps in service provision:

“We have scientific hours where we discuss the gaps, the good practices and the aspects that require further effort for improvement. [We meet] usually on a monthly basis. Sometimes every two weeks. Sometimes if I come across an interesting or a rare case, we hold a scientific meeting to discuss it.” Clinical staff with administrative duties, Lebanon

***Theme Three: Re-shaping the health system and wider host-country context:  
transformation of UNRWA's role and service delivery***

*Reconfiguring service offer to address rising health care needs*

Towards 2015-16, as the conflict in the region showed no sign of abating and as displaced PRS started to settle in host countries, UNRWA systems had become the principal custodians of PRS health. Health care staff had previously noted the need to address PRS-specific health issues, paramount among these are post-traumatic stress, gender-based violence and depression. In response, UNRWA introduced mental health and psychosocial support services:

“The over-crowdedness, poverty, unemployment needs to be addressed through psycho-social support. We are training our teams at health centers. We have one focal point from each clinic that is getting a training from GIZ (a German team that’s providing the training for our staff). And each focal point trains his team at his respective clinic. The headquarters are working on the technical instructions for this mental and psychosocial support. We have trained a big group of physicians on mental health and the HQ will conduct more trainings or reinforcement of trainings so that the mental and psychosocial support services become well established at our clinics. This is essential especially for children. The health and education services are doing a good job. UNRWA is always improving the service to meet the needs.”

Management staff, Jordan

*Introducing systems to improve registration processes*

As registration continued to pose problems, new avenues for facilitating service provision to refugees without registration cards were needed in Jordan specifically. Drawing on the

expertise and capacity of the UNRWA Relief and Social Services department, UNRWA – DoH in Jordan tasked social workers with canvassing communities, assessing people’s needs and then signposting persons to relevant registration and health services. In the case of vulnerable populations, the Protection Division, formally established in 2016, was also tasked with facilitating patient access to secondary and tertiary care.

*Bolstering advocacy efforts*

Reflecting specifically on the case of vulnerable PRS in Jordan, health care staff at field level noted the need to engage partner organizations to ensure the plight of PRS is acknowledged by host country governments.

“We always discuss with ICRC, UNHCR, and other entities on finding solutions [to ensure access to care]. We need to work on mutual efforts to approach the government. (...) They [PRS] have their own specific problems that we need to work on advocacy at higher levels to reach a solution” Management staff, Jordan

## DISCUSSION

We have presented the findings of a qualitative case study, examining the challenges of UNRWA Lebanon and Jordan health systems against a backdrop of regional instability and the strategies deployed to mitigate such challenges. When examined against a pro-capacities framework, our findings, relating to the organization's functioning during the Syria conflict, suggest that UNRWA systems in Lebanon and Jordan have been broadly resilient.

Further, we have elaborated a proposed resilience framework, building on existing literature. Acknowledging the weak operationalisation of resilience within the health systems literature, we tested this framework against the empirical and comparative data drawn from our field interviews. This confirmed the three principal resilience capacities of absorption, adaptation and transformation identified within our framework to have explanatory power. Our analysis thus contributes to understanding of the organisational capacities relevant to sustained functioning in low and middle income and fragile settings, a crucial but underexplored area of study. The paper builds on the notion of resilience as a 'strength-based process' (Panter-Brick, 2014), which allows for the identification of system capacities, with the aim of reinforcing these and learning from them for other settings with shared features, while avoiding the tendency to shift responsibility to vulnerable groups to 'cope' with chronic or acute shocks (van de Pas et al., 2017; Witter S. et al., 2017).

There appears particular value in distinguishing absorptive, adaptive and transformative capacities, rather than seeing all as exemplars of a broader conceptualisation of 'adaptation' (Ammar et al., 2016). This tripartite distinction appears to have intuitive appeal to policy-makers, who were readily able in dissemination meetings to distinguish between the

overarching capacities and behaviours helping the system respond to new challenges in the short to medium term (e.g. absorbing and adapting to shock and stresses) and the capabilities sustaining system function over longer time-periods (e.g. the ability to reflect and re-engineer the system itself to better respond to patient needs). However, the research team noted some difficulties in definitively categorising strategies as either absorptive or adaptive. The assumed boundary of the system being considered appeared critical here: changes in processes between social workers and health staff within UNRWA would be deemed adaptive from a health department lens, but absorptive within a wider UNRWA frame.

A second challenge was maintaining a dynamic framing of resilience. During discussions on absorptive, adaptive and transformative strategies, there was a temptation to consider these as linearly evolving from one another – i.e. as if capacities were linearly deployed over time. However, as illustrated in Tables 3 and 4, different capacities are frequently deployed at the same time. Thirdly, we note that further work is needed to unpack the factors that lie at the basis of successful capacity deployment. For example, which underlying micro-capacities result in successful transformation? Additionally, which factors result in successful concurrent deployment of capacities? These require additional investigation, building on existing insights into cultural, political and historical factors, as well as deeper probing of organisational culture and enablers.

The findings offered here suggest the potential for using a resilience framework in identifying health capacities for meeting population needs within organisations and systems. We acknowledge two key limitations. First, we conducted interviews with a modest stakeholder sample. Being Palestinian themselves, UNRWA staff are unlikely to voice negative views of the organization tasked with their care. We additionally did not interview stakeholders from

agencies or governmental health facilities collaborating with UNRWA, thus our findings pertain only to the agency itself. Second, we acknowledge that UNRWA systems may be considered atypical. UNRWA systems are staffed by Palestine refugees, resulting in high levels of motivation to serve. UNRWA services are also delivered in a context habitually oscillating between emergency response and routine operation under conditions of extreme resource constraints (Ager et al., et al., 2018). Given the Palestinian experience of exile, and further understanding of resilience as a form of collective resistance (Barber et al., 2014 ; Panter-Brick, 2014), our findings may indeed reflect exceptional contexts. The prominence of the principles of solidarity and obligation within health worker narratives signals that absorption, adaptation and transformation were not merely technical capacities, but also political acts. While the political situation of Palestinians is exceptional, our analyses in Lebanon and Jordan suggest the benefit of a political lens to interpret any form of resilient functioning in contexts of adversity (Ager et al., 2015; Barber, 2013).

Despite the above, the capacities the UNRWA health department has evidenced are clearly informative for other international agencies acting within the region and many fragile, low- and middle-income country health systems globally. Motivation and commitment to service among health care workers, as well as community cohesion among affected populations, are evidently substantive facilitators of resilience. Our findings indicate, however, that as health service utilization and associated service delivery stresses increase (e.g. as when dealing with registration issues of patients), human resource capacity is eroded, thus compromising system function (see Tables 3 and 4). Additional hires and training may then be required to mitigate such issues. Devolution of decision making to lower system levels (for example, the field offices in the UNWRA example) appears to be another particularly important, potentially generalizable positive organisational practice underlying resilient capacities.

Our paper focused specifically on identifying the range of organizational capacities relevant to resilience - an area currently neglected in health care literature focused on individual, community or national health system response and resilience. The developed conceptual framework illustrates how a systematic and theoretically grounded approach to resilience research can be helpful in unpacking, operationalizing and appraising health systems' capability in dealing with stressors and shocks. We note, however, that the underlying dynamics, multilevel interactions and potential barriers and facilitators to resilience capacity deployment remain underexplored. In further work, using systems dynamics methods (Trani et al., 2016), we aim to investigate quantitative measures and determinants of resilience capacity deployment in the UNRWA health care systems of Lebanon, Jordan and Syria.

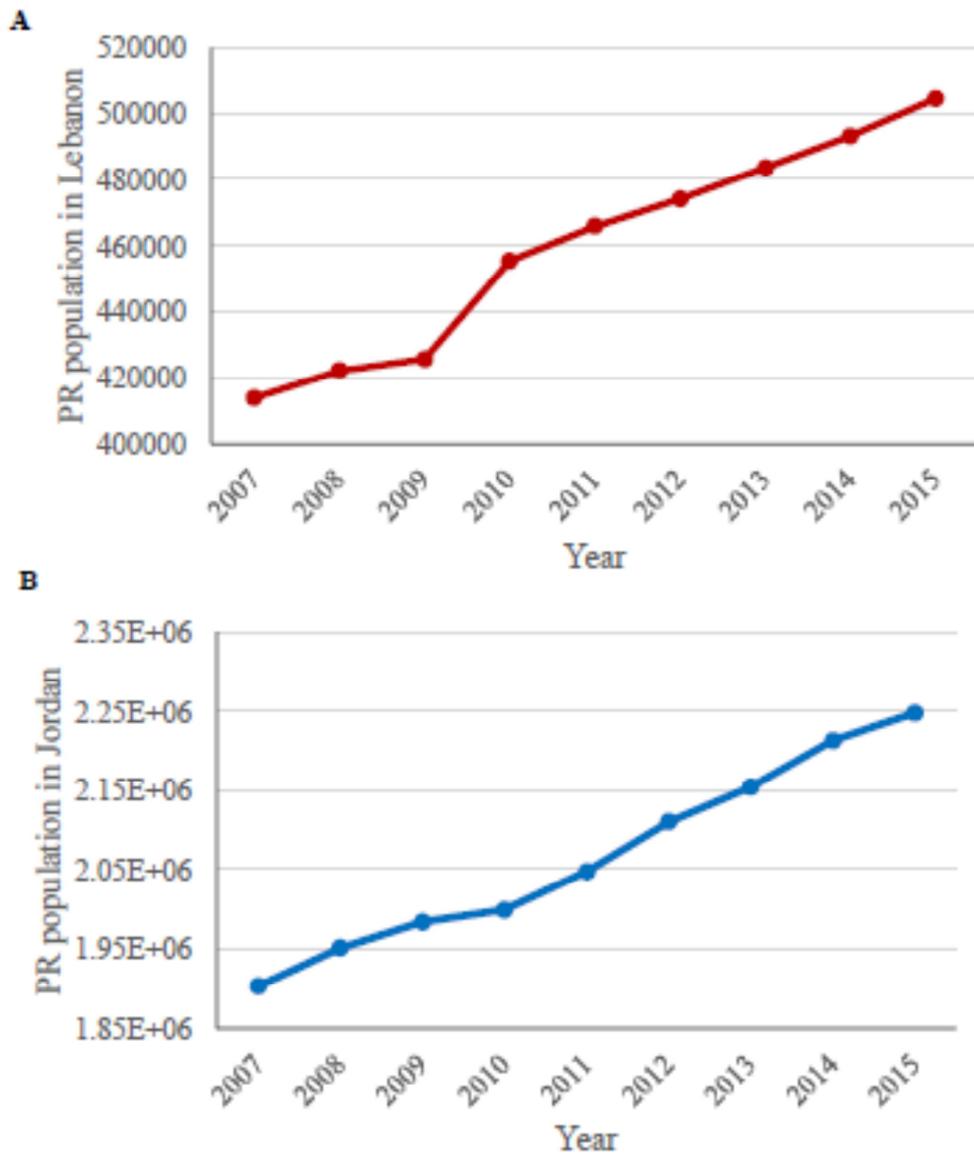
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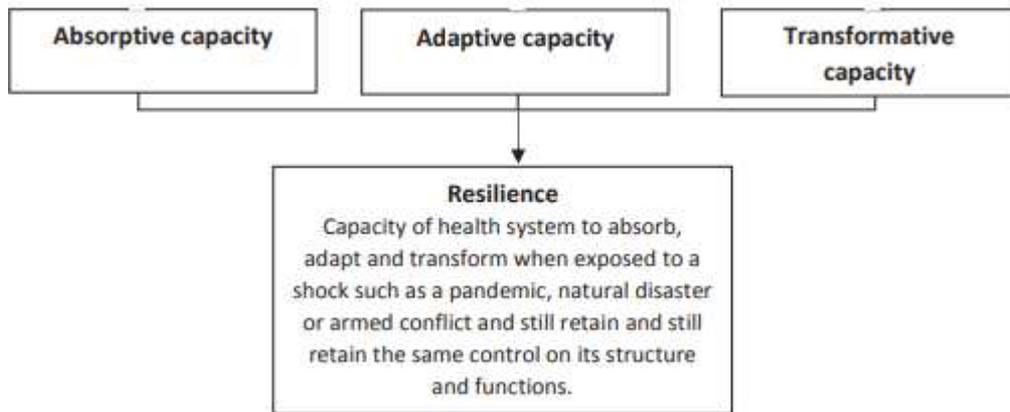
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**Figure 1: Growth in Palestine refugee population in Lebanon (A) and Jordan (B) from 2007 to 2015**



**Figure 2: A Conceptual Framework: The Dimensions of Resilience Governance**

(Adapted from Lebel et al. by Blanchet et al., 2017)



**Table 1:** Number of participants interviewed by country and setting

Staff category	Jordan		Lebanon		Grand Total
	Inside Camp	Outside Camp	Inside Camp	Outside Camp	
Administrative staff	2	1	3	2	8
Clinical staff with administrative duties (e.g. senior medical officers)	3	2	3	2	10
Clinical staff (e.g. doctors, nurses)	5	2	4	2	13
Management staff at regional and country levels	3	4	1	3	11
Support staff (e.g. laboratory technicians)	5	3	3	3	14
Community association members	2		3	1	6
Grand Total	20	12	17	12	62

**Table 2:** Emergent themes and sub-themes extracted from qualitative semi-structured interviews

<b>Themes</b>	<b>Sub-themes</b>
Absorption and immediate crisis response depends on the extent of both soft and hard system resources	<i>Organizational mission and philosophy sustain service delivery</i>
	<i>Deep sense of solidarity and social cohesion bolsters health worker dedication</i>
	<i>Logistical responsiveness mitigates the impact of the crisis</i>
	<i>Effective emergency preparedness plan require mobilization of funds</i>
<b>Theme Two. Resource exhaustion prompts adaptation: UNRWA services expand collaboratively</b>	<i>Facilitating access to care through community links</i>
	<i>Expanding the logistics and procurement network to sustain medicine supply</i>
	<i>Expanding and reconfiguring HR to enhance service delivery capacity</i>
<b>Theme Three: Re-shaping the health system and wider host-country context: transformation of UNRWA's role and service delivery</b>	<i>Reconfiguring service offer to address rising health care needs</i>
	<i>Introducing systems to improve registration processes</i>
	<i>Bolstering advocacy efforts</i>

**Table 3:** UNWRA resilient health system capacities (and vulnerabilities) in Lebanon

UNWRA Lebanon – Shock to system substantial: PRS migration into country is extremely high			
Time period	Absorptive capacity	Adaptive capacity	Transformative capacity
Initial phases of displacement (2010-11)	<p>Care is offered to any PR presenting at health clinics, despite lack of official registration papers</p> <p>Emergency plans are in place to assist in sourcing and redistributing medicines</p> <p>Staff work longer hours and multi-task to ensure populations receive services</p> <p>Vulnerabilities: Implementation of the new electronic record system is problematic due to electricity outages and lack of official patient registration papers.</p>	<p>Registration issues are resolved on a one-on-one basis in collaboration with other agencies</p>	
Medium term: PRS displacement continues but stabilizes (2012-14)	<p>Mitigation strategy: Staff are using both paper and electronic forms.</p> <p>Vulnerabilities: As staff continue working longer hours and take on diverse duties, workplace pressure/stress increase.</p> <p>Vulnerabilities: Procurement of medicines is compromised due to regional insecurity</p>	<p>Mitigation strategy (see vulnerability on left): Additional staff are hired.</p> <p>Mitigation strategy (see vulnerability on left): Medicines and vaccines are secured from alternative sources</p>	

<p>Long term: PRS displacement is relatively stable, PRS population settles (2015-17)</p>	<p>Vulnerabilities: Registration issues persist and impair service delivery</p>	<p>Mitigation strategy (see vulnerability on left): Registration issues are resolved on a one-on-one basis and patients are referred to Relief and Social Services.</p>	<p>Mitigation strategy (see vulnerability on left): New services are introduced to meet population needs: mental health and psycho-social support (including community based gender based violence services) Preventive NCD services gradually introduced into the system</p>
	<p>Vulnerabilities: PRS population is now a stable part of overall UNRWA beneficiary population</p>	<p>Staff engaged in the roll-out of health service reforms as outlined Panel 2</p>	

**Table 4:** UNWRA resilient health system capacities (and vulnerabilities) in Jordan

UNWRA Jordan - Shock to system minor: PRS migration relatively low			
Time period	Absorptive capacity	Adaptive capacity	Transformative capacity
Initial phases of displacement (2010-11)	Care is offered to any PR presenting at health clinics, despite lack of official registration papers Medicines are disbursed as needed and orders for new stock placed in advance to secure stock Staff accommodate additional patients at health facilities: electronic record and appointment systems helps to regulate patient flow	Registration issues are resolved on a one-on-one basis in collaboration with other agencies	
Medium term: PRS displacement continues but stabilizes (2012-14)	Vulnerabilities: Staff absences are frequent, compromising the ability of facilities to remain open and increasing workload on colleagues	Staff engaged in the roll-out of health service reforms as outlined in Panel 2	Preventive NCD services gradually introduced
	Vulnerabilities: Procurement of medicines is compromised as regional instability escalates	Mitigation strategy (see vulnerability on left): Additional procurement sources are identified, and to respond to population needs, additional diagnostic tests and medications are recommended for reimbursement	
	Vulnerabilities: Registration issues persist and impair service delivery		Mitigation strategy (see vulnerability on left): To facilitate service provision for refugees without registration cards, the Health and Relief and Social Services

Long term: PRS displacement is relatively stable, PRS population settles (2015-17)

Vulnerabilities: PRS population is now a stable part of overall UNRWA beneficiary population

departments collaborate to issue service cards.

Strategy in response to vulnerability on left: New services are introduced to meet population needs: mental health and psycho-social support (including community based gender based violence services)

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ACCEPTED MANUSCRIPT

**Research Highlights**

- Assesses UNRWA health system resilience during the Syria crisis using a pro-capacities framework.
- Demonstrates deployment of absorptive, adaptive and transformative capacities in response to threats to systems functioning
- Argues that this framework is helpful in extracting generalizable lessons for other health systems facing adversity.