



# Gaza Strip Joint Health Sector Assessment Report

Prepared by the Health Cluster in the occupied Palestinian territory



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## Abbreviations

ANC	Ante Natal Care
CDS	Central Drug Store
CMHC	Community Mental Health Centre
EPI	Expanded Programme of Immunization
E-Warn	early warning disease surveillance
FMT	Foreign Medical Team
IASC	Inter-Agency Standing Committee
ICD	International Coordination Department
ICRC	International Committee of the Red Cross
MAP	Medical Aid for Palestinians
MHPSS	Mental Health and Psychosocial Support
MIRA	Multi-sector Initial Rapid Assessment
MoH	Ministry of Health
MoSA	Ministry of Social Affaires
MRI	Magnetic Resonance Imaging
NCD	Non Communicable Disease
NGO	Non-Governmental Organisation
OCHA	Organisation for the Coordination of Humanitarian Affaires
PHC	Primary Health Care
PHIC	Palestinian Health Information Centre
PMRS	Palestinian Medical Relief Society
PNIPH	Palestine National Institute of Public Health
PNC	Post Natal Care
SPHP	Society of Physically Handicapped People
RAD	Referral Abroad Department
UNICEF	United Nations Children's Fund
UNRWA	United Nations Relief & Works Agency for Palestine Refugees in the Near East
UXO	Unexploded Ordnances
WASH	Water Sanitation and Hygiene

## 1 Executive Summary

This joint health cluster assessment aims at understanding the impact of the conflict in July and August 2014 on the health sector in Gaza. This report is based on a quantitative and qualitative data collection, conducted at the beginning of September 2014, at a time when health service providers were beginning to re-establish their routine services which had been severely disrupted during the conflict. In order to understand the impact of the conflict on the health system in Gaza this report examines the situation prior to the crisis as well as its functionality during the 51 days of the conflict. Priority health issues have been selected and reviewed and findings presented with recommendations.

The recent conflict in Gaza severely impacted on the health and wellbeing of the entire population. Large-scale population displacement, shortages of water and electricity, environmental health hazards, loss of income and many more factors increased drastically the vulnerability of the majority of the population at a time when the siege on Gaza and the financial crisis of the government had already left the system on the brink of collapse. The chronic situation of the health sector therefore is a major underlying cause for the impact of the conflict on the health system in Gaza today and unless addressed systematically a recovery of the health sector to a stronger and more resilient health system is highly unlikely.

The direct impact of the conflict led to the loss of life, disabilities, decompensation of chronic illnesses and severe negative effect on the mental wellbeing of the population. Security issues and the destruction of vital health infrastructure were and are large contributors to the reduced availability of health services during and after the conflict. Although the hostilities have halted, much of its impact will continue for some time. Shortages of drugs and medical supplies, limitations in tertiary care capacity, extreme fuel shortage and complicated referral mechanisms for the referral of severe cases abroad exacerbated the situation. The Ministry of Health and health facilities staff had to apply numerous coping mechanisms to ensure that service provision continued to meet the most pressing needs. External support from donors, the UN and NGOs supported the MoH in the response to the crisis and helped to alleviate the situation during the emergency and in the short term aftermath. The monitoring of partner activities through the 4W indicates however that the majority of response projects only cover the first 1-3 months, with some extending as far as 6- 12 months: there is a high likelihood that if funding is not secured beyond this initial period the recovery of the health sector will falter in the medium term.

The conflict provides an opportunity to identify lessons that urgently need to be incorporated into future preparedness and response planning.

The below summary of key findings and recommendations aims to enable decision makers to identify opportunities to support the recovery of the health sector in Gaza at various levels from strategic planning to the implementation of vital programming in the medium and longer term. The report highlights that a fundamental change in the support to the health sector in Gaza is required to avoid continued dependency on external support and to lift fragile health service provision above the brink of collapse.

## 1.1 Key Findings and Recommendations

The health sector in Gaza as a whole has been able to maintain continuity of services despite constant crises. This is a direct result of the relentless efforts of health staff, applying multiple coping mechanisms and working endless hours to alleviate suffering for those directly affected by the conflict. Importantly, the extensive external support received in the form of emergency drug and medical supply donations and MoH, NGO and UN surge capacity filled urgent gaps in the health system. Multiple NGOs responded immediately, e.g., with stationary and mobile services to support the MoH in the emergency response and unemployed health experts and private sector health specialists also volunteered their support.

At the time of the conflict, the health sector was already in a dire situation, as a result of:

- The Israeli blockade severely inhibiting health sector development leading to limited quality of health service provision, severe deterioration of medical equipment and inability to appropriately maintain equipment in the absence of spare parts, and reduced tertiary sector capacity - leading to costly referrals of patients outside of Gaza, lack of training opportunities for medical staff and more.
- The financial situation of the MoH leading to staff shortages/unpaid salaries, shortages of drugs, supplies, training opportunities, health sector under-development and de-development
- A fragmented health sector with multiple partners, large components depending on long term donor support and until recently the political separation between MoH Ramallah and MoH Gaza

It is obvious that the health sector in Gaza can only recover if these chronic issues are addressed in a comprehensive and sustainable approach to health system strengthening. While health system building blocks (health service delivery, health workforce, health information systems, health system financing, access to essential medicines and leadership and governance) need to be addressed by the MoH and with strong support from donors, it will not be possible to effectively rebuild the Gaza health sector while the Israeli blockade remains in place. (maybe also emergency and secondary care?)

Direct consequences of the conflict on the health of the population include:

- The loss of life due to limitations in providing emergency care and secondary/tertiary care to severe trauma patients and delays in the referral of those to health services abroad and the worsening of injuries including avoidable disability and lengthening of recovery period for injured patients due to premature release from hospitals and limitations in follow up care.
- Access issues keeping non-trauma patients from receiving health care potentially leading to a deterioration of acute or chronic illnesses, especially for patients on regular drugs
- Destruction, damage and closure of health facilities during and after the conflict reducing service availability and straining services in functioning facilities

Indirect consequences include:

- Destruction of electricity infrastructure, disruption of services and extreme shortages of fuel supply for backup generators limits service availability especially at the PHC level and critically endangers the continuous provision of critical functions in hospitals

- Displacement of hundreds of thousands of people into crowded shelter conditions exposing them to communicable disease and severely impacting on mental well-being
- Loss of savings, assets and income further limiting access to health care for large parts of the population, rendering them unable to mount the minimal health service fees and/or the purchase of over the counter drugs in absence of sufficient stocks at health facilities

The scope of the conflict exceeded all expectations and contingency plans, where available, were insufficient to manage the challenges imposed on centralized systems and individual health facilities. The chronically deteriorated state of the health system certainly reduced the quality of services provided throughout and after the conflict. Furthermore the absence of quality preparedness plans including the prepositioning of emergency stocks at central level and in each health facility hampered an adequate emergency response.

- Preparedness plans need to be developed where absent and existing ones need strengthening under consideration of lessons identified from the recent conflict. Funding needs to be allocated for the prepositioning of emergency drugs and medical supplies.
- Health facility infrastructure needs to be reconstructed and rehabilitated as soon as possible, building material and equipment must be imported without delay and restrictions. The reconstruction of facilities need to incorporate the need of people with special needs including safe access for the most vulnerable including women and children, people with disabilities (PDW) and the elderly.
- The multiple shortfalls with regards to addressing chronic health facility staff needs (salaries, training level, emergency response capacity...) must be addressed as an urgent priority to improve the quality of health services in general and strengthen staff capacity in emergency situations. This includes the regular payment of salaries, training opportunities and specific capacity building in provision of emergency response services and implementation of preparedness plans.

The assessment highlights serious concerns with regards to the provision of urgently needed health indicator monitoring within a strong framework of emergency health information management. The key recommendations must respectively include the establishment of standard operating procedures for the monitoring of key health indicators in emergencies to enable evidence-based timely and targeted response to potential health concerns.

The assessment provides a strong foundation for immediate response planning of the most urgently needed programming in health; it also reiterates many of the well-known issues that impede the development of a modern, effective and efficient health system which will need addressing in the medium and longer term in order to improve health service delivery in Gaza. An additional purpose of the assessment included identifying areas and subjects within the health sector that require further in depth assessments and/or reviews to ensure a better understanding of the situation and enable tailored medium and long term responses. These include:

- A review of the health sector response that allows for the identification of lessons that can be drawn and enable learning, leading to improved emergency preparedness planning.
- Reviewing existing emergency preparedness plans and formulating a way forward in developing a comprehensive preparedness strategy including the prepositioning and management of emergency stocks.
- Primary health care sector response assessment to enable evidence based public health care emergency preparedness and response plans.

- Environmental health: analyse the impact of the conflict on the environment and on environmental health. Lobby for the import of vital testing equipment to enable the analysis of water and soil for chemical and radiological substances and heavy metals.
- Mental health sector service capacity in light of the increased need for mental health services in Gaza.
- Identification of priority health research projects based on in depths assessments on the above listed subjects.

The above summary compiles the most important findings and recommendations of the assessment while each chapter in this report concludes with more specific recommendations in response to the findings documented per health response domain and for cross cutting issues.

## 2 Introduction

The long lasting siege and the serious constrains imposed by the Israeli occupation since 2006 and before with the beginning of the second Intifada in 2000, severely impact on the development of quality health services in Gaza. This has been aggravated by the internal Palestinian political turmoil and the financial crisis of the Palestinian authority. The health system had been impacted on severely in the two previous conflicts in 2008/09 and 2012. The recent conflict is therefore not the only contributing factor to the deterioration and degradation of the social and economic conditions of the civilian population in Gaza and the health sector situation as assessed in this report.

The health system in Gaza is composed of primary, secondary and tertiary care. Service providers include the Ministry of Health, UNRWA, NGO's, Ministry of Interior and the private sector. With such multitude of service providers there are numerous challenges in providing a well-coordinated, standardized health service provision during "normal" times and frictions are deemed to exacerbate during emergencies.

Among the severe consequences of the continuous siege on the health sector are: recurrent power cuts and an unstable power supply affect medical care; the functionality of medical equipment is deteriorated because of inadequate maintenance capacity and spare parts and the percentage of out of stock essential drug and medical disposable items keeps the health service delivery in Gaza at the brink of collapse. Although the movement of people in and out of Gaza is heavily restricted, the insufficiencies of Gaza's health system force a high number of patients to leave the Strip for specialized treatment in the West Bank including East Jerusalem, Egypt, Israel and Jordan.

The Israeli Military Operation lasted 51 days. Bombardments, air strikes, ground incursion and the Palestinian rocket launching resulted in the death of 2,145 and 11,231 injuries among Palestinians<sup>1</sup> in Gaza. 66 soldiers and 6 civilian Israelis lost their lives. Health facilities were destroyed or damaged either due to direct or indirect damage. More than 500,000 people were forced to leave their homes in Gaza and find shelter in UNRWA and governmental schools, mosques and health facilities. Many thousand Israelis living in the proximity of Gaza had to relocate as well.

This assessment report is the result of a joint cluster approach to collecting and sharing health sector specific assessment data and findings. It aims to describe in brief the health system challenges in Gaza before and during the conflict and measure the impact of the conflict on the functionality of

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<sup>1</sup> MOH 2014: daily situation report 27.08.2014 <http://www.moh.ps/?lang=1&page=4&id=907>

the health system in Gaza. Its goal is to provide a comprehensive overview of the post conflict health sector situation in Gaza to:

- Understand the impact of the conflict on the health sector as a whole and on its various health response domains
- Inform decision making of key stakeholders for immediate, medium and longer term planning of interventions (response/recovery/reconstruction)
- Formulate recommendations to health sector partners on priority interventions required in the immediate and medium term
- Provide baseline information to
  - enable the monitoring of key indicators
  - measure impact of interventions throughout the immediate and medium term response phases
  - inform the planning of in depths assessment of health response domains of key concern
- Provide evidence based information for advocacy purposes and accountability

### 3 Methodology

This report is based on a combination of assessment methodologies including:

- Key informant interviews in 97 Primary Health Care centres and 31 hospitals, using a structured interview questionnaire.
- Focus Group discussions in health facilities, shelters and within the community
- Observation and recording of damage in health facilities of the MoH, UNRWA and NGO's
- Collection and interpretation of secondary data, including baselines

Health Cluster partners contributed with multiple input to the development of interview grids and thematic decisions and various staff were involved in data collection and analysis.

Current assessment reports of health cluster partners were reviewed and relevant findings included in the analysis in order to ensure efficient use of existing information and to avoid interview fatigue among key informants.

It has been challenging to collect meaningful baseline values. For most of the qualitative indicators, a monthly average has been used based on whole-year data for 2012, collected separately from UNRWA and MoH. It has not been possible to adjust these figures for seasonal variations, or for population growth.

The data collection included the following health response domains:

- General Clinical Services including emergency services
- Child Health and Nutrition,
- Communicable Disease,
- Reproductive Health,
- Non Communicable Disease and
- Environmental health

Furthermore monitoring data from WHO was used to portray the availability of service provision throughout the conflict, and a rapid assessment of tracer drug availability at health facility level was conducted to verify data and information available from the central drug store.



Reproductive health partners in Gaza, under the lead of UNFPA and with technical management of the assessment component by WHO have conducted a thorough assessment of the Reproductive Health situation and are providing a specific RH assessment report. The same data has informed the RH section in this assessment report.

Data has been collected over a period of 5 days (31.08 – 04.09, 2014) in all 5 districts through 15 teams of experienced data collectors. Quantitative findings are documented in a database and qualitative findings are transcribed from Arabic to English.

### 3.1 Assessment report limitations:

During the conflict the routine documentation of health system information was affected by a number of factors including limited availability of administrative staff, overwhelming number of patients and facilities obtaining damage or being destroyed including many patient registers and other vital documentation.

The data collected by the field team is respectively incomplete, and therefore much of the analysis relates to individual facilities (where baseline, July and August 2014 data is available and can be compared) rather than complete data for the whole of the Gaza Strip, which is not currently available.

Data was collected from handwritten documentation. While the data entry has been sampled and checked, it is likely that some errors remain within the data.

The data collected needed careful interpretation as in many cases health facility staff were unable to provide detailed or complete information.

The tools utilized in this assessment (questionnaires, FGD grids etc) are available to all health partners upon request ([healthcluster.opt@gmail.com](mailto:healthcluster.opt@gmail.com)). Assessment reports of health cluster partners that influenced this report including their respective methodologies can equally be requested.

## 4 Effect of the conflict on health infrastructure and service provision

### 4.1 Infrastructure

The health infrastructure in Gaza comprises of MoH, UNRWA, NGO, military medical services and numerous private sector health care providers. 32 hospitals cater for secondary (29) and tertiary (3) requirements, inclusive of a range of specialized medical facilities like the Ophthalmic Hospital in Gaza or the Al Helal Al Emirati Maternity hospital in Rafah. One of the 32 hospitals, Al Shawa in Beit Hanoun has been closed since the beginning of 2014.

MoH and WHO monitor 97 primary health care facilities of various service providers (please see below table for details) that cover the primary health care needs of 1.8 million people with different levels of service provision from basic (Level 2) to comprehensive including 11 MoH facilities with emergency room capacity and 27 MoH facilities covering reproductive health services (Level 3 – 4). NGO PHC facilities equally cover some emergency and RH service requirements of the population.

	MoH	UNRWA	NGO	Ministry of Interior	total
Hospitals	14 <sup>2</sup>	0	15	3	32
PHC	53	21	19	4	97

From day one of the conflict health facilities have not been spared from destruction. The damage assessment data of a joint UNDP, MoH and UNRWA assessment, who assessed 86 health facilities including MoH, NGO, UNRWA and Ministry of Interior services with reported damage, reveals that during the 51 days of fighting 17 hospitals and 56 PHCs have been affected with damages ranging from totally destroyed to minor damage.

1 hospital and 5 PHCs have been completely destroyed with considerable consequences for the remaining health facilities in terms of patient load and health service accessibility for their catchment population.

Facility type	Total	Severe	Major	Minor	No Damage <sup>3</sup>
Hospital	1	0	5	10	2
PHC	5	2	5	39	8
Other*	1	0	2	4	0
<b>Total</b>	<b>7</b>	<b>2</b>	<b>12</b>	<b>53</b>	<b>10</b>

\*Other refers to health infrastructure like ambulance stations, maintenance departments etc.

<sup>2</sup> The Psychological hospital has recently been declared a centre and the Harazin Hospital is considered an annex to Shifa hospital and are therefore currently not considered hospitals by the MoH in Gaza, were however considered as such during this assessment.

<sup>3</sup> Minor damage: Damages with amount less than 5,000 USD

Major Damage: Damages with amount more than 5,000 USD but the facility is still functional and operational (even partially).

Sever Damage: Damages with amount more than 5,000 USD but the facility is NOT functional and operational and need to be repaired to be operational.

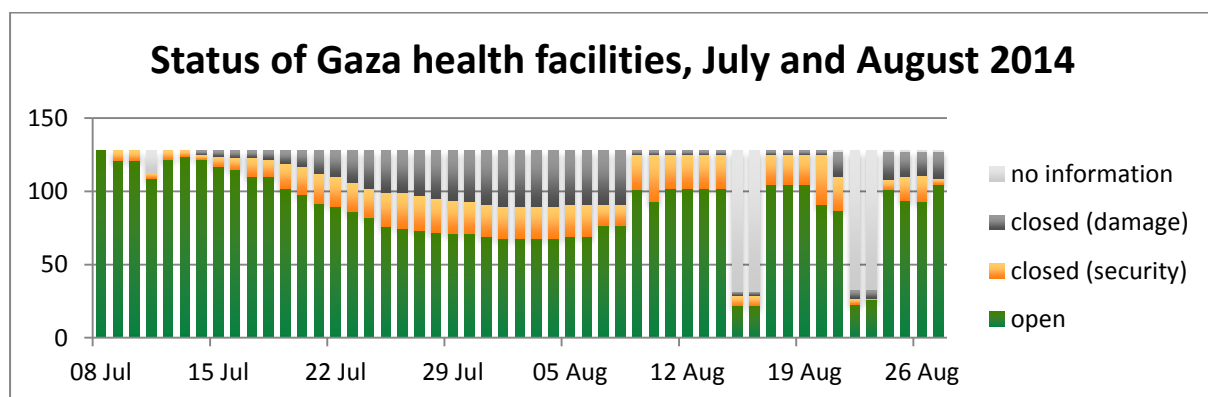
Total Damage: The facility is damaged and cannot be repaired even it is sometimes standing, but its physical structure is not safe anymore. Hence the damage cost is estimated per square meter.

Other health related facilities that occurred damages during the conflict include rehabilitation centres and facilities for people living with disabilities, an ambulance station and a total of 45 ambulances either as consequence of direct attacks or as collateral damage<sup>4</sup>. The level of damage to private health facilities is currently unknown. According to the joined damage assessment the physical reconstruction of the destroyed health infrastructure will cost an estimated 12,063,250.00 USD including repair and reconstruction of NGO facilities, excluding the medical equipment and material. Estimating a timeframe for the rehabilitation of the infrastructure damage is largely dependent on the availability of building material in Gaza.

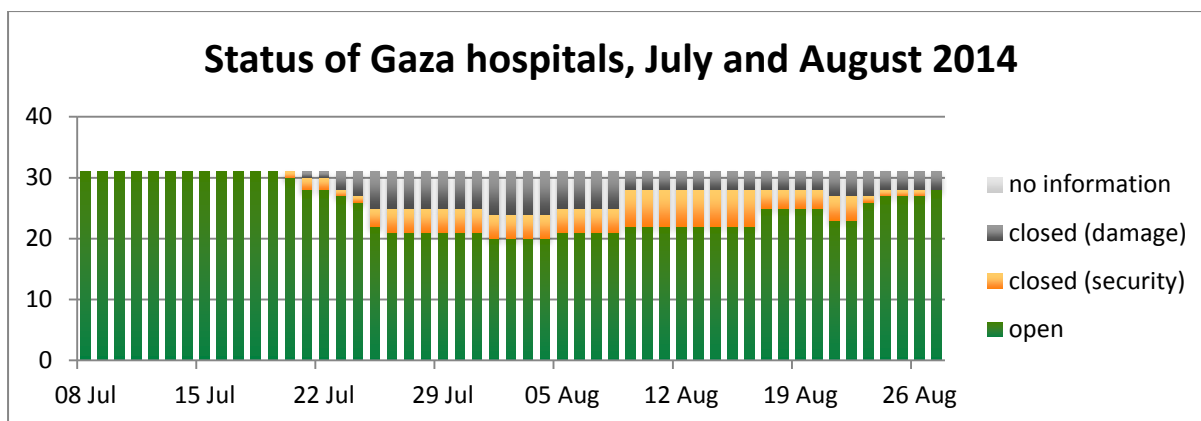
Facilities have been closed throughout the conflict due to the level of damage incurred and/or due to their geographic location in highly insecure areas with staff and patient access severely hampered.

At the height of the conflict 45.73% (59 out of 129) of all public health facilities were rendered unable to provide services, 35.48% (11 out of 31) of all hospitals were closed and 49.48% (48 out of 97) of all PHCs. In terms of decrease in hospital bed capacity this translates into a 9.35% reduction of available beds from 2,678 to 2,428. The main hospitals in Gaza however were able to increase their number of beds during the emergency (including Intensive Care beds) making space in basements and adjacent buildings or reallocated bed capacity in maternity and other wards to cater for the injured, leading to decreased bed capacity of specialized routine services. During cease fires and after the endorsement of a permanent cease fire many facilities among those closed for security reasons re-opened their services. Facilities that had occurred partial damages re-opened with limited service capacity.

The assessment included an investigation on service availability before and shortly after the conflict and findings reveal a decrease in outpatient department services by 14.75% from 122 out of 104, the Intensive Care Unit capacity decreased by 21.42% from 14 to 11 and availability of basic laboratories (PHC level) was reduced by 12.74% from 102 to 89. The total number of functional operation theatres reduced by 34.58% from 83 to 54.



<sup>4</sup> MoH Sept. 2014: The final report of the Israeli aggression against health facilities in the Gaza Strip 06.07.2014 -28.08.2014



Graphs: WHO health facility monitoring data

Mobile and static clinics of NGO's temporarily replace services at some of the destroyed sides. NGOs provided services in shelters and host communities from the onset of the conflict. In August MoH and UNRWA installed medical posts in all IDP shelters catering for essential primary health care needs and monitoring the communicable disease situation to over 350.000 people displaced in up to 97 overcrowded shelters. At the end of-September the number of internally displaced people (IDP) has stabilized at around 60,000 individuals residing in 18 UNRWA and one government shelters. Health service provision continues to function in each shelter.

The closure of health facilities during and after the conflict had and still has wide ranging consequences for service delivery, health staff and patients. A wealth of information came from the qualitative assessment component in which key senior representatives of PHC and hospitals have been asked about their main challenges as well as the strengths of their services before during and after the conflict. Many of the challenges faced are common between hospitals and PHCs hence below compilation is a summary of both, highlighting specificities where relevant.

## 4.2 Health Service delivery

- ✓ During the conflict catering for injured patients took priority over all other medical conditions. Hospitals and PHCs were often overwhelmed with the influx of injured patients in outpatient departments, emergency rooms, in surgical wards and operating theatres. Respective medical supplies were in high demand and not always available on time and in sufficient quantities. Hospital beds did not suffice, emergency room triage capacity was overwhelmed especially as emergency rooms were overcrowded with family members, onlookers and media. Several hospital and PHC key informants reported on the negative impact of the workload on hygiene behaviour and infection control.
- ✓ Patients had to be released from hospital prematurely with considerable negative consequences for their healing process. As patient registration and normal administrative procedures collapsed in many cases it has become very difficult to trace patients and recall them back to facilities for follow up. Until now it is not possible to estimate the consequences on the health sector including the number of surgical revisions required and the workload costs related to rehabilitation needs (please see chapter 5.1 for details). Several NGOs took on the responsibility to cater for wound management needs through mobile services and home visits to ensure continuity in wound dressing for prematurely discharged patients.

- ✓ With the above mentioned shift in priorities during the conflict there is a considerable backlog of routine health service provision after the conflict including elective surgery that had been put on hold. In 2013 an average of 5,553 elective surgeries took place every month, up from 4,102 in 2012. The preliminary data collected for this assessment shows a decrease of 81% in elective surgery in July 2014 (1,038) and 74% decrease in August 2014 (1,467). Data on the number of delayed routine services for Non Communicable Disease (NCD) is not available.
- ✓ The increased workload in functioning health facilities during and after the conflict is putting enormous strain on staff and supplies. Some facilities (mainly hospitals) report increased availability of drugs and disposables during the conflict (as opposed to the extreme shortages prior to the conflict), matching increased need especially for wound management. Others report drug and supply outages leading to patients having to purchase their drugs out of pocket in private pharmacies. With the chronic shortage of drugs and medical supplies there were no sufficient prepositioned stocks of drugs or medical supplies in the Central Drug Store (CDS) or in the district and hospital pharmacies that could have mitigated the severe shortage during the conflict.
- ✓ In the absence of sufficient staff and technical equipment (either due to damage or electricity dependence) during the conflict only partial services were available in numerous facilities. Patients respectively needed to be referred between health facilities or to the next higher level to receive their required procedures, however anecdotal feedback from health staff pointed out that it was very difficult to determine throughout the conflict which services would be available at which facility. Routine referrals within the Gaza Strip were respectively difficult to maintain, especially during the conflict but also during ceasefires as clarity on level of service availability in each facility was not guaranteed.
- ✓ While hospitals were largely able to sustain their power supply through backup generators and fuel donations PHCs struggled to maintain electricity dependant services like laboratory tests, dental equipment and computerized documentation.
- ✓ Patient records have been destroyed or damaged and/or administrative staff was unable to keep up with the required documentation procedures due to staff shortages and increased workload. Numerous documentation was either not- or only partially maintained which poses great challenges on e.g. reconciliation of the number of OPT visits, vaccination records, referral documents and more. Lack of electricity and/or damage to IT equipment further exacerbated this problem.
- ✓ Medical equipment could not be maintained during the conflict or broke either directly or indirect damage. This is exacerbating a chronic maintenance issue in Gaza as spare parts are difficult to import and the majority of medical equipment is old and overworked.
- ✓ Hospitals in particular were considered safe havens during the conflict and became shelters for large numbers of displaced families (Shifa, European Gaza and more) creating space and hygiene issues overburdening sanitation facilities and other resources.
- ✓ During the conflict the MoH had to vacate (relocate) Nazzar hospital for security reasons and had to consider repeatedly to do the same with other hospitals in insecure areas which – in the absence of preparedness and contingency plans proved to be extremely challenging.
- ✓ Routine services and the management of chronic illnesses were severely impacted by the conflict, please see chapter 5.1; 5.4 and chapter 6.3 for details.

### 4.3 Health facility staff

- ✓ 23 health workers died as direct consequence of the conflict, 16 on duty, 7 at home and a further 83 were injured, the majority of whom were ambulance drivers for the various service providers (MoH, PRCS, PMMS, Civil Defence and NGOs) but also doctors and nurses, pharmacists and laboratory technicians. Together with the direct targeting of health facilities this is a gross violation of International Humanitarian Law
- ✓ With regards to human resource in general the feedback from key informants highlights: the chronic human resource situation prior to the conflict already impacted on service delivery, largely due to challenges in salary payments and availability and training levels of technical specialists. Access issues during the conflict exacerbated an already dire human resource situation.
- ✓ Different facilities faced different challenges with regards to staffing during the conflict. Many lacked the quantity of staff required to provide quality services (including administrative staff to uphold reporting requirements and other tasks). Facilities were overburdened with high number of patients and staff exhausted having to work extensive hours under very difficult conditions. Other facilities received numerous staff who were re-deployed after their facilities were closed and hence had sufficient but unfamiliar staff who lacked the knowledge and experience required to fill their positions in a new environment.
- ✓ Across all facilities there were multiple remarks about the positive experiences on cooperation between departments, volunteer engagements and commitment and motivation shown by facility staff. Other remarks include the psychological effects of the situation on staff members and the level of exhaustion caused by the workload and scenes witnessed. The latter feedback continues throughout the post conflict remarks: While some facilities are able to release staff on short breaks others are faced with patient overload due to facility closures in their vicinity and staff shortages as reported prior to the conflict.
- ✓ Staff transport to and from their workplaces, which is usually supported by the health facility using facility vehicles has been disrupted prior to the conflict due to financial constraints and exacerbated during the conflict due to lack of security and limited amounts of fuel. This further impeded staff availability at the health facilities as staff members were unable to travel to their duty station by their own means.

### 4.4 Patients

The assessment did not incorporate key informant interviews with patients, respectively there is no qualitative documentation of the consequences of health facility closures during and after the conflict. Assumptions however can be made on a number of known factors:

- ✓ Security concerns impeded the ability of patients to seek services during the conflict, monitoring data shows a decrease of outpatient consultations during the fighting and rapid increase of consultations during and after the ceasefires came into place. However where patients were able to access facilities they often had to expect long waiting hours as those facilities that were accessible during the conflict were overrun with patients.

- ✓ Patients with regular medical appointments (diabetes, mental health consultations) will have had difficulties to maintain their schedules, likewise patients who receive their fortnightly drugs for the management of chronic illnesses might have had to experience difficulties in accessing their supplies.
- ✓ Patients living in the vicinity of closed facilities will have to seek services in alternative health facilities, having to endure long distances to travel to the alternate facility and expect long waiting hours.
- ✓ Routine services like the expanded programme of immunisation (EPI) were impacted on through access issues as well as stock outs and/or delayed availability of vaccines.
- ✓ Feedback from the key informant interviews highlighted that many patients had lost their personal documents including vaccination cards and other records.
- ✓ Throughout the conflict communication with communities were no priority and patients will have struggled to know whether and what kind of services were available to cater for their needs. This includes information on mobile services of NGOs.

#### **KEY FINDINGS AND RECOMMENDATIONS:**

- The chronically deteriorated state of the health system undermined on the quality of services provided throughout and after the conflict. Furthermore the absence of quality preparedness plans including the prepositioning of emergency stocks at central level and in each health facility hampered an adequate preparedness and respective response.
- Preparedness plans need to be developed where absent and existing ones need strengthening under consideration of lessons identified from the recent conflict e.g. the difficulties faced when relocating Nazzar hospital. Funding needs to be allocated for the prepositioning of emergency drugs and medical supplies.
- Health facility infrastructure needs to be reconstructed and rehabilitated as soon as possible, building material and equipment must be imported without delay and restrictions. The reconstruction of facilities need to incorporate the need of people with special needs including safe access for the most vulnerable including women and children, people with disabilities (PDW) and the elderly.
- The multiple short falls with regards to addressing health facility staff needs must be addressed as an urgent priority to improve the quality of health services in general and strengthen staff capacity in emergency situations. This includes the regular payment of salaries, training opportunities and specific capacity building in provision of emergency response services and implementation of preparedness plans.
- Health facilities and health staff need to be protected under International Humanitarian Law, an investigation of the events that led to destruction of facilities and the death and injury of health staff needs to take place.
- The coordination of health service providers in Gaza (MoH, NGO, UNRWA, Ministry of Interior) was insufficient throughout the conflict leading to inefficient use of information on service availability, potential sharing of resources and more. The implementation of a coordination mechanism (operations room, coordination meetings, information sharing plan of action) needs to be considered in future preparedness and response planning.

## 5 Priority health issues in Gaza before, during and after the conflict

### 5.1 Tertiary Care

Due to the years of siege the hospital sector in Gaza has been rendered unable to provide the full range of tertiary care especially due to the lack of availability of technical equipment and training. To mitigate the consequences medical missions are taking place throughout the year in which international medical specialists (e.g. specialised surgeons) deploy to Gaza to conduct surgeries and on the job trainings for their technical counterparts in Gaza. These medical missions are being coordinated by the International Cooperation Department (ICD) and are often an integral part of long term programmes of national and international organisations. Another mitigation measure is the costly and complex referral of patients with surgical requirement to health facilities outside of Gaza (please see chapter 6.3 on details of referral issues).

As a result of the high number of casualties during the conflict secondary and tertiary care facilities in Gaza were at their full capacity. Multiple patients with complex injuries including crush injuries of multiple body organs, extremities or amputations, severe head and neck trauma, injuries of pelvic organs, multiple chest trauma, eye and orbit trauma and spinal cord injuries had to be referred outside of Gaza as technical skills and equipment did not suffice to cater for their needs.

A rapid assessment conducted by Map UK and IDEALS at the beginning of August (09.-14.08.2014) revealed that:

*“The Emergency departments of the major hospitals coped extremely well with the huge numbers of casualties and the initial surgical care provided within Gaza was of a high standard. Nonetheless these departments were the weak points during the crisis as a result of: limited space and poor design; ineffective triage of patients, with persistent mixing of major and minor cases; the limited development of emergency medicine as a specialty, with senior doctors often rotating to the emergency department from their chosen specialty for a short time and services largely provided by junior doctors.”<sup>5</sup>*

At the time of the assessment MAP/IDEALS reports that the surgical case load was under control, however with the breaking of the ceasefire on the 19<sup>th</sup> of August for an additional 8 days the caseload increased by another 844 injuries of varying degrees and above mentioned constraints of emergency department capacity persisted. The assessment and the timely sharing of the report with all interested stakeholders helped greatly to understand the surgical situation within Gaza and enabled partners to plan the required medium and long term support to the secondary and tertiary sector in Gaza following one of the key findings of the report:

*“The main need of the hospitals in Gaza for assistance in dealing with the current caseload is longer term support with reconstructive surgery (almost exclusively bone and soft tissue reconstructive surgery requiring specialist trauma/orthopaedic and plastics experience).”*

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<sup>5</sup> MAP/IDEALS medical team 08.2014: Assessment mission of MAP/IDEALS medical team - East Jerusalem and Gaza 9 – 14 August 2014



As described in the previous chapter and highlighted equally in the assessment report of MAP/IDEALS it is very difficult to determine the exact need of surgical and post-surgical care for a variety of reasons:

- the documentation processes were severely disrupted and patients pre-maturely released without follow up planning – the recall approach (through media) of the MoH cannot provide confidence that all patients have been reached
- without improved communication with multiple health facilities that received patients abroad it remains impossible to determine what level of follow up including surgical revision or secondary surgery is required by patients who return from medical care abroad

Respectively an estimate of outstanding surgical requirements and “re-do’s” is challenging and it is likely that the true impact of conflict related injuries on the health sector will only be revealed over time. Until then rough estimates will have to suffice and very close coordination with the International Cooperation Department and relevant hospitals is required to ensure effective and efficient support through FMTs.

- MAP/IDEALS researched that in Mid-August an estimated number of 350 – 400 patients had been released prematurely from hospitals in Gaza, a number that likely increased with the additional week of fighting from 19<sup>th</sup> to 26<sup>th</sup> of August. An estimate for inappropriate management of wounds at PHC level and consecutive possible surgical requirements is not available.
- The assessment data collected at all hospitals in Gaza indicate that a minimum of 2,663 conflict related surgeries were conducted (1,506 in July and 1,157 in August). This represents 23.72% percent of all reported injuries.

A number of international organisations were able to support the MoH with surgical support throughout the conflict. Further national and international organisations were and still are on standby to deploy foreign medical teams to extend their support. A foreign medical team (FMT) working group has supported the MoH in formulating very clear guidelines on the deployment of FMT’s in order to efficiently and effectively coordinate the support available. Through the discussions in this working group it became apparent that with time progressing it is not appropriate to look at the conflict related surgical support requirements only but to incorporate and plan for an uptake of the previously existing medical missions. It also became apparent that the focus on surgical support led to neglecting the need for postsurgical care and rehabilitation. Please see the chapter 5.5 on disabilities for more detail on prospected needs and recommendations.

One of the key challenges in the deployment of FMTs is the lengthy and complex process of receiving coordination for medical teams and individuals to enter Gaza by the Israeli Authorities. At the point of publishing this assessment report 54 out of 102 applications of medical staff for coordination are pending, 31 of which have been applied for throughout the months of July and August, 2 were rejected without explanation.

#### **KEY RECOMMENDATIONS:**

- The long siege on Gaza has severely impacted on the quality of existing services and the development of capacity (human resource, medical equipment, and technical expertise) to

provide a full range of tertiary services leading to costly referrals abroad and dependency of external support to strengthen services within Gaza.

- Respectively the health system in Gaza was unable to cope with the majority of conflict related complex trauma injuries and required extensive external support in form of international referrals. This dependency has caused loss of life for injured that required immediate lifesaving interventions and deterioration of complex medical conditions as referrals often were delayed unnecessarily by complex coordination procedures and waiting hours at borders during transport abroad.
- The pre-hospital management was one of the key bottlenecks in the emergency management of trauma and its strengthening is urgently required, especially the interface between ambulance drivers and emergency rooms and the triage system in emergency rooms.
- FMTs were delayed due to coordination requirements for their entry into Gaza. Furthermore their effective and efficient use was hampered by the absence of clear guidelines on the management of their roles and responsibilities and the collapse of a functioning triage system during the conflict as well as in the post conflict period when it proved difficult to recall patients after their premature release for re-do's based on clearly defined priorities.
- The undefined number of surgical re-do's and the backlog of elective surgery does require continuous and well-coordinated FMT support to secondary and tertiary hospitals in Gaza in the coming months as part of and in line with the uptake of previously existing FMT missions.
- Only the lifting of the Israeli blockade will allow for the development of a fully functioning secondary and tertiary sector in Gaza. Until then it is inevitable to strengthen the sector through:
  - Financial investments in modern medical equipment and specialized training opportunities for surgical staff
  - Sufficient stockpiling of drugs and medical supplies to maintain quality surgical service provision and prepositioning of emergency stocks as part of a wider preparedness and response plan for secondary and tertiary care in Gaza.
  - Financially invest in the expansion of service capacity for chronic disease management within Gaza to reduce referral requirements

## 5.2 Mental Health

The MoH is the main provider and regulator of mental health services and provides first level mental health care through 28 (out of 53) Primary Health Care (PHC) clinics. These clinics identify and manage common mental disorders such as depression and anxiety, and provide referrals for patients needing higher levels of care. The MoH is working to extend mental health services to all MoH PHC clinics in Gaza. The MoH also runs six Community Mental Health Centres (CMHCs) distributed across the five districts of the Gaza Strip. Each CMHC serves a population of 200,000-350,000. In addition to providing care for patients with more complex mental health care needs, the CMHCs serve as training and supervision hubs for the primary intervention services, such as the PHC clinics and school mental health services. The MoH also provides in-patient mental health care through the only mental hospital in Gaza. The hospital has a capacity of 30 beds and provides rehabilitation programs, day-care activities and 24 hour emergency and admission services.

Mental health services are also provided by UNRWA and various NGOs. UNRWA provides services through psychosocial counsellors distributed to all UNRWA schools, health- and relief centres. The Gaza Community Mental Health Programme (GCMHP), the largest NGO mental health service provider, operates three community mental health centres.

A number of NGOs focused on psychosocial support provide non-specialized mental health services through counsellors and social workers. Most of these NGOs focus on trauma-related mental health problems.

The Mental Health Unit of the MoH reports that prior to the conflict 27 out of 42 essential psychotropic drugs have been out of stock, some of them were out of stock for more than six months. The shortage of such drugs remains the same during and after the conflict, although the demand for psychotropic drugs is likely increased as a result of the conflict.

Routine mental health care services were substantially affected during the conflict. Mental health services provided by the PHC were suspended, because the functionality of the PHC centres were affected and focus had shifted to life saving services. Two out of six CMHCs were open to receive service users, others centres were closed because of damage (West Gaza Centre) or mental health workers were not able to access them. The mental hospital was open to receive cases with severe mental illnesses. However, only 30% of the mental health workforce was able to report to work. Three multidisciplinary mental health emergency teams were based in general hospitals as part of implementing the mental health emergency plan, developed in 2010, which includes five stages:

1. General hospitals: Emergency teams screen and follow up victims who are injured by the conflict and provide psychosocial support to them and their families. The intervention can also include prescription of psychotropic medication.
  - ✓ During the conflict three emergency teams worked in Shifa, Shuhada Al Aqsa and Abu Yousif Al Najjar hospitals. Those teams provided psychosocial support to injured persons, their families and displaced people inside the hospitals
2. Field intervention: Emergency teams provide support to the affected population where security is assured. The services provided can include providing psychosocial and mental health intervention to individuals, families and also psychosocial workers.
  - ✓ During the conflict, one emergency team in each district were able to provide field visits to most affected people during the periods of ceasing fire.
3. Displacement centres: Emergency teams provide visit displacement centres where security is assured and provide psychosocial and mental health support to all affected victims, includes securing psychotropic medication.
  - ✓ There was an agreement between UNRWA and mental health services to refer cases, which need advanced mental health support, to community mental health centre. The community centres in Gaza, Middle area and Rafah received referred cases.
4. Provide support to health workers: This includes doctors, nurses and paramedics who work in emergency.

- ✓ Mental health teams provide support to health workers (ambulance officers and ER workers), civil defence workers and ambulance drivers through the coordination of ICRC

5. Supervision: Emergency teams provide supervision to psychosocial and health workers who work directly with victims of conflict.

- ✓ This is taking place through the MHPSS sub-cluster. MoH provide technical supervision to psychosocial organisations when requested

Most essential mental health services have resumed after the end of the conflict and most mental health staff have reported back to work. The community mental health centres are open again- except of the West Gaza centre, which needs renovation - and the provision of mental health services by PHC has been resumed. However, the demand for mental health services is expected to increase.

Although the precise extent of current mental disorders in Gaza is not known, meta-analysis of the most robust epidemiological surveys (those using random samples and diagnostic interviews) in conflict-affected populations around the world show an average prevalence of 15.4% (30 studies) for PTSD and of 17.3 % (26 studies) for depression. This corresponds with WHO estimates of up to 20% prevalence for mental disorders in emergency-affected populations. Respectively an estimated 360,000 people will require some form of mental health or psychosocial intervention in the future. The above estimates are considered sufficient as a basis for initiating action to address the post conflict mental health needs in Gaza. Additional prevalence surveys are not considered a priority need and available resources should instead be directed toward strengthening the mental health services<sup>6</sup>.

#### **KEY RECOMMENDATIONS:**

In order to strengthen the mental health system in Gaza to cope with such massive increase in service requirements the Mental Health Unit in the MoH has formulated priority needs for both short- and medium to longer term, include training, provision of pharmaceuticals, and infrastructure and logistical support:

- Training: The Mental Health Unit has developed a ten-year human resources development plan that identifies the number of mental health workers needed in each professional group and the priority mental health training topics. There is an urgent need for short-term, specific training courses for doctors, social workers and occupational therapists. Priority mental health training needed for all professional groups includes (1) crisis intervention, (2) psychotherapeutic interventions, such as cognitive behavioural therapy, and (3) psychological testing. The longer term needs for mental health training include the

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<sup>6</sup> WHO information piece: Gaza after the conflict: assessing mental health needs  
<http://www.emro.who.int/pse/palestine-infocus/gaza-after-the-conflict-assessing-mental-health-needs-august-2014.html>

activation of the psychiatric board-training program for doctors, development of postgraduate training for social workers and development of specialised undergraduate training for occupational therapists<sup>7</sup>.

- Drug supplies: To create a mechanism for ensuring a minimum six month buffer stock of the following essential items, to avoid that patients continue to only receive a two weeks stock and inaccessibility to health facilities during crisis or conflict endangers continuum of drug availability to the individual.
- Infrastructure and logistic needs:
  - Purchase three vans for transporting mental health workers from the community mental health centres to the field
  - Rehabilitate or rebuild west Gaza community mental health centre
  - Build a community mental health centre at one of the PHC facilities in Khan Younis city
  - Establish a well-equipped training room at the Mental Health Unit.
  - Establish a well-equipped training room at the Mental Health Unit.

### 5.3 Reproductive Health

A large part of the data collection for this assessment was dedicated towards Reproductive Health (RH). The lead agency for this assessment component is UNFPA, with technical input from WHO, MoH and various national and international NGO's and academia. The RH assessment included the collection of quantitative data, however had its focus on qualitative data collected through field observations, individual interviews and focus group discussions. The below information is an excerpt of the findings, a detailed RH assessment report is currently being compiled by UNFPA.

Unlike for the remaining assessment the RH component selected specific facilities, shelters and communities for data collection who are considered representative for the overall situation. Please see annex 7.2 for the list of sites visited and interviews conducted. The quantitative component suffers from similar quality issues as the general quantitative data. In many cases data was either incomplete or preliminary, requiring validation. Where available a monthly average of morbidity/mortality indicators were taken from 2013 data and used to represent the baseline. Where baseline data from 2013 was not available, averages of 2012 were utilized. Quantitative data must be interpreted with extreme care as the short observation period of 2 months does not allow for conclusion on trends and drawing conclusions on causality will require much more detailed research e.g. in form of a survey.

The population in Gaza is among the fastest growing population in the world. Projections estimate that by 2035 the population will have grown from current 1.78 million to 3.7 million people. In 2013 an average of 5,435 deliveries took place every month. Based on UNFPA demographic calculations, it is projected that there are 45,000 pregnant women at any given moment in time with a total of 160 deliveries taking place every day. Consequently and expectedly the demand for reproductive health services in Gaza is high.

Reproductive health services are provided by all health service providers in Gaza including the private sector. Ante Natal Care (ANC) services and to a certain extend post natal Services (PNC), home visiting programmes, well baby clinic/vaccination and family planning are being provided in 27

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<sup>7</sup> See the Gaza mental health human resource development plan, available at the MoH mental health unit Dr. KhadraKhandra Amassi at [khadraamassi@hotmail.com](mailto:khadraamassi@hotmail.com) for further information.

PHC facilities throughout Gaza. All clinical care including e.g. neonatal intensive care is being provided in 4 maternity hospitals and in Shifa and Gaza European Hospital maternity departments and Neonatal Intensive Care Units. Pregnancy complications are generally managed in those hospitals and an effective referral system is in place.

Key challenges in RH prior to the crisis included (among the general issues of drug and medical supply shortages) the quality and quantity of midwives. The level of training is not considered high and staff lack refresher trainings and access to specialised training courses. Additionally there is not enough trained work force, often leading to nurses having to cover midwifery positions in PHC. Due to the high demand of RH services there is often overcrowding leading to long waiting hours. While ANC services are provided to sufficient amount and frequented regularly by well-educated women in reproductive age PNC services are chronically weak.

Through intensive effort of the Ministry of health supported by UNFPA maternal mortality has significantly declined in the period from 2008- 2013. Investment in improving the quality of obstetric care, strengthening referral, continuity of care within the health care levels and widespread education about danger signs at the community level are thought to have resulted in this decline. In 2013 a total of 12 cases of maternal mortality were confirmed, in the first half of 2014 6 women lost their lives due to maternal mortality, 5 further cases were reported for July and August 2014.

The data collected during July and August indicate a severe impact on RH service provision in Gaza and on the wellbeing of pregnant and lactating women. Access to routine services like ANC and PNC were hampered by security and/or closure of facilities. Referral of complicated pregnancies were delayed due to overburdened ambulance services or impacted on by security issues. Information from interviewed health staff and women in the community and shelters report an increase in home delivery. Except of 25 home delivery cases reported from Tahreer hospital in Khan Younis (5), Gaza (15) and Awda (5) there is no strong evidence on home deliveries occurring; something that at this point in time cannot be validated by quantitative data. Data from 5 MoH primary healthcare facilities indicate severe decline in antenatal care during the month of July, when hostilities were at their peak. Halt of outreach postnatal visits, health education and counseling was also reported for the same period. Family planning services dropped significantly during the conflict with July demonstrating severe decline in uptake for both new cases and repeated cases. Data from five MoH facilities indicate that the month of August witnessed significant resume of these services as shown by the utilization pattern coming close to the per-war levels.

Maternity hospitals were affected in multiple ways, including total or partial closure due to accessibility issues or damage occurred. The private sector, which usually covers approximately 30% of all RH services in Gaza, was mostly not functioning and the workload respectively increased for the public health sector. Due to the overburdening of hospitals with conflict related injuries maternity wards had to make space for the injured, respectively losing RH bed capacity. Obstetricians were involved in general surgery during mass casualty incidents, further reducing service availability for RH requirements. During the period of the conflict, a 30% increase in normal delivery case load on maternities was recorded in all five assessed maternities. This was accompanied by a significant increase in the number and proportion of cesarean section, which increased from 20% in the pre-war period to 25% during July and August.

Preterm deliveries also increased forming additional burden on maternities and neonatal care units. In Shifa, the largest referral facility for RH the neonatal intensive care unit reported the hospitalization of two infants per incubator, which increased burden on staff and compromised the safety of the babies. Both, premature releases from hospital care or extended stays occurred

according to key informant interviews, as mothers either feared being unable to return to their families due to insecurity – or felt safer in the hospital grounds for the same reason.

The quantitative data collected during the assessment indicates an increase in a number of key RH indicators including as described above maternal mortality from a baseline average of 1 case per month to 4 cases in July and 4 cases in August. Neonatal deaths have risen from a baseline average of 19.5/month to 27 cases in July and dropped down to 17 cases in August. Shifa hospital reported the rise of neonatal mortality from 7 to 14% of admitted cases and Nasser hospital reported the rise of neonatal mortality from 2.7% to 12%.

Key informant interviews report a similar picture on increases in key indicators as presented by the quantitative data. In addition they are reporting on increased ante and post-partum bleeding, hypertension and other pregnancy complications and confirm under-reporting due to overburdened health staff and collapse of applying standard procedures.

Vaccination coverage in Gaza is generally very good with almost full coverage of all routine vaccinations within the Expanded Programme of Immunization (EPI) calendar of the OPT<sup>8</sup>. Throughout the conflict health facilities maintained their EPI programme as good as possible although affected by shortages of certain vaccines and electricity cuts, leading to breakdown of the cold chain and respective spoilage of vaccine stocks. During cease fires and after the permanent ceasefire came into place MoH and UNRWA, the only two providers of EPI services, conducted rapid defaulter tracing and are currently working – with support from UNICEF, NGOs and Red Cross partners - on rehabilitating damaged cold chains through installing solar fridges where needed. Vaccine stocks have been secured for the coming 8 months and routine services are widely restored with minor challenges still being reported.

#### **KEY RECOMMENDATIONS:**

The comprehensive assessment report of UNFPA, published in parallel to this report and using the same data and information collected during this assessment will provide detailed findings and recommendations.

Along with similar findings in other paragraphs of this assessment report the RH sector has equally suffered from the domination of trauma related service provision during the conflict, notably in the reduction of maternal bed capacity in maternity wards.

Insecurity hindered the access of pregnant and lactating women to health care services leading to a decrease in ante and post natal care. Most collected RH indicators show very concerning negative trends in the health status of pregnant women during the conflict.

Service delivery need to be reinstalled as quickly as possible, particularly the provision of Ante and post natal care need strengthening to ensure early detection and management of complications in the development of mother and child health.

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<sup>8</sup> State of Palestine Ministry of Health 2014: Health Annual Report 2013 <http://www.moh.ps/attach/704.pdf>

A specific focus need to be on the provision of services to displaced women and babies and the improvement of their living conditions to preserve dignity and prevent illness and further the healthy development of the child and recovery of the mother.

## 5.4 NCDs

Non-communicable diseases (NCDs) are the leading causes of death worldwide and are increasingly recognized as a global health and development priority. NCD deaths are caused by four main disease groups (cardiovascular disease, cancers, chronic respiratory disease and diabetes mellitus) that share four risk factors (smoking, unhealthy diet, lack of physical exercise and harmful use of alcohol). NCDs also cause substantial morbidity and disability, placing an increasing burden on individuals, families, health systems and societies as a result of high health care costs, loss of productivity and societal stress. In 2013, NCDs were responsible for more than 50% of deaths in Gaza. In the Gaza context, with its severely constrained economic opportunities, a health system suffering chronic resource shortages and a society stressed by years of occupation and conflict, the health, social and economic burdens resulting from NCDs may be particularly high.

Premature deaths from NCDs can be reduced by more than 50% through reducing the risk factors; a further one third can be prevented by strengthening health systems to care for people with NCDs. Globally recognized, evidence-based interventions are available to address both the NCD risk factors and the diseases. Addressing the risk factors requires healthy public policies and multi-sectoral support. To date, such interventions in Gaza are limited. Policies to address unhealthy eating and to promote physical exercise have not yet been developed. Advertising of tobacco products has been banned, but while a law exists to ban smoking in public places, enforcement is minimal. The ongoing instability of the Gaza situation poses challenges to policy development processes and well as implementation.

The service delivery component for NCDs is relatively well-developed in Gaza. NCD care is widely available at primary health care level mostly through the two main providers, MoH and UNRWA, who provide diagnosis, treatment and follow up for uncomplicated hypertension, diabetes mellitus, heart disease and chronic lung diseases. The Palestinian Medical Relief Services (PMRS) provides NCD programmes in all its PHC clinics and runs specialized NCD centre in Gaza. Other NGOs and the private sector are involved in NCD management through their services.

In MoH facilities, treatment has in the past lacked standardization and supervision systems required strengthening. In 2013 the MoH, with WHO support, introduced a set of evidence-based and cost-effective interventions for NCDs: the WHO Package of Essential Non-communicable (PEN) Disease Interventions for Primary Health Care. The PEN consists of a set of validated protocols and tools for early detection, treatment and counselling of NCD patients and intends to strengthen the management of NCDs by doctors and nurses at PHC level. Before the recent emergency, the PEN had been introduced into 5 PHC facilities in Rafah District, with a view to expansion.

Key pre-existing challenges to NCD care in Gaza include unreliable supply of essential NCD medicines, particularly in MoH facilities, and use of multiple providers that do not use the same treatment protocols, notably UNRWA and MoH. Patients may seek care at one or the other provider depending on the availability of medicines. Use of multiple providers challenges a central concept of



effective NCD management: continuous comprehensive care by the same provider over time. Furthermore, use of multiple providers results in potential irrational use of scarce resources.

Secondary and tertiary care for NCDs in Gaza is provided predominantly through MoH hospitals. However, as a result of years of occupation, the development of referral level care has been constrained by the lack of advanced training opportunities for health professionals, lack of advanced medical equipment and chronic shortages of medicines. Consequently, substantial numbers of complicated NCD patients are referred to the West Bank, East Jerusalem and further abroad, resulting in high levels of expenditure. Furthermore, long waiting lists for permits to leave Gaza have implications in terms of complications and survival rates (please see chapter 6.3 for details).

The main impacts of the recent conflict on NCD care relate to access to PHC for medication refills, access to hospital care for acute events and access to referral care abroad. The closure of PHC facilities at various times and in various areas meant that NCD patients could not access facilities to obtain refills of their chronic NCD medications (please see chapter 6.1 for details). This has particular implications for MoH patients as the MoH routinely provides patients with only 2 weeks of medications at a time (as a result of the chronic shortages). Furthermore, even where facilities were open and drug stocks were sufficient, in many cases patients were unable to reach the facility to replenish their personal stocks as the security situation did not provide safe access. While data on the health impact of interruptions in therapy are not available, patients with conditions such as unstable hypertension or those on medications such as insulin or anticoagulants were at risk of complications when unable to maintain their therapy. Please see chapter 6.1 for assessment findings of NCD drug availability in district PHC pharmacies throughout the conflict.

2 weeks into the conflict WHO and MoH established an emergency hospital data collection system in an effort to provide daily information on the status of hospital functionality (see chapter for 6.1 for details). The data reveals that the number of non-trauma patients consulting emergency rooms was 7.35-fold higher (100,602) than those related to trauma (13,677) during the reporting period. Hospital admissions for non-trauma cases (11,506) exceeded those for trauma patients (3,025) 3.8 fold.

Substantial quality concerns do not allow for a firm conclusion on the results of the hospital surveillance but findings suggest that:

- The number of non-trauma emergency room visits and admissions substantially exceed those for trauma. As there was a need to ensure sufficient resources for trauma care during the crisis, questions may be raised about the impact of this on non-trauma care.
- There may be value in reviewing with the various hospital service providers the distribution of cases during the crisis. This information could contribute to developing contingency plans for the emergency service provision during a crisis.

#### **KEY RECOMMENDATIONS:**

Short to medium term:

The priority is to ensure that NCD patients have access to PHC facilities to assess their control status and to receive their medications.

Long term:

The challenges of a sustainable supply of NCD medications should be addressed.

If a reliable supply of medications can be assured, the MoH should be encouraged to prescribe medications for periods longer than 2 weeks. This would reduce the burden on health facilities and also allow patients some reserve stock in the unstable Gaza context.

The MoH should be supported to expand the PEN to all districts. This will involve training and sustained supportive supervision. Other primary care providers, in particular UNRWA, should be made aware of the PEN, its evidence base and its advantages. Ideally, the use of consistent NCD management protocols by all providers should be encouraged. NCD training for MoH PHC staff should be coordinated through the MoH, to ensure consistency of approach.

A high level, multi-sectoral approach is needed to address NCD risk factors through the development and implementation of relevant healthy public policies.

Implement recommendations made in the health strategy plan 2014, e.g. the recommendation to establish centres with integrated care for the prevention detection and management of diabetes and hypertension.

## 5.5 Disabilities

The rapid assessment did not include sufficient questions and data to compile a meaningful chapter on the situation of people living with disabilities, including newly injured. The below paragraphs have been put together predominantly from the MAP/IDEALS assessment report<sup>9</sup> and information gathered and compiled for this report by Handicap International with a few additions from secondary sources by the author of the report. For easy attribution the respective partner's name is put in brackets at the end of cited sentences or paragraphs.

According to a disability survey conducted by the Palestinian Central Bureau of Statistics in 2012<sup>10</sup>, it is estimated that 2.4% of the population in Gaza are persons living with disabilities (PWD). In terms of rehabilitation precious few specialist services are provided by the government or UNRWA: services are found primarily in the NGO and private sectors. However, UNRWA has provided the buildings and limited core funding for NGO-led Community Based Rehabilitation (CBR) centres in each of the refugee camps. The focus of these centres varies from camp to camp, but in general services include day care activities, information sharing, liaison with other rehabilitation agencies and advocacy campaigns.

The Ministry of Health (MoH) service, such as it is, comprises 11 in-patient and five out-patient physiotherapy departments: three of the latter are based in hospitals and two in MoH primary health care centres, and they provide reasonable geographic coverage except for the middle area.

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<sup>9</sup> MAP/IDEALS medical team 08.2014: Assessment mission of MAP/IDEALS medical team - East Jerusalem and Gaza 9 – 14 August 2014

<sup>10</sup> Palestinian Central Bureau of Statistic

2012: [http://www.pcbs.gov.ps/Portals/\\_pcbs/PressRelease/int\\_Pop\\_2012e.pdf](http://www.pcbs.gov.ps/Portals/_pcbs/PressRelease/int_Pop_2012e.pdf)

Other than the two MoH out-patient physiotherapy departments described above, rehabilitation services are not available within the remaining network of primary health care centres.

Training institutes for rehabilitation workers (physicians, physiotherapists, occupational therapists and psychologists) do exist within Gaza, but the courses provide little practical experience for trainees. Post-graduation their knowledge and practical skills thus need supplementing, where available, with intensive in-service training.

*Prosthetic and orthotic devices are almost exclusively provided by the Artificial Limbs and Polio Centre in Gaza city. Other patients do leave Gaza and receive devices overseas, but this has created huge problems in terms of poor education/assessment, a complete lack of follow-up upon return to Gaza and the use of devices that cannot be maintained, repaired or replaced with compatible parts within Gaza. This centre is managed by the Municipality of Gaza, with no official relationship or financial support from the MoH and minimal funding from UNRWA: it continues to receive technical and financial support from the International Committee of the Red Cross (ICRC), but its long-term viability is uncertain without additional donor support (MAP/IDEALS).*

Many NGOs are registered with the Ministry of Social Affairs as providing rehabilitation services for persons with disability (PWD) in Gaza. In reality, very few provide a sustained, credible level of service.

*[...] The Ministry of Social Affairs (MoSA) has the lead responsibility for ensuring an integrated package of care for persons with disability (PWD) and their families in Gaza. However, despite the presence of very favourable legislation, implementation is poor. Many NGOs are registered with the MoSA as providing rehabilitation services for PWD in Gaza. In reality, very few provide a sustained, credible level of service. The very limited availability of service provision for PWD and their families is further compounded by the extremely limited coordination and integration of available services: leading to greater inequity in terms of accessing those services. A perfect example of this is the lack of communication between hospitals and the community, which results in patients with major injuries or other acquired disabilities being discharged without any documented plan for their ongoing rehabilitation (MAP/IDEALS).*

*Key health infrastructure for PWD services have been severely affected. El Wafa hospital, the only specialist rehabilitation hospital in the whole of the Gaza Strip was completely destroyed during the recent conflict. This will place significant further strain on the already limited rehabilitation services described above, although a site has already been identified for the hospital to be rebuilt, and the MoH has also started to build a new rehabilitation hospital in the north. Currently the staff are providing limited services from Al Zahra in the Middle Area. (MAP/IDEALS)*

*The SPHP clinic, considered as the only clinic specifically providing rehabilitation and medical services for persons with physical disability and the Right to Live society, the main service provider supporting children with down syndrome and children with autism, were both targeted and partially destroyed during the conflict (HI). Damage to the private service sector is not documented. In 51 days of fighting 11.231 people have been injured [...] and it is estimated that 10 percent of these injured may have acquired a long term or permanent impairment (HI).*

*During the conflict injured people have been discharged prematurely with limited chance to receive timely follow-up, post-operative care or access to rehabilitation services and assistive devices. This can lead to complications, permanent impairments or disabilities. These individuals and their families may also face additional barriers in accessing general humanitarian support due to their lack of mobility, given the general approach that most response activities take in terms of identification of beneficiaries and service delivery. This is equally true for people with pre-existing disabilities and for other vulnerable groups (the elderly, people with chronic illnesses). Lack of access to essential services and breakdown of support systems can complicate existing health conditions, cause permanent impairments, and even death (HI).*

NGO and MoH are providing static and mobile services in response to the conflict, mainly providing wound management, physiotherapy and the provision of assistive devices. Information on these services was very difficult to access for PWD and their care takers until relevant health partners and the MOSA have come together to improve coordination of services for PWD. A matrix with service providers per district and service type is now being circulated to health facilities and public media which should improve service accessibility for PWD<sup>11</sup>. Patients with need for specialist limb reconstruction follow-up can be seen at the nearest of the two designated centers established by the MoH: Shifa or EG hospital, supported by FMT specialist surgical teams from MAP/IDEALS who will be working alongside the local orthopedic and plastic surgeons at those hospitals over the coming six months. The development of Emergency Department care and the "Trauma Care Pathway" in particular remain priorities for the MoH and all those agencies supporting the MoH, together with the need for much better communication/documentation between hospitals and community based rehabilitation services. The disability working group will come together frequently to ensure a coordinated approach to efficient and effective service provision in the coming months (please see chapter 6.4 for more details).

#### **KEY RECOMMENDATIONS:**

- A comprehensive response to the health needs of persons with injuries and disabilities to prevent complications and permanent impairments.
- Mainstream disability and vulnerability issues in the overall humanitarian response. Sensitizing and coordinating with other humanitarian actors can contribute to the identification and inclusion of disabled and other vulnerable people, so meeting their needs.
- Rehabilitation of destroyed infrastructure and equipment under consideration of the needs of the most vulnerable population
- Implement coordinated, multidisciplinary post emergency rehabilitation outreach services to people with new and old disabilities and injuries
- Strengthen organizational development practices of disability services providers
- Improve PWDs rights and physical accessibility

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<sup>11</sup> Health Cluster OPT September 2014: mobile and static physio therapy and wound management services in Gaza <http://www.moh.ps/?lang=1&page=4&id=991>

## 5.6 The Elderly

Help Age International has conducted an assessment aiming at determining the challenges and needs of elderly people living in displacement camps throughout the Gaza Strip. Help Age International has agreed to let this assessment report be informed by their findings. Key informant interviews took place with 100 elderly people in shelters out of which 30 samples were selected for analysis. Questions included food, livelihoods and income, physical health, general health, distress, safety, respect and aid distribution, mental health and more. Given the small sample size the information needs to be considered carefully and potentially not representative for the elderly population at large.

The following is a summary of key results, relevant for health:

90% of the interviewees face health issues including chronic disease, conflict related injury and psychological trauma.

80% of the interviewees struggle to access health care for the following 3 key reasons: limited economic resources, physical/logistical constraints, health services nearby destroyed or closed, insecure. Furthermore 93.4% percent were challenged by moving between places to cover their needs and out of 5 locations from where the interviewees were selected 3 included lack of access to health care as one of 3 top priorities.

83.3% of the interviewees report on the feeling of distress due to the loss of family members, trauma from the constant bombardment during the war and the consistent threat of injury or death because of the war.

96% of the interviewees report that there are not enough toilets available with insufficient privacy and not enough adapted to ensure older people access in the shelters.

86% of the interviewees feel that aid is inadequately provided, key reasons named are: there is not enough aid for everyone, gender and age are being disadvantaged and there is not enough information on aid distribution. In general though only 6.7 % from the displaced older people feel they don't have enough information about the assistance operations or what happened in their villages.

The main gaps for older people are: access to and, accessibility of services resulting in an overall lack of protection and inclusion of older people and their needs in the delivery of services by multiple actors with a range of mandates.

### **KEY RECOMMENDATIONS:**

- The response strategies of all stakeholders must ensure livelihoods interventions are inclusive of older people.
- It is crucial to make a clear link between livelihoods activities and protection analysis to ensure the most vulnerable including older people.

- Active steps must be taken to ensure older people of all mental and physical conditions can access health services.
- All health actors should work towards the implementation of a joint age friendly policy that guarantees the delivery of services to meet the specific needs of all older people.
- Transport services and home/shelter visits should be part of the intervention in order to ensure older people's accessibility to health services and inclusion in referral systems.
- Protection analysis must recognize the high levels of vulnerability faced by specific groups within the older population.
- Nutritional advice should be included in order to ensure that accessible food corresponds with cultural habits and health related food intake needs, reducing the negative effects of the most common chronic diseases
- Cash transfers should be considered for the most vulnerable cases; it is a mechanisms to provide a financial safety net; home based support to perform daily activities (shopping, cooking etc.)
- Support to individual beneficiaries should be combined with community based initiatives.
- Interagency/stakeholder co-ordination should ensure older people's participation in consultation and design of response activities and community decision making processes

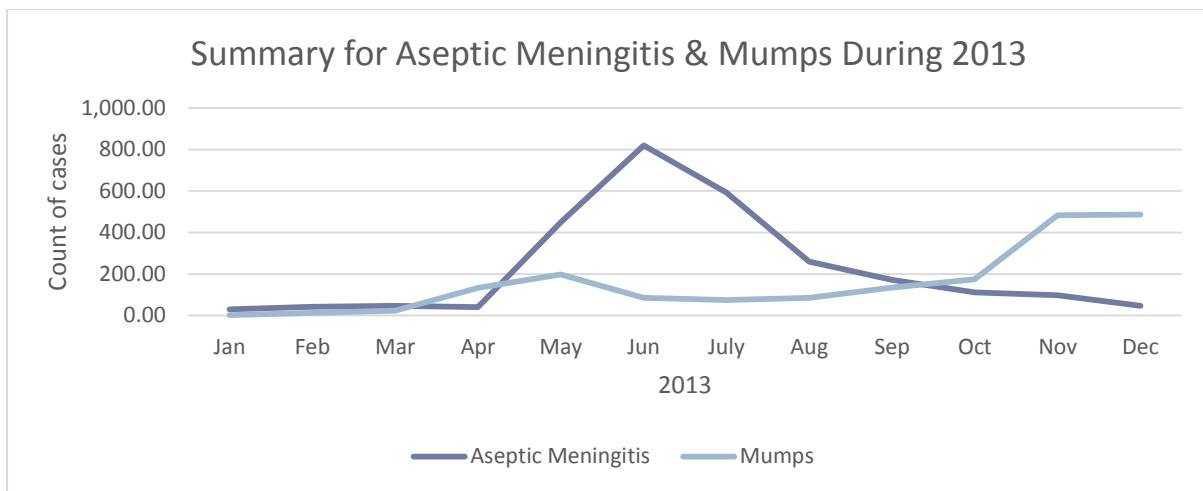
## 5.7 Communicable disease, public health risks

Public Health Surveillance is well established in the Occupied Palestine Territories and since 2011 manifested in and guided by the communicable disease surveillance guidelines (CDSG). In Gaza 5 epidemiological units are responsible for conducting communicable disease surveillance activities at district level<sup>12</sup>. Routine disease surveillance categorizes disease into group A with immediate reporting requirement, group B demanding weekly reporting and group C entailing all communicable disease for which monthly reporting suffices. All public health care providers (MoH< UNRWA and NGO's are reporting into the surveillance system at district level to respective epidemiological units from where case investigations are managed. The epidemiological department at central level is then responsible for analysing and interpreting the data and implement possible required preventive action.

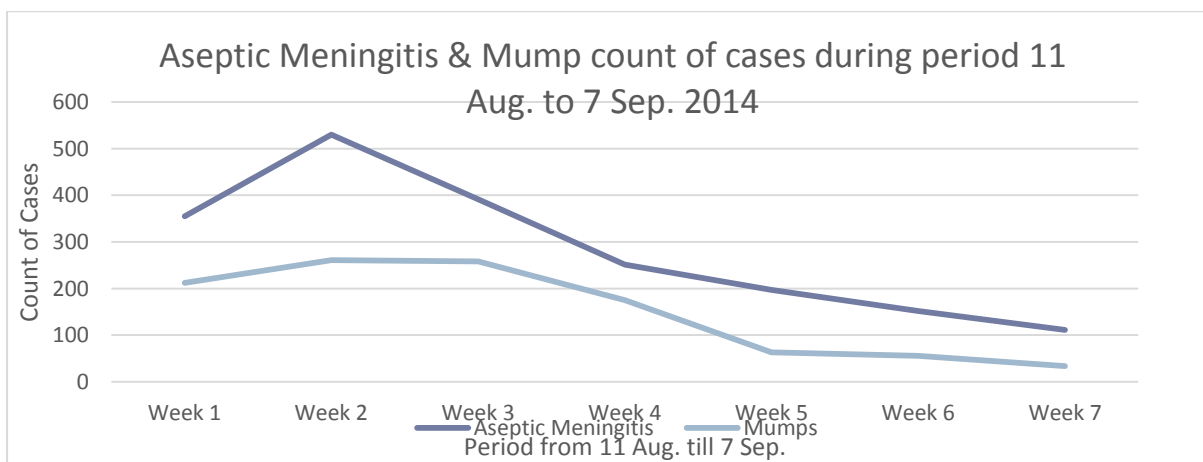
Gaza had two ongoing outbreaks to report prior to the conflict. An outbreak of Mumps has occurred since April 2013 and continues with an increasing trend (peaking during the conflict) today. Not unusual for the season a viral meningitis outbreak started in March 2014 however unlike in previous years when the outbreak scaled down in June – July, cases continue to be reported until now, however with a decreasing trend in September.

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<sup>12</sup> Ministry of Health, Primary Health Care Directorate 2011: National Guidelines for Communicable Disease Surveillance



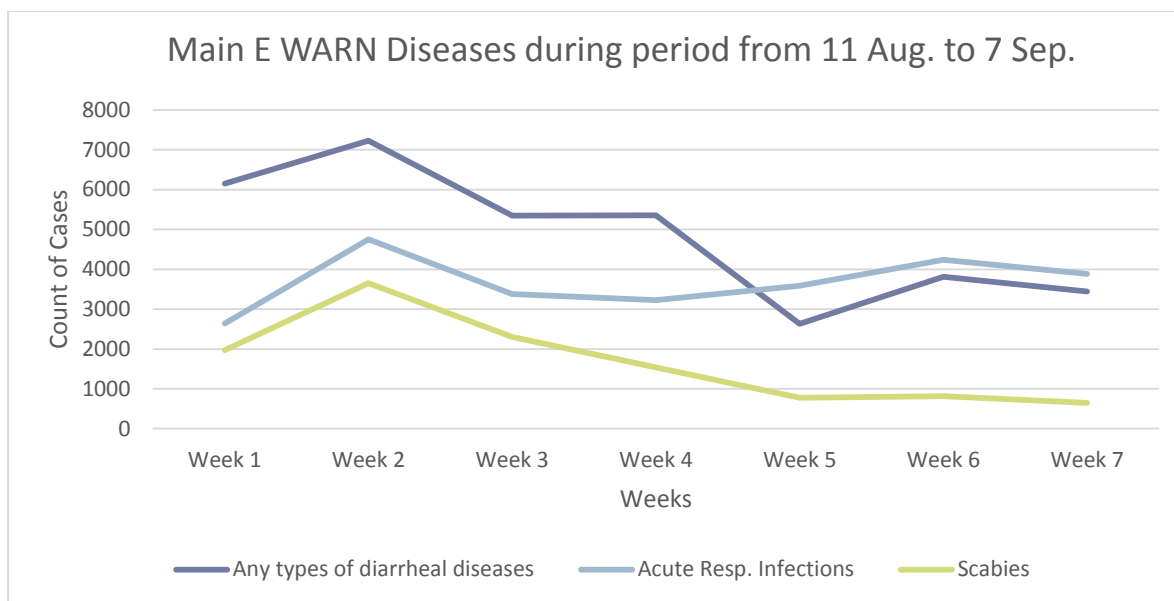
\*The monitoring data for 2014 is not yet published by the MoH, hence only the 2013 data is available at this point



\*Monitoring data from the E-warn system established in early August 2014

The routine surveillance system continued throughout the conflict. However at the beginning of August the MoH with support from WHO decided to implement an early warning system (E-warn) to monitor 13 communicable diseases<sup>13</sup> on a daily basis as the large scale population displacement with resulting overcrowded living conditions and severe damage to public health infrastructure, including water and sanitation, significantly increased the likelihood for communicable disease outbreak. Early warning data is being collected at all health facility levels (including hospitals) and in shelters. As expected it took a couple of weeks until the system was established and facilities enabled to report into the system. The data collected needed to be permanently monitored against the constant change of population movement and institutions reporting or not reporting. Nevertheless the communicable disease trend since the implementation of the E-warn system showed no concerning trend of any of the monitored disease. The three top communicable diseases in terms of number of cases are diarrhoea, acute respiratory infections and scabies – all three with a declining trend since the implementation of a permanent ceasefire.

<sup>13</sup> Any types of diarrheal diseases, Typhoid, Mumps, Scabies, Impetigo, Acute Resp. Infections, AFP (suspected case), Aseptic Meningitis, Food Poisoning (in hospital only), Measles, Infectious hepatitis, Cholera, Others



While risk factors remain, the likelihood of an outbreak with large impact on the public wellbeing must be considered low at this point in time. Vigilance however is required to ensure early detection of a possible deterioration of the public health situation. MoH and UNRWA agreed to return to weekly reporting of E-warn data (while individually continuing to collect the data on daily basis).

Key workload with regards to communicable disease during the conflict was related to the occurrence of skin infections including scabies and lice, particularly in overcrowded shelters. Feedback from health care providers in the qualitative assessment component indicates that the lack of sufficient quantities of respective drugs left many patients with very limited options to control the disease.

There are a number of protecting factors in the population that will have had a positive impact on the communicable disease situation during and after the conflict. Protective factors include excellent vaccination coverage in Gaza with multiple individual vaccines reaching close to 100% coverage (e.g. BCG 98%<sup>14</sup>). The population has been exposed to multiple health and hygiene promotion activities and respective knowledge, attitude and practice can be observed. Health providers immediately commenced defaulter tracing for children who have missed their routine immunisation during the conflict. While various vaccines were out of stock during the conflict there are now sufficient stocks of all routine vaccines in Gaza until the end of 2013. Cold chain damages are being repaired and in absence of cold chain capacity daily contingencies are now being implemented.

While it is commendable that an early warning system is now in place it must be documented that it took considerable time (31 days into the conflict) to be established and a prolonged period of time until the majority of health facilities started reporting into the system. During the process of establishing the E-warn, it was noted that the two main providers, MoH and UNRWA, did not use consistent case definitions for all diseases.

<sup>14</sup> Palestinian Health Information Centre Aug. 2013, page 27



## KEY RECOMMENDATIONS:

When reviewing the public health response to the crisis and developing a strong preparedness plan for potential future scenarios where the establishment of early warning is required improvements need to include:

- A pre-defined list of priority communicable disease to be monitored during emergencies including clear case definitions (meeting WHO standards) and with relevance to the regional context
- Consistency of case definitions between MoH and UNRWA (clear agreement on E-warn diagnoses, e.g. “any type of diarrhoea” should be replaced by separate diagnoses of acute watery diarrhoea, bloody diarrhoea and suspected cholera)
- Clear distinction between suspected and confirmed cases, e.g. suspected meningitis versus aseptic meningitis; acute jaundice syndrome versus viral hepatitis.
- Standard Operating Procedures (including reporting system, draft data collection forms, data flow paths, reporting frequencies and staff responsibilities) for the implementation of the E-warn system and their roll out to health providers to ensure swift and correct reporting into the system when triggered (including relevant staff being trained on case definitions and reporting system during emergencies)
- Develop a comprehensive outbreak response contingency package.

## 5.8 Environmental health

Among a number of environmental factors with impact on the public health of Gaza’s population the water situation must be considered as one of great concern. Both water quality and quantity in Gaza are chronically affected by numerous factors. A meta study conducted by the Norwegian Public Health Institute together with the Palestinian National Institute of Public Health (PNIPH), and WHO states:

“More than ninety per cent of the water offered to the population in the Gaza Strip has been classified as unsuitable for human consumption. [...] Water quality in the Gaza Strip has been severely compromised due to increasing salinity of groundwater, contamination of water resources with fertilisers, pesticides and solid waste, and lack of adequate water and sewage treatment options. Damaged and destroyed infrastructure due to the ongoing conflict with Israel as well as the ongoing blockade of the Gaza Strip, which has prevented materials for repairs and reconstruction from being imported into the area, have further complicated the situation.”<sup>15</sup>

During the conflict water and electricity networks were severely affected, further driving the dire water situation in Gaza to a breaking point. The WASH cluster led by UNICEF supported the water authorities in Gaza throughout and after the conflict with a coordinated response to water and sanitation needs. Key impeding factors to an effective response were and are related to lack of access (during the conflict), electricity and fuel. Further identified bottlenecks consist of financial

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<sup>15</sup> PNIPH, WHO, Norwegian Institute of Public Health September 2014: A systematic Literature Review and Recommendations on Water Usage in the Gaza Strip

resources, water trucks, generators, storage, generators, pumps and management capacity<sup>16</sup>. With limited building material availability in Gaza the rehabilitation of the destroyed water infrastructure will take years, if not decades and dependency on water aid will continue to burden the population. When quality and quantity of water are affected to the above described scope people have to start prioritizing usage, very often to the benefit of drinking and cooking while personal hygiene has to stand back. Skin disease are among the top 3 communicable disease reported through the E-warn system.

The damage to the water supply system adds to chronic challenges with water quality and water quantity as described above. Key issues with the quality of water in Gaza include contamination of drinking water during transport (water trucks contaminated) and at household level when containers and storage tanks are not regularly disinfected.

Waste water and sewage, where systems have been destroyed, are flowing into the environment without control increasing breeding sites for flies and causing further public health risks including diarrhoea and meningitis.

Health care waste poses a considerable risk to public health, especially when relevant infrastructure like incinerators, protocols on medical waste management etc. are not in place or compromised. The data collection conducted for this assessment across all health facilities in Gaza highlight that while the impact of the conflict most certainly further exacerbated the situation on health care waste the chronic absence of good practice including infrastructure and quality health care waste management pre-existed. All but one hospital (Al Nasser in Khan Younis) lack a protocol on health care waste management, leaving health facilities with no direction on how to apply best practice in disposing not only sharps but drugs and biological waste.

Medical waste is supposed to be segregated at facility level with municipal management of the disposal in appropriate facilities at dump sites. Furthermore health facilities can send their medical waste to the 4 hospitals in Gaza that have incinerators (Shifa- and Psychiatric hospital in Gaza, Al Nasser and Gaza European in the Khan Younis). The assessment data shows however that only 56 facilities (49%) of those who answered this particular question (115 out of 131) segregated their health care waste prior to the conflict. 3 of which have been damaged during the conflict leaving only 46% (of those 115 health facilities that reported against this question) in Gaza separating their medical waste for appropriate disposal.

Another environmental health concern directly related to health facilities is the water and sanitation situation in health facilities. During the assessment 64% of all key informants were answering the respective question on sanitation saying that even prior to the conflict their sanitation situation was below SPHERE standard (1 toilet to 10 inpatient or 1 to 20 OPD patients). With the damages that occurred to numerous facilities during the conflict it comes as no surprise that this figure drops to 56% in August. Likewise 74% of the assessed health facilities (with 121 out of 130 answering this question) report not having sufficient quantity of water prior to the conflict, the percentage further dropping to 61% in early September, compared to Sphere standards (PHC=5l/patient/day inpatient =40 – 60 l/patient/day).

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<sup>16</sup> WASH cluster situation report nr. 22.08.2014: page 4  
<http://www.ewash.org/files/library/2014%2008%2022%20WASH%20Cluster%20Situation%20Report.pdf>

UNDP estimates that the destruction caused in this conflict led to approximately 2.5 million tons of debris. It is highly likely that building materials used in the past decades include chemicals like asbestos which cause skin and eye irritations and poisons food and water sources. Health risks for debris removal workers must be considered and respective protective gear provided. Furthermore the remnant ruins of houses and infrastructure pose a risk particularly to children who freely access and play around potentially injuring themselves in the ruins or worse by handling unexploded ordnances (UXO). Cases of injuries and mortalities due to UXO have already been reported. The prevalence of remnants of war causes contamination of the soil with heavy metals and possibly radiation and chemicals (albeit the use of chemical and/or radiological ammunition was not reported in the most recent conflict) which could be consumed through contaminated water and food products. Testing equipment is unavailable in Gaza and its import has been repeatedly denied by the Israeli authorities in the past.

#### **KEY RECOMMENDATIONS:**

- Work jointly with the WASH cluster to mitigate the impact of the waste water and sewage situation. Key role for health providers is the provision of health and hygiene promotion to enable the population to identify and mitigate the risks from environmental health concerns.
- Develop sustainable medical waste management procedures at facility and municipal level including vital infrastructure. Strengthen health workers knowledge attitude and practice with regards to handling medical waste.
- Strengthen health facilities in the appliance of Sphere standards in their water and sanitation provision in health facilities. Ensure health facilities are enabled to adequately store and supply sufficient quality and quantity of water based on their respective patient load.
- Provide health advice to partners engaged in rubble removal including the provision and use of personal protective equipment.
- Enable testing of water and soil for chemical radiological substances and the presence of heavy metals, especially the import of adequate testing equipment and develop strategies for containing the negative impact on environment and population.

## 6 Cross cutting subjects:

### 6.1 Health Information System functionality during the emergency

The Ministry of Health in the Occupied Palestine Territories has well established systems in place for the management of health information. The Palestinian Health Information Centre (PHIC), the Primary Health Care Directorate and the specific departments organised under the Ministry of Health have 13 registries covering anything from vital statistics, road traffic accidents and hospital data to primary health care information and infectious disease. The Palestinian National Institute of Public Health (PNIPH) has recently thoroughly documented an overview of the key national health registries, surveillance systems, and reports with patient information and health management and services that are regularly reported on a national level to the Ministry of Health<sup>17</sup>.

Currently the Communicable Disease Registry is the only registry that is able to monitor trends on a daily basis (please see chapter 5.7 for details).

In the fast changing environment of a conflict it becomes apparent that there is an urgent need for more than daily communicable disease reporting. In the absence of standard procedures for reporting in crisis the MoH in Gaza struggled to provide data on various indicators (e.g. hospital bed occupation, number of conflict related surgery, NCD admissions, RH indicators) that would have enabled immediate and targeted responses by MoH and partners to key concerns prevailing on an evidence base.

Considerable effort was invested by WHO and the MoH to follow a number of basic indicators following no standard guidelines but deciding throughout the conflict what data would be required to improve response and highlight urgent needs (e.g. monitoring the closure of facilities, NCD admissions and non-trauma related deaths). The data collected had to be evaluated with extreme care as numerous factors influenced the quality of information. As described above (chapter 4.2) the health information system broke down in numerous facilities due to staff absenteeism, sheer overwhelming number of cases, lack of electricity for electronic reporting and break down of communication lines. Underreporting is just as likely as double reporting of cases as patients travelled from facility to facility to receive the assistance needed without the necessary referral documentation.

#### **KEY RECOMMENDATIONS:**

It has become apparent that a key recommendation for future preparedness of the health information system is to establish standard operating procedures for the monitoring of key health indicators in emergencies to enable evidence based timely and targeted response.

- Work with the MoH in attempting to improve the quality of the data.
- Use the current analysis as a capacity building tool, to illustrate the various quality issues involved.

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<sup>17</sup> PNIPH 2014: Registries at the Ministry of Health [http://www.pniph.org/?page\\_id=997](http://www.pniph.org/?page_id=997)

- Work with the MoH to review the current hospital information system in order to identify areas where strengthening is required.
- Work with the MoH to identify a limited set of hospital data to be collected during an emergency and the minimum data management systems to be in place during a crisis.
- After the data quality is improved/verified, convene a meeting of hospital service providers to present the findings and raise the question about access and quality of care for non-trauma cases, and possible need to review distribution of cases during an emergency.
- Consider using the findings to raise awareness of wider stakeholders, including donors, that there is a substantial need to assure adequate non trauma care during emergencies.

## 6.2 Drug availability

As a result of the Israeli blockade on the Gaza Strip and a year-long, continuously worsening financial crisis of the Ministry of Health the health sector in Gaza has severely suffered from chronic drug and medical disposable shortages. Precarious coping mechanism like reusing disposable materials or prescribing second or third line drugs pose considerable risks on patients and on the health system itself, including having to refer patients to facilities outside of Gaza at high cost for treatments that once were available in Gaza. Absence of drugs in health facilities does not necessarily equal absence of the drugs in Gaza, as private market pharmacies usually have the required drugs in stock. Patients have then to choose either to take the second or third line medication available in the health facility – or paying out of pocket for the most appropriate treatment – resulting in unequal access to quality health care depending on the economic situation of the patient.

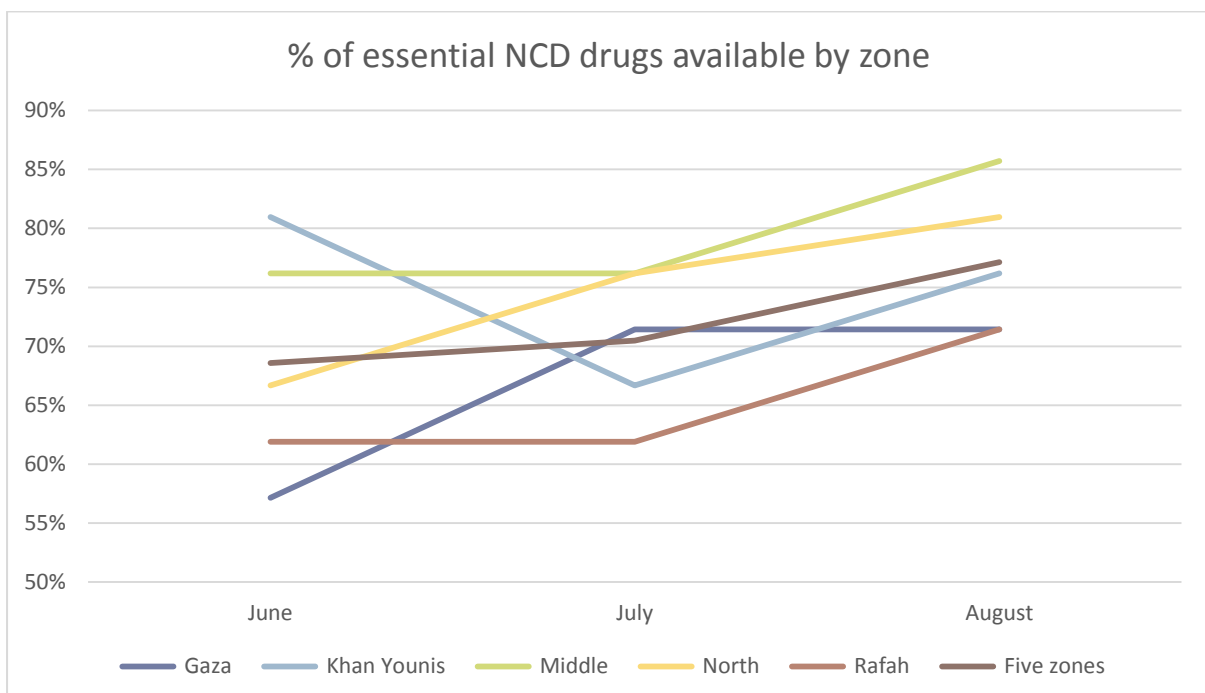
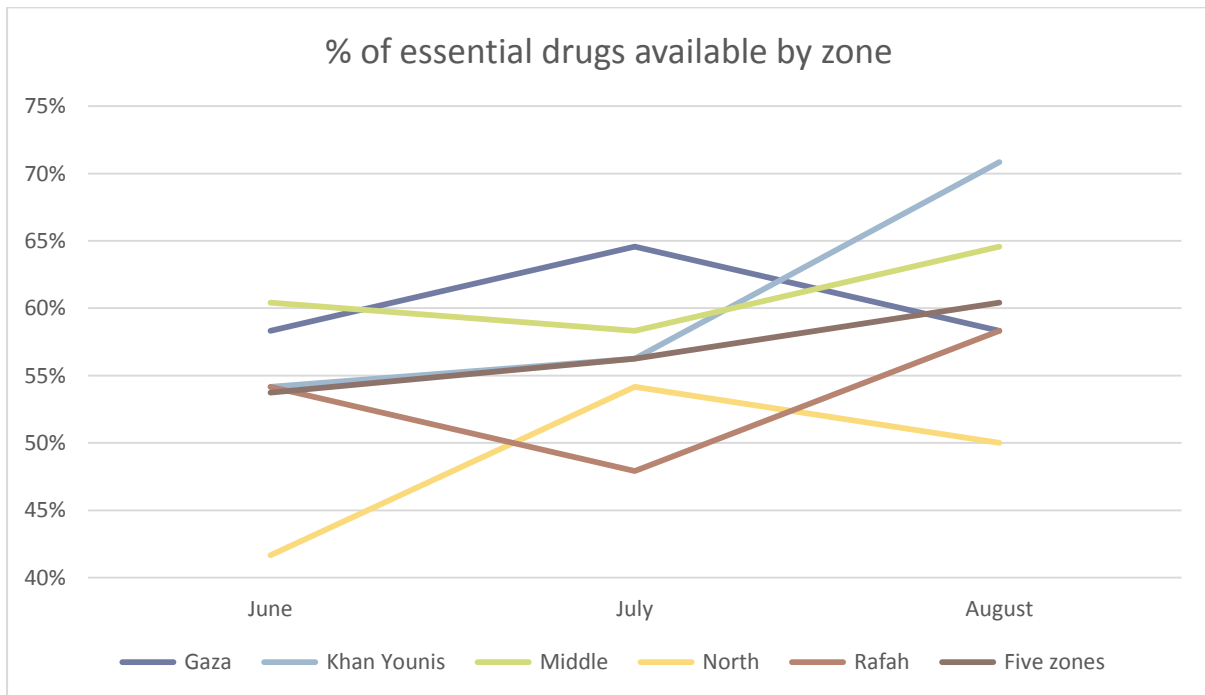
The percentage of zero stock drugs has increased over the past 7 years with a height in 2012 reaching 58% of zero stock in drugs<sup>18</sup> (Zero level stock" describes critical supplies that will be depleted in less than one month at the Central Drug Store (CDS) which supplies all MoH hospitals and PHCs in Gaza). A drug technical committee, consisting of MoH, ICRC and WHO representatives come together frequently to monitor the situation. The MoH produces monthly reports which detail the shortages including related costs. Gaza has an annual consumption rate of drugs for over 40 million US dollars.

In June 2014 the CDS reports a stock out of 28.3 % of the essential drugs list which entails 481 essential drugs for primary, secondary and tertiary care levels in the OPT, and 53.8 % shortage in all essential medical items which is 902 items long. In order to validate the report from the CDS an assessment component aimed at checking the drug availability of 48 tracer drugs at the 5 district PHC pharmacies. The 48 drugs were selected from the PHC essential drug list (210 drugs) and reviewed by pharmacists as the most crucial drugs needed to maintain good quality primary health care services (please find the list of tracer drugs selected in Annex 7.3). Stocks were assessed according to either their full availability, none availability or available but insufficient quantity to cover the need of a full month. Please note that this is a spot check among peripheral MoH facilities and does not reflect the full picture of drug availability as it does not look at UNRWA and NGO health facilities and their drug availability

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<sup>18</sup> WHO 2012 <http://www.emro.who.int/pse/publications-who/highest-level-of-drug-shortages-in-5-years-in-gaza.html>

The data shows that there is a general increase in availability of tracer drugs from June (total 54%) to August (total 60%) in all districts. Broken down by district level all but North Gaza registered an increase of drug availability in August, whereas in North Gaza the availability decreased from 54% in July to 50%. This is related to the fact that during the conflict the majority of the population in the North District needed to seek refuge in Gaza City and other districts. Please note that for below draft the drugs that were in stock with insufficient quantities were considered zero stock as per definition. The findings show that the stock situation at PHC level over the past 3 months must be considered worse than at CDS level with on average 40% stock shortage among tracer drugs in the district pharmacies.



It is important to understand the above graphs not as a trend but as a documentation of the status quo over the past three month, reflecting the unusual situation of an increase in conflict related drug donations coupled with an increase of drugs being processed through the border. It will take continuous monitoring from MoH and the drug donation committee to observe possible changes in trend and considerable political changes to ensure a sustainable improvement of the drug and medical disposable situation in Gaza.

#### **KEY RECOMMENDATIONS:**

- The chronic stock shortage is largely owed to the financial crisis of the MoH and only its removal will enable the re-establishment of a functioning supply system for drugs and medical disposables. In the meantime donors will have to continue supporting the provision of essential drugs and medical items to ensure the upkeep of health services in Gaza.
- During the conflict multiple emergency drugs have been imported and helped to fill the most crucial gaps at the time. However there are still considerable gaps in particular in the provision of chronic disease drugs which need immediate and medium term addressing to keep the drug and supply situation from de-compensating.
- Prepositioning of emergency stocks need to be a priority in the short term, especially while the political situation remains instable. In medium and longer term the planning and management of emergency preparedness stocks need to be developed under consideration of the lessons identified during this conflict.

### **6.3 Referral**

Referrals are an important part of the Palestinian Ministry of Health's public health care system, representing outsourced medical care for certain specialized procedures, treatments, surgeries and tests. They are necessary because of a lack of capacity within Palestinian Ministry of Health hospitals. Sometimes this may be due, for example, to temporary shortage of specific drugs, or to malfunction of medical equipment or unavailability of medical expertise; more often, the expertise and equipment is not available or purchasing the service may be more cost-effective than investing in local treatment. In the case of Gaza, referrals are more necessary due to the lack of adequate development of the public health care system and quality of care, partly a result of the Israeli blockade of Gaza since 2007 and restricted movement of people and goods. Both West Bank and Gaza physicians and medical students face restrictions on access to continuing training. The six Palestinian-operated hospitals in East Jerusalem - Maqassed Islamic Hospital, Augusta Victoria Hospital, St. John's Ophthalmic Hospital, St. Joseph's Hospital and Princess Basma Rehabilitation Center - have served for decades as the main referral centers for the Palestinian population in the West Bank and Gaza, and the central medical training facilities for Palestinian health professionals. Egypt, Israel and Jordan also provide important referral treatment for Palestinians, both government-insured and private patients<sup>19</sup>.

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<sup>19</sup> WHO Access Report (March 2013):

[http://www.emro.who.int/images/stories/palestine/documents/WHO\\_Access\\_Report-March\\_5\\_2013.pdf](http://www.emro.who.int/images/stories/palestine/documents/WHO_Access_Report-March_5_2013.pdf)

In the first half of 2014 the Ministry of Health Referral Abroad Department (RAD) in the Gaza Strip issued an average of 1.849 referrals a month. 19.9% of the patients were referred to non-Ministry of Health facilities inside Gaza mainly for MRI, heart catheterization, rehabilitation, or urology, paediatric, and neurology treatment. The rest of referrals were to destinations outside the Gaza Strip for all medical specialties: 32.49% to Palestinian hospitals in East Jerusalem, 22.07% to Israeli hospitals, 16.51% to the West Bank, 8.92% to Egypt, and 0.1% to Jordan.

During the war in July the number of referrals issued were 580 (only 31.37% of the average) and in August 839 referrals (45.38% of the average) showing a dramatic decrease in the total number of referrals. This dramatic decrease was mainly the result of the unusual circumstances: severe security restrictions on patient access within Gaza and to outside facilities during the hostilities, the closure of the RAD office for security reasons and inability of the employees to report to the office, as well as due to the Ministry of Health priorities of addressing the emergency health situation and treating casualties.

However, war casualties were referred during this period through various ways and coordinated either directly through Shifa hospital or through the RAD. Those referred from Shifa did not go through the regular procedures for normal referrals. Medical reports and a copy of the ID of candidates for referrals were submitted to designated medical personnel who were responsible for managing the file of referrals. The ministry had received offers from mainly Turkey, Germany, Egypt, and Jordan to host war casualties for treatment. According to the joint operation room of the MoH of August 31 a total of 514 war casualties were referred outside the Gaza strip between July 10 and August 31 to the following destinations: Egypt: 245, East Jerusalem and West Bank hospitals: 149, Turkey: 83, Jordan: 34 and Germany: 3 referrals.

The coordination office (The Palestinian District Liaison Office) where patients apply for permits to cross Erez for medical treatment reported that during July, 60 permit applications for casualty patients were submitted to the Israeli coordination office for permits; 56 were approved, and 4 were delayed (1 patient was requested for Israeli General Security Service (GSS) interview, 1 changed the destination to Egypt and 2 received no response from the Israeli authorities). During August the coordination office reported that 251 war casualties' referrals were coordinated through Erez, 89 of them were transferred to Turkey, 12 to Jordan, 4 to an Arab hospital in Nazareth, and the rest (146) were to hospitals in East Jerusalem and West Bank. Casualties were mainly referred for treatments of crush injuries of multiple body organs, extremities or amputations, severe head and neck trauma, injuries of pelvic organs, multiple chest trauma, eye and orbit trauma, and spinal cord injuries.

In the first half of 2014 the coordination office received an average of 1670 applications a month of patients to cross Erez. The average approval rate was 84.03% while 2.23% were denied access and the remaining 13.75% lost their appointments and their treatment was delayed due to late response to their applications.

In July 2014, 1093 applications, including casualties, (65.45% of the monthly average) were received in the coordination office showing a significant decrease in the number of patient applications to cross Erez. The approval rate was also decreased significantly, 65.51% approved compared to 84.03% in average for the first half of the year, 6.4% denied compared to 2.23% and 28.09% were delayed compared to 13.75%.

August data showed that 946 applications (56.65% of the average) were submitted including applications for casualty patients. 82.77% were approved, 2.11% were denied (among them 1 war casualty) and 15.12% were delayed.



The Palestinian side of Rafah terminal reported that 143 war casualties crossed to Egypt for treatment during July while 96 crossed during August for a total of 239.

Rafah border crossing has been subject to openings and closing depending on the political situation and policy changes by both Egypt and Israel over the past 7 years. Since July 2013, when Egypt closed the border except for 'exceptional humanitarian need', the number of patients dropped from 4,125 per month to 305 per month. In early 2014, less than 50 patients per month have been able to cross on the few days the border is open. Health access through Rafah has been reduced 95% since July 2011. Patients had been about 20% of all travellers but their priority dropped with the closure to only 5% of travellers. The closure has also halted medical missions and supply of donated medicines to the MoH via Rafah; only one shipment from Egypt was received over the past 10 months until June<sup>20</sup>. In July and August 2014 medical shipments including drugs and disposables passed through Rafah, including 6 ambulances.

Up to Sept 15, the RAD reported that there are currently 42 casualties ready for transfer to Jordan and they are waiting for coordination. About 110 applications are still in process (50 to Turkey, 30 to Egypt, and 30 to Spain). Additional 50 applications are pending waiting for the supporting documents (passports, IDs).

## 6.4 Coordination

The health cluster system was first established in OPT in response to Operation Cast Lead in 2008/09 and continued to function throughout 2010 until it officially transitioned into general health and nutrition sector coordination in 2011. Regular monthly meetings took place between over 32 health and nutrition partners, chaired by MoH and WHO held through video conference simultaneously in Gaza and Ramallah.

As a result of the conflict in Gaza in July 2014, Palestinian Ministry of Health in collaboration with WHO established an operation room in Ramallah to coordinate interventions and to follow up the health situation in Gaza, monitor the health needs, responses and gaps. The operation room in Ramallah worked closely with its counterpart operation room in Gaza (based in Al Shifa Hospital) and reported all needs of medicines and medical consumables in addition to interventions and donations to health sector.

The health sector group came together 5 times on ad hoc basis throughout July and the beginning of August until on August 18 2014 the Inter Agency Standing Committee (IASC) agreed to re-establish the health cluster in response to the conflict. Weekly meetings have since taken place between national and international health partners in Gaza and West Bank in order to efficiently and effectively coordinate the health sector response between all relevant stakeholders. This report is a major action point of the health cluster working group, other action include discussing and formulating referral pathways for specific service delivery, maintaining a field work oriented matrix of who is doing what where and when (4W) for early detection of gaps and possible service duplication and regular discussions of key challenges of partners and seeking possible solutions.

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<sup>20</sup> WHO June 2014: Right to Health in Gaza, a 2 page briefing paper

[http://www.emro.who.int/images/stories/palestine/documents/HCT in Gaza - WHO Health issues-June10.pdf?ua=1](http://www.emro.who.int/images/stories/palestine/documents/HCT_in_Gaza_-_WHO_Health_issues-June10.pdf?ua=1)

Sub-working groups were established on:

**Foreign Medical Teams** - addressing specific challenges related to secondary/tertiary health care and international support to the health system in Gaza. Key initial result of the working group is the developed guideline on facilitating medical missions to Gaza allowing for detailed and coordinated planning between individual hospitals in need and potential international organisations – facilitated by the of International Cooperation Department (ICD) of the Ministry of Health. The working group is currently re-integrated into the general health cluster meetings but remain functional on ad hoc basis when required

**Mental Health and Psychosocial Support** working group is a sub working group to both, health and protection clusters that enables close coordination between MHPSS partners from both sectors. It is a re-vitalization of the **psychosocial** working group that worked throughout....led by UNICEF.

**National and International Disability Working Group** - has been established under the lead of the Ministry of Social Affairs (MOSA), supported by WHO and Handicap International (HI) with the aim to mainstream the needs of people living with disability into the health sector response, to establish who does what, when and where, and to enhance PWD access to services and inclusion in the recovery and post emergency period.

The health cluster coordinator participates in the overall coordination mechanism established by OCHA and attends meetings of other sector working groups when possible in order to keep health partners informed. Cluster partners were involved in the data collection and analysis of the MIRA assessment conducted in late August.

#### 6.4.1 National and International partner response

The frequently updated 4 W, in which health partners volunteer to document and update their conflict related programme activities including details on programme location, intended type and quantity of beneficiaries and timeframe, shows that 26 health partners from national to international Non-governmental organisations (NGO) to UN agencies and the Red Cross either have, are conducting or planning to conduct activities in response to the conflict. Activities range from drug donations to foreign medical team support targeting health facilities, vulnerable groups, internally displaced and more. It is likely that the number of active health partners is higher as some local or national organisations have not yet documented their activities in the 4 W template. While the matrix reveals that many partners have been able to immediately respond to the crisis, most response activities are of short nature (1-3 months), leaving a potential gap for much needed medium and longer term rehabilitation requirements. However this could be credited towards health partners still conducting assessments and planning further programming based on evident needs.

#### **KEY RECOMMENDATIONS:**

- Continue with frequent health coordination activities until health service provision and rehabilitation are strengthened and routine programming among MoH and health partners re-take priority
- Maintain updating the 4W to ensure early identification of possible gaps and duplication

- Remain vigilant to the need of specialized ad hoc or short term working groups on specific issues like reconstruction planning or child health, nutrition etc.
- Strengthen inter-cluster coordination to ensure integrated approaches where feasible and required
- Frequently review coordination requirements and improve coordination based on partner feedback
- Review overall coordination efforts and incorporate lessons identified in preparedness and response planning

## 7 Annex

### 7.1 List of essential psychotropic drugs required for 6 months

N	Item	Required quantity for six months
<b>1</b>	Fluphenazine decanoate 25mg/ml inj	<b>4,200 amp</b>
<b>2</b>	Clozapine 100mg	<b>90,000 tab</b>
<b>3</b>	Fluoxetine 20mg	<b>80,000 cap</b>
<b>4</b>	Diazepam 5mg	<b>90,000 tab</b>
<b>5</b>	Alprazolam 0.5mg	<b>54,000 tab</b>
<b>6</b>	Sodium valproate 200mg	<b>120,000 tab</b>

## 7.2 Reproductive Health Assessment Action Plan

RH Assessment Action Plan												
Team #	Governorate	Team leader	Team members	7 FG/W shelters	Interview with individual women/shelter	6 FG/M shelters	7 FG/M HC TBD	7 FG/W HC TBD	Interview with individual women/facility	Quantitative data collection PHC	Quantitative data collection Hosp	Quantitative data collection Shelters
Team1	North Gaza	??	Maysara Kafarnah Reem Qattawi Hanan Zaqout Wafa Najely	Shadia AbuGhazal Abu Hussain school	Shadia AbuGhazal Abu Hussain school	Shadia AbuGhazal Abu Hussain school	Location and target TBD	Location and target TBD	Awda maternity Jabalia Martyr PHC Jabalia UNRWA	Jabalia Martyr PHC Jabalia UNRWA	Awda	Shadia AbuGhazal Abu Hussain school
Team2	North Gaza	Sabreen Nashbat	Sabreen Nashabat Samah Zraie Jehad Abu Owaimer Azza riziq Rasha AIMoghanny	Daraj School Holly family Deir Balah	Daraj School Holly family Deir Balah	Daraj School Holly family Deir Balah	Tal Hawwa	Tal Hawwa	Shifa + Harazeen NECC Zaiton	NECC Zaiton	Shifa Mat Shifa NICU Al Nasr ped. NICU	Daraj School Holly family Deir Balah
Team 3	North Gaza	Sana Abu Samra	Wafa Khalefa Sana Abu Samra Kareema AlAshqar Sameera Dawood Naila Massri Wafa Abu Hasheesh	Ahmed Azziz Prep boy "A" KH Rafah UNRWA school	Ahmed Azziz Prep boy "A" KH Rafah UNRWA school	Ahmed Azziz Prep boy "A" KH Rafah UNRWA school	Gaza city Deir Balah	Gaza city Deir Balah	Emarati Maternity Bandar Abassan/RCS	Bandar Abassan/RCS	Naser Mat EGH NICU	Ahmed Azziz Prep boy "A" KH Rafah UNRWA school
Team 4	All Gaza	Dr. Sawsan Hammad	Moneer Aqeely Abdallah Salem	Rafah UNRWA school	Rafah UNRWA school	Rafah UNRWA school	Rafah	Rafah	Tal sultan MOH Tal Sultan UNRWA Abu Taima/PMRS	Tal sultan MOH Tal Sultan UNRWA	Emarati	Rafah UNRWA school
Team 5	All Gaza	6 maternities 3 NICU KI interviews	Itimad Dr. Yonis Dr. Sawsan Dr. Yonis									

### 7.3 List of tracer drugs assessed in PHC district pharmacies

List of tracer drugs assessed at PHC level		
Amlodipine 5mg	NCD	Tablet
Colchicine 500 Mcg	NCD	Tablet
Glibenclamide 5 Mg	NCD	Tablet
Insulin Human 30/70 . 100 U/ MI . 10 MI	NCD	Vial
Isosorbide 5- Mononitrate 20 Mg	NCD	Tablet
Losartan 50 Mg	NCD	Tablet
Metformin 850 Mg	NCD	Tablet
Propranolol 10 Mg	NCD	Tablet
Pyridostigmine Bromide 60 Mg	NCD	Tablet
Salbutamol 100mcg / Inhal . 200 Inhal.	NCD	Aerosol
Salbutamol 2 Mg / 5 MI . 150 MI	NCD	Syrup
Salbutamol Sulphate 5 Mg / MI . 20 MI	NCD	Solution
Theophylline Anhyd. 300 Mg . S.R	NCD	Tablet
Thyroxine 100 Mcg	NCD	Tablet
Thiazide Duretic	NCD	Tablet
Furosemide	NCD	Tablet
Baby Aspirin	NCD	Tablet
Enalapril (Angiotensin Inhibitot)	NCD	Tablet
Statin (Simvostatin)	NCD	Tablet
Atenolol (Beta-Blocker)	NCD	Tablet
Warfarin Sodium 5 Mg	NCD	Tablet
Amoxicillin 250mg + Clavulanic Acid 62.5mg/5ml 100ml		Suspension
Amoxicillin 500mg + Clavulanic Acid 125		Tablet
Amoxycillin 500 Mg		Capsule
Amoxycillin 250 Mg / 5 MI , 100 MI		Suspension
Azithromycin 200mg/5ml Suspension		Suspension
Azithromycin 250 Mg Capsule		Capsule
Cephalaxin 250 Mg/5ml 100ml		Suspension
Cephalexin 500 Mg		Capsule
Chloramphenicol 1% . (Eye Ointment)		Ointment
Clobetasol Propionate 0.05% . 25 G		Ointment
Diclofenac Sodium 50 Mg		Tablet
Doxycycline 100 Mg		Capsule
Erythromycin 200 Mg / 5 MI . 100 MI		Suspension
Fluconazole 50 Mg		Capsule
Indomethacin 100 Mg		Suppository
Mebendazole 100 Mg		Tablet
Mebendazole 100 Mg / 5 MI . 30 MI		Suspension
Metronidazole 125 Mg/ 5 MI. 100 MI		Suspension
Metronidazole 250 Mg		Tablet
Miconazol Nitrate 2% 15 Gm		Cream
Nalidixic Acid 500 Mg		Tablet
Nystatin 100000 U / MI. 12 MI .( Oral )		Suspension
Paracetamol 125 Mg / 5 MI . 100 MI		Syrup
Paracetamol 150 Mg		Suppository
Paracetamol 300 Mg		Suppository
Tranexamic Acid 500 Mg (Hexacapsuleron)		Tablet
Trimethoprim 40 Mg + Sulphameth. 200mg/ 5 MI 100 MI		Suspension

## 7.4 Acknowledgement: Contributors to the assessment

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