Joint Rapid Health Facility Capacity and Utilization Assessment (JRHFCUA)

Conducted by the Ministry of Health of the Hashemite Kingdom of Jordan, with support from the World Health Organization, the International Advisory, Products and Systems, the Massachusetts General Hospital Center for Global Health, Harvard University and the Jordan University for Science and Technology

in collaboration with UNHCR (United Nations High Commissioner for Refugees), UNICEF (United Nations Children's Fund), UNFPA (United Nations Population Fund) and MDM (Medicines du Monde)

Funding for this Assessment was generously provided by the Government of Italy through a grant to WHO.

Table of contents

Acknowledgement

For the design, implementation and validation of this key study, the Ministry of Health of the Hashemite Kingdom of Jordan and the World Health Organization's Country Office in Jordan (WHO) are deeply grateful for the outstanding technical and logistical contributions of the iAPS/ Harvard Team (International Advisory, Products and Systems, Massachusetts General Hospital Center for Global Health, Harvard University) and the Jordan University for Science and Technology (JUST). This study would not have been possible without the excellent, substantive and logistical partnership with UNHCR (United Nations High Commissioner for Refugees), UNICEF (United Nations Children's Fund), UNFPA (United Nations Population Fund) and MDM (Medicines du Monde). The generous funding provided by the Government of Italy through WHO was instrumental to ensuring this study took place. Last but not least, the generous contributions of information, insights and time by Syrian and Jordanian patients, Jordanian MOH health workers and the Directors of Health of the 5 Governorates surveyed were central to achieving the aims of this study.

The following individuals in particular have played a leading role in steering this study;

1. Dr Mohamed Qassem Bassam Hijjawi (MOH Director General for Primary Health Care Administration and Chairperson of the Syrian Crisis National Coordination Committee in Jordan),
2. Dr Sahar Jereisat (Deputy Director General of the MOH's PHC Administration)
3. Dr Laurence Ronan, Massachusetts General Hospital Center for Global Health, Harvard Uni-versity
4. Dr Akram Ali Eltom, WHO Representative for Jordan and Head of Mission
5. Mr Agron Ferati, International Advisory, Products and Systems
6. Dr Sabri Gmach, WHO Emergency Humanitarian Action Officer in Jordan
7. Dr Buthaina Ghanem Abu Alia, WHO's Consultant who served as Coordinator for the Study
8. Dr Akram Ali Eltom, WHO Representative for Jordan and Head of Mission

The level of commitment and flexibility was outstanding and is a testament to the level of capacity and professionalism of all stakeholders.

Contributors

For Ministry of Health: Host government policy lead, Chair of Technical Advisory Group (TAG), design co-lead, final report co-author.

1. Dr Ali Hyasat, Minister of Health
2. Dr Mohamed Qassem Bassam Hijjawi (MOH Director General for Primary Health Care Administration and Chairperson of the Syrian Crisis National Coordination Committee in Jordan),
3. Dr Sahar Jereisat (Deputy Director General of the MOH's PHC Administration)

For WHO: Design co-lead, management lead, founding TAG member, lead financial contributor, data analysis and interpretation, validation workshop organization and documentation, final report co-author, data ownership and primary publication copyright.

1. Dr Akram Ali Eltom, WHO Representative for Jordan and Head of Mission
2. Dr Sabri Gmach, WHO Emergency Humanitarian Action Officer in Jordan
3. Dr Buthaina Ghanem Abu Alia, WHO's Consultant who served as Coordinator for the Study.
4. Ms Clare Taylor, Consultant Epidemiologist

For iAPS/Harvard Team: Design contribution, data collection lead, lead data collector trainer, data entry lead, final report co-author.

1. Dr Laurence Ronan, Massachusetts General Hospital Center for Global Health, Harvard University
2. Mr Agron Ferati, International Advisory, Products and Systems
3. Mr Adib Fletcher, International Advisory, Products and Systems
4. Dr Sowmya Rao, International Advisory, Products and Systems
5. Mr Neil Hendrick, International Advisory, Products and Systems
6. Dr Karen Kuhlthau, Massachusetts General Hospital Center for Global Health, Harvard University
7. Maryann R. Cairns, International Advisory, Products and Systems

For UNHCR: Design contribution, founding TAG member, data collection and supervision staff contribution, logistical support.

1. Dr Ann Burton, Senior Public Health Officer, Jordan

For UNFPA: Design contribution, founding TAG member, data collection and supervision staff contribution, logistical support

1. Dr Shible Sahbani, Regional Humanitarian Coordinator
2. Ms Mona Idris, Assistant Representative for Jordan

For UNICEF: Design contribution, founding TAG member, data collection and supervision staff contribution, logistical support

1. Ms Buthaina Alkhatib, Adolescent and Child Health Officer, Jordan
2. Dr Mohamed Amiri, Chief of Health Section, Jordan

For JUST: Data collection lead and data collection supervision lead.

1. Dr Arwa Oweis, Dean of Faculty of Nursing (WHO Collaborating Center)
2. Dr Laila Akhu- Vice-Dean Faculty of Nursing (WHO Collaborating Center)

For MDM: Data collection contributor and data collection supervision lead, logistical support

1. Dr Magdi Ibrahim, Regional Coordinator

For more information on this report, please contact:

Dr Mohamed Qassem Bassam Hijjawi, MOH Director General for Primary Health Care Administration and Chairperson of the Syrian Crisis National Coordination Committee in Jordan.
dcd@orange.jo

Dr Sahar Jereisat, Deputy Director General of the MOH's PHC Administration.
saharjordan1@yahoo.com

Published January 2014

Acronyms

Department of Health	DOH
Enterprise Research Infrastructure and Services	ERIS
Government of Italy	GOI
Government of Jordan	GOJ
Harvard University	Harvard
International Advisory, Products and Systems	iAPS
Joint Rapid Health Facility Capacity and Utilization Assessment	JRHFCUA
Jordan University for Science and Technology	JUST
Kobo Digital Data Collection	KoBo
Massachusetts General Hospital Center for Global Health	MGH
Medicines du Monde	MDM
Ministry of Health	MOH
Obstetrics and Gynecology	OB/GYN
Research Electronic Data Capture	REDcap
Secure Sockets Layer	SSL
Technical Advisory Group	TAG
United Nations Children's Fund	UNICEF
United Nations Population Fund	UNFPA
United Nations High Commissioner for Refugees	UNHCR
World Health Organization	WHO

Executive summary

As of early 2013, Jordan is temporary home to more than 480,000 Syrian refugees who escaped the current conflict in their home country. The growing number is expected to reach almost 1 million by the end of 2013; at which point they would represent over 15% of the total Jordanian population. These refugees are either housed in local Jordanian communities (approximately 350,000 individuals) or in refugee camps (the remaining approximately 130,000 individuals). WHO, UNHCR and other members of the international community, share the concern of the Government of Jordan (GoJ) and Jordanian Ministry of Health (MOH) about the ability of the Jordanian health care system to absorb the needs of the growing Syrian refugee population.

Prior to this assessment, no comprehensive assessment of health facility capacity or utilization patterns had ever been undertaken in Jordan since the start of the Syrian crisis in 2010. Health facility managers had resorted to proxy estimates of additional burden such as additional bills from uninsured patients. Planners, policy makers and international development partners had no objective basis through which to determine the extent of health care burden posed by Syrian refugees living outside camps.

The Jordanian Ministry of Health (MOH) in partnership with the World Health Organization (WHO), UN Country Team members (UNICEF, UNHCR, UNFPA), MDM together with International Advisory Products and Systems (iAPS) and the Massachusetts General Hospital Center for Global Health (MGH) and Harvard University (Harvard) (hereafter referred to as the iAPS/Harvard team) sought to answer three key policy questions through this Joint Rapid Health Facility Capacity Utilization Assessment (JRHFCUA):

1. **What is the capacity of the Jordanian MOH health facilities in the five governorates in northern Jordan?**
2. **What is the utilization rate and pattern in these MOH health facilities by Syrian refugees?**
3. **What types of health conditions are most prevalent among Syrian refugees seeking healthcare?**

To answer these questions, the MOH, WHO, iAPS/Harvard Team and key partners collaboratively designed and implemented an assessment of the existing capacity and utilization of all MOH health care facilities in the 5 governorates of northern Jordan which host the highest proportion of refugees. This assessment took place over a one-month period from June to July, 2013 during which the assessment team, spent 3 assessment days per facility and collected primary data on demographics including nationality, presenting conditions and diagnosis using surveys and record reviews. The assessment team also utilized the WHO Health Facility Capacity Assessment tools used previously in 2012 to update the knowledge about the basic capacity which exists in these facilities in terms of basic human, material and infrastructural resources as well as services offered and available supplies.

Facility capacity data were successfully collected at 213 of 315 health centers. Patient utilization was assessed in 15 hospitals (93.8% of total MOH hospitals in the 5 governorates) and 298 health centers (94.6% of all MOH health centers in the 5 governorates).

The assessment found that Syrian refugees continue accessing Jordanian health centers and hospitals. This utilization

of Jordanian MOH facilities by the refugee population represents a heavy strain on resources for the Jordanian health care system. From the sample of intake records for a total of 92,698 individuals, the assessment found on average that 8.65% of the total populations accessing health facilities in the northern governorates were Syrian refugees. This Syrian percentage of patients reflects an overall increase in total usage for these facilities.

In terms of numbers of Syrian patients using MOH facilities per month, the assessment revealed that the MOH's earlier count presented to donors in Geneva (May 2013) had severely underestimated the number of Syrians using MOH facilities. Even if the effects of a concurrent measles campaign are excluded from the Syrian refugee utilization numbers in this assessment, it was determined that the total number of Syrians utilizing MOH health facilities in these 5 governorates is approximately 44,457.

Among the governorates assessed, Syrian refugees represented the highest proportion of total patients in Mafraq, followed by Irbid, Jerash, Zarqa and Ajloun. Among Syrian patients presenting to MOH facilities, the assessment determined the top three diagnoses to be upper respiratory infections, high blood pressure and urinary tract infections. The assessment also determined that the proportions of Syrians by level/type of MOH facility visited as well as the gender distribution of total Syrian patients was roughly similar to the patterns of utilization by Jordanians.

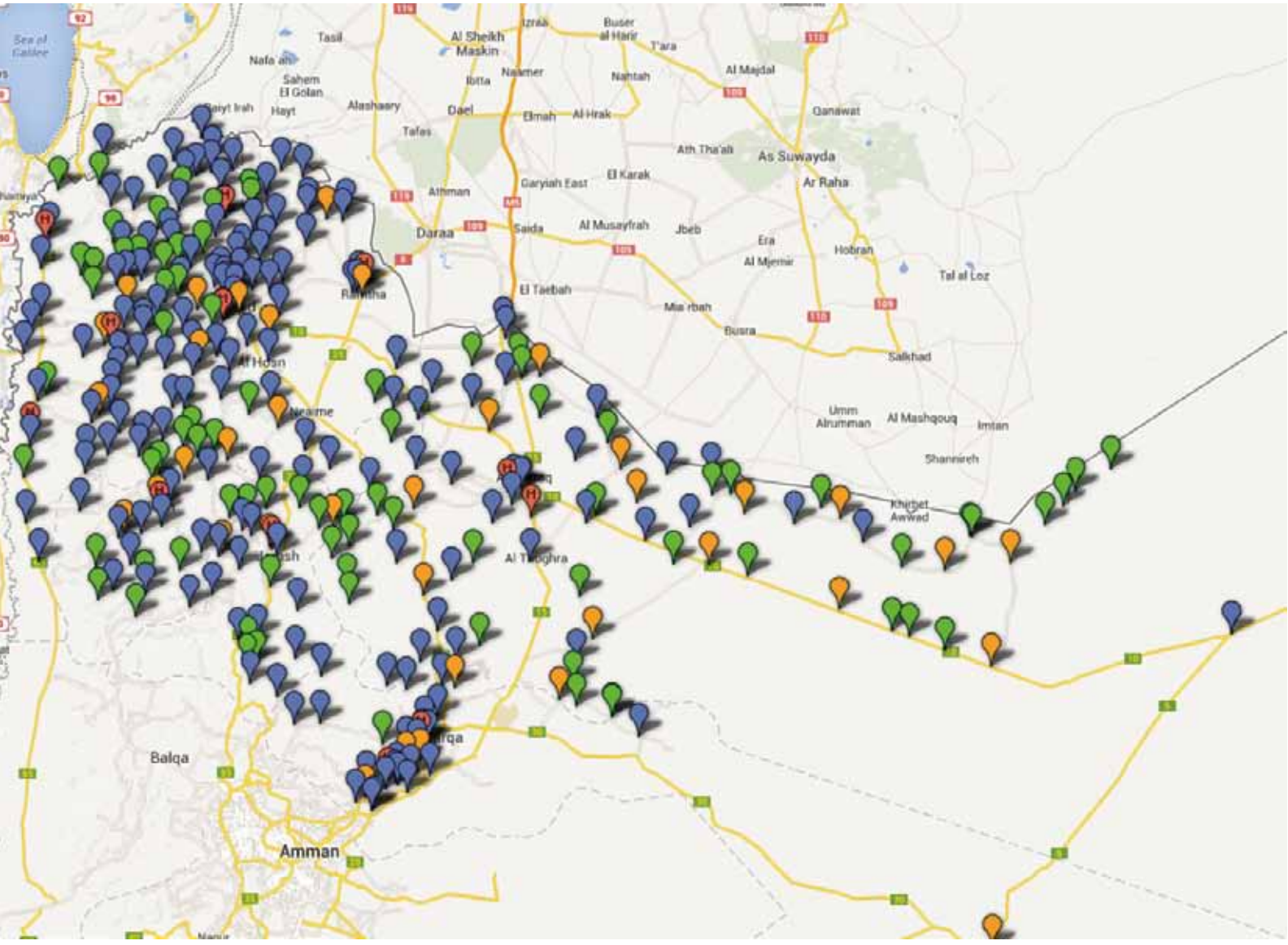
The types and proportions of presenting symptoms and healthcare needs of the Syrian population are roughly similar to those of the non-Syrian population. Although Syrian patient health care requirements do not represent particularly unique or unknown medical conditions for which the healthcare system is not potentially equipped, the assessment's facility data demonstrated deficient supplies of health equipment, medications, and specialists in Jordanian health facilities. Specialties most commonly reported as unavailable included pediatrics, psychiatry, gynecology and dermatology. Types of medication most commonly reported as unavailable were drugs for chronic disease such as cardiovascular medications, diuretics and oral rehydration therapy.

Thus, the Syrian patients represent an increase in demand for healthcare and, by extension, pose a further strain on an under-resourced MOH health care delivery system.

To ensure adequate access to health services among both Syrian refugees and Jordanians, more policy attention and resource allocation must be accorded to the growing Syrian refugee crisis in Jordan, and to the healthcare system within which Syrian refugees seek care. Additional resources and efforts should seek to expand the health care service delivery capacity to absorb such a large caseload of refugees by expanding health facility service capacity; not merely replacing consumable or recurrent supplies such as medicines and medical supplies. Another key recommendation is the need to complement the facility-based assessment by conducting a survey of the community-based health burden, health seeking behavior and health care access challenges in order to better describe the demand side of health care access.

Purpose & scope

The MOH, WHO, UN Country team (UNICEF, UNHCR and UNFPA) and MDM jointly determined that there were limited available data regarding: 1) Utilization of government health facilities among the Syrian refugee population, 2) Burden of disease among the Syrian refugee population (i.e. the acute and chronic illnesses for which they seek care), and 3) The capacity of Jordanian government health facilities to absorb Syrian refugee healthcare needs.



To address these concerns, the assessment had three specific objectives:

1. Estimate the capacity of government health facilities.
2. Estimate the number of Syrian refugees using health facilities across 5 governorates (Irbid, Mafraq, Ramtha, Zarqa, and Ajloun).
3. Estimate the types of acute and chronic medical conditions for which Syrian patients seek healthcare.

This assessment aims to assist the Jordanian MOH, UN and international development partners in better understanding and estimating the healthcare needs of the Syrian refugees and Jordanian host community in order to better invest humanitarian and development resources seeking to improve access to care outside camps.

The assessment coverage area included five governorates across Northern Jordan (Irbid, Mafraq, Ramtha, Zarqa, and Ajloun). The study population (all available facilities which fit study parameters) included 331 health centers and hospitals (hereafter referred to as "facilities"). Of these 331, only 298 health centers and 15 hospitals were available for study[1]. Within these 331 facilities, data on demographics, presenting conditions at intake[2] and utilization[3] (diagnosis) were collected. Two Hundred and Thirteen of the 298 facilities were administered a facilities evaluation[4].

Total health facilities targeted as per MOH facility list: 331

- Total health centers targeted after MOH facility list revision: 313
- Total hospitals targeted after MOH facility list revision : 16
- Health centers assessed: 298 (or 94.60%)
- Health centers dropped: 17 (or 5.40%)
- Hospitals assessed: 15 (or 93.75%)
- Hospitals dropped: 1 (or 6.25%)
- Facilities Evaluation: 213

Of the locations targeted by the facilities assessment (N=213), 55.87% (N=119) were primary care facilities, 25.35% (N=50) were peripheral facilities, 14.8% (N=30) were comprehensive, and 4.69% (N=10) were unknown/unspecified (Table 3). The facilities varied in their access to infrastructure and overall functionality. Functionality was assessed on a three-point scale (non-functioning, partially functioning, fully functioning). Both comprehensive and primary care facilities had high overall functionality.

Of the comprehensive facilities, 80.0% were fully functioning (20% partially functioning, 0% non-functioning). Of the primary care facilities, 70.09% were fully functioning (29.91% were partially functioning, 0% non-functioning). Peripheral facilities, however, had much lower functionality, with only 26.92% fully functioning (63.46% partially functioning, 9.62% non-functioning)[5]. As peripheral facilities reflected much lower functionality overall, there is a case to be made for improving this functionality as a key aspect of addressing the increased demand posed by Syrian patients.

1 The reasons for exclusion included facility closure, military affiliation, and any facilities to which access was barred.

2 Every person who seeks treatment (gender, nationality, age, and presenting condition).

3 Diagnosis data. 100% of Syrians and an equal number of Jordanian individuals that included diagnosis, treatment, procedures, medication, and patient disposition.

4 Targeting capacity (e.g. number of beds, etc.)

5 Of the facility types unknown/unreported, 42.86% were fully functioning, 57.14% were partially functioning, and 0% were non-functioning.

Results

Summary

Data collected by the team responded directly to the three main goals of the study. For each goal, data collected were (when relevant) analyzed by nationality (Syrian and non-Syrian). This is a key differentiation as it aids in addressing not only the number of Syrian refugees accessing healthcare facilities (goals 1 and 2) but also addresses the differences in diagnoses and reporting conditions in Syrian vs. non-Syrian groups.

While data related to facility capacity, utilization, and diagnoses are interrelated, this report provides outcomes in "key findings" sections, each of which falls under one of the three main goals of the study. This section serves as a summary and detailed guide to the main outcomes of the study, all of which are addressed in more detail/specificity in the following sections.

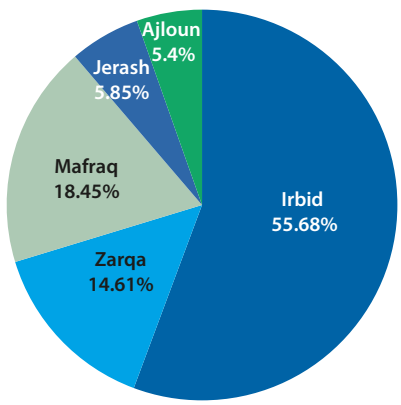
1. Government health facility capacity: Key Findings 1-2
2. Syrian refugees utilizing facilities: Key Findings 3-8
3. Acute and chronic medical conditions: Key Findings 3, 9-16

The study team spent two to three consecutive days at each health facility[7] included in the sample and kept records of the total number of patients accessing each facility, the number [1] of Syrian and non-Syrian patients, the types of conditions that patients presented with, and the specific diagnoses for each individual patient.

Total number of patients by governorate

Intake data were collected at 301 facilities in the five governorates. Of these 42.19% (n=127) were from Irbid, 11.96% (n=36) were from Zarqa, 27.57% (n=83) from Mafraq, 8.97% (n=27) from Jerash, and 9.30% (n=28) from Ajloun. A total number of 92,698 patients visited these facilities. - 51,614 (55.68%) from Irbid, 13, 546 (14.61%) from Zarqa, 17,099 (18.45%) from Mafraq, 5, 427 (5.85%) from Jerash, and 5,012 (5.41%) from Ajloun (see Figure 1).

Figure 1. Percent by governorate



The number of Syrian and non-Syrian patients were recorded at each intake location. The results are represented in table 2 by governorate. The proportion of Syrian patients ranged from 4.93% in Ajloun to 10.45% in Mafraq.

7 Some of the facilities were only visited 2 times due to scheduling constraints (n=24)

Table 1: Total number and % of intake records by governorate.

Governate	N	%
1. Irbid	51614	55.68
2. Zarqa	13546	14.61
3. Mafraq	17099	18.45
4. Jerash	5427	5.85
5. Ajloun	5012	5.41
Total	**92698**	**100**

Table 2: Total number and % of Intake records by governorate and nationality.

Nationality	Irbid	Irbid %	Zarqa	Zarqa %	Mafraq	Mafraq %	Jerash	Jerash %	Ajloun	Ajloun %
1. Non-Syrian	46391	89.88	12,709	93.82	15153	88.62	5089	93.77	4726	94.29
2. Syrian	4950	9.59	722	5.33	1787	10.45	301	5.55	247	4.93
99. Unknown	273	0.53	115	0.85	159	0.93	37	0.68	39	0.78
Totals	**51614**	**100.00**	**13546**	**100.00**	**17099**	**100.00**	**5427**	**100.00**	**5012**	**100.00**

Across all 5 governorates, 8.63% of patients who utilized the facilities were Syrian (Figure 2).

Table 3: Utilization records by nationality.

Nationality - Non-Syrian/Syrian	Frequency	Percent
1. Non-Syrian	8133	90.70
2. Syrian	7286	8.63
99. Unknown	4	0.66
Total	**15423**	**100**

Due to concerns that the measles vaccination campaign (ongoing throughout the study period) may lead to over-estimation of utilization of the facilities by patients, data were re-analyzed excluding patients for whom measles vaccination was recorded as the primary diagnosis (Table 4). 91.75% of health care utilization was by non-Syrians, and 7.2% of utilization was by Syrian patients.

The utilization values with and without measles are compared side by side in Figures 2 and 3.

Table 4: Nationality - no measles - averaged.

Nationality - Non-Syrian/Syrian	Frequency	Weighted Frequency	Std Dev of Wgt Freq	Percent	Std Err of Percent
1. Non-Syrian	5271	19362	312.59407	91.7525	0.5462
2. Syrian	4060	1533	19.67643	7.2634	0.1742
99. Unknown	4	207.66667	118.41179	0.9841	0.556
Total	**9335**	**21102**	**323.7823**	**100**	

Figure 2. Nationalities

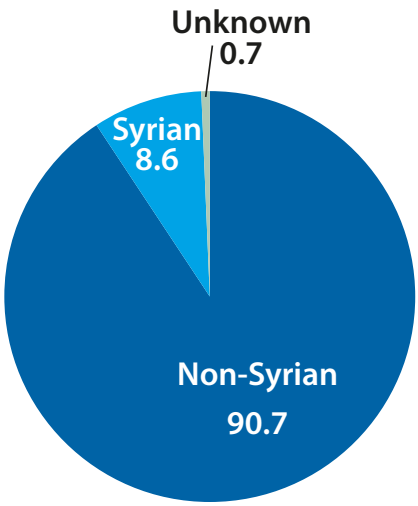
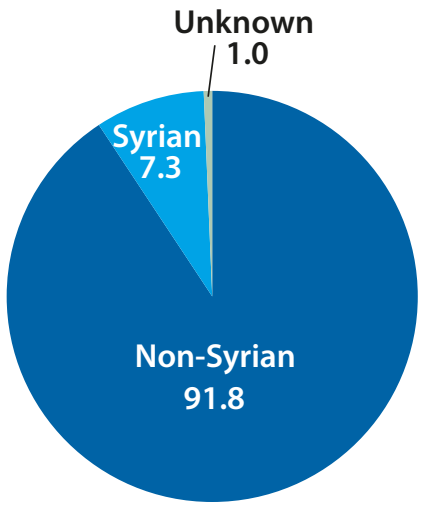


Figure 3. Nationality (no Measles)



Key findings 1: Presenting conditions and diagnoses

Data collected at intake indicate that the three main presenting conditions for both non-Syrian and Syrian patients were vaccination, other conditions, and sore throat (Table 5). Please Because patients self reported presenting conditions, the category 'other' documented over 100 different patient problems from the predetermined categories. The majority of these problems were grouped into hypertension, diabe-

tes, vaccinations, laboratory evaluation, and medications. Rates for the 'other' category were similar for Syrians and non-Syrians. Conditions are categorized according to Jordanian Ministry of Health paradigm.

Diagnoses data (including acute and chronic conditions) were collected and recorded within 20 different categories for a sample of Syrian and non-Syrian patients (based on healthcare utilization survey). Conditions are categorized according to Jordanian Ministry of Health paradigm. These data represent the assessment of the concern according to the health care provider, infectious and parasitic diseases, diseases of the respiratory system, and diseases of the digestive system were the top three conditions for both Syrian and non-Syrian patients (1-3 respectively) (Table 5, Figure 4) with similar rates of diagnosis for most categories.

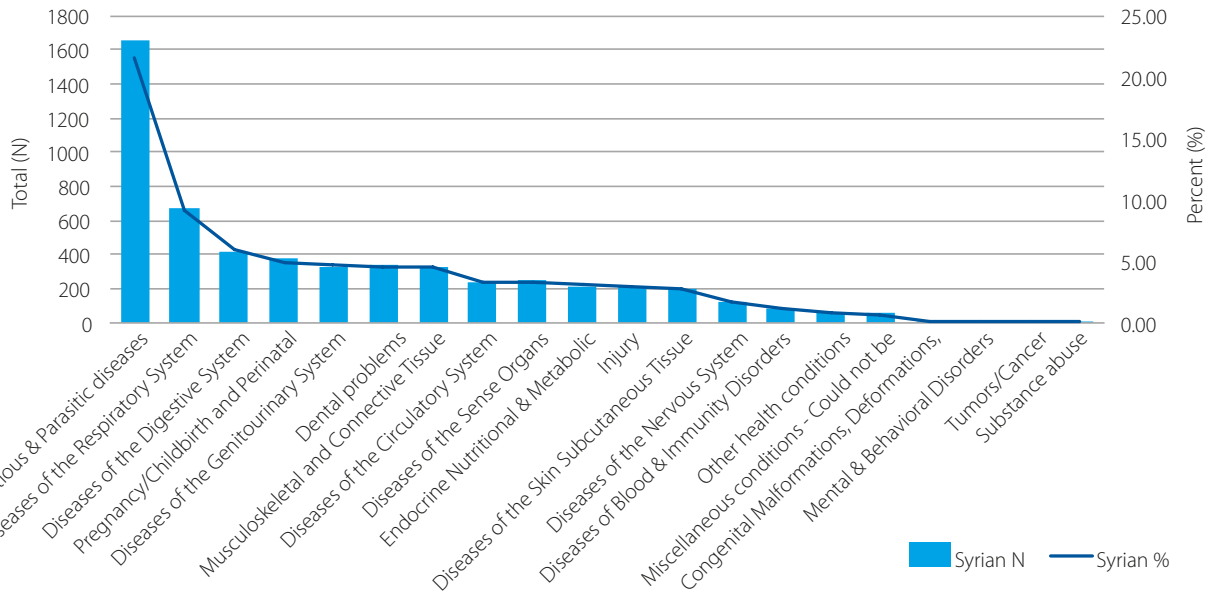
Table 5: Reasons for Visit.

Presenting Condition	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %	Unknown N	Unknown %
Vaccination	26636	31.68	3883	48.50	162	26.00
Other	17854	21.24	1304	16.29	286	45.91
Sore Throat	7296	8.68	453	5.66	19	3.05
Fever	4456	5.30	419	5.23	5	0.80
Dental Problem	4751	5.65	357	4.46	11	1.77
Cough	5046	6.00	347	4.33	24	3.85
Abdominal Pain	4057	4.83	341	4.26	19	3.05
OB value Gyn	3318	3.95	304	3.80	6	0.96
Musculoskeletal Strain	3933	4.68	277	3.46	20	3.21
Nausea/vomiting	2237	2.66	218	2.72	5	0.80
Headache	3178	3.78	217	2.71	33	5.30
Vision/eye problem	2509	2.98	204	2.55	7	1.12
Diarrhea	2123	2.53	200	2.50	2	0.32
Genitourinary	2424	2.88	196	2.45	4	0.64
Injury	2765	3.29	185	2.31	27	4.33
Ear Pain/Hearing Problem	1649	1.96	152	1.90	5	0.80
Other – Vaccine	993	1.18	119	1.49	5	0.80
Other – Medication	3311	3.94	113	1.41	1	0.16
Shortness of Breath	1256	1.49	109	1.36	12	1.93
Chest Pain	1117	1.33	85	1.06	6	0.96
Other - Lab Evaluation	887	1.06	82	1.02	1	0.16
Other – Diabetes	1070	1.27	66	0.82	4	0.64
Other - Hypertension	1384	1.65	56	0.70	2	0.32
Mental Health	442	0.53	12	0.15	6	0.96

Table 5.1: Diagnosis by nationality.

Diagnosis	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Infectious & Parasitic diseases	1788	21.45	1649	21.50
Diseases of the Respiratory System	929	12.92	668	9.22
Diseases of the Digestive System	642	7.48	423	5.92
Pregnancy/Childbirth and Perinatal Conditions	627	6.66	379	4.95
Diseases of the Genitourinary System	381	4.56	331	4.66
Dental problems	236	3.41	335	4.62
Musculoskeletal and Connective Tissue	349	3.94	329	4.60
Diseases of the Circulatory System	439	5.45	236	3.35
Diseases of the Sense Organs	256	3.77	247	3.35
Endocrine Nutritional & Metabolic Diseases	265	3.60	213	3.05
Injury	325	3.58	213	2.95
Diseases of the Skin Subcutaneous Tissue	252	3.31	205	2.79
Diseases of the Nervous System	160	1.97	119	1.63
Diseases of Blood & Immunity Disorders	123	1.32	91	1.26
Other health conditions	52	0.69	59	0.75
Miscellaneous conditions - Could not be coded	42	0.63	53	0.66
Congenital Malformations, Deformations, and Chromosomal Abnormalities	13	0.12	13	0.19
Mental & Behavioral Disorders	20	0.19	11	0.16
Tumors/Cancer	22	0.37	10	0.13
Substance abuse	4	0.03	2	0.03

Figure 4. Diagnosis for Syrian patients



The top three diagnoses for each MOH category[8] are represented in tables 6-22. Tables 6-22 include both the total number of individuals diagnosed with the specific condition as well as the percentage of individuals who were diagnosed with the condition (of the total population studied) among the non-Syrian and Syrian groups.

Table 6: Conditions by nationality.

Heart Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Heart Condition - Hypertension	280	3.67	158	2.27
Heart Condition - Ischemic Heart Disease	65	0.83	35	0.5
Heart Condition - Other	34	0.36	20	0.3

Table 7: Conditions by nationality.

Renal Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Renal Condition - UTI (Urinary Tract Infection)	155	2.28	155	2.17
Renal Condition - Renal Failure	78	0.71	50	0.65
Renal Condition - Other	46	0.49	30	0.46

Table 8: Conditions by nationality.

Infectious Disease Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Infectious Disease Condition - Upper Respiratory Tract Infection	50	1.13	50	0.65
Infectious Disease Condition – Other	107	1.58	50	0.62
Infectious Disease Condition – Measles	80	0.71	51	0.48

Table 9: Conditions by nationality.

Pregnant Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Pregnant Condition - Prenatal Check-up	69	0.71	95	1.23
Pregnant Condition - Family Planning Consult	43	0.92	62	0.77
Pregnant Condition - Vaginal Birth	208	2.14	52	0.72

8 Please note that there are only two categories in the table for substance abuse (Table 17) as only two categories were reported

Table 10: Conditions by nationality.

Gastrointestinal Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Gastrointestinal Condition - Abdominal Pain	197	2.35	137	1.85
Gastrointestinal Condition - Watery Diarrhea	175	1.91	121	1.63
Gastrointestinal Condition - Other	190	2.04	112	1.56

Table 11: Conditions by nationality.

Respiratory Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Upper respiratory infection	590	8.91	479	6.68
Respiratory Condition - Other	110	1.31	68	0.88
Respiratory Condition - Influenza and Influenza-like Illness	65	0.97	48	0.66

Table 12: Conditions by nationality.

Endocrinological Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Endocrinal Condition - Diabetes (on Insulin)	76	0.89	71	1.01
Endocrinal Condition - Diabetes (on Oral Medication)	129	2.03	96	1.36
Endocrinal Condition - Obesity	0	0	1	0.01

Table 13: Conditions by nationality.

Mental Health Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Mental Health Condition - Anxiety Disorder	12	0.13	3	0.05
Mental Health Condition - Major Depressive Disorder	2	0.02	3	0.04
Mental Health Condition - Other	1	0	2	0.04

Table 14: Conditions by nationality.

Cancer	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Cancer - Breast	10	0.1	3	0.04
Cancer - Leukemia	0	0	2	0.03
Cancer - Other	4	0.04	2	0.02

Table 15: Conditions by nationality.

Sensory Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Sensory Condition - Eye Infection	90	1.39	86	1.24
Sensory Condition - Other	53	0.76	40	0.56
Sensory Condition - Ear Infection	43	0.58	39	0.5

Table 16: Conditions by nationality.

Blood Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Blood Condition - Anemia	37	0.44	26	0.35
Blood Condition - Thalassemia	28	0.15	20	0.27
Blood Condition - Allergies	6	0.08	7	0.14

Table 17: Conditions by nationality.

Neurological Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Neurological Condition - Headache/ Migraine	32	0.44	26	0.37
Neurological Condition - Seizures	23	0.25	13	0.19
Neurological Condition - Other	18	0.19	12	0.18

Table 18: Conditions by nationality.

Substance Abuse	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Substance Abuse - Other	3	0.02	1	0.02
Substance Abuse - Narcotics	0	0	1	0.02

Table 19: Conditions by nationality.

Injury	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Body Part Injured - Limbs	186	1.96	123	1.69
Injury - Broken Bone	83	0.78	52	0.74
Injury - Other	52	0.6	51	0.68

Table 20: Conditions by nationality.

Skin Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Skin Condition - Other	67	0.88	61	0.83
Skin Condition - Skin Infection	66	0.76	55	0.72
Skin Condition - Itching and Redness/Swelling	60	0.98	42	0.52

Table 21: Conditions by nationality.

Musculoskeletal Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Muscle Condition - Musculoskeletal Strain	151	1.77	142	1.97
Muscle Condition - Disorder of the Bone and Spine	36	0.4	48	0.68
Muscle Condition - Arthritis	24	0.22	25	0.33

Table 22: Most common diagnoses.

Conditions	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Upper Respiratory Infection	590	8.91	479	6.68
Heart Condition - Hypertension	280	3.67	158	2.27
Renal Condition - UTI (Urinary Tract Infection)	155	2.28	155	2.17
Muscle Condition - Musculoskeletal Strain	151	1.77	142	1.97
Gastrointestinal Condition - Abdominal Pain	197	2.35	137	1.85
Body Part Injured - Limbs	186	1.96	123	1.69
Gastrointestinal Condition - Watery Diarrhea	175	1.91	121	1.63
Gastrointestinal Condition - Other	190	2.04	112	1.56
Endocrinal Condition - Diabetes (on Oral Medication)	129	2.03	96	1.36
Pregnant Condition - Prenatal Check-up	69	0.71	95	1.23

Key finding 2: Facility capacity data

We evaluated 213 health care facilities. Hospitals were excluded by design. Administrators completed a survey (see Appendix G) to report equipment and staff availability. Irbid had the highest number of facilities (88). One hundred and nineteen of the facilities were primary health centers, 54 were peripheral, and the rest were comprehensive or unknown.

The number of available health specialists varied across the 5 governorates (Table 24). Table 24 displays the distribution (N and %) of specialists by governorate. Nurses were the most common specialist staff reported by each of the governorates. Health Centers in Irbid and Mafraq reported over 94% availability of nurses while those in the other 3 governorates reported 100% availability of nurses. General Practitioners, Midwives, and Pharmacists were the other most common specialists, although rank order from highest to lowest availability varied per governorate. Dermatologists and Gynecologists were only rarely available (between 0-4.55% of facilities) in all governorates save Zarqa, which had starkly higher percentages (11.54 and 19.23, respectively) of these specialists available. Zarqa, despite its overall high availability of specialists, had no psychiatry facilities. Ajloun reported no available specialists in pediatrics, psychiatry, gynecology, or dermatology. Jerash reported no specialists in family medicine, psychiatry, gynecology, dermatology or other specialties not already covered by study categories. The complete lack of specialists in certain areas may reflect potential need, although the capacity of the study does not extend to these types of determinations.

Table 23: Frequency and percent per type of facility.

Type of Facility	Frequency	Percent
1. Primary	119	55.87
2. Peripheral	54	25.35
3. Comprehensive	30	14.08
4. Unknown	10	4.69

Specialist staff

Table 24: Specialists by governorate.

# of Clinics that have Specialists	Mafraq N	Mafraq %	Irbid N	Irbid %	Zarqa N	Zarqa %	Ajloun N	Ajloun %	Jerash N	Jerash %
Nurses	55	94.83	83	94.32	26	100	18	22	22	100
GP	45	77.59	65	73.86	23	88.46	15	78.95	14	63.64
Midwives	36	62.07	72	81.82	22	84.62	13	68.42	13	59.09
Pharmacists	32	55.17	71	80.68	19	73.08	12	63.16	17	77.27
Technicians	26	44.83	33	37.5	17	65.38	10	52.63	12	54.55
Family Medicine	12	20.69	18	20.45	3	11.54	1	5.26	0	0
Internal Medicine	11	18.97	15	17.05	8	30.77	3	15.79	4	18.18
Other specialists	9	15.52	12	13.64	4	15.38	3	15.79	0	0
Pediatrician	2	3.45	6	6.82	5	19.23	0	0	2	9.09
Psychiatry	2	3.45	5	5.68	0	0	0	0	0	0
Gynecology	2	3.45	3	3.41	5	19.23	0	0	1	4.55
Dermatologist	1	1.72	3	3.41	3	11.54	0	0	0	0

Health Centers throughout all 5 governorates reported variations in access to medical equipment. Table 25 presents the distribution (N and %) of type of equipment both for each of the 5 governorates. As with the healthcare specialist data, the percentage column represents the percent of facilities within the governorate which had access to this equipment. As an example, 91.38% of health centers in Mafraq, 93.18% of health centers in Irbid, 92.31% of health centers in Zarqa, 94.74% of health centers in Ajloun, and 81.82% of health centers in Jerash had thermometers. Thermometers were the most common type of equipment reported as available for all health centers across the governorates, with the exception of Jerash, which had a greater percentage (86.36%) of health centers which had access to nebulizers. Nebulizers were the second most common type of equipment available for the health centers in the four other governorates.

Equipment

Table 25: Equipment by governorate.

Clinics that have Equipment	Mafraq N	Mafraq %	Irbid N	Irbid %	Zarqa N	Zarqa %	Ajloun N	Ajloun %	Jerash N	Jerash %
Thermometer	53	91.38	82	93.18	24	92.31	18	94.74	18	81.82
Nebulizer	50	86.21	75	85.23	22	84.62	17	89.47	19	86.36
Sterilizer/Autoclave	46	79.31	83	94.32	22	84.62	16	84.21	13	59.09
Weight Machine	43	74.14	75	85.23	22	84.62	16	84.21	19	86.36
Light source (Flashlight Acceptable)	41	70.69	62	70.45	17	65.38	12	63.16	12	54.55
Length Measurement Device	41	70.69	76	86.36	24	92.31	15	78.95	15	68.18
Oxygen Cylinders	38	65.52	77	87.5	22	84.62	15	78.95	18	81.82
Height Measurement Device	38	65.52	69	78.41	22	84.62	14	73.68	17	77.27
ENT Diagnostic Kit	34	58.62	63	71.59	19	73.08	14	73.68	19	86.36
Minor Surgery Kit	30	51.72	53	60.23	17	65.38	11	57.89	11	50
Vacuum extractor	27	46.55	35	39.77	15	57.69	3	15.79	6	27.27
Stretcher	25	43.1	37	42.05	13	50	7	36.84	11	50
Emergency Trolley	25	43.1	39	44.32	17	65.38	9	47.37	11	50
Fetoscope	19	32.76	42	47.73	9	34.62	2	10.53	5	22.73
Safe Delivery Kit	17	29.31	31	35.23	5	19.23	3	15.79	5	22.73
Vaginal Examination Set	17	29.31	41	46.59	11	42.31	3	15.79	9	40.91
Delivery Table	12	20.69	31	35.23	8	30.77	3	15.79	5	22.73
Clean Delivery Assistance Kit	11	18.97	28	31.82	4	15.38	4	21.05	1	4.55
Pulse Oximeter	4	6.9	12	13.64	2	7.69	0	0	1	4.55

Medications available varied per governorate, with antibiotics for both adults and children being the most common available drugs. Overall availability of antibiotics for adults ranged from 89.66% (Mafraq) to 100% (Zarqa and Ajloun), and for children ranged from 86.21% (Mafraq) to 100% (Ajloun). Anti-hypertensive drugs, cardiac and/or vascular drugs, oral rehydration therapies, diuretics, anti-diabetic preparations, and delivery-related medications were also reported by each governorate. Potential areas for concern include access for all 5 governorates to oral delivery-related medications (all under 20% availability) and access to cardiac and/or vascular drugs, oral rehydration therapy, and diuretics for Mafraq (categories within which less than 70% of health centers in Mafraq reported availability).

Medications

Table 26: Medications by governorate.

Clinics that have Medications	Mafraq N	Mafraq %	Irbid N	Irbid %	Zarqa N	Zarqa %	Ajloun N	Ajloun %	Jerash N	Jerash %
Antibiotics for Adults	52	89.66	85	96.59	26	100	19	100	20	90.91
Antibiotics for Children	50	86.21	84	95.45	25	96.15	19	100	20	90.91
Anti-Hypertensive Drugs	45	77.59	84	95.45	25	96.15	19	100	20	90.91
Cardiac and/or Vascular Drugs	40	68.97	83	94.32	20	76.92	19	100	20	90.91
Oral Rehydration Therapy (ORS)	35	60.34	80	90.91	23	88.46	14	73.68	17	77.27
Diuretics	39	67.24	84	95.45	25	96.15	19	100	20	90.91
Anti-Diabetic Preparations (especially Insulin)	41	70.69	80	90.91	25	96.15	18	94.74	20	90.91
Delivery Related Medicines (i.e., Oxytocin , IV Fluid, etc)	11	18.97	22	25	7	26.92	3	15.79	2	9.09

Key findings 3: Syrian patients by governorate

Table 27 displays the distribution of patients by nationality within each of the governorates. As noted earlier, 4.93% (Ajloun) to 10.45% (Mafraq) patients were of Syrian nationality. The Measles campaign was conducted mainly in Irbid and Mafraq. However, it was difficult to estimate at Intake whether patients were visiting only for this vaccination since only the presenting condition was collected at intake. We were able to better estimate this from the diagnosis listed in the health care utilization form which indicated that about 35.19% (N=2862) non-Syrian and 44.28% (N=3226) Syrian patients visited health centers in these 2 governorates for measles vaccination. Based on our weighted analysis of utilization data we estimate that 27,162 (32.31%) non-Syrian and 3514 (43.89%) Syrian patients visited these facilities for the measles vaccination.

Table 27: Nationality by governorate.

Nationality	Irbid	Irbid %	Zarqa	Zarqa %	Mafraq	Mafraq %	Jerash	Jerash %	Ajloun	Ajloun %
1. Non-Syrian	46391	89.88	12709	93.82	15153	88.62	5089	93.77	4726	94.29
2. Syrian	4950	9.59	722	5.33	1787	10.45	301	5.55	247	4.93
99. Unknown	273	0.53	115	0.85	159	0.93	37	0.68	39	0.78
Totals	**51614**	**100.00**	**13546**	**100.00**	**17099**	**100.00**	**5427**	**100.00**	**5012**	**100.00**

Table 28: Distribution of patients by nationality excluding measles.

Nationality	Irbid	Irbid %	Zarqa	Zarqa %	Mafraq	Mafraq %	Jerash	Jerash %	Ajloun	Ajloun %
1. Non-Syrian	45879	89.83	12682	93.83	15149	88.62	5089	93.79	4709	94.29
2. Syrian	4924	9.64	720	5.33	1787	10.45	300	5.53	246	4.93
99. Unknown	270	0.53	114	0.84	159	0.93	37	0.68	39	0.78
Totals	**51073**	**100**	**13516**	**100**	**17095**	**100**	**5426**	**100**	**4994**	**100**

Key findings 4: Syrian patients per day & month & facility type

1. **Syrian patients totals including measles campaign visits:** Without excluding the number of visits by Syrians as a result of the concurrent measles campaign, the total number of Syrians using the MOH facilities in this study was averaged 2705 per day which is approximately equivalent to 78,445 (=2705 x 29) Syrian patients per month.
2. **Syrian patient totals excluding measles campaign visits:** If measles campaign visitors are excluded from the Irbid & Mafraq utilization numbers, the number of Syrians using MOH facilities per day will be around 1533, which is equivalent to almost 44,457 (=1533 x 29) per month
3. **Syrian patients by facility type:** Out of these 1533 Syrians visiting all the studied MOH facilities per day, (567) Syrians visits were for hospitals; equivalent to almost 16443 (=567 x 29)Syrian visits per month (comparing with study # 1, this is 5,000 more per month although study # 1 was for all over the kingdom)

Key findings 5: Patient gender breakdown by facility type & nationality

The study population reflected greater numbers of females than males, both in Syrian and non-Syrian groups. Non-Syrian gender makeup was 46.42% male, 53.58% female. Syrian gender makeup was roughly similar, with 46.82% male and 53.18% female respondents (Table 29, Figure 5). When the population was weighted to exclude those seeking a measles vaccine, it increases the gender gap somewhat, with approximately 43% males and 56% females across both non-Syrian and Syrian populations (Table 30, Figure 6).

Table 29: Gender distribution by nationality.

Gender	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
1. Male	3824	46.42	3386	46.82
2. Female	4291	53.58	3891	53.18

Table 30: Gender distribution by nationality excluding measles.

Gender	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
1. Male	2354	43.87	1758	43.57
2. Female	2904	56.13	2296	56.43

Figure 5. Gender %

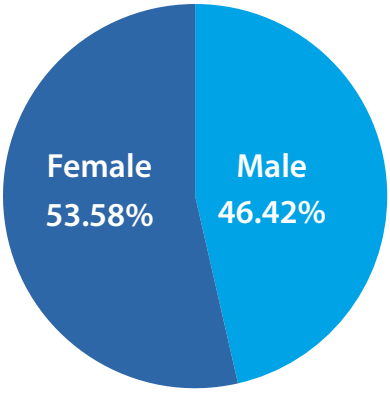
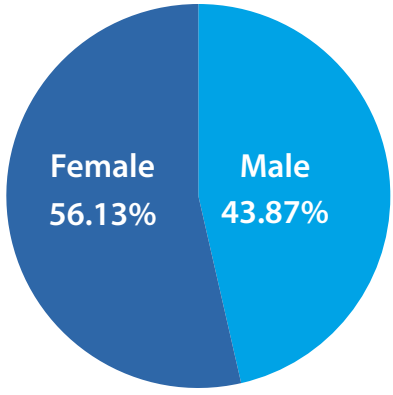


Figure 6. Gender % (No Measles)



Key findings 6: Age breakdown & patient distribution by facility type

Age distribution by Nationality: The distribution of age by nationality is displayed in table 33. A higher proportion (69.12) of Syrian patients were <17 years of age than Non-Syrians (60.31%) (Table 31).

Table 31: Age distribution by nationality.

Age in Years	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
1. < 1	453	5.68	399	5.45
2. 1 - 4	1651	20.55	1802	24.48
3. 5 - 17	2838	34.08	2854	39.19
4. 18 - 44	2079	25.92	1476	20.42
5. 45 - 74	950	11.56	675	9.39
6. >= 85	135	1.65	56	0.75
99. Unknown	27	0.54	24	0.33

Nationality by Facility Type (Jordanians and Syrians) according to different facility types: A higher proportion of Syrians visited health centers than hospitals. The proportion of Syrians at different types of health centers was similar (9%) (Table 32, 33).

Table 32: Nationality by facility type.

Nationality	Clinic N	Clinic %	Hospital N	Hospital %
1. Non-Syrian	5435	90.76	2698	90.51
2. Syrian	5782	9.22	1504	7.00
99. Unknown	1	0.02	3	2.49

Table 33: Nationality by facility type.

Nationality	Primary N	Primary %	Peripheral N	Peripheral %	Comprehensive N	Comprehensive %	Hospital N	Hospital %
1. Non-Syrian	3618	90.95	221	91.32	1596	90.19	2698	90.51
2. Syrian	3866	9.02	172	8.68	1744	9.81	1504	7.00
99. Unknown	1	0.04	0	0.00	0	0.00	3	2.49

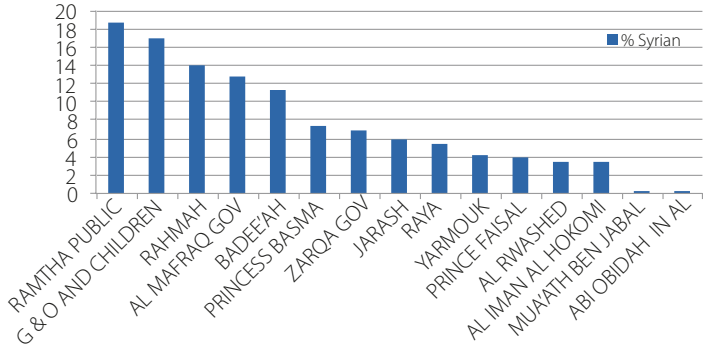
Key findings 7: Syrian patients in hospitals

The percent of Syrian patients in the assessed Hospitals ranges from 0.16% at Abi Obida Hospital to 18.65% in Ramtha Public Hospital with the following breakdown (Table 34).

Table 34: Syrians per hospital assessed.

Hospital Name	N	% Syrian
RAMTHA PUBLIC HOSPITAL	264	18.65
GYNECOLOY & OBSTETRICS AND CHILDREN HOSPITAL	76	17.06
RAHMAH HOSPITAL	110	14.09
AL MAFRAQ GOVERNMENTAL HOSPITAL	168	12.66
BADEE'AH HOSPITAL	99	11.33
PRINCESS BASMA HOSPITAL	298	7.47
ZARQA GOVERNMENTAL HOSPITAL	161	6.98
JARASH HOSPITAL	75	5.92
RAYA HOSPITAL	48	5.51
YARMOUK HOSPITAL	49	4.19
PRINCE FAISAL HOSPITAL	72	4.02
AL RWASHED HOSPITAL	12	3.54
AL IMAN AL HOKOMI HOSPITAL	65	3.43
MUA'ATH BEN JABAL HOSPITAL	2	0.37
ABI OBIDAH HOSPITAL IN AL RAYAN VALLEY	4	0.16

Figure 7. % Syrian patients in hospitals



Key findings 8: Syrian patients by hospital type

The proportion of Syrian patient visits was greater in the OB/GYN and Children's Hospital group (17.06% of all patients) than in the General Hospitals (6.81% of all patients), however, more Syrian individuals visited the general hospitals (N=1428) than the OB/GYN & Children's Hospital (N=76) during the study period (Table 35, Figure 8, Figure 9).

Table 35: Nationality by hospital type.

Nationality	General Hospitals		OB/GYN & Children's Hospital	
	N	%	N	%
1. Non-Syrian	2601	90.65	97	82.94
2. Syrian	1428	6.81	76	17.06
99. Unknown	3	2.54	0	0

Figure 8. General hospitals %

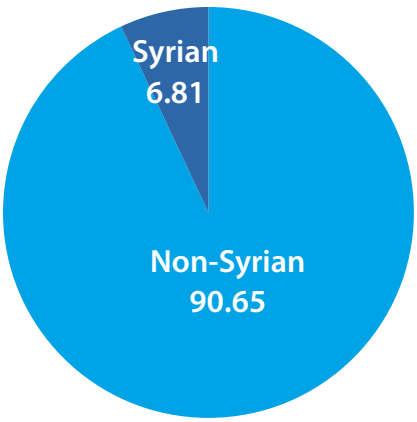
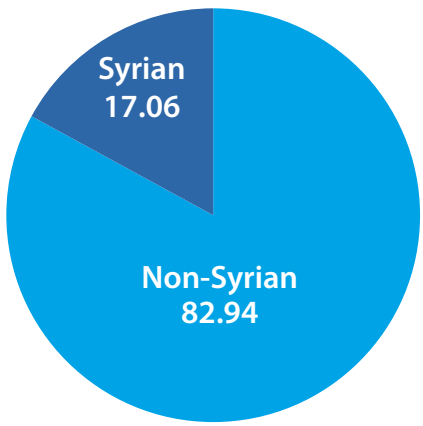


Figure 9. OB-GYN & children's hospital %



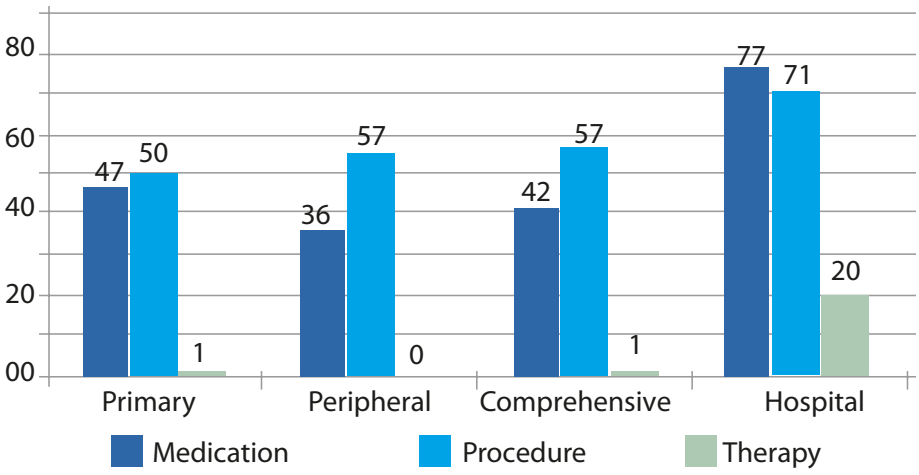
Key findings 9: Medicines& surgery for all patients by facility type

Approximately three quarters of all patients in hospitals (76.79%, total number of patients/month is 235,074 =8106 x 29) received medications compared to less than half (45.6%) in health centers. Approximately three quarters of all patients in hospitals (71.37%) received procedures while just over half (52.2%) of patients at health centers received procedures.

Table 36: Treatment per type of facility.

Treatment at visit	Primary N	Primary %	Peripheral N	Peripheral %	Comprehensive N	Comprehensive %	Hospital N	Hospital %
Medication	2982	47.23	169	36.46	1263	42.41	3012	76.79
Procedure	4294	50.1	192	56.64	2186	57.23	2822	71.37
Therapy	39	1.12	1	0.35	14	0.5	757	19.84
None	485	6.66	42	11.63	161	5.66	183	3.74

Figure 10. Treatment



Very few patients reported having surgery; 27.3% of all surgeries were Caesarian Sections (Table 36.1). About 45% of Syrian and 26.7% of non-Syrian patients reported C-Sections.

Table 36.1: Number and percent of surgeries by type.

Surgery Type	N	%
Other	42	39.36
C-Section	42	27.33
Tonsillectomy	7	7.91
Appendectomy	6	7.06
Dilation and Curettage	8	5.15
Cholecystectomy	4	4.32
Hernia Repair	4	4.17
Breast Biopsy	2	1.71
Vasectomy/Tubal Ligation	1	1.46
Mastectomy	1	1.19
Skin Graft	1	0.2
Colectomy	1	0.14

Key findings 10: imaging for all patients by facility type

Few health centers (<1%) visits included imaging, while in hospitals (40.6%) of visits included imaging (Table 36.2).

Table 36.2: Imaging by facility type.

Imaging at Visit	Clinic N	Clinic %	Hospital N	Hospital %
None	11137	99.05	2538	59.32
X-Ray	34	0.56	1104	28.6
Ultrasound	42	0.35	611	13.9
CT Scan	2	0.22	153	4.15
Echocardiography	2	0.21	109	3.04
Electroencephalography	0	0	16	0.46
MRI	1	0.2	27	0.45
Angiography	4	0.22	7	0.27

Key findings 11: Lab & referral services received by all patients by facility type

A vast majority of health centers visits did not include lab work (95.7%). A majority of hospital visits included lab work with over half of patients receiving blood chemistry and complete blood counts (Table 37).

Table 37: Lab by facility type.

LAB AT VISIT	CLINIC N	CLINIC %	HOSPITAL N	HOSPITAL %
CBC (COMPLETE BLOOD COUNT)	226	2.27	2044	56.77
BLOOD CHEMISTRY	91	1.19	1661	47.21
NONE	10798	95.68	1897	37.6
ROUTINE URINE	127	1.32	904	24.05
OTHER	140	1.51	508	16.49
LIVER FUNCTION TEST	20	0.43	518	15.66
AIR BLOOD GAS	3	0.21	136	4.28
THYROID FUNCTION TEST	10	0.28	62	1.59
THALASSEMIA	3	0.2	11	0.15

In health centers, the majority (67.9%) of patients did not have a referral. In hospitals the majority (64.3%) of patients had a referral. Follow-up at health facilities was the most common type (41.7%) (Table 38).

Table 38: Patient disposition by facility type.

Patient Disposition	Clinic N	Clinic %	Hospital N	Hospital %
Follow-up Visit at the Clinic	1878	20.86	1758	41.69
No Further Treatment/No Follow-up Scheduled	8075	67.94	1478	35.66
Referral to Specialist	367	3.66	625	14.24
Referral to Hospital	326	2.68	289	5.4
Follow-up at Another Clinic	61	0.68	92	1.73
Emergency Referral	31	0.18	66	1.47
Follow-up Elsewhere	42	0.24	36	1.07

Key findings 12: Presenting symptoms by facility type

The top 5 presenting conditions in health clinics (excluding hospitals) are vaccination, sore throat, dental problems, cough and fever (Table 39).

Table 39: Presenting condition by facility type.

Presenting Condition	Primary N	Primary %	Peripheral N	Peripheral %	Comprehensive N	Comprehensive %
Vaccination	21046	43	1691	55.1	7927	44.26
Sore Throat	4840	9.89	335	10.92	1707	9.53
Dental Problem	3389	6.92	46	1.5	1106	6.18
Cough	3155	6.45	256	8.34	1256	7.01
Fever	2481	5.07	117	3.81	933	5.21

In hospitals, for all patients (non-Syrians and Syrians), the top 5 reasons for consultation were musculoskeletal strain, injury, abdominal pain, OB/GYN, and Genitourinary (Table 40).

Table 40: Reasons for consultation in hospitals.

Presenting Condition	Hospital N	Hospital %
Musculoskeletal Strain	2441	10.72
Injury	2225	9.77
Abdominal Pain	1906	8.37
OB/GYN	1599	7.02
Genitourinary	1421	6.24

In health centers, for all patients (non-Syrians and Syrians), the top 5 reasons for consultation were vaccination, sore throat, fever, dental problems, and cough (Table 41). Vaccination was the top presenting condition for both non-Syrian and Syrian groups by more than 30% of total conditions in both cases (Table 41).

Table 41: Presenting condition by nationality.

Presenting Condition	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Vaccination	26636	31.68	3883	48.50
Sore Throat	7296	8.68	453	5.66
Fever	4456	5.30	419	5.23
Dental Problem	4751	5.65	357	4.46
Cough	5046	6.00	347	4.33

Key findings 13: clinical diagnosis by nationality (excluding measles effect)

Excluding the measles effect, the top three diagnoses for both Syrian and non-Syrian patients were (using MOH Jordan classification), respiratory diseases, infectious and parasitic diseases and digestive issues. The 4th & 5th top conditions for Syrians were Diseases of the genitourinary system & musculoskeletal/Connective Tissue diseases, respectively, whilst for non-Syrians 4th & 5th top conditions diagnosed were Pregnancy/Childbirth & Diseases of the Circulatory System, respectively. For all patients (Syrian and non-Syrian) the distribution of diagnoses differs between hospitals and health centers.

Table 42: Diagnosis by Nationality - no measles - weighted

Diagnosis by Nationality - No Measles - Weighted	Non-Syrian N	Non-Syrian %	Syrian N	Syrian %
Diseases of the Respiratory System	926	19.05	665	16.36
Diseases of the Digestive System	642	11.05	421	10.49
Infectious & Parasitic diseases	611	13.68	424	9.98
Diseases of the Genitourinary System	380	6.72	331	8.3
Musculoskeletal and Connective Tissue	349	5.82	329	8.2

Emergency room

Emergency room (ER) data were not explicitly identified: instead we relied on type of condition to determine which patients came through the emergency room. For example, we isolated the usual emergency room diagnoses such as injury, chest pain, and respiratory distress and generated utilization from these data. Because the Emergency Room also serves as a primary care center after hours (B shifts partially and C Shifts) for routine and urgent care when the primary care health centers close, our data underestimated total Emergency room usage and as such only approximations can be provided.

Approximately one quarter (N=1150) (28.54%) of the hospital visits were to the emergency room. Almost half the hospital visits in Irbid (%) were to an emergency room while only 4% of the visits in Jerash were to emergency room. The causes for this difference are unknown, however this may be an interesting point to investigate in future study. Only 5% of the emergency room visits were by Syrian patients. Over half of the visits were by males. Most of the visits were by patients aged 18-44 (30.35%). Thirty-five percent of the visits were for injury, 26% were for diseases of the digestive system and 17% were for diseases of the circulatory system. Over 80% were to get a medication or a procedure done; 27.86% were for therapy. Sixty-five percent of the visits were for blood

count and over 58% were for blood chemistry. Over 60% of patients had their vital signs taken while only 47% had their temperature assessed. Forty-six percent had an x-ray taken and 11.23% had an ultrasound. Over 40% did not need further treatment or follow-up. Of the remaining patients, 31.17% had a follow-up at the clinic.

Thirty percent of non-Syrian and 23% of Syrian patients visited the ER. Over 43% percent of the Syrian and 32% of the non-Syrian visits to the ER were Injury-related. Visits to the ER for diseases of the circulatory system were approximately twice as many in the non-Syrian patients as in the Syrian patients (18.60% and 9.99%, respectively). Over 60% of Syrian patients and over 80% of the non-Syrian patients visited the ER for medication and procedures. Very few patients had a surgery. Almost 24% of non-Syrian patients had a liver function test while only about 9% of Syrian patients had the same test. The top 3 procedures amongst both non-Syrian and Syrian patients were vital signs taken, temperature assessment and having intravenous infusion. ER visits for labs and imaging were similar between Syrian and non-Syrian patients. About 28% of Syrian and 32% of non-Syrian patients were referred for a follow-up visit to the clinic.

Data limitations

The main limitations on study data are as follows:

1. During the study period, there was a campaign for measles vaccination in Irbid and Mafraq. This campaign increased health center visits and may have introduced bias into overall health center numbers, despite attempts to address the concern through weighting.
2. Facility forms were completed by only approximately two thirds of the health centers involved in the study. Hospitals were excluded from this data collection by design. Many of the completed facilities forms that were collected were only partially finished due to a reliance on records of treatment, procedures, and patient demographics that may not have existed/may not have been reliable. These facility data are probably most useful for presenting types of staff and equipment available at health center.
3. Emergency room data were not explicitly sought, instead we relied on the type of condition reported to determine which patients came through the emergency room and which did not. We cannot, therefore, show a percentage of traffic for the emergency room, specifically. We can show trends of diagnoses, treatment and procedures which were interpreted by the researchers as emergencies.
4. Data collection totaled 29 days. Individual facilities were afforded 3 consecutive days for data collection, with the exception of very few facilities which were afforded only 2 days due to logistical constraints. This data collection time frame is rapid, and thus only a snapshot of potential usage and output.
5. Due to study parameters and field-based logistical constraints, researchers were unable to establish a direct link between individual intake and utilization data records. Thus, these datasets have been reported separately.
6. A large percentage of the presenting conditions on the Intake survey were categorized as "other." As these conditions represented the reason for visit in the patients' own words, there were almost one hundred different conditions captured. The majority of these conditions were clustered as hypertension, diabetes, medication, laboratory or vaccination.
7. Data presented are descriptive. No statistical testing was performed.

Survey instruments

Survey instruments were jointly developed by iAPS/Harvard, MOH, and WHO. The survey team employed technical experts who paired innovative software (KoBo digital data collection and REDcap) with field ready technology (cell phones and tablets operating on an android operating system). This allowed for real-time data entry and technology-aided analysis.

Three survey forms were employed:

4. Intake Form for all patients seen at a facility (Appendix E).

   a. This form allowed researchers to collect accurate information on demographics and nationality as well as reason for visit (as presented by the patient).

5. Healthcare utilization survey (Appendix F).

   a. This form, completed by healthcare providers, included diagnosis, treatment, medication and disposition information.

6. Health facility capacity assessment (Appendix G).

   a. This tool, completed by health facility administrators, provided information related to infrastructure, staffing, equipment and material resource capabilities of health facilities.

Survey operations

The iAPS/Harvard team, in collaboration with MOH and WHO, began operational planning for this study in March 2013. During the same month, these organizations assembled a team of technical and field operators to assist with rolling out the JRHFCUA project. The iAPS/Harvard team arrived in Jordan on May 10th 2013 to commence survey activities. In conjunction with MOH and WHO, the team identified assessment parameters and addressed operational challenges associated with access to patient records and reliable data. A steering committee, with representatives from MOH, WHO and the UN Country team, reviewed and approved goals, methodology, and survey instruments.

JUST provided 110 surveyors (in this report called enumerators) for training and deployment.

For the purposes of the study, it was assumed that:

8. Enumerators would have uninterrupted access to health facilities targeted for the assessment
9. Physicians and health facility service providers would comply with data collection requirements.
10. Security would allow for enumerators to perform work on a daily basis
11. Enumerators would be able to collect data for 6 days of the week
12. There would be enough enumerators to cover the entire data collection period and all facilities
13. Each Enumerator would have equipment available to ensure survey implementation and data quality.
14. Enumerators would be able to target health facilities outlined in the Enumerator Deployment Plans (for Health Centers and Government Hospitals) simultaneously across all 5 Northern Governorates.

In order to address concerns related to biases introduced into the data by day of the week (e.g. holiday vs. work day), governorate visit dates, or facility by day, each type of health center and every governorate have an equal number of weekdays (excluding Friday, a holiday). Put another way, each governorate and facility type have data which include each day of the week and expand over the entire study period.

Randomization provided an overall distribution of the patient flow/care rendered over the week at each type of facility in each location/region (Please see Appendices A and B). Government Hospital Enumerator deployments were randomized in similar fashion to capture patient flow/care rendered over the span of the entire week across all Government Hospitals targeted in each location/region. At Health Centers, data were collected prospectively for all Syrian refugees who visited the facility during working hours on

days data were obtained. An attempt was made to collect utilization data on all Syrian patients and an equal sample of the non-Syrian population who sought care at each of the facilities on the designated days.

In addition to data collected at all health centers, at Government Hospitals, prospective data were recorded for outpatient hospital clinics and the Emergency Department, mirroring the process used for Health Centers. However, because the Emergency Department operates over 24 hours, retrospective data needed to be recorded for the night shift in place of prospective data.

Training

Data collection was executed by 110 trained enumerators selected from the JUST Faculty of Nursing (a WHO Collaborating Center). The aim was to have enumerators with medical knowledge receive special training in digital data collection using KoBo. Training covered the survey's overall objectives and included instruction on research ethics and confidentiality. Survey methodology comprised the largest section of the training, with a strong focus on the content of survey instruments, the intent and meaning of the questions, and special considerations for conveying these accurately to the participating patients.

An overview of the technology and use of the data collection software was emphasized to minimize errors and to give enumerators a protocol for dealing with technical problems. A significant portion of training was spent conducting mock interviews and critiquing performance in order to ensure enumerators were familiar with the technology and the content of the survey. Experienced instructors were available to observe practice sessions and provide immediate feedback to the trainees.

Senior faculty from JUST were given additional training for troubleshooting technical problems and for conducting facility evaluations. Troubleshooting required knowledge of browser-based data entry and instructions on verification of facility resources all of which were taught to the faculty by iAPS/Harvard instructors. These senior faculty (in this report called Team Leaders) served as supervisors for the enumerators.

Data collection processes Joint Rapid Health Facility Capacity and Utilization Assessment (JRHFCUA)

Healthcare center: prospective data collection

For each facility, two enumerators were transported by WHO/JUST and arrived before the facility opened. To insure compliance, the MOH staff made contact with the facility one day prior to the start of data collection On the first day of data collection at any health center or hospital, enumerators briefed the facility staff on the purpose and procedures of the study, re-confirming the participation of the staff, and enforcing their understanding of the methodology.

One enumerator, designated as the "Intake Enumerator", positioned himself near the intake desk where patients come in to register.

Over the course of three days, this Intake Enumerator:

1. Conducted the Intake Survey in Kobo Collect provided by iAPS/Harvard team.
2. Gave each patient visiting the health center a Treatment Card to be handed to the health care provider[9].
3. Ensured a 1:1 ratio of Syrian to Jordanian Treatment Card completion.
4. Completed the top portion of the Treatment Card including the patient's nationality, gender, age, and presenting condition.
5. Instructed each patient with a Treatment Card to hand it over to the health care provider upon being seen.

The patient, when instructed, handed the Treatment Card to the health care provider. Each health care provider filled out the remaining information on the Treatment Card. This information included the conditions and diagnoses for which the patient had been seen. The health care provider then placed the completed Treatment Card in a designated box for collection by a second enumerator.

9 The healthcare provider could be a physician, nurse, or other healthcare professional rendering a health care service. See Appendix H for a copy of the Treatment Card.

The second enumerator was designated as the "Treatment Enumerator." Responsibilities included:

1. Periodically collecting the completed Treatment Cards
2. Entering data from the Treatment Cards into the Health Care Utilization Survey.

If the Treatment Enumerator, on collection of the completed Treatment Cards, noticed a trend of noncompliance or error by the health care provider in filling out the Treatment Cards, it was his responsibility to inform the health care provider of the need to correctly fill out the Treatment Card. If noncompliance continued, the enumerator contacted his Team Leader who in turn alerted the MOH staff via an agreed upon Communication Flow Chart (Please see Appendix C). MOH staff then contacted the facility to address the problem and request cooperation. Data were collected for 3 consecutive days at most of the health care facilities. Due to time constraints data were collected for 2 consecutive days at 24 facilities.

Health care facility capacity

To collect data on capacity, a paper copy of the survey form for Health Care Facility Capacity assessment was delivered by an enumerator to the Hospital administrator at each facility to complete over a three day period. The completion of the survey was closely supervised by enumerators to validate and verify data. Once the survey was completed, Team Leaders and WHO staff entered the data into REDcap directly.

Government hospital process: Prospective/retrospective data collection

Data collection at the Hospitals was completed both prospectively and retrospectively. Inpatient data were collected retrospectively for the proceeding 3 days. Hospital records were detailed and accurate making a retrospective survey possible.

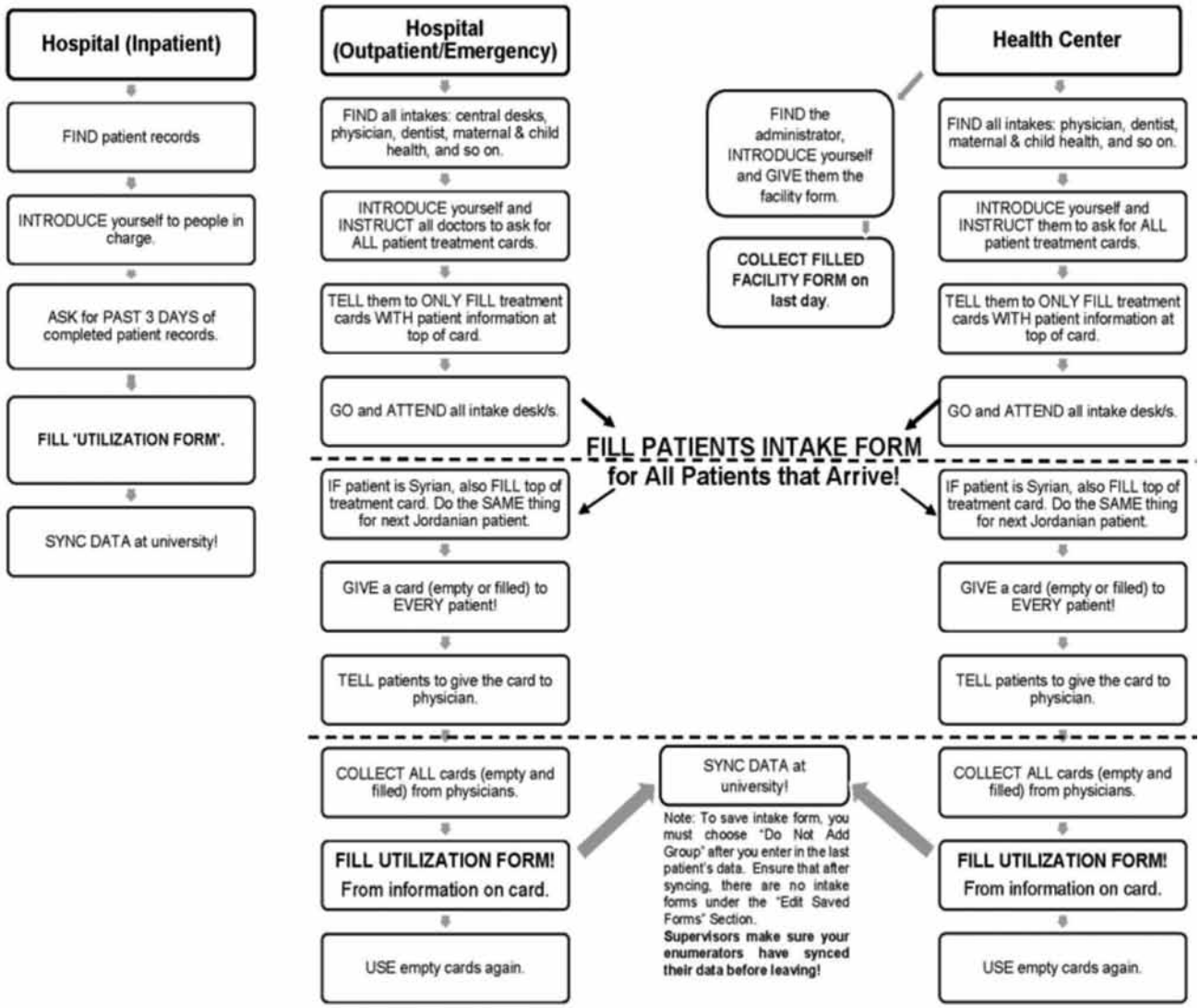
Data for the outpatient hospital clinics were collected prospectively over three days with the same protocol used for Health Care Centers. Because the Emergency Department was open 24 hours a day, prospective data were collected by enumerators for the first two shifts (A & B) while retrospective data were collected for the night shift (C).

The number of enumerators sent to each Hospital was predetermined based on Hospital patient volume in inpatient wards, outpatient clinics and Emergency Departments. (Please see an illustration under Appendix C attached). Enumerators were transported by JUST and arrived at their assigned Hospital at a time detailed by the MOH.

Upon arrival, designated enumerators collected three consecutive days of retrospective data for the inpatient unit and Emergency Department night shift. The enumerators then used the Kobo Collect to fill out the Healthcare Utilization survey. Additional designated enumerators collected data prospectively for outpatient and Emergency Department A and B shifts. Data collection took place over three days.

As with the Health Care Centers, if the enumerator, on collection of the filled Treatment Cards, noticed a trend of noncompliance or error from the Hospital health care provider in filling out the Treatment Cards, was responsible to inform the health care provider of the need to correctly fill out the Treatment Card. Further noncompliance triggered communication with the Team Leader and subsequent communication with MOH staff to enforce compliance.

Process flow chart



Survey technology:

The iAPS/Harvard team utilized a two-pronged digital data collection approach to ensure successful and timely roll out of the JRHFCUA-Research Electronic Data Capture (REDcap) and Kobo Digital Data Collection (KoBo). REDcap and KoBo are complementary tools which allow for accurate, time-efficient, and real-time digital data collection for survey implementation of this magnitude.

Research Electronic Data Capture (REDcap)

REDCap is a free, secure, web-based application hosted by the Enterprise Research Infrastructure and Services (ERIS) at Partners HealthCare System and designed to support data capture for research studies. The system was developed by a multi-institutional consortium initiated at Vanderbilt University. Data collection is customized for each study or clinical

trial by the research team with guidance from ERIS REDCap administrators.

REDcap survey feature

The REDcap survey feature provides a powerful tool for creating and managing surveys in a web browser. This feature was instrumental in ensuring paper-based facility evaluation forms were uploaded onto REDcap software. This feature also allows for collecting responses from survey participants by 1) sending a link to a survey via email; 2) entering data manually; and/or, 3) posting a link on a website. REDCap Survey gives users the option to keep participant responses anonymous or track and identify responses by building an email contact list.

Advantages of REDcap digital technology

The advantages of REDCAP digital technology are many. Secure and web-based functions allow the researcher to Input data from anywhere in the world with secure web authentication, data logging, and Secure Sockets Layer (SSL) encryption. Multi-site access allows searchers from multiple sites and institutions to access projects. It is fully customizable, includes advanced question features (such as auto-validation, branching logic and stop actions). Modifications can be made at any point over the course of a study. Data can be imported to REDCAP by external data sources to begin or provide mid-study changes. Data comparison functions (such as blinded data entry and double data entry) are supported. Further, one can export survey results to many different data analysis packages (such as Excel, SAS, Stata, R, or SPSS).

Kobo digital data collection

Digital survey design

Surveys were built using KoBoForm (http://www.kobotoolbox.org/koboform/), an offline/online web application for creating complex digital data collection instruments. The surveys themselves are XML files that conform to Xform standards and work with KoBoCollect or other Open Data Kit based software.

All three surveys were also created in a REDCap data entry system which allows for browser-based data entry (and for the purposes of this exercise was only used for the facility evaluation data collection) and which allowed for printable PDF versions of the surveys.

Digital data collection hardware

KoBo is an application which runs on Android phones and tablets to collect responses based on survey forms created in KoBo form. KoBo was employed as the main data collection software. Enumerators on this project used Nexus 4 phones, Acer Iconia Tablets, and Samsung tablets. KoBo runs uniformly on all devices that run on android operating systems; as such data collection methodology is the same regardless of what hardware is being used. All devices were equipped with all digital surveys required to collect intake and utilization data.

Server and database technology

Data were uploaded from KoBoCollect to the KoBo Cloud server at https://kobocloud.appspot.com/. This is a secure server that allows data to be submitted and exports aggregated data for analysis. The server runs on open source software called "ODK Aggregate". While the software is free, some minor costs can be incurred from the Google App Engine which powers the service. Data charges for the entire WHO Jordan data collection effort totaled less than 10.00 USD.

KoBo Cloud allows for very simple analysis. The analysis off Kobo Cloud was performed offline after exporting the database as a Comma Separated Value file, which is a flat database that can be imported into SPSS, SAS, STATA, R, or even Excel for more sophisticated statistical analyses.

REDCap, because it has the ability to accept data entry through a browser, was used for the Facility Evaluation survey. Data entered via REDcap was exported in much the same way as it was exported from KoBo Cloud, as a CSV for import into any analysis software.

Implementation challenges and solutions

Data quality and availability

A pilot study tested the proposed methodology and data collection processes. Program parameters, methods, and data collection processes were redefined in close collaboration among the key partners; MOH, WHO, Harvard Team and JUST. More specifically, redefinition focused on Health Center versus Hospital data collection methods and processes, and human resource support needed to accomplish the assessment in the allotted time, given differences in patient volume and in data/record reliability. Tactical plans were developed based on pre-assessments of hospital facilities to determine capacity required. Please see Appendix F for an illustration of Tactical Plans.

The main operational challenges encountered at the onset of the program were associated with variable availability and quality of records and data across health facilities. This led to the decision to conduct a prospective survey for Health Centers, hospital based outpatient clinics, and the first two shifts of the Emergency Department. The assessment was not able to deploy enumerators for the late night shift in the Emergency Department necessitating a retrospective review of this time period, with little loss of accuracy given that hospital inpatient records were determined to be accurate and complete enough to allow a retrospective review.

Changes in study team

Hospital patient volume was significantly greater than volume encountered in any Health Center, requiring an adjustment in how the survey team deployed enumerators and how many enumerators were needed. Initially, only 60 enumerators had been trained. It quickly became apparent that to conduct a survey of all the Hospitals within the stated time frame many more enumerators would need to be trained and equipped. Thus, WHO, iAPS/Harvard Team and JUST trained and equipped an additional 50 enumerators in time to deploy them for the Hospital survey.

Logistical constraints

Logistical constraints faced throughout the data collection phase were associated mainly with transportation. Coordinating travel across a large geographical region required careful planning and flexibility. Insuring adherence to a predetermined randomization of health facilities was a challenge. To deal with these challenges the project employed a variety of strategies (see Enumerator Deployment Plans in Appendix A, B).

Enumerator availability

The enumerators were nursing students some of whom continued to have academic responsibilities. With the addition of more enumerators, and excellent flexibility shown by JUST, the iAPS/Harvard Team and WHO were able to redistribute deployment assignments to accommodate academic responsibilities and complete the project on time.

Measles campaign

A concurrent MOH/WHO/UNICEF/UNRWA/UNHCR measles campaign in Mafraq and Irbid governorates was conducted while the assessment was ongoing in order to contain a measles outbreak that had occurred. This placed an additional burden on enumerator capacity to capture a larger influx of patients seeking vaccination. WHO secured 10 additional enumerators and provided required android technology. The iAPS/Harvard team ensured process modification and further training. The increase in health facility utilization due to the measles campaign was also factored into the analysis of patient load to health centers (the campaign did not affect hospitals where vaccination does not take place).

Facility evaluation data

Facility evaluation data were successfully collected at 213 of 315 health centers. The surveys were completed with variable results given the density of data being requested from hospital administrators. Nonetheless, it was felt that this large sample size and data quality provide valuable information on the staffing, infrastructure, and equipment available in the MOH facilities in general.

Statistical analysis

All data were transferred from Kobo-Toolbox or RedCap into SAS and analyses were conducted in SAS 9.2 and SUDAAN 11.0. Data cleaning included correcting a few age and gender discrepancies, and correcting the text entered in the "Other Conditions" field. All conditions listed under "Other conditions" in the intake were recoded into 5 categories – Lab, Medication, Hypertension, Diabetes, and Vaccines. In the Utilization data, these were recoded into the original 19 conditions as reported by MOH.

Only data collected between May 26, 2013 and June 27, 2013 were included in the analysis. We attempted to obtain utilization data on all Syrians and an equal number of non-Syrians. Approximately 800 Syrians were not captured. There were also 54 facilities where no Syrian refugees visited during the data collection period. Since we have a sample of the Syrians and the non-Syrians, we computed weights, as described below, to represent the target population (the total in the intake dataset) and used them in the analysis to determine utilization.

Weighting:

The probability of selection for a patient at a facility is 1/(total number of patients at that facility). We computed the probability of selection for each patient by their nationality (Syrian, non-Syrian and Unknown) and the facility they visited. An initial weight was computed as the inverse of the probability of selection. This was then calibrated to the total number of patients of the particular nationality at each facility and adjusted to the total population by nationality.

Descriptive Analysis:

Summary measures (proportions, means, medians and standard errors) of data from the intake and utilization forms were obtained overall, by the 5 governorates, nationality (non-Syrian and Syrian), type of facility (primary, peripheral, comprehensive, hospitals). Additionally, these measures were obtained for utilization data by type of hospitals (general, OB/GYN), type of patient (outpatient, inpatient), and type of hospital department (emergency, not emergency). In order to address the possibility of the measles campaign in Irbid and Mafraq leading to an over-estimation of patients visiting health centers for this vaccination, the assessment team re-analyzed the data after excluding those patients who indicated that they had received the measles vaccination as a diagnosis on the utilization form.

Summary measures were obtained for data collected from the facility administrators by the 5 governorates and type of facility (primary, peripheral, comprehensive, unknown).

Conclusions

Syrian refugees are accessing Jordanian health centers and hospitals. This utilization of Jordanian facilities by the refugee population represents a real need on behalf of Syrian individuals and a potential strain on resources for the Jordanian health care system. From our sample of intake records, from a total number of 92,698 individuals, **8.65% of the total population accessing health facilities in the northern governorates were Syrian refugees.** We can only extrapolate that this Syrian percentage could also reflect, due to the relatively recent influx of these refugees (~2 years), an overall increase in total usage for these facilities (however, currently longitudinal data on healthcare usage is not available). **Within these facility surveys as a whole, 69,918 intake records are from health centers, and the remaining 22,780 are from hospitals. Within our sample of hospital intakes, 8.1% of the population is Syrian, whereas within the sample of health center intakes, 9.5% of the population is Syrian.** Again, Syrian refugees are accessing both hospitals and health centers in great numbers, and thus attention should be given to needs in both types of facilities.

The diseases and ailments which Syrian refugees face are very similar to that of the non-Syrian population. Upper respiratory infection, hypertension, urinary tract infection, musculoskeletal pain, and abdominal pain were the top five diagnoses for both populations (however ranks of these conditions in order of frequency vary slightly by nationality). Thus, it is potentially true that Jordanian facilities do not require unique or targeted healthcare implements, medications, or infrastructure to serve Syrian refugees, but rather that the facilities would need these elements in greater number in order to serve the Syrian influx.

While this study was not equipped to compare Syrian and non-Syrian group needs for statistically significant differences in presenting conditions, **yrian refugee birth numbers and OB/GYN complaints were higher within their own population as compared to non-Jordanians within their own population.** This could be an area of potential need and/or an area ripe for further study. Access to pediatric specialties and emergency room care were also identified as key areas of potential concern for Syrian refugees.

Jordanian facilities are not well-equipped, nor is access to specialists or high-level general practitioners available in all areas. While this study was not equipped to assess, qualitatively, why shortages existed or whether or not these shortages were negatively impacting the Syrian or non-Syrian populations, the data gained from the study should point future researchers and/or funding entities in the direction of potential need areas.

Recommendations

The project, meant to address the capacity of health care facilities, the current utilization of these facilities by Syrian refugees, and the types of health conditions which are most prevalent among these refugees, elicited not only information on infrastructure and current capabilities, but also raised questions which must be addressed through policy or future research. The following key recommendations include a range of potential follow-up programs and action items for the Jordanian government and the international community.

1. Complete a follow up study using the same research design and methodology as the JRHFCUA to measure the change in capacity of health care facilities, the amount of increase or decrease in utilization of these facilities by Syrian refugees, and to update data on current types of health conditions most prevalent among patients. This longitudinal study should be conducted starting in February 2014 with the intention of presenting the comparison with this study by the end of March 2014.
2. Complete nation-wide survey including all governorates. The study team recommends that a nation-wide survey and assessment be undertaken in order to understand not only the capacities of health centers and hospitals in Jordan as a whole, but also to understand any variations in access to care or health status of Syrian refugees in all parts of the country. This survey, which could be undertaken incrementally or as a full-scale study, would benefit from the capacities and assessments already built for the current project, and would also iteratively address concerns elicited from the current research findings.
3. Complete facility capacity assessment to account for all health centers and hospitals. The facilities data gained by this study has provided much-needed data on medications, equipment, and occupancy of health centers and hospitals. A representative sample-based capacity assessment of facilities nation-wide would be of great importance to NGOs and other funding agencies looking to get supplies and support to those facilities and surrounding communities which need it the most. As the facility reports in this study were completed by health center personnel with limited accuracy, it is recommended that a full-time team be present at these assessments to ensure data completion and staff compliance.
4. Re-implementation of surveys to determine trends in data. The surveys were designed to provide valuable information for a 'snapshot in time on total number and proportion of Syrian patients and conditions, however in order to determine trends in data, it is recommended to implement the survey again within 4-6 months.
5. Focus on three main specialties: obstetrics/gynecology, pediatrics, and emergency care. These care areas were highly accessed by the Syrian refugee groups and specialists, although available in some areas, were not available in others. Whether it be temporary or more long-term, policy makers should seek to ensure that access to these practitioners in these specialty areas are available to Syrians and non-Syrians alike.
6. Assess NGO clinics, military facilities, mobile units, and refugee camp clinics. A study of these facilities, also ostensibly heavily utilized by Syrian refugees, would provide much-needed data on not only capacity and use, but could also elicit important information for and promote knowledge-sharing between government facilities and other more temporary medical centers. With the aim of sustainability and excellent care, it is the recommendation of the study team that these separate agencies work together to better understand and better serve the Syrian population, while still ensuring that resources and much-needed care are not unnecessarily diverted from the indigenous Jordanian and non-Syrian communities.
7. Address emergent disease outbreaks as necessary, especially in the refugee population (e.g. measles outbreak). During the study period, Jordanian health centers were responding to an emergent disease outbreak of the measles with a vaccination campaign. The campaign did draw both Syrian and non-Syrian patients. The capacity and network for these types of campaigns must be protected as emergent diseases could continue to be a problem during the refugee influx. New technologies for dissemination of information, such as social media and print media, could be of great use to healthcare profes-

sionals, the government, and NGOs, in continuing to respond to emergent diseases as necessary.

8. Assess overall health and underlying health conditions in otherwise healthy patients for baseline metrics (e.g. nutritional status). While this study was able to address presenting conditions in Syrian and non-Syrian individuals seeking healthcare, there was not a capacity to address underlying health conditions or predispositions to health problems in otherwise healthy individuals. Understanding the overall health status of both Syrian and non-Syrian individuals living in Jordan, and the differences (if any) between these statuses, could provide information which could aid both the government and aid agencies in providing preventative care options (e.g. nutritional supplements and prenatal care) which could improve the overall health of these populations and help prevent acute health problems or emergency situations which strain an already fragile healthcare system.

9. Assess preventative care access for both Syrian and non-Syrian populations. Akin to recommendation 6, addition of assessment procedures within already-existing survey and facility data collection methods which address access to preventative care (e.g. yearly physicals, screenings for certain types of cancer, diabetes) would aid in ensuring that underlying health conditions or predispositions to health problems are caught early. Knowledge of the current status of access to this kind of care is something that could aid stakeholders in improving the healthcare system and promoting healthy lifestyle choices in the hopes of decreasing emergency and acute problems.

10. Complete qualitative assessments in concert with survey approaches. This project did not have the capacity to provide qualitative or ethnographic information related to healthcare needs or capacity. Addressing conditions within health centers and hospitals with open-ended, exploratory research methods, could greatly increase knowledge of the cultural and social context of these facilities. Patients' (both Syrian and non-Syrian) perceptions surrounding access to care and conditions within the healthcare system, could provide important information to drive future quantitative study and to promote culturally-relevant intervention models. Qualitative study of the refugee resettlement process, too, could provide information related to underlying health conditions, traumatic experiences, and other health-related information.

11. Focus on conditions which may be under-reported due to stigmatization. In future studies, we recommend that both quantitative and qualitative research focus be given to any conditions that could be under-reported or under-treated due to stigma (e.g. infectious disease, sexually transmitted disease, psychosocial health conditions). Exploratory qualitative methods, such as focus groups and unstructured interviews, could guide researchers to potential problems which may not be readily addressed at the surface or through self-reported conditions.

12. Assess refugee camp and refugee living conditions within communities for potential hazards. While this study provided information related to health care utilization and presenting conditions, no focus was given to refugees' home lives. Both quantitative and qualitative data related to living conditions for refugees could help researchers and stakeholders better understand the more every-day issues related to refugees' overall health (e.g. poor ventilation, sanitation, and access to potable water and sewage removal). If living conditions are found to be dangerous and/or substandard, addressing contaminants and vectors of disease at their root (and not once they negatively impact patients) could decrease demand in hospitals and health facilities, and increase the well-being of both refugees and local citizens.

13. Perform additional comparative data analyses. Current data presented are descriptive, however given the richness of data collected, statistical testing can be performed and is recommended to determine whether differences between groups assessed are statistically significant.

In addition to these recommendations, the study team suggests that the database and survey instruments for the project be released to the public and to the academic institutions in order to spur continued interest in Syrian refugees' health and to promote continued scholarly inquiry within and policy attention to the capacity of and need areas of the Jordanian healthcare system.

Overall, this study provides much-needed information related to current healthcare conditions and provides a snapshot-look at the healthcare needs of Syrian and non-Syrian patients. In the long-term, however, it is important that researchers and stakeholders view the issue of Syrian's access to healthcare as systemic and culturally-situated, and that this study spurs future inquiry and broad-based policy changes which address both the healthcare system and the underlying infrastructural and community-based concerns which are related to health outcomes and health facility utilization

Appendices

Appendix A: Health Center Enumerator Deployment Plan

Reference	Center	Locality	Governorate	Type
1	Habras	Hubras	Irbid	Primary
2	Sama – Al –Russan Primary Center	Azrit	Irbid	Primary
3	Shajarah south	Al Shajarah	Irbid	Primary
4	Shajarah north	Al Shajarah	Irbid	Primary
5	Al – Baqora	Al Baqurah	Irbid	Peripheral
6	Al – Zamalieh	Al Zamalia	Irbid	Peripheral
7	Kafr owan Hc	Kufr Awan	Irbid	Comprehensive
8	Soum	Sum	Irbid	Primary
9	Jamha	Jumhah	Irbid	Peripheral
10	Natfah	Natifah	Irbid	Peripheral
11	JUST Health Center	Irbid	Irbid	Comprehensive
12	Saidoor	Saydur	Irbid	Peripheral
13	North mazar	Al Mazar Shamali	Irbid	Primary
14	Al-Hashmiyya	Al Hashemiyah	Zarqa	Primary
15	Um Slaih	Abu Al Sallih	Zarqa	Primary
16	Qaneah	Al Qunaiya	Zarqa	Peripheral
17	Al kamshah	Al Kamsheh	Zarqa	Primary
18	Nassar	Murhib	Zarqa	Peripheral
19	Eastern Hallabat	Qasr Hallabat Sharqi	Zarqa	Primary
20	Al-Dlail	Al Dhlail	Zarqa	Comprehensive
21	Zawahra	Al Zarqa	Zarqa	Primary
22	Shabeeb	Al Zarqa	Zarqa	Primary
23	Amiryeh	Al Russeyfah	Zarqa	Comprehensive
24	Zamlet at – Tarki	Zamlet Atterfi	Mafraq	Peripheral
25	Al-harsh	Al Harsh	Mafraq	Primary
26	Al-Ekaider	Akeidir	Mafraq	Peripheral
27	Al –baej	Al Hamra	Mafraq	Primary
28	Az –za'	Al Zatari	Mafraq	Primary
29	Koam al AHmar	Al Kawm Al Ahmar	Mafraq	Primary
30	Ashrafyiah	Al Ashrafiyeh	Mafraq	Comprehensive
31	Nahleh	Nahlah	Jerash	Primary
32	Souf Hc	Zaqreet	Jerash	Primary
33	Ras Munif	Ras Moneef	Ajloun	Peripheral
34	Sinaar	Sinar	Ajloun	Peripheral
35	Ajloun	Ajlun	Ajloun	Comprehensive
36	Ishtafainah	Khellet Wardeh	Ajloun	Comprehensive
37	Yebla	Yubla	Irbid	Primary
38	Samar	Samar	Irbid	Primary
39	Al-Mansora	Al Mansurah	Irbid	Primary
40	Amrawa	Amrawah	Irbid	Primary
41	Kareemah	Kuraymah	Irbid	Primary
42	AbuHabel	Abu Habeel	Irbid	Peripheral
43	Al- Mashare'e	Al Mashare'	Irbid	Primary

Group	Day	Issues	Assessed	Not Assessed
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday	Dropped entry: military facility, needs much formal paperwork		1
Group 1 - 26/05	Sunday	Dropped entry: military facility, needs much formal paperwork		1
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday	Dropped entry: Private sector - Replaced by Kufr Youba		1
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday	Dropped entry: shut-down, under construction		1
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday	Dropped entry: Closed due to no staff		1
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 1 - 26/05	Sunday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday		1	

Reference	Center	Locality	Governorate	Type
44	Dair abi s'eed Hc	Dair Abu Said	Irbid	Comprehensive
45	Kafr Raked Hc	Kufr Rakib	Irbid	Primary
46	Zahar	Zahar	Irbid	Primary
47	Bait yfa	Beit Yafa	Irbid	Primary
48	Al-mghair	Al Mughayyir	Irbid	Primary
49	Rahta	Kufr Rahta	Irbid	Peripheral
50	Al-barha	Irbid	Irbid	Primary
51	Mkharba	Makhraba	Irbid	Peripheral
52	Zubia	Zubiya	Irbid	Primary
53	Baireen	Birain	Zarqa	Primary
54	Al-Alook	Al Masarrah Gharbiyeh	Zarqa	Primary
55	Western Hallabat	Qasr Hallabat Gharbi	Zarqa	Peripheral
56	Al – Mufradat	Al Mufarradat	Mafraq	Peripheral
57	Um an –na'am Sharqeyya	Umm Enna'am Sharqiyeh	Mafraq	Primary
58	Um – bteimeh	Umm Butaymah	Mafraq	Peripheral
59	Al-dujeineh	Al Dajaniyah	Mafraq	Primary
60	Border Jaber - Duty Free Zone	Jabir	Mafraq	Peripheral
61	Khsha'a Slaitain	Al Husseiniyah	Mafraq	Peripheral
62	Blaila Hc	Balila	Jerash	Primary
63	Al – Maharfeh Hc	Al Mushayrifah Al Gharbiyah	Jerash	Primary
64	Al – Rashaydeh Hc	Jubba	Jerash	Primary
65	Al – Raya Hc	Al Rayeh	Jerash	Peripheral
66	Samtah	Samta	Ajloun	Peripheral
67	Osarah	Ausara	Ajloun	Primary
68	AinJannah	Ayn Jana	Ajloun	Primary
69	Aqraba	Aqraba	Irbid	Primary
70	Al Hammah	Al Mukhaybah Al Fawqa	Irbid	Primary
71	Al – Sheikh Hussein	Al Shaikh Hussein	Irbid	Primary
72	Northern Ma'abar	Al Zamalia	Irbid	Primary
73	Jafeen Hc	Jiffin	Irbid	Primary
74	Kafr Ebeel Hc	Kufr Abil	Irbid	Primary
75	Bushra	Bushra	Irbid	Primary
76	Bait ras	Beit Ras	Irbid	Primary
77	Urban devlopment	Beit Ras	Irbid	Primary
78	Yarmouk university	Irbid	Irbid	Comprehensive
79	Qmaim	Qumaym	Irbid	Primary
80	Houfa	Hoafa Al Wastiyah	Irbid	Primary
81	As-sareeh	Al Sarih	Irbid	Comprehensive
82	Jehfiyyeh	Juhfiya	Irbid	Primary
83	Um Rummaneh	Umm Rummanah	Zarqa	Primary
84	Al Duhaithem	Qasr Hallabat Gharbi	Zarqa	Peripheral
85	Prince Abdullah	Al Zarqa	Zarqa	Primary
86	Wadi Al-Hajar	Al Zarqa	Zarqa	Comprehensive
87	Al-Rasheed	Mukhayyam Hettin	Zarqa	Primary
88	Northern Rusaifa	Al Russeyfah	Zarqa	Primary
89	Sama as-sarhan	Sama Al Sarhan	Mafraq	Comprehensive
90	Thaghret al -jub	Thughrat Al Jubb	Mafraq	Primary
91	Edoon bane hasan	Eidun	Mafraq	Primary
92	Al-hussein	Al Mafraq	Mafraq	Primary
93	Al –munefeh	Al Munifah	Mafraq	Peripheral

Group	Day	Issues	Assessed	Not Assessed
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Dropped entry: due to risk		1
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday	Open every other day	1	
Group 2 - 28/05	Tuesday		1	
Group 2 - 28/05	Tuesday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday	Assessed in Group 2	1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	

Reference	Center	Locality	Governorate	Type
94	Tal Rimah	Tell Rumah	Mafraq	Peripheral
95	Rawdat Princess basma	Rawdhet Basma	Mafraq	Primary
96	Sbaihah	Sab Siyar	Mafraq	Peripheral
97	Sakeb Hc	Sakeb	Jerash	Primary
98	Al-Razi Hc	Nahlah	Jerash	Comprehensive
99	Jerash Hc	Jarash	Jerash	Comprehensive
100	Al – Jazazeh Hc	Al Jazzazah	Jerash	Primary
101	Alistiqlal	Kufranjah	Ajloun	Primary
102	Prince Hashim	Ballas	Ajloun	Primary
103	Alharth	Al Harth	Ajloun	Peripheral
104	Thagret Zbeed	Thagret Zebaid	Ajloun	Peripheral
105	Ain Bustan	Kufranjah	Ajloun	Primary
106	Al – Sublah	Al Sila	Irbid	Peripheral
107	Southern Shoneh	Shuneh Shamaliyah	Irbid	Primary
108	Zemal Hc	Zimal	Irbid	Primary
109	Jeditta Hc	Judeitta	Irbid	Primary
110	Al-ashrafieh Hc	Al Ashrafiyeh	Irbid	Primary
111	Az – zahrawi	Kufr Yubay	Irbid	Primary
112	Ibn sina	Irbid	Irbid	Primary
113	Mandah	Mandah	Irbid	Peripheral
114	Al – taybeh	Al Taybeh	Irbid	Comprehensive
115	Alhosson	Al Husn	Irbid	Primary
116	Tariq	Al Rukban	Zarqa	Primary
117	Omaree	Al Umari	Zarqa	Primary
118	Southern Rusaifa	Al Russeyfah	Zarqa	Primary
119	Yajooz	Al Russeyfah	Zarqa	Primary
120	Al-Falah	Abu Sayah	Zarqa	Primary
121	Hosha	Hosha	Mafraq	Primary
122	Al-janoubi	Al Mafraq	Mafraq	Primary
123	Royal Services Mafraq	Al Mafraq	Mafraq	Medical services
124	Khaled bin al waleed	Al Zunayyah	Mafraq	Primary
125	Deir Qon	Dair Al Qinn	Mafraq	Peripheral
126	Badia Comp	Al Sa'idiyeh	Mafraq	Comprehensive
127	Saba'a seer	Sab Siyar	Mafraq	Peripheral
128	Um Qutain	Umm Al Quttain	Mafraq	Comprehensive
129	Mars'a Hc	Marsa'	Jerash	Primary
130	Rasoon	Rasun	Ajloun	Primary
131	Halawah	Halawah	Ajloun	Primary
132	Asakhin	Al Shakarah	Ajloun	Peripheral
133	ALsafaa	Al Jabal Akhdar	Ajloun	Primary
134	Al-Karaiba	Al Khuraybah	Irbid	Peripheral
135	Ramtha wst	Al Ramtha	Irbid	Primary
136	AbuSedo	Abu Sido	Irbid	Primary
137	Wadi Al - Rayan	Wadi Al Rayan	Irbid	Primary
138	Somou' Hc	Sammu	Irbid	Primary
139	Kafr aydas Hc	Beit Idis	Irbid	Primary
140	At- twal	Irbid	Irbid	Primary
141	Qum	Qam	Irbid	Peripheral

Group	Day	Issues	Assessed	Not Assessed
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday		1	
Group 3 - 01/06	Saturday	Open every other day	1	
Group 3 - 01/06	Saturday	Open every other day	1	
Group 3 - 01/06	Saturday		1	
Group 4 - 04/06	Tuesday	Center name is Al Sila, not Al - Sublah	1	
Group 4 - 04/06	Tuesday	Center name is Northern Shoneh Primary Health Center, not Southern Shoneh	1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday	Locality name is Barha, not Kufr Yubay	1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday	Dropped entry: far away on Saudi border, caters only to select group of employees		1
Group 4 - 04/06	Tuesday	Dropped entry: shut-down, under construction		1
Group 4 - 04/06	Tuesday	Center name is Northern Rusaifa, not Yajooz	1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday	Dropped entry: military facility, needs much formal paperwork		1
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 4 - 04/06	Tuesday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	

Reference	Center	Locality	Governorate	Type
142	Shatana	Shatana	Irbid	Peripheral
143	Al –farouk	Dair Yousef	Irbid	Comprehensive
144	Dair youef	Dair Yousef	Irbid	Primary
145	Habka	Habaka	Irbid	Primary
146	Anbah	Inbah	Irbid	Primary
147	Prince Faisal	Mukhayyam Hettin	Zarqa	Primary
148	Al- khanasry	Al Khanasiri	Mafraq	Peripheral
149	As – sumailmeh	Al Sweilmah	Mafraq	Peripheral
150	Al-mafraq	Al Mafraq	Mafraq	Comprehensive
151	Al – mazra'ah	Al Mazra'ah	Mafraq	Primary
152	Mithnat rajil	Methnat Rajel	Mafraq	Peripheral
153	Deir Kahf	Dair Al Kahf	Mafraq	Comprehensive
154	Bani Hashim	Hamra Eshaim	Mafraq	Peripheral
155	koom alraf	Kaum Al Raff	Mafraq	Primary
156	Al – Kafeer Hc	Al Kufayr	Jerash	Primary
157	Burma Hc	Burma	Jerash	Primary
158	Rwaihah	Al Ruweiha	Ajloun	Primary
159	Ba'oon	Baun	Ajloun	Primary
160	Wahdaneh	Al Wahadne	Ajloun	Primary
161	Al – Rafeed	Al Rafid	Irbid	Primary
162	Sama – Al –Russan	Sama Al Russan	Irbid	Peripheral
163	Hareema	Harima	Irbid	Primary
164	Malka	Melka	Irbid	Primary
165	Ramtha Comprehensive	Al Ramtha	Irbid	Comprehensive
166	Waqqas	Waqqas	Irbid	Primary
167	Kafr al – Maa'Hc	Kufr Al Ma	Irbid	Primary
168	Al'al	Alal	Irbid	Primary
169	Marou	Marw	Irbid	Primary
170	Huwwarah	Hawwara	Irbid	Primary
171	Doqara	Dauqara	Irbid	Primary
172	Kufr – jayez	Kufr Jayez	Irbid	Primary
173	Kufr youba	Kufr Yubay	Irbid	Comprehensive
174	An-nu'aimeh	Al Nuaymah	Irbid	Comprehensive
175	Irhaba	Irhaba	Irbid	Primary
176	Al-Sukhnah	Al Sukhnah	Zarqa	Primary
177	Baireen Prison	Al Zarqa	Zarqa	Primary
178	Royal Service Azraq	Al Azraq Janobi	Zarqa	Medical services
179	Mushairfeh	Mukhayyam Hettin	Zarqa	Comprehensive
180	Prince Hashim	Mukhayyam Hettin	Zarqa	Primary
181	Awajan	Abu Sayah	Zarqa	Primary
182	Um as –sarb	Umm Al Surab	Mafraq	Primary
183	Al – nahda	Al Nahdhah	Mafraq	Peripheral
184	Al – baej	Al Baij	Mafraq	Comprehensive
185	Rihab	Irhab	Mafraq	Comprehensive
186	Bal'ama	Bala'ma	Mafraq	Comprehensive
187	Hayyan al roweibed	Hayyan Al Ruwaybid Al Gharbi	Mafraq	Primary
188	Rifa'aait	Al Rafiiyat	Mafraq	Comprehensive
189	Qafqfa / Prison Hc	Qafqafa	Jerash	Primary
190	Mukbleh Hc	Muqbila	Jerash	Peripheral

Group	Day	Issues	Assessed	Not Assessed
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday	Dropped entry: listing error	1	
Group 5 - 08/06	Saturday		1	
Group 5 - 08/06	Saturday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday	Assessed in place of JUST Health Center (or Entry 12)	1	
Group 6 - 11/06	Tuesday	Total non-compliance from dentist.	1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday	Dropped entry: also called Hashmiya; military facility, needs much formal paperwork		1
Group 6 - 11/06	Tuesday	Dropped entry: military facility, needs much formal paperwork		1
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday	Captured by Group 1	1	
Group 6 - 11/06	Tuesday	24 hour primary center, but managed by enums.	1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday	Dropped entry: military facility, needs much formal paperwork		1
Group 6 - 11/06	Tuesday		1	

Reference	Center	Locality	Governorate	Type
191	Al- Qadisyeh	Jarash	Jerash	Primary
192	Ibbeen	Ibbin	Ajloun	Primary
193	Sahnah	Mihna	Ajloun	Peripheral
194	Abdar	Ibdar	Irbid	Peripheral
195	Hatem	Hatem	Irbid	Primary
196	Ramtha north	Al Ramtha	Irbid	Primary
197	Main Ramtha	Al Ramtha	Irbid	Primary
198	Torrah north	Al Turra	Irbid	Primary
199	Tabaqet Fahel	Tabaqat Fahl	Irbid	Peripheral
200	Kafr kefia	Kufr Kifya	Irbid	Peripheral
201	Fo'ara	Foara	Irbid	Primary
202	Hoor	Hawar	Irbid	Primary
203	Dahiyat el hussein	Irbid	Irbid	Primary
204	aidoon	Eidun	Irbid	Primary
205	Free Zone	Khaw	Zarqa	Peripheral
206	Zarqa Jadeeda	Al Zarqa	Zarqa	Primary
207	Azraq	Al Azraq Janobi	Zarqa	Comprehensive
208	Al Jundi	Abu Sayah	Zarqa	Primary
209	Mugheer as – sarhan	Mghayer Sarhan	Mafraq	Primary
210	Ribaa al –sarhan	Rba' Sarhan	Mafraq	Peripheral
211	Al-mafraq	Al Mafraq	Mafraq	Primary
212	Ein bani hasan	Ayn Bani Hasan	Mafraq	Primary
213	Prince Mohammad	Al Khirbah Al Samra	Mafraq	Peripheral
214	Al jabeeba	Al Jubayah	Mafraq	Peripheral
215	Prince Ali	Abu Al Farth	Mafraq	Peripheral
216	Safawi	Safawi	Mafraq	Primary
217	Dafianah	Al Dafyanah	Mafraq	Primary
218	Sabha	Sabha	Mafraq	Comprehensive
219	Al – Manspurah Hc	Al Mansurah (khshaibeh)	Jerash	Peripheral
220	Tale't Al – Roz Hc	Talat Al Ruzz	Jerash	Peripheral
221	Al – mastafeh	Al Mastabah	Jerash	Primary
222	Arjan	Arjan	Ajloun	Primary
223	Hashmyah	Al Hashemiyah	Ajloun	Primary
224	Ishtafainah	Ishtafaina	Ajloun	Peripheral
225	Harta	Hartha	Irbid	Primary
226	Saham	Saham	Irbid	Primary
227	Al-Makheeba Al-Tahta	Mkhaibeh Al Tehta	Irbid	Peripheral
228	Um Qais	Umm Qais	Irbid	Primary
229	Bwaidah	Al Buwayda	Irbid	Primary
230	Saheel jarawan	Al Turra	Irbid	Comprehensive
231	Hakama	Hakema	Irbid	Primary
232	Tuqbul um el –jadayel	Tuqbul	Irbid	Peripheral
233	Jijjeen	Jejin	Irbid	Peripheral
234	Kufr'an	Kufr An	Irbid	Peripheral
235	Kufr asad	Kufr Asad	Irbid	Primary
236	Kitm	Kitim	Irbid	Primary
237	Abu Zighan	Al Ruhayl	Zarqa	Primary
238	Saroot	Sarrut	Zarqa	Primary
239	Braiqa	Bariqa	Mafraq	Peripheral
240	Al-khaldiyyeh	Al Khaldiyah	Mafraq	Comprehensive

Group	Day	Issues	Assessed	Not Assessed
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 6 - 11/06	Tuesday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday	Open every other day	1	
Group 7 - 15/06	Saturday	Open every other day	1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday	Attended but did not open at all, doctor only comes in on Wednesday.		1
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday	It is not in Abu Sayah, it is in Al Jundi.	1	
Group 7 - 15/06	Saturday	Comprehensive center, not primary.	1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 7 - 15/06	Saturday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	

Reference	Center	Locality	Governorate	Type
241	Old al – khaledeyeh	Al Khaldiyah	Mafraq	Peripheral
242	Al-Karam and Hamaid	Al Karm	Mafraq	Peripheral
243	Al-Musheirfeh	Al Madwar	Mafraq	Peripheral
244	Al –Musheirfeh	Al Mushrefa	Mafraq	Peripheral
245	Umm Lulu Rehabilitation	Umm Alulu	Mafraq	Primary
246	Mdoar Qon	Medwer Al Qinn	Mafraq	Peripheral
247	Amrah we Amairah	Amrah	Mafraq	Primary
248	Zamlat princ Ghazi	Zamlet Al Amir Ghazi	Mafraq	Peripheral
249	Rawdat Prince Hamza	Hlaiwet Masarhah	Mafraq	Peripheral
250	Al – Rahmania Hc	Al Rahmaniyeh	Jerash	Peripheral
251	Anjarah	Anjara	Ajloun	Primary
252	Prince Hassan	Kufranjah	Ajloun	Comprehensive
253	Kharja	Kharja	Irbid	Primary
254	Torrah south	Al Turra	Irbid	Primary
255	Al – Manshie	Al Manshiyah	Irbid	Primary
256	Jeneen al – safa	Jinnin Al Safa	Irbid	Primary
257	sal	Sal	Irbid	Primary
258	As'arah	Isara	Irbid	Peripheral
259	At – turkman	Irbid	Irbid	Primary
260	Haneena	Irbid	Irbid	Primary
261	Al-khraj	Al Kharaj	Irbid	Peripheral
262	Samad and az-za'tai	Al Z'atara	Irbid	Primary
263	Al -Batrawi	Al Hashemiyah	Zarqa	Primary
264	Khreisan	Tawahien Edwan	Zarqa	Peripheral
265	Hay Al-Ameer Hamza	Al Zarqa	Zarqa	Comprehensive
266	Prince Talal	Abu Sayah	Zarqa	Primary
267	Mansheyet al – keiber	Manshiyyet Al Kaiber	Mafraq	Peripheral
268	Al-zubideh	Al Zubaydiyah	Mafraq	Primary
269	Al –mabroukeh	Al Mabrookah	Mafraq	Primary
270	Naderah	Nadira	Mafraq	Comprehensive
271	Al Doqmousseh	Al Duqmussah	Mafraq	Peripheral
272	Hamameh	Hamamat Al Umush	Mafraq	Peripheral
273	aljbaiah	Al Jubayah	Mafraq	Peripheral
274	Al_Manara	Al Manarah	Mafraq	Peripheral
275	Kufr khaf Hc	Kufr Khall	Jerash	Primary
276	Al – Hadadeh Hc	Al Haddadah	Jerash	Primary
277	Rajib	Rajeb	Ajloun	Primary
278	MCH Irbid	Al Bareeha	Irbid	Comprehensive
279	Al – Burj Al-Mansourah Hc	Suf	Jerash	Peripheral
280	Jaba Hc	Jaba	Jerash	Peripheral
281	Al – Rashydeh Hc	Al Rashadiyah	Jerash	Peripheral
282	Rwaishid	Al Rwaished	Mafraq	Comprehensive
283	Hodod Rwaishid Karama	Al Karamah	Mafraq	Primary
284	Kafr soum	Kufr Saum	Irbid	Primary
285	Thunaiba	Al Dhunaybah	Irbid	Primary

Group	Day	Issues	Assessed	Not Assessed
Group 8 - 18/06	Tuesday	Dropped entry: shut-down, services transferred to Al-khalidiyyeh Comprehensive		1
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday	Dropped entry: military facility, needs much formal paperwork		1
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 8 - 18/06	Tuesday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday	Dropped entry: closed down		1
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday	Captured by Group 7	1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday	Correct name is not Kufr khaf Hc, but Kufr Khall	1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday		1	
Group 9 - 22/06	Saturday	Added MCH center, from original lists.	1	
Group 9 - 22/06	Saturday	Moved from Group 8 to Group 9, post hospital enumerators approval. Note: open every other day.	1	
Group 9 - 22/06	Saturday	Moved from Group 8 to Group 9, post hospital enumerators approval. Note: open every other day.	1	
Group 9 - 22/06	Saturday	Captured by Group 2	1	
Group 9 - 22/06	Saturday	Moved from Group 2 to Group 9, due to distance (Iraqi Border) - along with Rwaishid hospital.	1	
Group 9 - 22/06	Saturday	Moved from Group 4 to Group 9, due to distance (Iraqi Border) - along with Rwaishid hospital. Received no formal communication but resolved by Dr. Sahar.	1	
Group 10 - 25/06	Tuesday		1	
Group 10 - 25/06	Tuesday		1	

Reference	Center	Locality	Governorate	Type
286	Al- Adasyieh	Al Adasiyah	Irbid	Peripheral
287	Tebnah Hc	Tibnah	Irbid	Primary
288	Ar- razi	Bushra	Irbid	Primary
289	Employees	Irbid	Irbid	Primary
290	Sama	Samma	Irbid	Primary
291	Dair es-sa'nah	Dair Al Sina	Irbid	Primary
292	Zebdet Wasatieh	Zabdet Al Wasatiyah	Irbid	Peripheral
293	Al-Hashmiyya Housing	Al Hashemiyah	Zarqa	Comprehensive
294	Prince Mohammad	Al Zarqa	Zarqa	Primary
295	Al-Naqab	Mukhayyam Hettin	Zarqa	Primary
296	Al Shukhot	Al Dhlail	Zarqa	Peripheral
297	Border Jaber	Jabir	Mafraq	Primary
298	Jaber as – sarhan	Jabir	Mafraq	Primary
299	Faa'	Fa	Mafraq	Primary
300	Mansheh alsota	Manshiyyet Al Soltah	Mafraq	Peripheral
301	Manshiyyet bani hasan	Manshiyet Bani Hasan	Mafraq	Primary
302	Hayyan Al-Msharaf	Haiyan Al Mushref	Mafraq	Peripheral
303	Al- Mdawwar	Dahl	Mafraq	Peripheral
304	AL Akib	Al Aqeb	Mafraq	Peripheral
305	AlBshriah	Al Bishriyah	Mafraq	Comprehensive
306	Mkaiftah	Al Mukayfitah	Mafraq	Primary
307	Qafqafa	Qafqafa	Jerash	Primary
308	Asfoor	Asfur	Jerash	Peripheral
309	Deir Al – laiat Hc	Dair Al Liyat	Jerash	Primary
310	AlMargam	Al Merjam	Ajloun	Peripheral
311	Safsafeh	Al Safsafah	Ajloun	Peripheral
312	MCH Zarqa	Al Tadribi	Zarqa	MCH
313	Al-mansourah	Al Mansurah	Mafraq	Comprehensive
314	Um Gmal	Umm Al Jmal	Mafraq	Comprehensive
315	Sakhra	Sakhrah	Ajloun	Comprehensive

Group	Day	Issues	Assessed	Not Assessed		
Group 10 - 25/06	Tuesday	Open every other day	1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday	Only dentist clinic, only for employees	1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday	Open only on Sunday and 'Wednesday'	1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday	Captured by Group 8	1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday		1			
Group 10 - 25/06	Tuesday	Added MCH center, from original lists.	1			
Group 10 - 25/06	Tuesday	Moved from Group 8 to Group 10, post hospital enumerators approval.	1			
Group 10 - 25/06	Tuesday	Moved from Group 8 to Group 10, post hospital enumerators approval.	1			
Group 10 - 25/06	Tuesday	Moved from Group 8 to Group 10, post hospital enumerators approval.	1			
		Count (Assessed | Non-Assessed):	298	17	**GRAND**	**315**
		% of Total HCs (Assessed | Non-Assessed):	94.60%	5.40%	**TOTAL**	**100%**

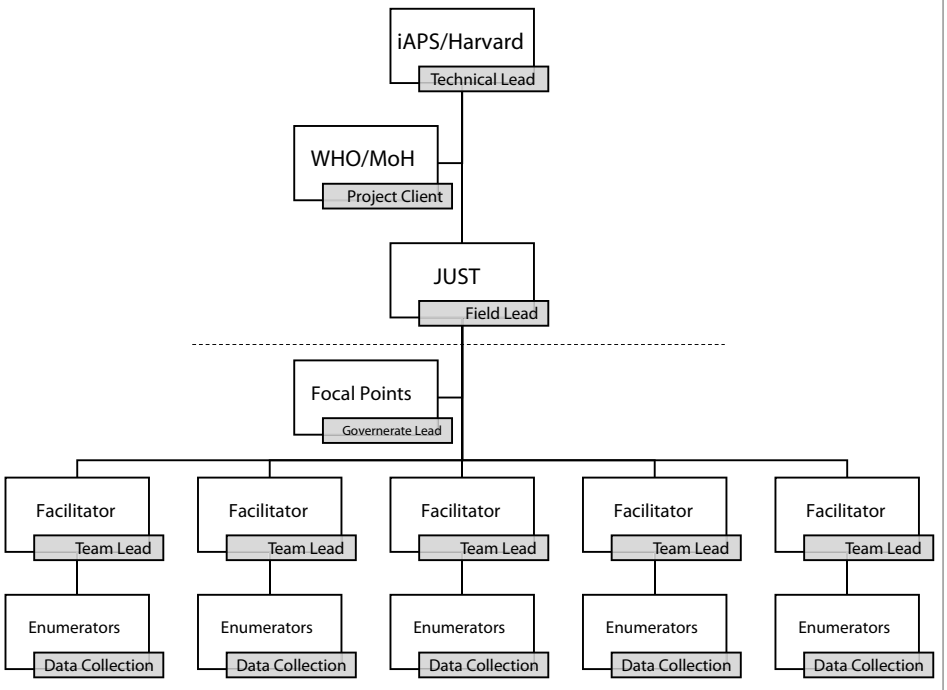
Appendix B: Hospital Enumerator Deployment Plan

Reference	Center	Locality	Governorate	Type	Group
1	JARASH HOSPITAL	Jarash	Jerash	Hospital	Group 1 - 06/08
2	PRINCE FAISAL HOSPITAL	Al Russeyfah	Zarqa	Hospital	Group 1 - 06/08
3	YARMOUK HOSPITAL	Azrit	Irbid	Hospital	Group 1 - 06/08
4	RAMTHA PUBLIC HOSPITAL	Al Ramtha	Irbid	Hospital	Group 2 - 06/11
5	RAYA HOSPITAL	Dair Abu Said	Irbid	Hospital	Group 2 - 06/11
6	RAHMAH HOSPITAL	Natifah	Irbid	Hospital	Group 2 - 06/11
7	AL IMAN AL HOKOMI HOSPITAL	Ajlun	Ajloun	Hospital	Group 3 - 06/15
8	MUA'ATH BEN JABAL HOSPITAL	Shuneh Shamaliyah	Irbid	Hospital	Group 3 - 06/15
9	AL MAFRAQ GOVERNMENTAL HOSPITAL	Al Mafraq	Mafraq	Hospital	Group 3 - 06/15
10	ABI OBIDAH HOSPITAL	Al Marraza	Irbid	Hospital	Group 4 - 06/18
11	GYNECOLOGY & OBSTETRICS & CHILDREN HOSPITAL	Rawdhet Abu Heyal	Mafraq	Hospital	Group 4 - 06/18
12	PRINCESS BASMA HOSPITAL	Irbid	Irbid	Hospital	Group 4 - 06/18
13	BADEE'AH HOSPITAL	Natifah	Irbid	Hospital	Group 5 - 06/22
14	AL RWASHED HOSPITAL	Jeser Al Rwaished	Mafraq	Hospital	Group 5 - 06/22
15	ZARQA GOVERNMENTAL HOSPITAL	Al Zarqa	Zarqa	Hospital	Group 5 - 06/22
16	AL BADEAH AL-SHAMALIYA	Al Mafraq	Al Mafraq	Hospital	

Day	Shift A	Shift B	Assessed	Not Assessed
Saturday	No issues, fully streamlined.	Some non-compliance from physician and nurse, resolved by phone call by Dr. Sahar to Jarash focal point.	1	
Saturday	Some non-compliance at ED and MCH on 1st day and late enumerators, fully streamlined and resolved by field visit by Dr. Mutaz.	No issues, fully streamlined.	1	
Saturday	No issues, fully streamlined.	No issues, fully streamlined.	1	
Tuesday	Outpatient - some non-compliance encountered from 2 physicians (ENT / maternal & child health), resolved by field visit by Dr. Mutaz. Inpatient – streamlined. ED – streamlined.	No issues, fully streamlined.	1	
Tuesday	No issues, fully streamlined.	ED - some non-compliance from emergency physician on emergency B shift, resolved by phone call by Dr. Sahar to hospital director.	1	
Tuesday	No issues, fully streamlined.	No issues, fully streamlined.	1	
Saturday	Inpatient streamlined. Outpatient streamlined. Emergency stretched by Obstetrics & Gynae having their own department.	No issues, fully streamlined.	1	
Saturday	No issues, fully streamlined.	No issues, fully streamlined.	1	
Saturday	Late enums. Inpatient streamlined. ED streamlined. Some initial non-compliance at outpatient, resolved by field visit by Dr. Mutaz.	No issues, fully streamlined.	1	
Tuesday	Some non-compliance from hospital director, resolved over the phone by Dr. Sahar and field visit by Dr. Buthaina.	No issues, fully streamlined.	1	
Tuesday	No issues, fully streamlined.	No issues, fully streamlined.	1	
Tuesday	Some non-compliance from two outpatient physicians (ophtalmology and orthopedics), resolved by field visit by Dr. Mutaz. Inpatient - streamlined. ED - streamlined.	Some non-compliance from emergency department nurses, resolved by phone call from Dr. Sahar to hospital director.	1	
Saturday	No issues, fully streamlined. Enums discovered neonatal department belonging to Rahma hospital and is being assessed.	No issues, fully streamlined.	1	
Saturday	No issues, fully streamlined.	No issues, fully streamlined.	1	
Saturday	Some late enums. Inpatient streamlined. ED streamlined. Outpatient streamlined.	No issues, fully streamlined.	1	
	Dropped entry: closed (opens in 2014)			1
	Count (Assessed | Non-Assessed)		15	1
	% of Total Hospitals (Assessed | Non-Assessed)		93.75%	6.25%

GRAND TOTAL **16** **100%**

Appendix C: Communications Flow Chart



Core Team Communications Structure :

iAPS/Harvard:

- Adib Fletcher (afletcher@i -aps.com | 0798795702)
- Ben Pittman (Ben_Pittman@hks14.harvard.edu | 0798605349)
- Neil Hendrick (Neil.Hendrick@kobotoolbox.org | 0795864388)
- Mutaz Shegewi (mutazshegewi@gmail.com | 0798132852)

WHO/MoH:

- Buthaina Ghanem (buthainag@yahoo.com | 0795764898)
- Clare Taylor (claretaylor2000@yahoo.co.uk | 0798532166)
- Sahar Jrieset (saharjordan@yahoo.com | 0777129010)

JUST:

- Arwa Oweis (arwa@just.edu.jo | 0797312738)
- Laila Akhu -Zaheya (lailanurse@just.edu.jo | **0795538508;** 01196227201000 ext: 23625, 23608)

Focal Points:

- Name (email | number)

Facilitators:

- Laila Saqer (lrsaqr@just.edu.jo | 0786384373)
- Kloud Abu Obeid (kzabuobead@just.edu.jo I 0798846934)
- Awad Abu Awad (aaabuawwad@just.edu.jo I 0796440733)
- Walid Hayajneh (wthayajneh@just.edu.jo I 0772125138)
- Mohammed Alomeri (maalomari@just.edu.jo I 0772306686)
- Abeer AlKofahi (abeeranas72@just.edu.jo I 0779390274)
- Asfa Amerneh (aaamarneh@just.edu.jo I 0777322631)
- Amal Bsul (akbsoul@just.edu.jo I 0787799155)
- Hassan Tahsin (Htmohammad05@ just.edu.jo I 0795677143)
- Fedaa Sweis (fyalswies@just.edu.jo I 0787256107)

Appendix D: Illustrative Hospital Tactical Plan

PRINCE FAISAL HOSPITAL

Total Enumerators: 12 (+ 4 for Emergency "B" Shift)
Hospital Director: Dr. Talal Abaydat
(PLEASE DELIVER FACILITY FORM TO HOSPITAL DIRECTOR AND COLLECT AFTER 3 DAYS).

Outpatient Department – Enumerators needed: 7
Contact Persons: Ghada Mahameed (Head of Nursing) | Wedad Kanaan (Patient Records Department)

- No. of Outpatient Clinics (total): 11
- No. of Outpatients (per day): up to 800 (>30 outpatients expected to be Syrian)
- Patient Flow: Central Desk -> Individual Clinic

ACTION PLAN – *SAME AS EMERGENCY DEPARTMENT*
Prospective Data Collection: Intake form (for all) + Utilization form (1 Syrian to 1 Jordanian)

1. 7 enumerators GO to *outpatient department* (first side entrance from the outside, there is more than one floor).
2. INTRODUCE yourself to *all physicians* in all clinics and tell them about the treatment card.
3. ATTEND *central outpatient desks, clinics* and *other floors* that will make sure you catch all outpatients.
4. DO *intake forms* for all patients.
5. GIVE *treatment card* to all patients.
6. FILL *top of treatment card* for first Syrian patient and next Jordanian patient (1 to 1).
7. COLLECT *treatment cards* (filled and blank) from physicians.
8. DO *utilization form* from treatment cards and sync data when you can

---

Inpatient Department – Enumerators needed: 2
Contact Persons: Wedad Kanaan (Patient Records Department)

- No. of Hospital Beds: 161
- No. of Inpatients Admitted per day: 60 (1 - 3 patients per day expected to be Syrian)

ACTION PLAN – Retrospective Data Collection: Utilization form (for last 3 days)

1. 2 enumerators GO to *patient records department* (3rd floor, next to the pharmacy).
2. ASK for *last 3 available days* of inpatient files (you may have to look in other departments).
3. DO *utilization* form for all inpatients of those 3 days and sync data when you can.

Emergency Department – Enumerators needed: 3 on A shift | 4 on B shift
Contact Persons: Dr. Samir Khudar (Head of Emergency Department)

- Emergency Patients per day: 400 (40 patients are expected to be Syrian)
- Patient flow: Emergency Desk -> Doctor on Call room

ACTION PLAN – *SAME AS OUTPATIENT DEPARTMENT*
Prospective Data Collection: Intake form (for all) + Utilization form (1 Syrian to 1 Jordanian)
Retrospective Data Collection, shift C ONLY: Intake form + Utilization form 1 to 1 (if available)

1. GO to *emergency department* (entrance from outside, lower ground floor).
2. 3 *enumerators* for A Shift:
    - 1 enumerators | use central desk book to DO *intake form* for all patients of C shift of night before (11:00pm to 07:00am) – TRY to do *utilization* form 1 to 1 if data is available.
    - 2 enumerators | DO *intake* form for all A shift patients and DO *utilization* form 1 to 1.
3. 4 *enumerators* for B shift:
    - 2 enumerator | DO intake form for all B shift patients.
    - 2 enumerators | DO utilization form 1 to 1.
4. SYNC DATA when you can.

Additional Notes:

- Any questions/problems please contact your facilitator; be flexible, be a team, enjoy… and good luck!

Appendix E: Intake Survey Form

Confidential

Intake

Please complete the survey below.

Thank you!

1) Date of patient visit _____

2) Type of facility
- ☐ Hospital/inpatient facility
- ☐ General Health Center
- ☐ Comprehensive Primary Health Center
- ☐ Non Governmental Organization Center
- ☐ Private Health Center

3) Facility name _____

4) Governate
- ☐ Mafraq
- ☐ Irbid
- ☐ Ramtha
- ☐ Zarqa
- ☐ Ajloun and Jerash

5) Date of birth _____

6) Age _____

7) Gender
- ☐ Male
- ☐ Female

8) Nationality
- ☐ Jordanian
- ☐ Syrian
- ☐ Iraq
- ☐ Palestine
- ☐ Other

9) Specification of Nationality if other _____

10) Presenting Condition
- ☐ Headache
- ☐ Vision/eye problem
- ☐ Ear Pain/Hearing Problem
- ☐ Nausea/vomiting
- ☐ Dental Problem
- ☐ Cough
- ☐ Sore Throat
- ☐ Shortness of Breath
- ☐ Mental Health
- ☐ Abdominal Pain
- ☐ Diahrrea
- ☐ Chest Pain
- ☐ Musculosketetal Strain
- ☐ Injury
- ☐ Genitourinary
- ☐ Vaccination
- ☐ OB/Gyn
- ☐ Fever
- ☐ Vaccination
- ☐ Other Specify

11) Other Condition (reason for visit) _____

12) Would you like to add any notes? _____

Appendix F: Health Care Utilization Survey Form

Confidential

Health Care Utilization

Team WHO,

Every Syrian patient will have an enumerator in the clinic visit with the patient (presumably by having an enumerator stay with each provider) to complete the record of diagnosis/treatment/procedures. For every Syrian we will collect utilization data on the next non-Syrian patient (presumably Jordanians) who comes to the clinic again this will be done by having an enumerator in the office visit with the patient (and collecting data on diagnosis/treatment/procedures).

Please complete the survey below.

Thank you!

Today's Date _____

Is this a Clinic or a Hospital?
- ☐ Clinic
- ☐ Hospital

Governate
- ☐ Irbid
- ☐ Zarqa
- ☐ Mafraq
- ☐ Jerash
- ☐ Ajloun

Type of Facility
- ☐ Primary
- ☐ Peripheral
- ☐ Comprehensive
- ☐ Hospital
- ☐ UNRWA

(note these are cascading selections in the koboform. This means that you must use the final facility name selection to determine type.)

Facility Name _____

Date of Visit _____

Age in years _____

Gender
- ☐ Male
- ☐ Female

Nationality
- ☐ Jordanian
- ☐ Syrian
- ☐ Iraqi
- ☐ Palestinian
- ☐ Unknown
- ☐ Other

Specification of Nationality if other _____

Confidential

Health Conditions

Diagnosis (Check all that apply)

- ☐ Infectious & Parasitic diseases
- ☐ Tumors / Cancer
- ☐ Endocrine Nutritional & Metabolic Diseases
- ☐ Diseases of Blood & Immunity Disorders
- ☐ Mental & Behavioral Disorders
- ☐ Diseases of the Nervous System
- ☐ Diseases of the Sense Organs
- ☐ Diseases of the Circulatory System
- ☐ Diseases of the Respiratory System
- ☐ Diseases of the Digestive System
- ☐ Diseases of the Genitourinary System
- ☐ Pregnancy/Childbirth and Perinatal Conditions
- ☐ Diseases of the Skin Subcutaneous Tissue
- ☐ Musculoskeletal and Connective Tissue
- ☐ Congenital Malformations, Deformations, and Chromosomal Abnormalities
- ☐ Injury
- ☐ Dental problems
- ☐ Substance abuse
- ☐ Other health conditions

Heart conditions, select all that apply

- ☐ Hyptertension
- ☐ Ischaemic heart disease
- ☐ Congestive heart failure
- ☐ Cardiovascular disorders
- ☐ Rhythm Disorder
- ☐ Valve Disorder
- ☐ Atherosclerosis

Heart conditions, Other _____

Renal conditions, select all that apply

- ☐ Renal Failure
- ☐ Renal or Urinary Stones
- ☐ UTI (Urinary Tract Infection)
- ☐ Other Renal
- ☐ Male- Disorders of the Penis
- ☐ Male- Disorders of the Prostate
- ☐ Female- Disorder of the Breast
- ☐ Female- Pelvic Disease
- ☐ Disorder of Fertility
- ☐ Other Genital

Renal conditions, Other _____

Confidential

Infectious disease conditions, select all that apply

- ☐ Cholera, Typhoid, Shigella, Dysentery
- ☐ Bacterial Intestinal Infections
- ☐ Worm, Parasite, and Protozoal Intestinal Infections
- ☐ Viral Gastritis
- ☐ Tuberculosis
- ☐ Leishmaniasis
- ☐ Tetanus
- ☐ Rabies
- ☐ Hepatitis
- ☐ Typhoid Fever
- ☐ Upper Respiratory Tract Infection
- ☐ Lower Respiratory Tract Infection
- ☐ Pneumonia
- ☐ Watery Diarrhea (unspecified diagnosis)
- ☐ Measles
- ☐ HIV
- ☐ Meningitis
- ☐ Sepsis
- ☐ Sexually Transmitted Disease (STD)
- ☐ Fever of Unknown Origin

Infectious disease conditions, Other

_____

Pregnancy, Childbirth, & the Puerperium

- ☐ Prenatal Check-up
- ☐ Family Planning Consult
- ☐ Vaginal Birth
- ☐ C-Section
- ☐ Anemia
- ☐ Pelvic Pain
- ☐ Ectopic Pregnancy
- ☐ Spontaneous Abortion/ Miscarriage
- ☐ Pregnancy-induced Hypertension
- ☐ Pre-eclampsia/ Eclampsia / HELLP Syndrome
- ☐ Bleeding/ Hemorrhage
- ☐ Vomiting/ Morning Sickness
- ☐ Gestational Diabetes
- ☐ Placental/ Amniotic Fluid Disorders
- ☐ Disorders of Labor
- ☐ Disorders of Lactation
- ☐ Complications of Birth
- ☐ Complications originating from Pregnancy/ Birth Trauma
- ☐ Impaired Fetal Growth
- ☐ Disorders of the Respiratory and Cardiovascular Systems
- ☐ Infection/ Sepsis
- ☐ Jaundice
- ☐ Hemorrhage
- ☐ Metabolic Disorder
- ☐ Digestive Disorder

Confidential

Pregnancy details

If pregnant: Expected delivery date _____

If pregnant: Screened for malnutrition?
- ☐ No
- ☐ Yes
- ☐ Don't Know

If pregnant: Screened for anemia?
- ☐ No
- ☐ Yes
- ☐ Don't Know

Prenatal visit
- ☐ No
- ☐ Yes
- ☐ Don't Know

If Prenatal visit: Screened for malnutrition?
- ☐ No
- ☐ Yes
- ☐ Don't Know

Confidential

Health Conditions

Gastrointestinal conditions

- ☐ Watery diarrhea
- ☐ Bloody diarrhea
- ☐ Abdominal pain
- ☐ Constipation
- ☐ Irritable bowel syndrome
- ☐ Inflammatory bowel disease
- ☐ Appendicitis
- ☐ Ulcers
- ☐ Colon Disease
- ☐ Gallbladder Disease
- ☐ Liver Disease

Gastrointestinal conditions, Other _____

Respiratory conditions

- ☐ Upper Respiratory Infection
- ☐ Lower Respiratory Infection
- ☐ Influenza and Influenza-like Illness
- ☐ Pneumonia
- ☐ Bronchitis
- ☐ Allergies
- ☐ COPD/Emphysema

Respiratory conditions, Other _____

Endocrine conditions

- ☐ Diabetes (on insulin)
- ☐ Diabetes (on oral medication)
- ☐ Obesity
- ☐ Thyroid Problem/Thyroid Hormone Disorder
- ☐ Adrenal Disease
- ☐ Reproductive Disorder
- ☐ Parathyroid Gland/ PTH Disorder
- ☐ Pituitary Gland Disorder
- ☐ Malnutrition
- ☐ Vitamin Deficiency
- ☐ Eating Disorder

Endocrine conditions, Other _____

Mental health conditions

- ☐ PTSD
- ☐ Major depressive disorder
- ☐ Bipolar
- ☐ Schizophrenia
- ☐ Anxiety Disorder
- ☐ Dementia
- ☐ Behavior Disorder
- ☐ Other mental health conditions

Other, Mental Health _____

Cancer details

- ☐ Lung
- ☐ Breast
- ☐ Gynecologic
- ☐ Lymphoma
- ☐ Leukemia
- ☐ Colon
- ☐ Prostate
- ☐ Thyroid
- ☐ Skin

Confidential

Diseases of the Sense Organs (Eye and Ear)	☐ Eye Infection ☐ Nerve Palsy ☐ Cataract ☐ Glaucoma ☐ Vision Impairment ☐ Ear Infection ☐ Disorder of the Middle Ear ☐ Disorder of the Inner Ear ☐ Hearing Loss
Blood Conditions	☐ Anemia ☐ Thalassemia ☐ Sickle cell ☐ G6PD ☐ Leukemia ☐ Coagulation Defects, Purpura, and Hemorrhagic Conditions ☐ Venous Thrombosis (clot) ☐ HIV ☐ Autoimmune Disorder ☐ Allergies ☐ Immune Deficiency Disorder
Neurological Condition	☐ Headache/ Migraine ☐ Meningitis ☐ Encephalitis ☐ Dementia ☐ Ataxic Disorders ☐ Motor Neuron Disease ☐ Atrophic Disorders ☐ Parkinsons Disease ☐ Multiple Sclerosis ☐ Seizures ☐ Sleep Disorder ☐ Nerve Disorders (ie, Trigeminal Neuralgia) ☐ Neuropathy ☐ Myopathy ☐ Palsy ☐ Traumatic Brain Injury ☐ Stroke
Diseases of the Skin and Subcutaneous Tissue	☐ Skin Infection ☐ Blister Disorders ☐ Dermatitis and Eczema ☐ Psoriasis ☐ Itching and Redness/Swelling
Diseases of the Musculoskeletal System & Connective Tissue	☐ Infection ☐ Arthritis ☐ Deformity ☐ Systemic Connective Tissue Disorder ☐ Disorder of the Bone and Spine ☐ Disorder of the Cartilage ☐ Musculoskeletal Strain
Substance Abuse	☐ Alchohol ☐ Narcotics ☐ Other

Confidential

Injury	☐ Burn ☐ Amputation ☐ Gunshot Wound ☐ Abrasion ☐ Laceration ☐ Contusion ☐ Broken Bone ☐ Injury & Poisoning and certain other consequences of external causes
Injury, Other specify	_____
Body Part Injured	☐ Head ☐ Neck ☐ Eyes ☐ Torso ☐ Limbs ☐ Digits
List any condition on the visit record not already mentioned	_____

Confidential

Treatment offered

Treatment offered:
- ☐ Medication
- ☐ Procedure
- ☐ Therapy
- ☐ None

Immunization Screen
- ☐ Yes
- ☐ No

Nutrition screen at visit
- ☐ Yes
- ☐ No

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Medication name _____ (List any medication used with dose)

Lab Tests
- ☐ Blood chemistry
- ☐ CBC (Complete Blood Count)
- ☐ Routine Urine
- ☐ Thyroid Function Test
- ☐ Liver Function Test
- ☐ Air Blood Gas
- ☐ Thalysemia

Other Lab Tests _____

Confidential

Procedures done to patient

- ☐ Temperature assessment
- ☐ Vital signs
- ☐ Pelvic examination
- ☐ Vaccination
- ☐ Arterial blood gas sampling
- ☐ Venipuncture
- ☐ 02 Sat Monitoring
- ☐ Pulse oximetry
- ☐ Intravenous infusion
- ☐ Hemodialysis
- ☐ Electrocardiogram
- ☐ Cardiac stress testing
- ☐ Spirometry
- ☐ Ophthalmoscopy
- ☐ Laryngoscopy
- ☐ Bronchoscopy
- ☐ Endoscopy
- ☐ Colonoscopy
- ☐ Laproscopy
- ☐ Ostoscopy
- ☐ Tracheal intubation
- ☐ Thoracentesis
- ☐ Paracentesis
- ☐ Joint aspiration
- ☐ Arthrocentesis
- ☐ Biopsy
- ☐ Catheterization
- ☐ Lumbar puncture
- ☐ Incision and drainage
- ☐ Wound suturing
- ☐ Skin debridement
- ☐ Local anesthesia
- ☐ General anesthesia
- ☐ Surgery
- ☐ Physical examination
- ☐ Counseling
- ☐ IUD Insertion

Other Procedures, Specify. _____

Vaccination performed at visit

- ☐ Measles
- ☐ Mumps
- ☐ Rubella
- ☐ Polio
- ☐ Tetanus
- ☐ Rabies
- ☐ Typhoid Fever
- ☐ Hepatitis
- ☐ Influenza

Confidential

Type of Surgery

- ☐ Appendectomy
- ☐ Breast Biopsy
- ☐ Cataract Surgery
- ☐ C-Section
- ☐ Cholecystectomy
- ☐ Coronary Artery Bypass
- ☐ Dilation and Curettage
- ☐ Skin Graft
- ☐ Hysterectomy
- ☐ Hysteroscopy
- ☐ Hernia repair
- ☐ Neurosurgery
- ☐ Mastectomy
- ☐ Colectomy
- ☐ Prostectomy
- ☐ Tonsillectomy
- ☐ Laparoscopy
- ☐ Vasectomy/Tubal Ligation

Therapies performed at visit

- ☐ Oxygen therapy
- ☐ Aerosol inhalation therapy
- ☐ Hormone replacement therapy
- ☐ Oral rehydration therapy
- ☐ Chemotherapy
- ☐ Radiation therapy
- ☐ Chelation therapy
- ☐ Physical therapy
- ☐ Psychotherapy

Medical imaging

- ☐ Ultrasound
- ☐ CT Scan
- ☐ MRI
- ☐ Echocardiography
- ☐ Electroencephalography
- ☐ Angiography
- ☐ X-Ray

Date of admission

_____
(only shows up if Facility Type = Hospital)

Date of discharge

_____
(only shows up if Facility Type = Hospital)

Expected date of discharge

_____
(only shows up if Facility Type = Hospital)

Patient Disposition

- ☐ No Further Treatment/No follow-up scheduled
- ☐ Emergency referral
- ☐ Referral to specialist
- ☐ Referral to hospital
- ☐ Follow-up visit at the clinic
- ☐ Follow-up at another clinic
- ☐ Follow-up elsewhere

Finished

End of survey.Would you like to add any Notes or Comments? If not, swipe to the next screen and save. Go to the next survey.	_____ (If not, swipe to the next screen and save. Go to the next

Appendix G: Health Facility Capacity Assessment Tool

Confidential

Facility

Please complete the survey below.

Thank you!

Hospital or Health Center?
- ☐ Hospital
- ☐ Health Center

Source of information/Surveyor name _____

Contact _____

Facility name _____

GPS coordinates of clinic _____

Governate
- ☐ Mafraq
- ☐ Irbid
- ☐ Zarqa
- ☐ Ajloun
- ☐ Jerash

District _____

HF Name _____

HF Type _____

Catchment population _____

HF or hospital status
- ☐ Fully Functioning
- ☐ Partially Functioning
- ☐ Non-functioning

Is a generator available?
- ☐ Yes
- ☐ No

Is a refigerator available?
- ☐ Yes
- ☐ No

Indicate which of the following specialists practice/services available at this health center
- ☐ Internal medicine
- ☐ Pediatrician
- ☐ Dermatologist
- ☐ Family Medicine
- ☐ Gynecology
- ☐ Psychiatry
- ☐ GP
- ☐ Pharmacists
- ☐ Dentist
- ☐ Nurses
- ☐ Midwives
- ☐ Technicians
- ☐ Other specialists

Other specialists, please list _____

Number of internal medicine practioners _____

Number of pediatricians _____

Number of dermatologists _____

Number of family medicine practioners _____

Confidential

Number of gynecologists _____

Number of psychiatrists _____

Number of GPs _____

Number of pharmacists _____

Number of dentists _____

Number of nurses _____

Number of midwives _____

Number of technicians _____

Please indicate which of the following pieces of equipment are available at this health clinic

- ☐ Sterilizer/Autoclave
- ☐ Vacuum extractor
- ☐ Nebulizer
- ☐ Thermometer
- ☐ Pulse Oximeter
- ☐ Oxygen cylinders
- ☐ Light source (flashlight acceptable)
- ☐ Safe delivery kit
- ☐ Clean delivery assistance kit
- ☐ Vaginal examination set
- ☐ Fetoscope
- ☐ Delivery table
- ☐ Weight machine
- ☐ Length measurement device
- ☐ Height measurement device
- ☐ Minor surgery kit
- ☐ ENT diagnostic kit
- ☐ Stretcher
- ☐ Emergency Trolley

Number of sterilizers/autoclaves functioning _____

Number of vacuum extractors functioning _____

Number of nebulizers functioning _____

Number of thermometers functioning _____

Number of pulse oximeters functioning _____

Number of oxygen cylinders functioning _____

Number of light sources functioning _____

Number of safe delivery kits functioning _____

Number of clean delivery assistance kits functioning _____

Number of vaginal examination sets functioning _____

Number of fetoscopes functioning _____

Number of delivery tables functioning _____

Number of weight machines functioning _____

Number of length measurement devices functioning _____

Number of height measurement devices functioning _____

Number of minor surgery kits functioning _____

Confidential

Number of ENT diagnostic kits functioning _____

Number of stretchers functioning _____

Number of emergency trolleys functioning _____

Please indicate which of the following medications are available

- ☐ Antibiotics for adults
- ☐ Antibiotics for children
- ☐ Anti-hypertensive drugs
- ☐ Cardiac and/or vascular drugs
- ☐ Oral Rehydration Therapy (ORS)
- ☐ Diuretics
- ☐ Anti-diabetic preparations (especially Insulin)
- ☐ Delivery related medicines (i.e., Oxytocin , IV Fluid, etc)

Antibiotics for adults: number of days/last month not in stock _____

Antibiotics for children: number of days/last month not in stock _____

Anti-hypertensive drugs: number of days/last month not in stock _____

Cardiac and/or vascular drugs: number of days/last month not in stock _____

Oral Rehydration Therapy (ORS): number of days/last month not in stock _____

Diuretics: number of days/last month not in stock _____

Anti-diabetic preparations (especially Insulin): number of days/last month not in stock _____

Delivery related medicines (i.e., Oxytocin , IV Fluid, etc): number of days/last month not in stock _____

Total number of consultations in the last month _____

Total number of Syrian consultations in the last month _____

Total lab tests: blood chemistry _____

Total Syrian lab tests: blood chemistry _____

Total lab tests: routine blood and urine exam _____

Total Syrian lab tests: blood blood and urine exam _____

Total cases of emergency referrals _____

Total Syrian cases of emergency referrals _____

Total cases of routine referrals _____

Total Syrian cases of routine referrals _____

Total cases of EPI: routine immunization against all national target diseases and adequate cold chain in place _____

Total Syrian cases of EPI: routine immunization against all national target diseases and adequate cold chain in place _____

Confidential

Total cases of screenings of under nutrition/malnutrition (growth monitoring or MUAC or W/H, H/A)	_____
Total Syrian cases of screenings of under nutrition/malnutrition (growth monitoring or MUAC or W/H, H/A)	_____
Total cases of screenings of malnutrition for pregnant & lactating women	_____
Total Syrian cases of screenings of malnutrition for pregnant & lactating women	_____
Total cases of reportings to National Surveillance System	_____
Total Syrian cases of reportings to National Surveillance System	_____
Total cases of syndromic management of sexually transmitted infections	_____
Total Syrian cases of syndromic management of sexually transmitted infections	_____
Total cases of antenatal care	_____
Total Syrian cases of antenatal care	_____
Total cases of family planning	_____
Total Syrian cases of family planning	_____
Total number of perinatal visits	_____
Total number of Syrian perinatal visits	_____
Total number of Antenatal visits	_____
Total number of Syrian Antenatal visits	_____
Total number of postnatal visits	_____
Total number of Syrian postnatal visits	_____
Total cases of cardiovascular services	_____
Total Syrian cases of cardiovascular services	_____
Total cases of diabetes management	_____
Total Syrian cases of diabetes management	_____
Total cases of mental health questions	_____
Total Syrian cases of mental health questions	_____
Health facility uses safe waste disposal and management	☐ Yes ☐ No

Confidential

Please indicate which of the following pieces of equipment are available at this health clinic

- ☐ Pulse Oximeter
- ☐ Oxygen cylinders
- ☐ Light source (flashlight acceptable)
- ☐ Safe delivery kit
- ☐ Vaginal examination set
- ☐ Fetoscope
- ☐ Delivery table
- ☐ Weight machine
- ☐ Length measurement device
- ☐ Height measurement device
- ☐ Sterilizer/Autoclave
- ☐ Ambu bag (Pediatric and Adult)
- ☐ Suction machine
- ☐ Nebulizer
- ☐ Operating tables
- ☐ Surgical sets
- ☐ Anesthesia machines
- ☐ Respirator
- ☐ DC Shock Machine/Defibrillator

Number of pulse oximeters functioning _____

Number of oxygen cylinders functioning _____

Number of light sources functioning _____

Number of safe delivery kits functioning _____

Number of vaginal examination sets functioning _____

Number of fetoscopes functioning _____

Number of delivery tables functioning _____

Number of weight machines functioning _____

Number of length measurement devices functioning _____

Number of height measurement devices functioning _____

Number of sterilizers/autoclaves functioning _____

Number of Ambu bags (Pediatric and Adult) functioning _____

Number of suction machines functioning _____

Number of nebulizers functioning _____

Number of operating tables functioning _____

Number of surgical sets functioning _____

Number of anesthesia machines functioning _____

Number of respirators functioning _____

Number of DC shock machines/defibrillators functioning _____

Confidential

Please indicate which of the following pieces of equipment are available at this health clinic

- ☐ Incubator for newborn
- ☐ Renal dialysis machine
- ☐ Natal health emergency kit
- ☐ ECG and other ICU/CCU monitors
- ☐ X-ray machine
- ☐ Ultrasounds machine
- ☐ CT scanners
- ☐ MRI machine
- ☐ Cardio tocography
- ☐ Entilators
- ☐ Advanced surgical equipment

Number of incubators for newborn functioning _____

Number of renal dialysis machines functioning _____

Number of natal health emergency kits functioning _____

Number of ECG and other ICU/CCU monitors functioning _____

Number of X-ray machines functioning _____

Number of Ultrasound machines functioning _____

Number of CT scanners functioning _____

Number of MRI machines functioning _____

Number of Cardio tocography functioning _____

Number of entilators functioning _____

Number of advanced surgical equipment functioning _____

Indicate which of the following specialists practice/services available at this health center

- ☐ Internal medicine
- ☐ Pediatrics
- ☐ Obstetrics/Gynecology
- ☐ General Surgery
- ☐ Orthopedics
- ☐ GP
- ☐ Pharmacists
- ☐ Dentist
- ☐ Nurses
- ☐ Midwives
- ☐ Technicians
- ☐ Other specialists

Other specialists, please list _____

Number of internal medicine practioners _____

Number of pediatricians _____

Number of obstetricians/gynecologists _____

Number of general surgeons _____

Number of orthopedics specialists _____

Number of GPs _____

Number of pharmacists _____

Number of dentists _____

Number of nurses _____

Number of midwives _____

Confidential

Number of technicians _____

Please indicate which of the following medications are available

- ☐ Local anesthetics/preoperative medication/anaphylactic shock
- ☐ Anti-allergic including steroids
- ☐ Parenteral (injectable)
- ☐ Antidotes for poisoning
- ☐ Antibiotics for adults
- ☐ Antibiotics for children
- ☐ Cardiac and/or vascular drugs
- ☐ Anti-hypertensive drugs
- ☐ Diuretics
- ☐ Anti-diabetic preparations (especially Insulin)
- ☐ Analgeics, antipyretics, non-steroidal anti-inflammatory medicines
- ☐ Delivery related medicines (i.e., Oxytocin , IV Fluid, etc)
- ☐ Tetanus vaccine

Local anesthetics/preoperative medication/anaphylactic shock: number of days/last month not in stock _____

Anti-allergic including steroids: number of days/last month not in stock _____

Parenteral (injectable): number of days/last month not in stock _____

Antidotes for poisoning: number of days/last month not in stock _____

Antibiotics for adults: number of days/last month not in stock _____

Antibiotics for children: number of days/last month not in stock _____

Cardiac and/or vascular drugs: number of days/last month not in stock _____

Anti-hypertensive drugs: number of days/last month not in stock _____

Diuretics: number of days/last month not in stock _____

Anti-diabetic preparations (especially Insulin): number of days/last month not in stock _____

Analgeics, antipyretics, non-steroidal anti-inflammatory medicines: number of days/last month not in stock _____

Delivery related medicines (i.e., Oxytocin , IV Fluid, etc): number of days/last month not in stock _____

Tetanus vaccine: number of days/last month not in stock _____

Total number of outpatient services in the last month _____

Total number of Syrian outpatient services in the last month _____

Total number of emergency cases in the last month _____

Total number of Syrian emergency cases in the last month _____

Confidential

Total number of ICU services in the last month _____

Total number of Syrian ICU services in the last month _____

Total number of medical cases in the last month _____

Total number of Syrian medical cases in the last month _____

Total number of pediatric cases in the last month _____

Total number of Syrian pediatric cases in the last month _____

Total number of obstetrics and gynecology cases in the last month _____

Total number of Syrian obstetrics and gynecology cases in the last month _____

Total number of general surgery cases in the last month _____

Total number of Syrian general surgery cases in the last month _____

Total number of orthopedics cases in the last month _____

Total number of Syrian orthopedics cases in the last month _____

Total number of other cases in the last month _____

Total number of Syrian other cases in the last month _____

Total lab tests: blood chemistry _____

Total Syrian lab tests: blood chemistry _____

Total lab tests: pathology _____

Total Syrian lab tests: pathology _____

Total lab tests: immunology _____

Total Syrian lab tests: immunology _____

Total lab tests: bacteriology _____

Total Syrian lab tests: bacteriology _____

Total lab tests: virology _____

Total Syrian lab tests: virology _____

Total lab tests: parasitology _____

Total Syrian lab tests: parasitology _____

Total lab tests: molecular biology _____

Total Syrian lab tests: molecular biology _____

Total lab tests: blood bank service _____

Total Syrian lab tests: blood bank service _____

Total x-rays _____

Confidential

Total Syrian x-rays _____

Total ultrasounds _____

Total Syrian ultrasounds _____

Total CT scans _____

Total Syrian CT scans _____

Total MRIs _____

Total Syrian MRIs _____

Total cases of severe acute malnutrition with complications _____

Total Syrian cases of severe acute malnutrition with complications _____

Total number of deliveries _____

Total number of Syrian deliveries _____

Total number of Caesarean sections _____

Total number of Syrian Caesarean sections _____

Total number of safe blood transfusions _____

Total number of Syrian safe blood transfusions _____

Total cases of mass casuality management _____

Total Syrian cases of mass casuality management _____

Total cases of cardiovascular services _____

Total Syrian cases of cardiovascular services _____

Total cases of end stage kidney disease (ESKD) treatment _____

Total Syrian cases of end stage kidney disease (ESKD) treatment _____

Total cases of cancer treatment services _____

Total Syrian cases of cancer treatment services _____

Total cases of outpatient psychiatric care _____

Total Syrian cases of outpatient psychiatric care _____

Total cases of acute psychiatric inpatient care _____

Total Syrian cases of acute psychiatric inpatient care _____

Health facility uses safe waste disposal and management
☐ Yes
☐ No

Total cases of basic emergency essential obstetric care (BEmOC) _____

Total Syrian cases of basic emergency essential obstetric care (BEmOC) _____

Appendix H: Treatment Card

Appendix H- Treatment Card

Nat	Gender	Presenting Conditions:
☐S ☐J ☐X	☐ Male ☐Female Age:	

Diagnosis:

Treatment/Procedures:

Disposition:

- ☐No Further Treatment/No follow-up scheduled
- ☐Emergency referral
- ☐ Referral to specialist
- ☐ Referral to hospital
- ☐Follow-up visit at the clinic
- ☐ Follow-up at another clinic
- ☐Follow-up elsewhere

Appendix I: Facility Level Data

Data collection in Individual facilities covered 3 consecutive days at most health centers and hospitals, with the exception of very few facilities which were afforded only 2 days due to logistical constraints. This data collection time frame is rapid, and thus only a snapshot of potential usage and output. As stated in the Purpose and Scope, this study was designed to "Estimate the number of Syrian refugees using health facilities across 5 governorates (Irbid, Mafraq, Ramtha, Zarqa, and Ajloun)". At the governorate level, data from all facilities were considered in aggregate in order to provide a balanced analysis. For the individual facility, the limited number of available days of data collection does not account for variance in traffic on different days of the week as the survey was not specifically designed to draw meaningful conclusions at the facility level. A rough accounting of the number and proportion of Syrian patients visiting each facility during the days of data collection can be gleaned by viewing the data presented in this Appendix.

The following tables show the raw data indicating how many Non-Syrian and Syrian patients were accounted through the Intake data collection. The experimental design captured all patients visiting the facility and their nationality. Two tables follow, with data separated into separate tables for Hospitals and Health Centers.

Hospital Traffic by Nationality.

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
ABI OBIDAH HOSPITAL IN AL RAYAN VALLEY	1187	99.5	2	0.2	4	0.3
AL IMAN AL HOKOMI HOSPITAL	1550	95.7	58	3.6	11	0.7
AL MAFRAQ GOVERNMENTAL HOSPITAL	1591	86	243	13.1	15	0.8
AL RWASHED HOSPITAL	233	96.3	9	3.7	0	0
BADEE'AH HOSPITAL	707	87.5	95	11.8	6	0.7
GYNECOLOY & OBSTETRICS AND CHILDREN HOSPITAL	365	82.2	79	17.8	0	0
JARASH HOSPITAL	1238	92.7	82	6.1	15	1.1
MUA'ATH BEN JABAL HOSPITAL	1518	98.5	6	0.4	17	1.1
PRINCE FAISAL HOSPITAL	3212	94.7	151	4.5	27	0.8
PRINCESS BASMA HOSPITAL	3386	91.4	300	8.1	18	0.5
RAHMAH HOSPITAL	729	84.5	125	14.5	9	1
RAMTHA PUBLIC HOSPITAL	1119	79.8	269	19.2	14	1
RAYA HOSPITAL	842	93.2	51	5.6	10	1.1
YARMOUK HOSPITAL	1217	94.1	56	4.3	20	1.5
ZARQA GOVERNMENTAL HOSPITAL	1994	90.9	174	7.9	26	1.2

Health Center Traffic by Nationality

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
ABI OBIDAH HOSPITAL IN AL RAYAN VALLEY	1187	99.5	2	0.2	4	0.3
ABDAR	132	86.3	21	13.7	0	0
ABU ZIGHAN	197	99.5	0	0	1	0.5
ABUHABEL	19	100	0	0	0	0
ABUSEDO	235	99.6	0	0	1	0.4
AIDOON	1230	94	75	5.7	3	0.2

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
AIN BUSTAN	35	100	0	0	0	0
AINJANNAH	126	84	22	14.7	2	1.3
AJLOUN	221	92.1	19	7.9	0	0
AL - BAEJ	58	86.6	7	10.4	2	3
AL - BURJ AL-MANSOURAH HC	36	97.3	0	0	1	2.7
AL - HADADEH HC	98	99	1	1	0	0
AL - JAZAZEH HC	40	100	0	0	0	0
AL - KAFEER HC	129	98.5	0	0	2	1.5
AL - MAHARFEH HC	109	99.1	1	0.9	0	0
AL - MANSHIE	164	98.8	1	0.6	1	0.6
AL - MANSPURAH HC	60	98.4	0	0	1	1.6
AL - MASTAFEH	119	95.2	5	4	1	0.8
AL - MAZRA'AH	309	97.8	5	1.6	2	0.6
AL - MUFRADAT	22	91.7	0	0	2	8.3
AL - NAHDA	106	77.4	31	22.6	0	0
AL - RAFEED	115	92	10	8	0	0
AL - RAHMANIA HC	8	100	0	0	0	0
AL - RASHYDEH HC	43	86	6	12	1	2
AL - RAYA HC	7	77.8	2	22.2	0	0
AL - SHEIKH HUSSEIN	100	94.3	1	0.9	5	4.7
AL - SUBLAH	41	89.1	4	8.7	1	2.2
AL - TAYBEH	361	91.6	27	6.9	6	1.5
AL- ADASYIEH	10	100	0	0	0	0
AL AKIB	9	100	0	0	0	0
AL -BATRAWI	150	90.4	16	9.6	0	0
AL DOQMOUSSEH	9	90	1	10	0	0
AL DUHAITHEM	2	100	0	0	0	0
AL -FAROUK	293	97.3	7	2.3	1	0.3
AL HAMMAH	57	100	0	0	0	0
AL JABEEBA	28	100	0	0	0	0
AL JUNDI	132	94.3	6	4.3	2	1.4
AL KAMSHAH	56	100	0	0	0	0
AL- KHANASRY	176	96.7	6	3.3	0	0
AL -MABROUKEH	142	72.4	51	26	3	1.5
AL- MASHARE'E	425	99.5	1	0.2	1	0.2
AL- MDAWWAR	12	100	0	0	0	0
AL -MUNEFEH	5	100	0	0	0	0
AL -MUSHEIRFEH	56	100	0	0	0	0
AL- QADISYEH	321	91.5	28	8	2	0.6
AL_MANARA	9	100	0	0	0	0
AL'AL	473	78.1	126	20.8	7	1.2
AL-ALOOK	77	91.7	3	3.6	4	4.8

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
AL-ASHRAFIEH HC	237	98.3	4	1.7	0	0
AL-BARHA	881	95.6	35	3.8	6	0.7
ALBSHRIAH	173	96.6	6	3.4	0	0
AL-DLAIL	134	85.4	22	14	1	0.6
AL-DUJEINEH	82	83.7	14	14.3	2	2
AL-FALAH	336	96.3	3	0.9	10	2.9
AL-HARSH	75	98.7	1	1.3	0	0
ALHARTH	8	100	0	0	0	0
AL-HASHMIYYA	271	91.2	25	8.4	1	0.3
AL-HASHMIYYA HOUSING	320	87.2	40	10.9	7	1.9
ALHOSSON	366	95.8	12	3.1	4	1
AL-HUSSEIN	403	87.4	58	12.6	0	0
ALISTIQLAL	216	94.7	12	5.3	0	0
AL-JANOUBI	196	94.2	12	5.8	0	0
ALJBAIAH	38	100	0	0	0	0
AL-KARAIBA	45	95.7	2	4.3	0	0
AL-KARAM AND HAMAID	2	50	1	25	1	25
AL-KHALDIYYEH	644	88.1	69	9.4	18	2.5
AL-KHRAJ	51	89.5	6	10.5	0	0
AL-MAFRAQ - 1	543	78.4	138	19.9	12	1.7
AL-MAFRAQ - 2	879	91.5	73	7.6	9	0.9
AL-MAKHEEBA AL-TAHTA	79	98.8	1	1.3	0	0
AL-MANSORA	100	93.5	6	5.6	1	0.9
AL-MANSOURAH	176	93.1	8	4.2	5	2.6
ALMARGAM	19	86.4	3	13.6	0	0
AL-MGHAIR	205	92.3	17	7.7	0	0
AL-MUSHEIRFEH	15	93.8	1	6.3	0	0
AL-NAQAB	141	91	14	9	0	0
AL-RASHEED	393	98.5	6	1.5	0	0
AL-RAZI HC	431	97.5	11	2.5	0	0
ALSAFAA	90	98.9	0	0	1	1.1
AL-SUKHNAH	229	99.6	1	0.4	0	0
AL-ZUBIDEH	105	79.5	27	20.5	0	0
AMRAH WE AMAIRAH	65	91.5	4	5.6	2	2.8
AMRAWA	141	87.6	20	12.4	0	0
ANBAH	251	95.1	13	4.9	0	0
ANJARAH	418	93.5	26	5.8	3	0.7
AN-NU'AIMEH	1319	77	386	22.5	8	0.5
AQRABA	117	91.4	10	7.8	1	0.8
AR- RAZI	722	89.8	82	10.2	0	0
ARJAN	257	96.6	8	3	1	0.4
AS - SUMAILMEH	460	90.6	44	8.7	4	0.8

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	Total	% Non Syrian	Total	% Syrian	Total	% Unknown
AS'ARAH	43	100	0	0	0	0
ASAKHIN	14	93.3	0	0	1	6.7
ASFOOR	9	100	0	0	0	0
ASHRAFYIAH	20	80	5	20	0	0
AS-SAREEH	420	84.8	70	14.1	5	1
AT - TURKMAN	509	96	21	4	0	0
AT- TWAL	521	96.8	17	3.2	0	0
AWAJAN	209	98.1	4	1.9	0	0
AZ - ZAHRAWI	192	88.5	23	10.6	2	0.9
AZ -ZA'	59	74.7	16	20.3	4	5.1
AZRAQ	256	86.2	41	13.8	0	0
BA'OON	83	98.8	1	1.2	0	0
BADIA COMP	385	90.6	36	8.5	4	0.9
BAIREEN	142	99.3	0	0	1	0.7
BAIT RAS	481	93.2	34	6.6	1	0.2
BAIT YFA	102	98.1	2	1.9	0	0
BAL'AMA	1297	88.1	166	11.3	9	0.6
BANI HASHIM	241	100	0	0	0	0
BLAILA HC	202	84.2	34	14.2	4	1.7
BORDER JABER	4	80	1	20	0	0
BRAIQA	44	93.6	2	4.3	1	2.1
BURMA HC	293	99	0	0	3	1
BUSHRA	113	95.8	5	4.2	0	0
BWAIDAH	289	88.1	39	11.9	0	0
DAFIANAH	136	69.4	60	30.6	0	0
DAHIYAT EL HUSSEIN	1094	59.8	729	39.9	5	0.3
DAIR ABI S'EED HC	472	94.8	26	5.2	0	0
DAIR ES-SA'NAH	173	86.1	27	13.4	1	0.5
DAIR YOUEF	478	83.9	87	15.3	5	0.9
DEIR AL - LAIAT HC	111	100	0	0	0	0
DEIR KAHF	424	99.1	4	0.9	0	0
DEIR QON	7	100	0	0	0	0
DOQARA	200	80	50	20	0	0
EASTERN HALLABAT	61	98.4	0	0	1	1.6
EDOON BANE HASAN	86	96.6	3	3.4	0	0
EIN BANI HASAN	87	97.8	1	1.1	1	1.1
EMPLOYEES	63	95.5	2	3	1	1.5
FAA'	69	93.2	3	4.1	2	2.7
FO'ARA	293	94.2	18	5.8	0	0
HABKA	302	85.8	45	12.8	5	1.4
HABRAS	48	85.7	7	12.5	1	1.8
HAKAMA	542	95.1	28	4.9	0	0

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	Total	% Non Syrian	Total	% Syrian	Total	% Unknown
HALAWAH	213	95.5	4	1.8	6	2.7
HAMAMEH	14	87.5	2	12.5	0	0
HANEENA	1036	90.9	95	8.3	9	0.8
HAREEMA	563	89.4	67	10.6	0	0
HARTA	177	90.8	17	8.7	1	0.5
HASHMYAH	263	95.3	13	4.7	0	0
HATEM	462	92.4	36	7.2	2	0.4
HAY AL-AMEER HAMZA	280	98.2	4	1.4	1	0.4
HAYYAN AL ROWEIBED	192	91.9	17	8.1	0	0
HAYYAN AL-MSHARAF	16	100	0	0	0	0
HODOD RWAISHID KARAMA	20	95.2	0	0	1	4.8
HOOR	126	89.4	15	10.6	0	0
HOSHA	95	93.1	7	6.9	0	0
HOUFA	68	78.2	17	19.5	2	2.3
HUWWARAH	1398	89.9	155	10	2	0.1
IBBEEN	93	74.4	31	24.8	1	0.8
IBN SINA	242	88.6	30	11	1	0.4
IRHABA	633	89.2	77	10.8	0	0
ISHTAFAINAH - 1	9	100	0	0	0	0
ISHTAFAINAH - 2	49	96.1	2	3.9	0	0
JABA HC	4	100	0	0	0	0
JABER AS - SARHAN	98	68.1	43	29.9	3	2.1
JAFEEN HC	112	100	0	0	0	0
JAMHA	12	100	0	0	0	0
JEDITTA HC	378	95	19	4.8	1	0.3
JEHFIYYEH	61	91	5	7.5	1	1.5
JENEEN AL - SAFA	105	93.8	6	5.4	1	0.9
JERASH HC	548	86.8	80	12.7	3	0.5
KAFR AL - MAA'HC	745	94.4	42	5.3	2	0.3
KAFR AYDAS HC	837	100	0	0	0	0
KAFR EBEEL HC	228	97.4	6	2.6	0	0
KAFR KEFIA	19	100	0	0	0	0
KAFR OWAN HC	114	96.6	4	3.4	0	0
KAFR RAKED HC	120	98.4	2	1.6	0	0
KAFR SOUM	289	97	9	3	0	0
KAREEMAH	278	95.2	13	4.5	1	0.3
KHALED BIN AL WALEED	82	100	0	0	0	0
KHARJA	203	91	18	8.1	2	0.9
KHSHA'A SLAITAIN	13	92.9	1	7.1	0	0
KITM	278	96.9	8	2.8	1	0.3
KOAM AL AHMAR	12	60	8	40	0	0
KOOM ALRAF	142	92.8	11	7.2	0	0

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	Total	% Non Syrian	Total	% Syrian	Total	% Unknown
KUFR - JAYEZ	110	87.3	16	12.7	0	0
KUFR ASAD	457	91.6	40	8	2	0.4
KUFR KHAF HC	260	94.9	14	5.1	0	0
KUFR YOUBA	153	78.1	43	21.9	0	0
KUFR'AN	86	95.6	4	4.4	0	0
MAIN RAMTHA	846	84	158	15.7	3	0.3
MALKA	440	81.6	99	18.4	0	0
MANDAH	27	96.4	1	3.6	0	0
MANSHEH ALSOTA	34	91.9	3	8.1	0	0
MANSHEYET AL - KEIBER	0	0	4	57.1	3	42.9
MANSHIYYET BANI HASAN	168	90.3	18	9.7	0	0
MAROU	192	91	19	9	0	0
MARS'A HC	165	95.9	6	3.5	1	0.6
MDOAR QON	3	100	0	0	0	0
MITHNAT RAJIL	102	99	1	1	0	0
MKAIFTAH	133	97.1	3	2.2	1	0.7
MKHARBA	38	100	0	0	0	0
MUGHEER AS - SARHAN	669	84.3	124	15.6	1	0.1
MUKBLEH HC	15	100	0	0	0	0
MUSHAIRFEH	514	97.5	11	2.1	2	0.4
NADERAH	98	77.2	20	15.7	9	7.1
NAHLEH	79	95.2	4	4.8	0	0
NATFAH	10	100	0	0	0	0
NORTH MAZAR	111	92.5	9	7.5	0	0
NORTHERN MA'ABAR	5	100	0	0	0	0
OSARAH	77	98.7	0	0	1	1.3
PRINCE ABDULLAH	697	96.1	27	3.7	1	0.1
PRINCE ALI	8	80	2	20	0	0
PRINCE FAISAL	174	94.6	10	5.4	0	0
PRINCE HASHIM - AJLOUN	131	100	0	0	0	0
PRINCE HASHIM - ZARQA	51	98.1	1	1.9	0	0
PRINCE HASSAN	311	95.4	15	4.6	0	0
PRINCE MOHAMMAD - MAFRAQ	143	93.5	4	2.6	6	3.9
PRINCE MOHAMMAD - ZARQA	315	91.8	25	7.3	3	0.9
PRINCE TALAL	233	90	26	10	0	0
QAFQAFA	153	96.2	5	3.1	1	0.6
QMAIM	198	92.1	13	6	4	1.9
QUM	33	100	0	0	0	0
RAHTA	29	100	0	0	0	0
RAJIB	52	100	0	0	0	0
RAMTHA COMPREHENSIVE	1910	85.8	305	13.7	12	0.5
RAMTHA NORTH	1053	88	138	11.5	6	0.5

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
RAMTHA WST	1496	93.9	98	6.1	0	0
RASOON	113	86.3	9	6.9	9	6.9
RAWDAT PRINCE HAMZA	12	63.2	5	26.3	2	10.5
RAWDAT PRINCESS BASMA	89	85.6	15	14.4	0	0
RIBAA AL -SARHAN	37	88.1	5	11.9	0	0
RIFA'AAIT	453	95.4	21	4.4	1	0.2
RIHAB	947	93.1	62	6.1	8	0.8
RWAISHID	197	95.2	10	4.8	0	0
SABA'A SEER	15	93.8	0	0	1	6.3
SABHA	425	79.3	100	18.7	11	2.1
SAFAWI	118	100	0	0	0	0
SAFSAFEH	25	100	0	0	0	0
SAHAM	241	96.4	9	3.6	0	0
SAHEEL JARAWAN	85	87.6	9	9.3	3	3.1
SAHNAH	12	70.6	5	29.4	0	0
SAIDOOR	21	100	0	0	0	0
SAKEB HC	334	95.2	15	4.3	2	0.6
SAKHRA	236	92.5	18	7.1	1	0.4
SAL	345	90.8	35	9.2	0	0
SAMA	316	95.8	14	4.2	0	0
SAMA - AL -RUSSAN	20	100	0	0	0	0
SAMA - AL -RUSSAN PRIMARY CENTER	36	94.7	2	5.3	0	0
SAMA AS-SARHAN	261	88.5	32	10.8	2	0.7
SAMAD AND AZ-ZA'TAI	56	96.6	2	3.4	0	0
SAMAR	115	92	10	8	0	0
SAMTAH	14	100	0	0	0	0
SAROOT	36	83.7	1	2.3	6	14
SBAIHAH	8	80	1	10	1	10
SHABEEB	84	88.4	11	11.6	0	0
SHAJARAH NORTH	188	89.1	23	10.9	0	0
SHAJARAH SOUTH	112	80.6	27	19.4	0	0
SHATANA	14	100	0	0	0	0
SOMOU' HC	729	93.6	32	4.1	18	2.3
SOUF HC	246	97.6	6	2.4	0	0
SOUM	156	97.5	3	1.9	1	0.6
SOUTHERN SHONEH	407	99.8	0	0	1	0.2
TABAQET FAHEL	41	100	0	0	0	0
TAL RIMAH	34	85	6	15	0	0
TALE'T AL - ROZ HC	31	96.9	1	3.1	0	0
TARIQ	146	86.4	22	13	1	0.6
TEBNAH HC	179	97.3	5	2.7	0	0
THAGHRET AL -JUB	31	79.5	8	20.5	0	0

Nationality	Non-Syrian		Syrian		Unknown	
Facility Name	**Total**	**% Non Syrian**	**Total**	**% Syrian**	**Total**	**% Unknown**
THAGRET ZBEED	6	100	0	0	0	0
THUNAIBA	112	88.2	15	11.8	0	0
TORRAH NORTH	424	86.5	65	13.3	1	0.2
TORRAH SOUTH	377	84.9	62	14	5	1.1
TUQBUL UM EL -JADAYEL	11	78.6	1	7.1	2	14.3
UM - BTEIMEH	24	92.3	2	7.7	0	0
UM AN -NA'AM SHARQEYYA	78	100	0	0	0	0
UM AS -SARB	125	85.6	20	13.7	1	0.7
UM GMAL	134	85.9	21	13.5	1	0.6
UM QAIS	153	86	25	14	0	0
UM QUTAIN	239	94.1	12	4.7	3	1.2
UM RUMMANEH	20	100	0	0	0	0
UM SLAIH	32	100	0	0	0	0
URBAN DEVLOPMENT	227	91.5	8	3.2	13	5.2
WADI AL - RAYAN	306	99	0	0	3	1
WADI AL-HAJAR	665	95.7	20	2.9	10	1.4
WAHDANEH	85	96.6	1	1.1	2	2.3
WAQQAS	377	100	0	0	0	0
WESTERN HALLABAT	7	100	0	0	0	0
YAJOOZ	574	97.5	13	2.2	2	0.3
YARMOUK UNIVERSITY	54	100	0	0	0	0
YEBLA	143	95.3	7	4.7	0	0
ZAHAR	91	95.8	3	3.2	1	1.1
ZAMLAT PRINC GHAZI	39	66.1	14	23.7	6	10.2
ZARQA JADEEDA	478	92.5	32	6.2	7	1.4
ZAWAHRA	91	86.7	13	12.4	1	1
ZEBDET WASATIEH	6	100	0	0	0	0
ZEMAL HC	113	98.3	0	0	2	1.7
ZUBIA	67	89.3	8	10.7	0	0