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DECEMBER 2015 MEDAIR-LEBANON HEALTH KNOWLEDGE, PRACTICES, AND COVERAGE REPORT

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I. EXECUTIVE SUMMARY

Medair requested a household-level Knowledge, Practice and Coverage Survey (KPC) to assess the health status of the population of its project area served by seven Medair-supported clinics. The purpose of the survey was to provide robust data to evaluate and adjust current implementation of programming and to support future programming priorities.

The objective of the survey was to gather information from active project areas in the Bekaa Valley to provide representative data on key health-related indicators at the household level from women with children under 5 years old. These indicators including the following thematic areas: Health-seeking behavior; diarrhea management; acute respiratory infection (ARI) management; vaccinations; antenatal care (ANC); delivery in health facility; postpartum care (PNC); breastfeeding practices; family planning; non-communicable disease prevention (diabetes and high blood pressure/cardiovascular disease); and sources of health information. A stratified multi-staged cluster design with probability proportional to size (PPS) was used to obtain a representative sample of the three major groups:

1. Refugees in informal settlements (ITS) – Sample size: 88
2. Urban refugees (i.e. refugees not residing in informal settlements – Sample size: 191
3. Vulnerable Lebanese – Sample size: 295

Total sample size was 574 women with children under 5 years old.

The survey, in ODK form, was conducted by temporary Lebanese staff using tablets. In total, 18 teams of enumerators (each team made up of two women) and seven supervisors were hired for the survey period. The survey was conducted from December 7 - 12, 2015 in areas served by seven Medair-supported clinics in the Central, Western, and Northern Bekaa Valley.

The main findings and recommendations are as follows:

1. Intensify campaign promoting ORS treatment for diarrhea. Children suffered a high rate of diarrhea or blood in stool over the previous two weeks (Refugees: 55%, Lebanese: 45%). And yet among those children, only 38% of refugees and 25% of vulnerable Lebanese used the ORS pack. ORS is one of the fastest, most effective and inexpensive means of promptly addressing the rapid replenishment of electrolytes that are lost so rapidly during diarrhea episodes.

In order to promote ORS use as well as ensure that it is used without delay when the child is stricken with diarrhea, it is recommended that a more intensive campaign for promotion of ORS should be planned, stressing home-based preparation of the packets. The promotion approach should involve live demonstrations conducted by clinic-based health practitioners as well as by community health workers during field outreach sessions. In addition, SDC staff should ensure that mothers receive an adequate supply of ORS packets to take home to enable them to continue treating their child's diarrhea without delay. The survey results also indicate that 53% of refugees and Lebanese take their children to a health facility for diarrhea treatment, which

can provide an excellent opportunity for promoting ORS and providing extra ORS packets for the women to take home for follow-up treatment.

2. If a child gets diarrhea, breastfeeding mothers should give the same quantity or more, not less, breast milk to her child. The same applies to women who no longer breastfeed: They should give the same amount or more liquids to their diarrhea-stricken child. Around half of respondents (51%) cut back on the amount of breast milk they give their child. For women who occasionally feed their children breast milk and those who no longer breast feed, the proportions of those who reduce the amount of liquids are about the same (respectively, 51% and 48%).

Survey results indicate that 53% of respondents take their children to a health facility for diarrhea treatment. Therefore, it is recommended that health providers take advantage of this opportunity to promote awareness of the importance of increasing frequency and quantity of breast milk or liquids that the child is given. Community health workers who visit households should underline the importance of this practice as well.

3. Mothers with children manifesting symptoms of acute respiratory infection (ARI) should take their child to a health provider, not solely to the pharmacy. 66% of respondents reported that in the previous two weeks their child had a cough, with trouble breathing or breathed faster. And yet, the survey results indicate that 41% of respondents whose children manifest those symptoms first go to the pharmacy rather than a health facility for advice or treatment for their child's cough or fast breathing. The danger with this action is that, without a proper diagnosis, the mother may purchase a medicine that's inappropriate for the symptoms, leading to even more harmful reactions or side effects.

It is recommended that the project train CHWs in promoting awareness to mothers of respiratory danger signs in their child -- which would signal when children should be taken without delay to a health facility, and not a pharmacy, for an accurate diagnosis.

4. Advocate for reduced rate of C-Sections. Survey results indicate that over 24% of refugees and 51% of Lebanese women had a C-Section when they delivered their youngest child. These figures are dramatically higher than the average worldwide rate of 10-15%.[1] According to 2008 figures, Lebanon's C-Section rate is 23.3%.[2] Not only are high C-Section rates linked to a higher risk of negative outcomes in maternal and child health, but result in excessive costs of health care, exacerbated by Lebanon's relatively limited and strained health resources.

It may be beyond Medair's mandate to advocate for reduced C-Sections as are C-Sections performed in SDCs; however, given the fact that a substantial number of women who have had C-Section are among Medair's clients, it might be worthwhile for Medair to further explore the actual numbers of C-Sections that are carried out in the hospitals that serve these clients.

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[1]The Global Numbers and costs of Additionally Needed and Unnecessary Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage, World Health Report (2010) Background Paper, No. 30
[2] Ibid.

Assuming that the assessment figures are similar to the survey results, Medair could ascertain the rationale behind the excessive number of C-Sections that are carried out -- and explore further the possibility of Medair taking, in even a limited sense, an advocacy role to reduce the number of C-Sections, unless its use is justified.

5. Advocate for longer post-delivery hospital stays for women who have had a C-Section, especially refugees. A woman who had had a C-Section should remain in the hospital from 2 to 3 days. Survey data indicates that among refugees who have had C-Sections, 53% leave the hospital less than 24 hours after giving birth. This doesn't seem to be an issue for Lebanese women: only 17% remain less than 24 hours after giving birth.

One recommendation would be to explore how the procedures for post-C-Section hospital stays differ between refugees and vulnerable Lebanese and advocate for changes that will better ensure equity.

6. Ensure PNC is conducted within 6 days for women who have had a C-Section, preferably at the health facility. It is essential that women who have a C-Section be examined by a qualified medical practitioner within six days after delivery to ensure that the incision is healing properly. However, survey results reveal that among the excessive number of women who have had C-Sections, only 47% of those refugees and 66% of Lebanese have a postpartum examination at all. And among this very limited number of women with a C-Section who have postpartum care, 73% of refugees and 67% of Lebanese wait more than a week before being examined.

A key component of CHW training should focus on the importance that PNC checks for women who have had a C-Section be conducted at the health facility within a maximum of 6 days after delivery, and again within two weeks. CHWs should liaise frequently with women who have had a C-Section to stress with them the importance of the PNC check, and encourage them to follow through. Continued follow up could then be carried out by the CHW, but the initial visits should take place at the health facility where the woman delivered.

7. Ensure that a postpartum check takes place within two weeks after normal delivery.
Almost three-quarters of refugee respondents (70%) and almost one-half of Lebanese respondents (46%) do not arrange a postpartum check with their health provider. Although the survey did not ask specifically where the PNC check took place, it appears that when one did take place, it was in a health facility as 99% of the respondents reported that a doctor, nurse or midwife carried out the check. For normal deliveries, trained CHWs or trained birth attendants could conduct the PNC check, screen for danger signs and refer the mother to a health facility if there are medical issues which need to be followed up.

It appears that up to now, CHWs have not conducted home-based PNC visits. CHWs can play an important role in conducting home-based PNC visits for women who have had a normal delivery. It is therefore recommended that an intensive training for CHWs on the rationale and correct procedures for PNC visits be included in future CHW workshops, including conditions for referral to a health facility.

8. A more concerted effort needs to be made to ensure women bring their children in for immunizations. Survey results show that there is low immunization coverage among the target population. Immunizations that involve a series (i.e. polio and penta) have a high immunization dropout rate with both refugee and Lebanese populations: 41% of both groups have not completed the polio series, according to the data on their vaccination cards; in the case of penta, 44% of mothers with vaccination cards did not complete the series for their child.

But even in the case of a single non-series immunization like HepB1, 46% of refugee and 32% of Lebanese children were not immunized. What is surprising is that coverage should be relatively easy, as HepB1 is given at birth, and over 98% of women deliver in a health facility, according to the survey. Project staff should ascertain whether the reasons for the low HepB1 immunization rate lies with lack of adherence to hospital protocol, lack of vaccine availability or other issues. Based on their findings, Medair should advocate strongly for the administration of the HepB1 vaccination while the mother and her baby are still in the hospital.

Relative to the other immunizations, measles coverage is better, although not high enough (79% according to vaccination card data and 67% if card and recall data are combined) to attain herd immunity, which would necessitate reaching a 90-95% level of coverage. It is fortunate that if a child has only measles but not MMR or vice versa, the effectiveness is around 96.7%. If the child receives both measles and MMR, effectiveness is slightly better at 99.7% against measles.[3]   However, mothers should be encouraged to bring their children in for both, given MMR's protection against other diseases.

It is concerning that such a large percentage of respondents did not have a vaccination card (26% of refugees, and 13% of Lebanese). Medair may wish to conduct a more in-depth qualitative survey to ascertain whether women without vaccination cards for their children have misplaced the card, or whether they are unaware of the importance of childhood immunizations and thus haven't gone to the SDC to obtain a card and follow the vaccination schedule for their children.

It is fortunate that there is a plethora of approaches that have been tried vis-à-vis vaccination reminders. One way to better ensure that mothers remember when to bring their child in would be to provide a vaccination date cue card. It lists the various immunizations and the importance of each in a visually attractive card. Health center personnel fill in the actual dates when the child should be brought to the health center for the various vaccinations. They give this custom-made card to the mother, explaining its purpose and the importance of each vaccination. There are other "cue" approaches that have been used successfully in the field -- What is essential is to put in place some kind of customized system so the mother has a way that clearly links the key immunization dates with each of her children.

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[3] www.ojs.spro.who.int/ojs/index.php/wpsar/article/view/346/506

Given the fact that the survey results indicate that slightly over half of children have received <u>each</u> of the required age-appropriate vaccinations (according to the data on vaccination cards) and that 38% of children have received **all** (including complete series) of the 4 age-appropriate vaccinations (4 doses polio, 3 doses penta, HepB1 and measles), an extra effort will need to be done to ensure achieving better vaccination coverage.

9. A greater stress should be placed on the importance of child spacing. The survey revealed four situations of concern:
1) 19% of refugee and 21% of Lebanese respondents with children under 5 are more than 36 years old. This is a high-risk age group for maternal morbidity and birth defects;
2) 35% of refugees and Lebanese respondents have 2 children under 5; 12% of refugee and 7% of Lebanese respondents have 3 or 4 children under 5;
3) 58% of refugees and 45% of Lebanese respondents did not plan their last pregnancy; and
4) Among the 53% of respondents who report doing something or using a method to delay or avoid getting pregnant, only 68% use a modern form of birth control.

One key factor is that there appears to be a lack of awareness of the risks of getting pregnant too soon after the birth of a child: 46% of refugee and 36% of Lebanese respondents either don't know or reported that it was acceptable to space children with less than two years between delivery and the next pregnancy.

It is recommended that through their outreach efforts, CHWs should stress the importance of child spacing on the mother's health. Given the influence that husbands and other family members (especially mothers and mothers-in-law) can have on such decisions, insofar as possible they should also be included in child spacing discussion sessions, either separately and/or together with the children's mother.

Finally, Medair staff may wish to explore in more depth the reasons why a relatively high percentage (39%) of Lebanese do not wish to use birth control, and try to address some of their major concerns through more intensive CHW outreach, clinic-based counseling, or other approaches.

10. Awareness-raising campaigns focused on non-communicable diseases (NCDs) should stress prevention to a greater degree. The rate of diabetes and high blood pressure/cardiovascular disease among both refugees and Lebanese respondents' families is surprisingly high: an estimated 42% for diabetes and 49% for HBP/CVD. 30% of respondents do not know how to reduce the risk of either one of these two NCDs, and only 15% know two or more ways to reduce the risk for both diabetes and high blood pressure.

The results reveal that most respondents were unaware of the large number of actions they could take to lower the risk for both NCDs. Increasing fruit and vegetable consumption, avoiding junk food, reducing portion size, cutting back on sugar and salt, and getting more exercise are just some of the risk reduction measures.

The number of community-based NCD prevention curricula are still limited, but it is recommended that Medair project staff explore one excellent curriculum that was developed by the International Federation of Red Cross and Red Crescent Societies (IFRC) which targets CHWs, who then work with their communities on NCD risk self-assessment, and orientation with easily implemented measures that can be taken by families to reduce the risk of NCDs. The curriculum also equips the CHW to conduct screening assessments for referral to the health facility for further testing and possible treatment for diabetes and hypertension. The curriculum is organized in a way to enable project staff to select the modules that are most relevant to their in-country NCD context.

11. A focused health awareness-raising program should be conducted in the SDCs. The survey results clearly showed that both refugee and Lebanese women hear much of their information about health or nutrition from the doctor (44% and 55%, respectively). In addition, 54% of respondents received health messages in either the doctor's office.

Given the frequency that these sources of information were stated, project staff should explore ways in which either project CHWs and/or junior clinic staff can conduct outreach sessions in the waiting room during targeted times when, for example, pregnant women visit the clinic, or when children are immunized.

12. Mothers and/or mothers-in-law should be included in outreach sessions conducted at the household. Survey results revealed that mothers or mothers-in-law were the second-most important source of health information. What is not known is the accuracy of the information imparted.

During household visits, it is important that CHWs be able to discuss key health topics privately with their clients; however, depending on the circumstances, CHWs should look for opportunities to include the client's mother in the discussion as well, especially if the client feels that a family group discussion would be productive and expose her mother to a different perspective on a given health issue.

13. Certain project interventions should do more intensive targeting of either refugee or Lebanese populations. Given the variations in culture, living conditions, and a plethora of other factors, the survey was stratified so that results would reflect the health-related knowledge, practices and coverage of refugees and Lebanese as separate entities. The results revealed that there is, indeed, a large variation in KPC between these two populations in many thematic areas.

Given Medair's large geographical coverage, there may be some community- and clinic-based project interventions that could be more strategically targeted on one or the other population groups based on their unique needs. This could lead to more effective and efficient use of the project's human and financial resources, as well as reducing the risk of impact dilution.

A detailed chart outlining these health thematic areas, practices/behaviors and the variation between the percentage of refugees and Lebanese that follow these practices are outlined in Figure 85 in the conclusions and recommendations section.

14. Ensure that both urban refugees and vulnerable Lebanese are included in project interventions. Refugees often have an image of living in tented settlements; however, in the case of Medair's targeted population, more than twice as many refugees (33%) actually live in residences rather than informal tented settlements. For outreach interventions, CHWs need to ensure that urban refugees and vulnerable Lebanese, which make up 85% of the target population, are included. The survey team learned that these populations are much more of a challenge to locate, but the extra efforts are warranted. Systems should be established whereby identification and detailed mapping of neighborhoods are conducted, appropriate CHW outreach zones assigned, and number/frequency of CHW contacts with individual mothers monitored.

15. Some of the current project indicators should be replaced by other indicators which are a higher priority and have low baseline figures. Most of the current indicators, including baseline figures based on the survey results (as indicated in the right-hand column below), continue to be relevant, and should be retained. However the baseline figures on the red-highlighted indicators below are quite high, and at this juncture, it might make sense to replace them with other indicators which have low baseline figures, but are priority interventions for the project.

Thematic Area	Indicator	Baseline
DIARRHEA	1. Children <5 with diarrhea in past 2 weeks receive ORS	38% refugees 25% Lebanese
ARI	2. Children <5 with Acute Respiratory Infection (ARI) in past 2 weeks are treated in a health facility.	54%
ANC	**3. Women attend <u>3 or more</u> antenatal care visits when pregnant with their youngest child.**	**78%**
DELIVERY	**4. Women give birth to their youngest child in a health facility.**	**98%**
PNC	5. Women receiving 1 or more postpartum visits within 2 weeks after birth of their youngest child (normal delivery)	30% refugees 54% Lebanese
VACCINATIONS	6. Youngest child aged 12-59 months receive following age-appropriate vaccinations **according to vaccination card**: --Polio (4 doses) . . . . --Penta (3 doses) . . . . --HepB1 refugees. . . . . --HepB1 Lebanese	 59% (polio) 57% (penta) 54% (HepB1 refs) 68% (HepB1 Leb)

	7. Youngest child aged 12-59 months receives measles and/or MMR vaccination **according to card/recall combined**.	67%
EXCLUSIVE BREASTFEEDING	8. Women practice exclusive breastfeeding of their child 0-6 months of age.	61% refugees 47% Lebanese
FAMILY PLANNING	9. Women aged 15-50 use a modern contraceptive method *(among those women using something or a method to delay or avoid pregnancy)*.	68%
NON-COMMUNICABLE DISEASES	10. Women know 2 or more ways to reduce the risk of diabetes.	17% refugees 34% Lebanese
	11. Women know 2 or more ways reduce the risk of high blood pressure/cardiovascular disease.	14% refugees 38% Lebanese

The following indicators should be considered to replace indicators #3 and #4 above.

Thematic Area	Proposed Indicator	Baseline
FAMILY PLANNING & CHILD SPACING	1. Women are aware of importance of leaving at least two years between the time of delivery and the next pregnancy	54% refugees 64% Lebanese
DIARRHEA	2. Breastfeeding women give their children the <u>same or more breast milk</u> during their most recent diarrhea episode.	51%
	3. Non-breastfeeding women give their children <u>the same or more liquids</u> during their most recent diarrhea episode	52%

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II. BACKGROUND

A. PROJECT LOCATION AND BACKGROUND OF THE AREA

After over four years of conflict in Syria, Lebanon now accommodates 1.17[1] million Syrian refugees, who make up as much as 27% of its total population[4].The presence of refugees in such high numbers has strained the political, economic and social stability of the country, stretching basic services and systems that have weakened the host authorities' capacity to respond to the increased needs, especially in health care, education, and water supply.

An estimated 34% of all refugees in Lebanon have settled in the Bekaa Valley, a population of approximately 436,000 in December 2014 (UNHCR), with many of the most vulnerable living in informal settlements (observed as groups of tents set up on rented farmland). Difficult conditions, exacerbated by the cold, wet winter and poor sanitation and hygiene situation put these refugees at significant health risks for preventable illnesses and death and increase their vulnerability.

Approximately 18% of the refugees in the Bekaa valley live in the aforementioned Informal Tented Settlements (ITS)[5]. An estimated 24% of refugees live in sub-standard shelters such as one-room structures, substandard shelters and unfinished buildings, and 58% live in apartment houses. Most of these Syrian households live within Lebanese communities but, aside from Syrian refugees registered with the UNHCR, there are no publicly available records of their specific address.[6]

One of the main priorities for the refugee population is adequate access to health care services. Many refugees fleeing Syria have serious health care needs due to, amongst other things, pre-existing chronic conditions and injuries suffered during the conflict. However, upon arrival in Lebanon, they are met with an overstretched system in which the services available to refugees are both limited and difficult to access[7]

Despite the efforts to increase vaccination coverage, the Expanded Program on Immunization (EPI) of the Ministry of Public Health (MoPH) in Lebanon reported 235 confirmed measles cases in2014, 194 of which are below 14 years of age[8]. Active cases of polio were previously confirmed inside Syria and combined with unvaccinated children in crowded and unregulated settings give a high risk of re-introducing polio. Poor hygiene and sanitation practices and an increase in diarrheal disease are clear evidence of gaps in primary health care (PHC)

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[4]UNHCR. Lebanon Country Profile – http://www.unhcr.org/pages/49e486676.html
[5]UNHCR, 8 April, 2015, p.17
[6]Syrian Refugee and Affected Host Population Health Access Survey in Lebanon, July 2015, Johns Hopkins University, International Medical Corps, Medecins du Monde, UNHCR, et al., p. 9
[7]Amnesty International, May 2014
[8]MOPH, 2014 measles surveillance data

information and services, as well as underlining the need for more intensive community promotion of comprehensive health and hygiene practices.[9]

Those most at risk are women and children under five, who are most vulnerable to illness and death. 66% of Syrian refugee women in Lebanon have reported that they did not have access to the antenatal care services they needed[10], while in terms of protection, refugee women and children are disproportionately affected by sexual and gender-based violence (SGBV), for which support and referral mechanisms are very limited. 347 out of 6,991 registered single female heads of households reported experiencing SGBV related incidents either in Syria or during flight₆— 25% of SGBV survivors are under 18 years of age.[11]Informal settlements offer poor protection for women and the lack of economic opportunities and increasing prices of household items means families can rarely prioritize paying for medical treatment.[12] In addition, chronic /non-communicable disease prevalence is relatively high, requiring improvements in referral services, access to treatment, and preventive health, both clinic- and community-based.

The resulting pressure on the infrastructure, including the healthcare and education systems which the Government of Lebanon (GOL) has opened to Syrians, is increasingly being felt by Lebanese communities. Most of the Syrian refugees who fled their country settled in poor communities in Lebanon that were already burdened with poor infrastructure and stressful economic conditions[13]. Competition in the informal job market has driven wages down, while prices for basic necessities, such as fuel or rental accommodation, have increased. Due to tensions between host and refugee communities, insecurity is on the rise. Lebanese families are now facing a crisis themselves with inadequate resources to cover their own basic needs. These are families with limited financial access to the well-developed private sector health care system of Lebanon.

> *The impact of the Syrian refugee influx on the economy, demographics, political instability, and security in Lebanon is pervasive as Syrian and Palestinian refugees now comprise more than one-quarter of the country's total population[14]*

In Lebanon the health care system is overseen by the Ministry of Health (MOH); however, the Ministry of Social Affairs (MoSA) is one of the main coordinating government bodies for the health response to the Syrian crisis in Lebanon and is one of the line ministries already involved in health service delivery in Lebanon. It is recognized that the refugee situation which is currently at emergency levels, will probably last for several years, warranting a more solid approach to affordable and sustainable health care services, which will also provide care for marginalized host Lebanese families.

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[9]Interagency nutrition and health assessment, January 2014
[10]BMC Women's Health, 2014
[11]UNHCR, May 2014
[12]UNHCR SGBV update, November 2014
[13]Survey on the Livelihoods of Syrian Refugees in Lebanon, Beirut Research and Innovation Center, November 2013.
[14] Syrian Refugee and Affected Host Population Health Access Survey in Lebanon, July 2015, Center for Refugee and Disaster Response at Johns Hopkins University.

B. OVERVIEW OF THE PROJECT: GOALS, OBJECTIVES, ACTIVITIES

1. Assessment

Medair has been operational in the Bekaa valley since October 2012, providing refugee families in informal tented settlements (ITS) with shelter kits as well as essential household items for cooking and other basic needs and supports interventions for Water, Sanitation and Hygiene (WASH).

In August 2013, Medair conducted a multi-sectorial assessment and confirmed needs and response gaps in health, nutrition and community education. Priority health needs were identified as follows:

- **Lack of access to antenatal and postnatal care**
- **Prevalence of sexual violence**
- **Lack of access to treatment for chronic diseases;**
- **Family planning**
- **Transmission of sexually transmitted infections**
- **Increase polio and measles immunization coverage**
- **Malnutrition screening for children under 5**

Based on the above needs, in February 2014, Medair designed the initial primary health care project to improve access to and quality of primary health care and nutrition services for vulnerable communities in the Bekaa Valley. Project locations were coordinated with UNHCR, NGOs working in the Bekaa, and the MoSA to avoid duplication and to clearly address gaps in primary health care delivery by significantly strengthening four existing clinics based in MoSA Social Development Centers (SDCs) in Central and West Bekaa, and instigating a program of community-based health promotion. These clinics were:

- Haouch El Omara (Zahle)
- Qab Elias (Zahle)
- El Marj(West Bekaa)
- Jib Janine (West Bekaa)

These were all areas with high density of refugees and ITS, as well as poverty-stricken areas where vulnerable Lebanese host communities were located.
In January 2015, a MoU was signed with MoSA to support seven clinics: the original four, plus three additional clinics. They were:

- Talia SDC (North Bekaa)
- Brital SDC (a branch of Talia SDC)
- NabiChiit SDC (a branch of Talia SCD)

2. Project goals and objectives

The overall goal of the Medair project is to reduce preventable morbidity and mortality and improve the health status of communities affected by the Syrian crisis in the Bekaa Valley, in particular Syrian refugees and vulnerable Lebanese people within the host communities. The desired outcomes of this project are as follows:

1. To improve access for vulnerable Syrian refugees and vulnerable Lebanese, especially women and children, to lifesaving primary health care services including services for gender based violence
2. To strengthen the health system capacity of the Ministry of Social Affairs to identify and respond to rapidly increasing public health needs
3. To increase community awareness and practice of protection, health and nutrition-promoting behaviors and services.

Please refer to the original project logframe in Annex D7 on page 90.

The key components of the project are as follows:

Provision of a basic package of essential PHC services: Medair supports the following basic package of essential health services for clients:

- Integrated management of childhood illnesses
- Reproductive health (RH) services
- Routine child immunizations (as part of the MoPH program).
- Malnutrition screening for children under five
- General practice consultations
- Ongoing monitoring and acute exacerbations of chronic conditions such as chronic respiratory diseases, diabetes, hypertension and coronary vascular disease.

Health promotion and community outreach program: Promotion of healthier preventive behaviors, IYCF best practices and early health seeking will have a clinic-based as well as a community-based component. The community outreach component will aim to:

- Support or create 20 Mother Support Groups ("Care Groups").
- Create awareness and demand for subsidized primary health care centre services and to inform communities about referral pathways for survivors of SGBV.
- Train 35 Community Health Volunteers (CHVs) on relevant health topics including nutrition, Infant and Young Child Feeding (IYCF), family planning, essential maternal and newborn care, management of non-communicable diseases (NDCs), Sexual and Gender Based Violence (SGBV), psychosocial support and referral systems.
- CHVs carry out household visits, community outreach in Informal Settlements within SDC catchment areas and as well as meet refugees and vulnerable host communities in

community shared places. Share via multiple channels and methods key health and nutrition messages linked to prevention of the main causes of morbidity and mortality.

- Respond to outbreaks and provide active-case finding as needed.
- Support mass immunization and malnutrition screening campaigns where appropriate.

Capacity building for responding to public health priorities

- Strengthen the health system capacity to identify and respond to public health needs through:
  - o Providing in-service training to health care professionals in the MoSA clinics.
  - o Improve the quality of care at the MoSA clinics
  - o Support outbreak response through proper reporting and community-clinic linkages.
  - o Supply medicines and medical supplies at MoSA clinics, and ensure that adequate stocks are available at all times.

Case management and referral services:

- Each SDC will establish appropriate referral linkages to more specialized care and emergencies.
  - o Pregnant women will receive pregnancy cards at prenatal visits and referred to a hospital for childbirth.
  - o Patients will be referred to designated centers for the treatment of tuberculosis, leishmaniasis and HIV, and to centers where staff has received specialized training in order to manage GBV and SGBV.
  - o Patients with chronic conditions such as chronic respiratory disease, asthma, cardiovascular disease or diabetes will be referred to a PHCC that is part of the YMCA network where medications for chronic illnesses are dispensed on a monthly basis.
  - o The SDC clinics will also build counter referral linkages (referrals inwards) with mobile medical units and other PHC Centers for prenatal and postnatal care, immunizations, family planning and the treatment of acute moderate and severe malnutrition.

The seven SDCs that Medair is supporting, benefitting an estimated 45,000 people, have been being strengthened by increasing clinic capacity through increased hours of availability for doctors, training, procurement of much needed medical equipment, medicines and supplies, improvements in clinic operations and systems including pharmacy stock management and health information systems, minor structural improvements to improve patient flow, and implementation of a community outreach program which includes health education, acute malnutrition screening of children under five years, and addressing the inappropriate infant and young children feeding practices and micronutrient deficiencies.

The community based programme is linked with Medair's other activities in Shelter and WASH in the Bekaa valley. Community mobilizers from other Medair projects are included in training on key health, nutrition and protection topics to maximize the coverage for appropriate health education.

Finally, Medair is the lead agency for GIS (Global Information System) mapping in the Bekaa Valley, having covered Central and West Bekaa during 2013 and extended to include North Bekaa since early 2014. Each month, data is collected on the location and growth in number and nature of tents in all informal settlements. This provides locations and crucial information about the ITS to UNHCR and the humanitarian community to facilitate more efficient and effective delivery of aid.

III. KNOWLEDGE, PRACTICE, COVERAGE (KPC) SURVEY

A. OBJECTIVES OF THE KPC SURVEY

Medair requested a household-level Knowledge, Practice and Coverage Survey (KPC) to assess the health status of the population of its project area. The purpose of the survey is to provide robust data to evaluate and adjust current implementation of programming and to support future programming priorities.

The objective of the survey is to gather information from active project areas in the Bekaa Valley to provide representative data on key health-related indicators at the household level, including the following thematic areas:

- Health seeking behavior
- Diarrhea management
- Acute respiratory infection (ARI) management
- Vaccinations
- Antenatal care (ANC)
- Delivery in health facility
- Post-partum care (PNC)
- Breastfeeding practices
- Family planning
- Non-communicable disease prevention (diabetes and high blood pressure/cardiovascular disease)
- Sources of health information

The results of this survey will inform operations, guide resource allocation, and facilitate future impact measurements. In addition, the survey will ascertain the knowledge level of mothers regarding, for example, diabetes and high blood pressure risk reduction, perceptions of the importance of child spacing, and other MCH practices. This can potentially contribute to better targeting of both community health worker and clinic staff's outreach efforts towards priority populations as well as key MCH and family health practices that may require a more focused, multi-media approach.

Medair has involved target communities from the start through assessment, planning and implementation of the project. Medair's first health assessment (August 2013) included semi-structured interviews with community leaders, focus group discussions, and household visits to learn directly from Syrian refugee men and women as well as host community groups and leaders about their access to services, current behaviors and confirmed directly with beneficiaries their primary concerns and needs. Medair also conducted regular community meetings, post distribution monitoring visits and established a beneficiary feedback system. A beneficiary hotline phone number was monitored by staff independent of the project team.

Feedback from the beneficiaries has provided important information to tailor ongoing interventions. Community health volunteers already established in ITS as well as municipality leaders are channels for health and nutrition promotion, outbreak prevention and sensitization of communities for GBV and mental health awareness and education. The social development centers supported already play a vital role within host communities and established links are used to intensify uptake of health care services as well as health and nutrition promoting behavior.

Although these assessments were performed and provided valuable input to project management, the health staff team experienced a high level of turnover. Program management was below Medair standards, and program monitoring or other assessments were not sufficient to report accurately against the project indicators. This survey provides a baseline for the future iterations of the project, and allows Medair to report on some aspects of Phase 1 of the current project.

B. KPC INDICATORS

As mentioned above, the objective of the KPC survey was to gather information from key health-related indicators at the household level. These key indicators were as follows:

Thematic Area	Indicator
DIARRHEA	1. Children <5 with diarrhea in past 2 weeks receive ORS (and zinc[15])
ARI	2. Children <5 with Acute Respiratory Infection (ARI) in past 2 weeks are treated in a health facility.
ANC	3. Women attend more than 2 antenatal care visits when pregnant with their youngest child.
DELIVERY	4. Women give birth to their youngest child in a health facility.
PNC	5. Women receiving 1 or more postpartum visits within 6 days after birth of their youngest child.
VACCINATIONS	6. Youngest child aged 12-59 months receive all age-appropriate vaccinations according to vaccination card or mother's recall. 7. Youngest child aged 12-59 months receives measles and/or MMR vaccination according to vaccination card or mother's recall.
EXCLUSIVE BREASTFEEDING	8. Women practice exclusive breastfeeding of their child 0-6 months of age.
FAMILY PLANNING	9. Women aged 15-50 use a modern contraceptive method (*among those women doing something or using a method to delay or avoid pregnancy*).

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[15]The KPC survey's results reflect the percentage of mothers who gave their children ORS, and those who gave their children zinc (see figures 12, 13 and 14). The data does not reflect those who gave their child ORS plus zinc. In future surveys, this cross-tab (i.e. ORS plus zinc) will be measured.

| NON-COMMUNICABLE DISEASES | 10. Women know 2 or more ways to reduce the risk of diabetes. |
| | 11. Women know 2 or more ways reduce the risk of high blood pressure/cardiovascular disease. |

Although these indicators focus on household-level knowledge and practices, the results will have implications on educational outreach approaches at the clinic level, as well through community health workers.

C. SURVEY PREPARATIONS AND METHODOLOGY

1. Visit to Medair-supported SDCs

Before finalizing the questionnaire, Medair-supported SDCs and cadasters were visited as part of the survey preparations. The purpose of these visits was to orient SDC staff with the survey objective, approach, and schedule of the upcoming baseline as well as to request their cooperation and collaboration.

Given the challenges in locating refugees and vulnerable Lebanese residing in buildings, Medair requested assistance from key clinic personnel to provide one representative from each SDC to assist survey staff in identifying these locations. During the survey, most SDCs provided this "guide", which proved to be invaluable in facilitating the search for these populations.

The team also gathered details about various pediatric cases that the staff dealt with. All of the SDCs' medical staff stressed that acute respiratory infection was, by far, the illness that they treated most frequently. Consequently, after discussion with Medair's project team and regional health advisor, it was decided that ARI incidence and health-seeking behavior would be added to the list of key indicators.

The visits also helped refine some of the survey questions, especially those dealing with barriers to behavior change and knowledge levels of patients regarding NCDs, vaccination schedules, and other issues.

2. Development of survey questionnaire

The questionnaire was developed based on the programmatic logframe and key indicators of importance to Medair, and in coordination with Medair staff.

To the extent possible, existing questionnaire content from the 2014 version of the Knowledge, Practice and Coverage (KPC) modules developed by USAID and the Maternal and Child Health Integrated Program (MCHIP) were adapted for use to improve the validity of the tool and comparability of results. Questions for the survey were selected from the KPC modules that

corresponded to the Medair project's specific technical areas and interventions. Questions related to non-communicable disease prevention were drawn from other resources.[16][17]

The questionnaire went through numerous drafts with feedback from the project's senior health staff, Medair's Regional Health Coordinator and Senior Health Advisor/Emergency Response and Medair's Information Management Project Manager.

Translation of the questionnaire to Arabic was carried out by a translator who had extensive related experience with Medair and other international NGOs. The translation review, comparing the Arabic and English versions, was conducted by the senior health project staff and a number of technical terms were revised.

Finally, the translation was slightly modified based on the results of the field testing.

The following inclusion and exclusion criteria were used for interviewing respondents:

- Is there a female between the ages of 15-50 present?
- Does she give consent to be interviewed?
- Is there a child under 5 in the household?

During the field pre-testing of the questionnaire, survey teams observed that many refugees had given birth and/or had MCH care in Syria. As the focus of Medair's program is on MCH care in Lebanon, additional questions were added to the survey to identify where refugees were located during each of the three stages of pregnancy (ANC, delivery, PNC). The questionnaire would then skip the ANC, delivery or PNC section if the refugee was in Syria during one of those stages.

The questionnaire was coded into ODK (Open Data Kit) by the Medair Information Management Project Manager and revised after the pre-testing in the field.

3. Methods

  a. *Sample Size Calculations*

The sample size calculations were based on the primary survey objective to provide representative data on key health-related indicators at the household level.

The primary indicator used to calculate the sample size was the percent of children vaccinated for measles as this is a key indicator for Medair. Data from previous studies was used to estimate the effect size (0.15) from baseline to endline for this comparative survey. The sample size calculations were based on a prevalence of 59% for refugees and 77% for the vulnerable Lebanese population, with 80% power, 80% significance level and a design effect of 1.3 to

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[16]"Toward Quality Measures for Population Health and the Leading Health Indicators", National Academy of Sciences, 2015, pp. 11, 15.
[17]International Federation of Red Cross and Red Crescent Societies "Healthy Living" indicators, 2013.

account for a cluster sample design (JHU 2015[18], CSTS KPC 2000[19]). The sample size was adjusted to account for a 10% non-response rate, average household size, and average children per household (Addendum to FANTA Sampling Guide 2012)[20]. Please refer to annex "Sample Size Calculations" for further information.

Data collection was planned with a sample size of 273 Syrian refugee households (with 88 in informal settlements and 186 urban refugee households) and 280 vulnerable Lebanese households with a total planned sample of 554 households.

b. *Sample Design*

A stratified multi-staged cluster design with probability proportional to size (PPS) was used to obtain a representative sample of the three major groups:

1. Refugees in informal settlements (ITS)
2. Urban refugees (i.e. refugees NOT in informal settlements)
3. Vulnerable Lebanese

For refugees, a 30 cluster X 9 household (3 refugee households in informal settlements, 6 urban refugee households) and a 30 cluster by 9 household design for vulnerable Lebanese households due to the small geographic size of Lebanon. Systematic random sampling (PPS) was used to assign the number of clusters to cadasters using UNHCR registration data for refugee numbers and estimates of vulnerable Lebanese populations were provided by Medair. In cadasters where vulnerable Lebanese household numbers were unavailable, an estimated percentage was calculated based on the cadaster average.

For ITS refugees, systematic random sampling (PPS) of the informal settlement was used to select sites for interviewing, and once at the site, teams used a pre-calculated estimate for sampling interval at the ITS. Once at the site, enumerators used "spin the pen" method to determine the first household to select. In instances where more than one household resided within an ITS, the enumerators rolled a die to determine which household to interview.

For urban refugees and vulnerable Lebanese, random geospatial points were sampled within the selected cadasters using ArcGIS (Medair GIS team conducted the random geospatial point selection). Once at the site, enumerators used either a "spin the pen" method to determine the direction to begin or, in areas where households fitting the inclusion criteria were difficult to find, enumerators sought out any household meeting the criteria. Households were selected

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[18]The Center for Refugee and Disaster Response at Johns Hopkins University Bloomberg School of Public Health, Médecins du Monde, International Medical Corps, The American University of Beirut Faculty of Health Sciences, and the United Nations High Commissioner for Refugees (UNHCR). (2015). Syrian refugee and Affected Host Population Health Access Survey in Lebanon.
[19] The Child Survival Technical Support (CSTS) Project and the CORE Monitoring and Evaluation Working Group, USAID. (2000). Knowledge, Practices and Coverage Survey
[20] Stukel, Diana; and Deitchler, Megan. 2012. Addendum to FANTA Sampling Guide by Robert Magnani (1999): Correction to Section 3.3.1 Determining the Number of Households That Need to be Contacted. Washington, DC: FHI 360/ FANTA.

using a semi-random snowball method, where teams were instructed to interview every 3rd household introduced.

4. Selection and training of enumerators

The baseline survey was conducted by temporary Lebanese staff. In total, 18 teams of enumerators (each team made up of two women) and seven female supervisors, each supervising approximately three enumerator teams, were hired for the survey period. Most enumerators and all supervisors had prior experience conducting health survey research in Lebanon using e-data collection with tablets. Medair had hired the supervisors in the past for short-term assignments in its water & sanitation, shelter, and health projects.

Given the sensitive nature of many of the survey questions and taking into account religion and cultural practices, all enumerators and supervisors were women. Three female Medair staff (including the consultant, a non-Arabic-speaker) circulated among the enumerators during the interviews to ensure quality control.

The consultant conducted a half-day ToT for the Medair senior health team on the various topics in the survey team training agenda, including discussion of the various protocols that would be distributed during the training.

The core survey training was conducted on December 3, 2015 for 36 enumerators, 7 supervisors, and one representative from most of the Medair-supported SDCs who would act as guides during survey implementation. Guides from the SDCs provided assistance in locating residences where refugee and vulnerable Lebanese lived relatively near to the random location in given clusters. This assistance proved to be invaluable, given the challenges in identifying buildings where these target groups resided.

An agenda and training documentation distributed (including Arabic translations) can be found in Annexes T1 through T12.   The formal training focused on:

- Orientation with the health project, its goals and objectives
- Survey protocol
- Interview techniques
- Importance of informed consent and confidentiality
- Rules of conduct for enumerators and supervisors
- Review of the questionnaire, including mock surveys (with tablets)
- Reporting on respondents who are not home or refuse to be interviewed.

In addition to the core training, supervisors were trained by Medair's M&E Officer in cluster sampling, locating cluster starting points, coordinating and leading their teams to randomly-selected households, and collecting information from their teams on non-responders. Enumerator teams and supervisors were provided with instructions for the selection of households within cadasters. Medair staff also served as a quality control role to ensure proper

selection of households occurred, as well as coordinated with the GIS team in selecting random geospatial points.

The training also consisted of one day of field-testing the survey in a non-targeted area near Zahlé to provide the full team with the opportunity to practice locating households and conducting interviews with the target population. A debrief was held the next day with the team to discuss issues with the questionnaire in terms of difficulties in interpretation of questions or responses, clarification regarding protocol, and other points. Revisions were instantly made in the ODK form; these changes were reflected in the tablets by the time the teams headed to the field to begin the survey.

5. Survey implementation

The survey was conducted from December 7-12, 2015. During most of the week, 17 two-woman teams and 6 supervisors (each responsible for 2 or 3 teams) conducted the survey in West and Central Bekaa. Given the security situation, one team with one supervisor was assigned to the clusters located in North Bekaa. During the last two days of the survey, two more teams and another supervisor were sent to the North to accelerate the completion of the survey in that region.

Medair senior health staff was responsible for navigating to the cluster starting location. Supervisors were responsible for coordinating their teams, including the identification of buildings where urban refugees and Lebanese resided. They also collected and consolidated their team's figures related to incomplete interview, non-response or interview refusal.
The questionnaire was conducted in a location in the household that ensured confidentiality of interviews. This was occasionally a challenge as other older children or adults sometimes entered the room in the course of interviews. Enumerators politely asked them to leave while the interview was being conducted; almost all reacted positively and left the room. In only a few cases, those not being interviewed didn't depart, and enumerators were forced to end the interview.

No information was recorded that could be used to identify the household or individual. Enumerators obtained verbal informed consent from all participants by reading the consent form in Arabic outlining the purpose of the survey, intended use of the results, confidentiality, and the voluntary nature of the participation. Potential respondents were also informed that the decision to take part or not in the survey would have no influence on their access to humanitarian assistance.

Finally, at the end of the interview, enumerators informed respondents of the nearest Medair-supported SDC and its hours and days of operation.

6. Data management and analysis

The survey data was collected on tablets using ODK forms and allowed for Medair staff to monitor the quality of data collection by enumerators regularly. Tablets were provided to enumerators and were returned at the end of each day for downloading the survey data. Medair managed the data cleaning, coding, translation, and export of the raw data from ODK. The raw data was collated in a MS Excel file. Stata v.13 and Microsoft Excel was used for calculation of all tables and graphs. Where necessary, results were rounded to the next whole number. Medair calculated and added p-values for most of the tables.

Rapid results were generated based on the project logframe indicators for Medair. Data analysis for the final report is also based on the key logframe indicators, as well as key areas of importance for Medair. The survey questionnaire and ODK form were used to develop a data analysis plan. Frequencies and cross-tabulations were planned for calculation.

7. Limitations

Limited time to conduct survey: Due to Lebanese visa policies, the consultant needed to carry out the survey in a one-month period. Therefore, the time devoted to both the training of trainers for Medair senior project staff as well as the training of enumerators and supervisors was necessarily limited. This was mitigated by the fact that most of the enumerators and all of the supervisors had experience in conducting surveys, both for Medair and other organizations, and in using ODK for data collection.

Estimates for vulnerable Lebanese and urban refugees: Due to incomplete population data for urban refugees and vulnerable Lebanese, estimates were projected and then used for the systematic random sampling of clusters within cadasters. Project estimates were necessary and should have little effect on the survey results if run with accurate numbers, given the spread of the vulnerable Lebanese and urban refugee population allowing for an average estimate.

Identifying households for urban refugees and vulnerable Lebanese: Due to the difficulty in locating these households, the team relied on a semi-random snowball method which involved the SDC representative leading the team to a household (after random geospatial selection within that cadaster). The random part of this method was the geospatial selection of a location within that cadaster, and from there an SDC representative lead the team to a household. Households were then interviewed based on the random roll of a die. Given the lack of documented information for these two groups and amount of time dedicated to the survey and preparations, a listing operation was not possible. Because semi-random methods were used, it is possible that enumerators may have introduced bias depending on how well they followed the instructions for selecting households.

Supervision constraints: Although supervisors circulated among the three teams of enumerators which they were responsible for, there were only three female Medair staff (including the consultant) who could circulate among supervisors and enumerators to add an extra level of supervision.

In addition, supervisors were limited in their ability to monitor interviews conducted by enumerator given the fact that they were obliged to physically identify urban refugee and vulnerable Lebanese residences due to the time-consuming challenges in locating these populations. Often, this search needed to take place while the enumerators were interviewing respondents. As supervisors were not always able to be present during the interviews, quality control for interviewer protocol may not have been followed, and supervisors were not able to always ensure that respondents were treated with dignity and respect, as emphasized in the training.

Migrating refugees: The survey did not account for Syrian refugees who migrate back and forth to Syria. This is a challenge as there was limited or no information on where to locate and identify migrating refugees. The results do not intentionally make this distinction as there was no question in the survey regarding current migration, but there is a question asking when respondents arrived to Lebanon and can be used as a proxy to identify what percentage of the survey sample recently arrived to Lebanon to gauge the inclusion of migrating refugees in the survey.

IV. RESULTS

A total of 1187 households were approached to participate in the survey.

Due to an ODK error not caught until day two, 231 questionnaires from vulnerable Lebanese households approached or interviewed were ineligible for data analysis due to incomplete data; 48 households were ineligible because there was no female present to interview; 84 households did not give consent to be interviewed; 250 households did not have a child under the age of 5 within the household, leaving with a final sample of 574 households (279 Syrian refugees, of which 88 were in informal settlements and 191 were in urban areas, and 295 vulnerable Lebanese households). The total number of households interviewed was higher than expected, as the teams had to make up the households interviewed in the first two days given the error and incomplete data. The slightly larger sample size should not have any impact on the survey results as the number of households for refugees was only 4 more than planned, and the ratio for urban and ITS dwelling refugees was as planned. For vulnerable Lebanese, the number of households is 15 higher (5% larger) than the planned sample size.

The data was analyzed to compare the difference between Syrian refugees and vulnerable Lebanese, through chi-square tests (using the Mantel-Haenszel corrected 2-tailed p-value or the fisher-exact value when cells in the 2x2 tables were lower than 5).

A. STUDY POPULATION CHARACTERISTICS

1. Where targeted populations reside

Although the survey focused on two populations (refugees and vulnerable Lebanese), one of the first survey questions asked whether the refugee was living in an informal tented settlement or in a residence (e.g. mostly in sub-standard buildings in the process of construction; see Photo section in Annex P1). Respondents living in this type of residence were classified as "urban refugees" on the questionnaire.

The sample size for each population was based upon population figures received from Medair. Figure 1 below indicates that, although 48.6% of the target population are refugees, only 15.3% of the respondents were refugees living in ITS. 33.3% of respondents were urban refugees and 51.4% vulnerable Lebanese. The resulting proportion of the 3 strata within the survey population are comparative to the planned sample size proportions (planned proportions: 16% ITS refugees, 34% urban refugees, and 51% vulnerable Lebanese).

Compared to locating random refugees' informal tented settlements, it was significantly more of a challenge to identify residences where urban refugees and vulnerable Lebanese lived. It bears underlining that almost 85% of Medair's target population reside in urban buildings (i.e.

33.3% urban refugees and 51.4% vulnerable Lebanese), and not easily-identifiable camps, entailing some challenges to community outreach efforts.

Figure 1: Survey respondents

Survey respondents		
	Frequency	Percent
Informal settlement refugees	88	15.3
Urban refugees	191	33.3
Vulnerable Lebanese	295	51.4
Total	574	100

2. Timeframe of arrival of refugees in Lebanon

Refugees were asked when (month and year) they arrived in Lebanon. The results for refugees residing in ITS and in residences ("urban refugees") is indicated in Figure 2 below:

Figure 2: When did refugees arrive in Lebanon?
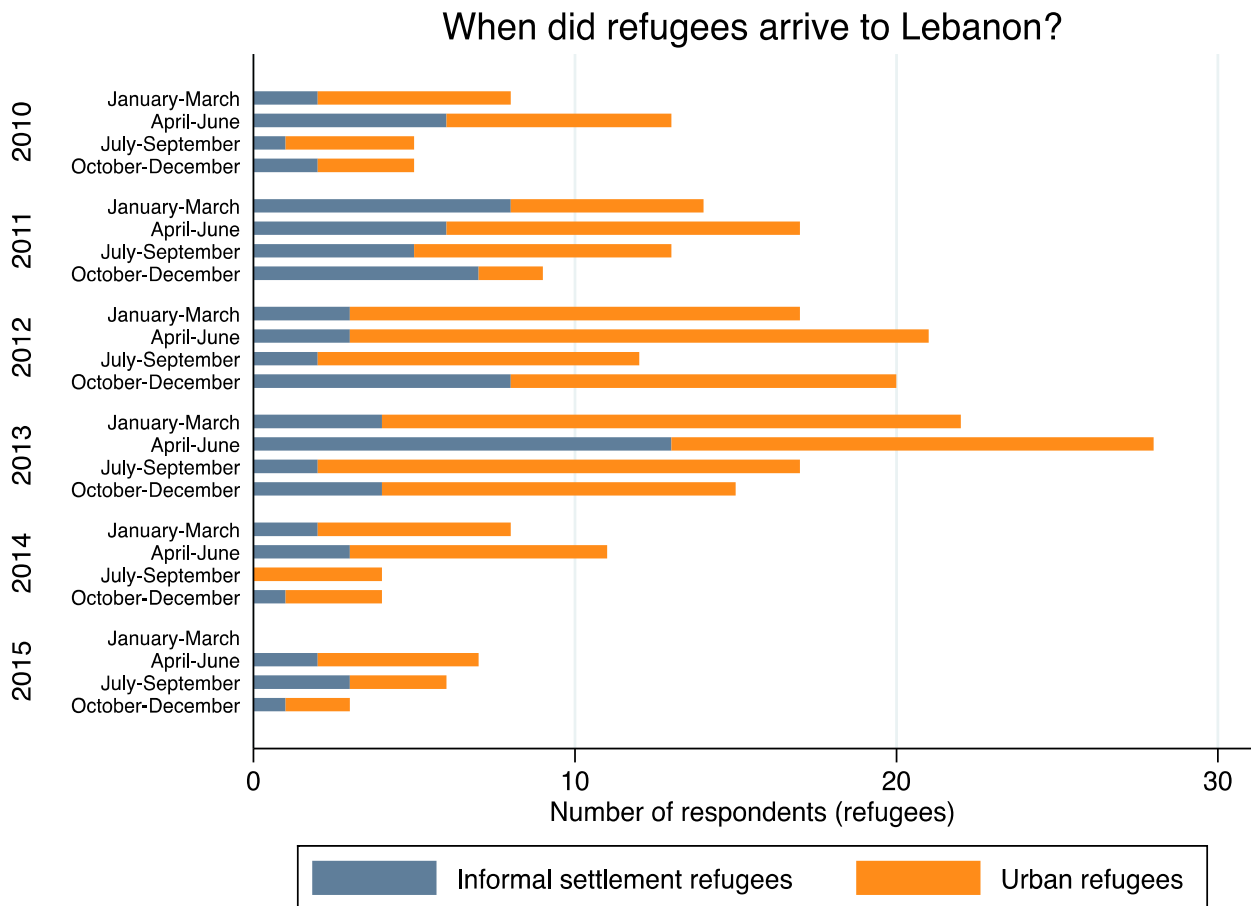
Two observations can be made from the graph above:
– The number of refugees entering Lebanon appears to have decreased since the end of 2013.
– Refugees appear to have remained in Lebanon for an average of 3-4 years, and longer. Those arriving prior to March 2011 may have migrated from Syria for other reasons. However, the bulk of refugees migrated to Lebanon after the conflict began in early 2011. From all appearances, they have remained in country for 3 years or more.

3. Age of respondents

Respondents who gave birth below the age of 17 are considered to be a high-risk group for maternal morbidity and mortality. This was, however, a relatively small proportion of the respondents: 5.6% of the women with children under 5 sampled in the survey. The difference between vulnerable Lebanese and Syrian refugees was not statistically significant (p-value=0.11). Respondents in the 21-25 age group were a larger proportion of respondents, 21.8% of those sampled in the survey. The difference between the two groups was not statistically significant (p-value=0.72).

What is of concern is the percentage of respondents having given birth to their youngest child between the ages of 36 and 50 years: 18.6% and 21.4% for refugees and Lebanese, respectively. The difference between Lebanese and Syrian was not statistically significant (p-value=0.20). This, too, is a high-risk age group for maternal morbidity and birth defects.

Figure 3: Age of respondents

	Age of respondents			
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
16-20 years	30	10.7	16	5.4
21-25 years	59	21.2	66	22.4
26-30 years	77	27.6	85	28.8
31-35 years	61	21.9	65	22.0
36-40 years	30	10.7	39	13.2
41-50 years	22	7.9	24	8.2
Total	279	100	295	100

4. Household members

a. *Children under 5 years old*

The majority of refugee and vulnerable Lebanese household had only one child under 5 years old. Approximately 35% among both population groups had two children under 5 in the household. 12.2% of refugee households and 7.1% of Lebanese households had three or more children under 5 in the family. This difference was statistically significant (p-value=0.039).

Figure 4: Children under the age of five in respondent's household

How many children under the age of 5 do you have or are taking care of?				
# children under 5	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
1	148	53.0	172	58.3
2	97	34.8	102	34.6
3	32	11.5	18	6.1
4	2	0.7	2	0.7
5	0	0	1	0.3
Total	279	100	295	100

b. Children 5-17 years old in household

When focusing on the number of children between the ages of 5 and 17 years old living in the household, an interesting difference between the refugee and Lebanese households is revealed: 23.3% of refugee households had four or more older children. On the other hand, only 8.6% of Lebanese households had four or more older children residing in the household. This difference was statistically significant (p-value<0.001).

Figure 5: Children between ages 5-17 living in the household

	Children between ages 5-17 living in the household			
	Refugees		Vulnerable Lebanese	
# children	Frequency	Percent	Frequency	Percent
0	85	30.5	123	41.7
1	53	19.0	63	21.3
2	51	18.3	46	15.6
3	25	8.9	37	12.5
4	25	8.9	12	4.1
5	20	7.2	7	2.4
6	12	4.3	2	0.7
7	4	1.4	2	0.7
8	1	0.4	2	0.7
9	2	0.7		=8.6%
10	1	0.4		
30		=23.3%	1	0.3
Total	279	100	295	100

c. Husband in household

Among the refugees, 14.3% of the women replied that their husbands did not live with them. The odds of the husband not living in the household are almost seven times more likely for Syrian refugees than vulnerable Lebanese. This difference was statistically significant (p-value<0.001). According to enumerators and supervisors, many voluntarily mentioned that they died during the Syrian conflict. A few stated that they were divorced. Among those refugees

whose husbands did not live with them, 62.5% had one child under five, 20% had two children, and 17.5% had 3 or more children under five to care for.

B. HEALTH FACILITIES

92.5% of Syrian refugees and 79.3% of Lebanese mothers interviewed confirmed that either their children under 5 or themselves needed medical services in the past year. This was a statistically significant difference (p-value<0.001). Among the refugees who needed medical services, 86.4% went to a health facility. Among Lebanese, 79.5% followed through and went to a health facility. This was a statistically significant difference between the two groups interviewed (p-value=0.040).

Among the respondents who didn't go to a health center, 26.5% felt that it was too expensive, and 27.7% believed that it wasn't necessary to go. The difference between Syrian refugees and vulnerable Lebanese was not statistically significant (respectively, p-value=0.17 and p-value=0.18). Among the 20.5% (n=48) of Lebanese who decided not to go to a health center in the past year, 20.8% said they did not like the health facility.

Knowledge of the location of a health facility doesn't appear to be a major issue: only 12.1% (n=10) stated that they did not know where to go for health services. The difference between the two groups, Lebanese and Syrian, was not statistically significant (fisherp-value=0.58).

Respondents were then asked which health facility they frequented when they needed medical services:

Figure 6: Health facilities visited by respondents

Which health facility?				
	Refugees		Vulnerable Lebanese	
	Frequency	percent	Frequency	percent
Medair-supported clinic*	145	65.0	107	57.5
Other clinic	78	35.0	79	42.5
Total	223	100	186	100

*Medair-supported SDCs: Haouch El Omara, Nabi Chiit, Talia, Britel, Joub Janine, Al Marj, Kabelias

Although all respondents resided in cadasters that were well within the seven Medair-supported clinics' catchment area, 38.4% of all respondents frequent a non-Medair-supported clinic. Among the 162 non-Medair-supported venues mentioned, "other SDCs" were the choice of 25 refugees and 10 Lebanese. Other choices were unspecified hospitals (in the case of refugees) and private clinics (in the case of Lebanese), among a plethora of other health facilities, large and small.

Overall, access to the respondents' chosen health center does not appear to pose a problem in terms of time and transport. 80% of respondents reach their health facility within 30 minutes,

the difference between Lebanese and Syrian is not statistically significant (p-value=0.75). The odds of walking to the health facility are 5.5 times more likely for Syrian refugees compared to vulnerable Lebanese. This difference is statistically significant (p-value<0.001). The odds of using public transport to the health facility are 1.7 times more likely for Syrian refugees compared to vulnerable Lebanese. This difference is statistically significant (p-value=0.027). The odds of using a car to go to the health facility are 16.6 times more likely for vulnerable Lebanese compared to Syrian refugees. This difference is statistically significant (p-value<0.001).

Figure 7: Number of minutes to travel from residence to clinic.

How many minutes does it take you to travel from your residence to the clinic?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
5-15 minutes	85	38.1	88	47.3
16-30 minutes	92	41.3	62	33.3
31 minutes to 1 hour	33	14.8	27	14.5
1-2 hours	11	4.9	8	4.3
More than 2 hours	2	0.9	1	0.6
Total	223	100	186	100

Figure 8: How to get from residence to clinic

How do you get from your residence to the clinic?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent of responses	Frequency	Percent of responses
Car	14	5.5	98	46.7
Motorbike	11	4.3	0	0
Public transport	67	26.4	38	18.1
Taxi	20	7.9	29	13.8
Walk	142	55.9	45	21.4
Total	254	100	210	100

C. UNDER-5 CHILD HEALTH CARE

1. Sickness in past two weeks

Respondents were asked whether any of their children under 5 years old had certain specific illnesses in the past 2 weeks. Of the households who reported diarrhea or blood in stool for under-5 children, 55.1% were refugee respondents and 44.9% were from vulnerable Lebanese households. The odds of having diarrhea or blood in their stools are 1.5 times more likely for Syrian refugees, as compared to vulnerable Lebanese. This difference was statistically significant (p-value=0.02). These respondents were subsequently asked more detailed questions related to the measures that they took to treat their child's diarrhea (see section 2 below).

Figure 9: Youngest child with diarrhea and/or blood in stool in past 2 weeks

Diarrhea or blood in stool		
	Frequency	**Percent**
Refugees	118	55.1
Vulnerable Lebanese	96	44.9
Total	214	100

As for respiratory-related symptoms, 80.3% of refugee respondents reported that one of their children under 5 had a cough, 52.3% had difficulty breathing, and 30.8% breathed rapidly over the past two weeks. Among Lebanese children under 5, 68.1% had a cough, 40.0% had difficulty breathing, and 21.0% breathed rapidly over the previous two weeks. These differences were all statistically significant (respectively, p-value<0.001 for the cough, p-value=0.003 for the difficulty breathing and p-value=0.007 for the fast breathing).

Figure 10: Children experiencing ARI-related symptoms in past 2 weeks

Did any of your children experience the following in the past 2 weeks? -- Table reflects "yes" responses to ARI-related symptoms only (n = 279 refugees, 295 Lebanese)				
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
Cough	224	80.3	201	68.1
Difficulty breathing	146	52.3	118	40.0
Fast breathing	86	30.8	62	21.0

These respondents were subsequently asked further questions related to acute respiratory infection (ARI) treatment for their youngest child under five who showed these signs of illness (see Section 3).

2. Diarrhea Treatment

   a. *Where and when child taken diarrhea treatment*

Among those respondents acknowledging that one of their children had diarrhea or blood in stool in the previous two weeks, 52.3% of respondents took their child to a health facility: health center, private clinic, or hospital, or other health facility. However, 28.5% of respondents went to a pharmacy to treat their child, in which case they may have not received adequate consultation. The difference between Lebanese and Syrian refugees was not statistically significant (respectively, p-value=0.95 and p-value=0.62).

Figure 11: When child had diarrhea, where taken for treatment (Combined)

When your child had diarrhea, where did you first go for advice or treatment? (Combined, n =214)		
	Frequency	Percent
Pharmacy	61	28.5
*Health center	60	28.0
*Private clinic	38	17.8
Other	16	7.5
*Hospital	13	6.1
Friends / relatives	13	6.1
I did not go anywhere or see anyone for assistance	6	2.8
Community Distributors	3	1.4
Traditional practitioner	2	0.9
*Other health facility	1	0.45
Field/Community Health Worker	1	0.45
* = Appropriate facility	112	52.3
Total	214	100

Respondents with children who had diarrhea and/or blood in the stool over the previous two weeks were asked what the child was given to treat the diarrhea. The recommended treatment, "fluid made from ORS pack", the most effective treatment at the lowest cost, was only used by 38.1% of the refugee respondents and 25.0% of vulnerable Lebanese. This difference was statistically significant (p-value=0.041).

Zinc pill or fluid was used by only 2.8% of respondents (n=6). The difference between the two groups was not statistically significant (fisher_p-value=0.56). The more frequently used treatments were "home remedies" (15.0%) and "pill-syrup (44.9%). The difference between Syrian and Lebanese was not statistically significant for both responses (respectively, p-value=0.80 and p-value=0.57). Respondents were not asked the exact nature of these treatments.

Figure 12: What was given to treat the diarrhea (refugees)

What was given to treat the diarrhea? (refugees, n=118)				
	Frequency	Percent of responses	Percent of cases[21]	Confidence Interval
Injection	2	1.4	1.7	0.42, 6.63
Other	3	2.1	2.5	0.80, 7.74
Zinc	3	2.1	2.5	0.80, 7.74
Home fluid	5	3.6	4.2	1.74, 9.93
Nothing	11	7.8	9.3	5.18, 16.20
Home remedies	17	12.1	14.4	9.07, 22.11
ORS pack	45	31.9	38.1	29.77, 47.27
Pill syrup	55	39.0	46.6	37.72, 55.72
Total	**141**	**100**	**119**	

Figure 13: What was given to treat the diarrhea (Lebanese)

What was given to treat the diarrhea? (vulnerable Lebanese = 96)				
	Frequency	Percent of responses	Percent of cases	Confidence Interval
Injection	3	2.7	3.1	0.99, 9.42
Zinc	3	2.7	3.1	0.99, 9.42
IV	4	3.6	4.2	1.54, 10.75
Home fluid	5	4.5	5.2	2.15, 12.08
Other	6	5.3	6.3	2.79, 13.39
Nothing	11	9.8	11.5	6.39, 19.70
Home remedies	15	13.4	15.6	9.56, 24.50
ORS pack	24	21.4	25.0	17.24, 34.79
Pill syrup	41	36.6	42.7	33.06, 52.95
Total	**112**	**100**	**116.7**	

Figure 14: What was given to treat the diarrhea (combined)

What was given to treat the diarrhea? (n=214)				
	Frequency	Percent of responses	Percent of cases	Confidence Interval
IV	4	1.6	1.9	0.70, 4.87
Injection	5	2.0	2.3	0.97, 5.53
Zinc	6	2.4	2.8	1.25, 6.16
Other	9	3.6	4.2	2.19, 7.92
Home fluid	10	4.0	4.7	2.51, 8.527
Nothing	22	8.7	10.3	6.83, 15.18
Home remedies	32	12.6	14.9	10.73, 20.45
ORS pack	69	27.2	32.2	26.34, 38.77
Pill syrup	96	37.9	44.9	38.28, 51.63
Total	253	100	118.2	

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[21] **Percent of responses** = the frequency of choices selected in a multiple response question (select all that apply) divided by the frequency of total choices selected. **Percent of cases** = the frequency of choices selected by the total number of respondents responding to that question. The total percent of cases may often be above 100% as respondents were allowed more than one choice and this percentage is percent of choices selected by the number of respondents. If respondents are allowed more than one choice, then the percent is expected to be over 100%.

b. *Breastfeeding of child with diarrhea*

Among those who breastfed their diarrhea-stricken child (62.0% of respondents, the difference between Syrian and Lebanese was not statistically significant, p-value=0.19), only respondents who had a child under two years old who was stricken with diarrhea (and were therefore more likely to be breastfeeding) were asked if they breastfed more, less or the same while the child had diarrhea. Out of all respondents (n=80), 7.5% of respondents gave their child more than the usual amount of breast milk, 48.8% actually gave their child less breast milk and 43.8% did not change the amount of breast milk given to their child when s/he had diarrhea. The difference between the two groups was not statistically significant (respectively, fisher_p-value=0.39, p-value=0.62 and p-value=0.24).

Figure 15: Amount breast milk given to child who has diarrhea

When the child had diarrhea, did you breastfeed him/her less than usual, the same amount, or more than usual?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Less	24	51.1	15	45.5
More	5	10.6	1	3.0
Same	18	38.3	17	51.5
Total	47	100	33	100

c. *Liquids given to child with diarrhea*

Out of breastfeeding mothers, 51.4% of respondents who gave their children liquids other than breast milk acknowledged that they offered their child less to drink when s/he had diarrhea. The difference between Syrian and Lebanese mothers was not statistically significant (p-value=0.89). 34.3% of respondents gave the same amount of liquid, but the percentage of respondents who cut back liquids is higher than those who offer the same or more to drink. The difference between the two groups was not statistically significant (p-value=0.39).

Figure 16: Breastfeeding women who offer child more, less or same amount of other liquids when child has diarrhea

When the child had diarrhea, other than breast milk, was s/he offered less than usual to drink, about the same amount, or more than usual to drink?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Less	11	52.4	7	50.0
Same	6	28.6	6	42.9
More	2	9.5	1	7.1
Do not know	1	4.8		
Nothing	1	4.8		
Total	21	100	14	100

As is the case with breastfeeding or occasionally-breastfeeding women, 48.1% of all respondents who don't breastfeed give their child less to drink when s/he has diarrhea. The difference between the two groups is not statistically significant (p-value=0.68).

(Non-breastfeeding mothers): When the child had diarrhea, was s/he offered less than usual to drink, about the same amount, or more than usual to drink?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Less	32	46.4	31	50.0
Same	14	20.3	23	37.1
More	11	15.9	5	8.1
Do not know	8	11.6	1	1.6
Nothing	4	5.8	2	3.2
Total	69	100	62	100

Given the fact that over half (52.7%) of respondents confirmed that they took their child to their health facility when s/he had diarrhea over the previous two weeks (see Figure 11), this provides an excellent opportunity for health staff to communicate the importance of increasing the amount of liquid given to their child when s/he is stricken with diarrhea.

3. Acute Respiratory Infection (ARI) Treatment

Among those respondents acknowledging that one of their children had trouble breathing or breathed quick, short breaths in the previous two weeks, 54.2% of respondents took their child to a health facility: health center, private clinic, or hospital. The difference between Syrian refugees and vulnerable Lebanese was not statistically significant (p-value=0.15). Moreover, 41.0% of respondents went to a pharmacy to treat their child, in which case they may have not received adequate consultation. The difference between both groups was not statistically significant (p-value=0.056).

Figure 18: Where child taken for ARI advice or treatment (disaggregated)

Where did you first go for advice or treatment for your child's cough or fast breathing?						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
Pharmacy	67	36.2	29.62, 43.37	79	46.2	38.79, 53.78
Health center	89	48.1	40.92, 55.37	25	14.6	10.04, 20.81
Private clinic	11	6.0	3.32, 10.42	49	28.7	22.32, 35.95
Hospital	7	3.8	1.80, 7.79	12	7.0	4.00, 12.01
Friends/relatives	7	3.8	1.80, 7.79	5	2.9	1.21, 6.89
Community distributor*	3	1.6	0.52, 4.96	0	0.0	
Traditional practitioner	1	0.5	0.07, 3.80	1	0.6	0.08, 4.11
Total	185	100		171	100	

Figure 19: Where child taken for ARI advice or treatment (Combined)

Where did you first go for advice or treatment for your child's cough or fast breathing? (Combined)		
	Frequency	**Percent**
Pharmacy	146	41.0
Health center	114	32.0
Private clinic	60	16.9
Hospital	19	5.3
Friends relative	12	3.4
***Community distributor**	3	0.8
Traditional practitioner	2	0.6
Total	356	100

*Refers to a person who distributes medications or medical products in the community. They are usually unauthorized, and people are discouraged to purchase from them.

66.0% of refugee respondents and 81.3% of Lebanese respondents took action to treat their children the same or following day after onset of symptoms. This difference is statistically significant (p-value=0.001).

Figure 20: How long after onset of ARI symptoms before child taken to health facility for treatment

How long after you noticed the child's cough or fast breathing, did you seek treatment?				
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
Same day	67	36.2	91	53.2
Next day	55	29.7	48	28.1
Two days	24	13.0	20	11.7
Three or more days	39	21.1	12	7.0
Total	185	100	171	100

D. MATERNAL HEALTHCARE

As mentioned previously, some refugee respondents would not have been included in the antenatal care, delivery, or post-natal care sections of this survey. 31.5% of refugees were outside of Lebanon during ANC, 22.8% during delivery, and 26% during PNC. If they were not in Lebanon during any of these stages, the survey would skip the specific section for that respondent. The survey was focused on services in Lebanon, not Syria where too many confounding factors related to the conflict would have invalidated the data.

1. Antenatal Care (ANC)

The vast majority of respondents (89.5% of respondents; the difference between Syrian and Lebanese was not statistically significant, p-value=0.76) saw someone for antenatal care (ANC). Of those, 97.2% of respondents saw a doctor. The difference was not statistically significant (p-value=0.17).

Who did you see for antenatal care? (n=393)			
	Frequency	Percent of responses	Percent of cases
Trained community health worker	1	0.25	0.25
Trained traditional birth attendant	1	0.25	0.25
Nurse	5	1.2	1.3
Midwife	17	4.2	4.3
Doctor	382	94.1	97.2
Total	406	100	103.3

Both refugee and Lebanese respondents made their first ANC visit early in their pregnancy: 75.9% of refugee respondents and 85.4% of Lebanese respondents had their first ANC visit prior to the fifth month of their pregnancy. The difference between the two groups sampled was statistically significant (p-value=0.02). Nevertheless, 13.1% of respondents didn't arrange their first ANC visit until after their fifth month of pregnancy. The difference between Syrian and Lebanese was not statistically significant (p-value=0.33).

Figure 22: Number of months pregnant when first ANC visit

During your pregnancy with your youngest child, how many months pregnant were you when you first received antenatal care?					
Refugees			Vulnerable Lebanese		
Number months	Frequency	Percent	Number months	Frequency	Percent
0	1	0.7	0	1	0.4
1	34	24.8	1	118	46.1
2	32	23.4	2	58	22.7
3	21	15.3	3	27	10.5
4	16	11.7	4	12	4.7
5	12	8.8	5	7	2.7
6	6	4.4	6	5	1.9
7	5	3.6	7	4	1.6
8	7	5.1	8	15	5.9
9	3	2.2	9	6	2.3
			Data entry error	3	1.2
Total	137	100	Total	256	100

More than three-quarters of mothers reported making more than two ANC visits during their pregnancy: 77.9% of refugees and Lebanese combined. The difference between the two groups was not statistically significant (p-value=0.50).

Figure 23: Number of ANC visits

During your pregnancy with your youngest child, how many times did you receive antenatal care?										
	Refugees			Vulnerable Lebanese			Combined		
	Freq	%	CI	Freq	%	CI	Freq	%	CI
1 time	8	5.8	2.91, 11.36	13	5.1	2.96, 8.58	21	5.3	3.50, 8.08
2 times	23	16.8	11.41, 24.01	36	14.1	10.3, 18.92	59	15.0	11.81, 18.90
3 times	104	75.9	68.00, 82.38	202	78.9	73.44, 83.50	306	77.9	73.47, 81.71
Do not know	2	1.5	0.36, 5.73	5	1.9	0.81, 4.63	7	1.8	0.85, 3.70
Total	137	100		256	100		393	100	

The relationship between mothers (combined refugee and Lebanese) who go to a qualified health practitioner (doctor, midwife or nurse) for ANC <u>and</u> make 3 ANC visits is quite high: 77.9%.

Figure 24: X-tabs of mothers who go to qualified health practitioner and number of ANC visits made

Number of times a mother attended ANC and what type of provider did the mother see for ANC			
1 time (n=21)			
	Frequency	Percent of responses	Percent of cases
Doctor	18	78.3	85.7
Midwife	4	17.4	19.0
Nurse	1	4.3	4.8
Total	23	100	109.5
2 times (n=59)			
	Frequency	Percent of responses	Percent of cases
Doctor	55	88.7	93.2
Midwife	5	8.1	8.5
Nurse	1	1.6	1.7
Trained traditional birth attendant	1	1.6	1.7
Total	62	100	105.1
3 times (n=306)			
	Frequency	Percent of responses	Percent of cases
Doctor	302	96.5	98.7
Midwife	8	2.6	2.6
Nurse	2	0.6	0.7
Trained community health worker	1	0.3	0.3
Total	313	100	102.3
Number of times: do not know (n=7)			
	Frequency	Percent of responses	Percent of cases
Doctor	7	87.5	100.0
Nurse	1	12.5	14.3
Total	8	100	114.3

2. Delivery in a health facility / type of delivery

The vast majority of refugee and Lebanese respondents gave birth to their youngest child in a health facility: 95.5% and 99.7%, respectively. The difference between Syrian and Lebanese was statistically significant (fisher_p-value=0.003).

Figure 25: Where did mother go to give birth to youngest child (Disaggregated)

Where did you go when you gave birth to your youngest child?						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
*Hospital	116	74.3	66.94, 80.60	229	79.8	74.71, 84.07
*Private hospital	16	10.3	6.34, 16.17	40	13.9	10.37, 18.48
*Private clinic	13	8.3	4.88, 13.87	14	4.9	2.90, 8.09
*Health center	4	2.6	0.96, 6.67	3	1.1	0.34, 3.21
Midwife residence	4	2.6	0.96, 6.67	0	0.0	
Your residence	3	1.9	0.61, 5.86	0	0.0	
Other residence	0	0.0		1	0.3	0.05, 2.46
* = health facility	149	95.5		286	99.7	
Total	156	100		287	100	

Figure 26: Where did mother go to give birth to youngest child (Combined)

Where did you go when you gave birth to your youngest child? (Combined)		
	Frequency	Percent
*Hospital	345	77.9
*Private hospital	56	12.6
*Private clinic	27	6.1
*Health center	7	1.6
Midwife residence	4	0.9
Your residence	3	0.7
Other residence	1	0.2
* = health facility	435	98.2
Total	443	100

The rate of C-Sections versus normal delivery was quite surprising: 24.2% of refugees and 51.4% of Lebanese had a C-Section when they delivered their youngest child. This difference was statistically significant (p-value<0.001). This is respectively 60% and 240% over WHO's maximum acceptable C-Section rate of 15%.[22]

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[22]The Global Numbers and Costs of Additionally Needed and Unnecessarily Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage (World Health Report (2010), Background Paper, No. 30, Gibbons, Belizan, Lauer, Betran, Merialdi, Althabe.

Did you have a normal birth or a C-Section?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
C-Section	36	24.2	147	51.4
Normal birth	113	75.8	139	48.6
Total	149	100	286	100

Figure 29 below indicates that the number of refugee mothers who remain in the health facility less than 12 hours after giving birth is higher (48.3%) than Lebanese (20.3%). This difference is statistically significant (p-value<0.001).

Figure 28: Amount of time in health facility after delivery

How long did you stay in the health facility after delivery?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Less than 12 hours	72	48.3	58	20.3
13-24 hours	56	37.6	92	32.2
25-48 hours	17	11.4	99	34.6
More than 49 hours	4	2.7	37	12.9
Total	149	100	286	100

The table below indicates that Lebanese experiencing a normal birth tend to remain in the health facility longer than refugees: 38.9% of refugees contrasted with 57.6% of Lebanese remain in the health facility between 13 and 48 hours after delivery. This difference is statistically significant (p-value=0.003). What is of concern is the dramatically higher percentage of refugees who leave the health facility less than 24 hours after their C-Section: 52.8% of refugees versus 17.0% of Lebanese. This difference is statistically significant (p-value<0.001).

Figure 29: Normal delivery / C-Section and length of time stayed in health facility after delivery of youngest child

Normal birth/C-Section and how long respondent stayed in health facility after delivery						
	Refugees			Vulnerable Lebanese		
	C-Section	Normal	All Births	C-Section	Normal	All Births
<12 hours	3	69	72	1	57	58
column %	8.3	61.1	48.3	0.7	41.0	20.3
13-24 hours	16	40	56	24	68	92
column %	44.5	35.4	37.6	16.3	48.9	32.2
25-48 hours	13	4	17	87	12	99
column %	36.1	3.5	11.4	59.2	8.6	34.6
>49 hours	4	0	4	35	2	37
column %	11.1	0	2.7	23.8	1.5	12.9
Total	36	113	149	147	139	286
column %	100	100	100	100	100	100

3. Postnatal Care (PNC)

Almost three-quarters of refugee respondents (69.6%) and 45.6% Lebanese respondents did not attend a post-partum check with their health provider within two weeks after delivery. This difference is statistically significant (p-value<0.001).

Figure 30: PNC within 2 weeks after delivery

Did a health care provider check on your health within 2 weeks after the delivery of your youngest child?									
	Refugees			**Vulnerable Lebanese**			**Combined**		
	Freq	**%**	**CI**	**Freq**	**%**	**CI**	**Freq**	**%**	**CI**
No	96	69.6	61.26, 76.77	131	45.6	39.93, 51.47	227	53.4	41.98, 51.25
Yes	42	30.4	23.23, 38.74	156	54.4	48.53, 60.07	198	46.6	48.75, 58.02
Total	138	100		287	100		425	100	

When respondents confirmed that they had a PNC examination, however, 99.0% of respondents saw a qualified health practitioner: a doctor, nurse or midwife. The difference between the two groups was not statistically significant (p-value=0.32).

More concerning is the fact that among the respondents who had a C-Section (an already excessive number: See Figure 28), 53.1% of refugees and 34.0% of Lebanese did not have any post-partum examination after their discharge from the hospital. This difference is statistically significant (p-value=0.044).

Figure 31: X-Tabs -- Type of birth and did a health provider check on respondent's health within 2 weeks post-delivery

Type of birth and did a health care provider check on respondent's health within 2 weeks post-delivery						
	Refugees			**Vulnerable Lebanese**		
	No	**Yes**	**Total**	**No**	**Yes**	**Total**
C-Section	17	15	32	50	97	147
row%	53.1	46.9	100	34.0	66.0	100
Normal birth	61	16	77	81	58	139
row%	79.2	20.8	100	58.3	41.7	100
Total	78	31	109	131	155	286
row%	71.6	28.4	100	45.8	54.2	100

Among those who had a post-partum check, 35.7% of refugees and 19.9% of Lebanese respondents' post-partum check took place more than two weeks after delivery. This difference is statistically significant (p-value=0.031). 31.8% of respondents' PNC check took place within 6 days (p-value=0.61).

Figure 32: When first PNC check took place

When did your first post-partum check take place after delivery?					
	Refugees		Vulnerable Lebanese		Combined
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Within 6 days	12	28.6	51	32.7	63	31.8
7-13 days	12	28.6	69	44.2	81	40.9
14 or more days	15	35.7	31	19.9	46	23.2
Do not know	3	7.1	5	3.2	8	4.1
Total	42	100	156	100	198	100

Among those women who had a C-Section and who were checked by a health care provider, 44.1% of respondents were checked between 7 and 13 days after delivery. The difference between the two groups was not statistically significant (fisher_p-value=0.17). More concerning is the finding that 21.4% of respondents who had a C-Section didn't have their first PNC checkup until more than two weeks after delivery. Although the odds of not having a post-partum check within two weeks after a C-Section is almost three times more likely for Syrian women than vulnerable Lebanese women, the difference between the two groups was not statistically significant (p-value=0.06).

Figure 33: X-Tab -- Women who had C-Section and number of days after delivery first PNC took place

When did your first post-partum check after discharge from the hospital take place? (for respondents who had a C-Section and number of days after delivery of youngest child that they had first PNC visit)				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Within 6 days	4	26.7	32	33.0
7-13 days	4	26.7	45	46.4
14 or more days	6	40.0	18	18.6
Do not know	1	6.6	2	2.0
Total	15	100	97	100

E. EXCLUSIVE BREASTFEEDING

Out of a total sample of 574, 287 respondents' youngest children were under two years old. In order to reduce recall bias, only respondents whose youngest child was under 24 months old were asked the questions in the exclusive breastfeeding section of the questionnaire.

Among respondents with a child under two years old, 86.1% breastfed their youngest child currently or in the past. There was little variance between refugee and Lebanese respondents and the difference was not statistically significant (p-value=0.34).

Among those who did not breastfeed, 72.5% of respondents stated that they had no milk in their breasts, the difference between the two groups sampled was not statistically significant (p-value=0.63).

Why didn't you breastfeed?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
No milk in breasts	13	76.5	16	69.6
No time/not convenient/too busy	2	11.75	4	17.4
Prefer to give baby formula	2	11.75	3	13.0
Total	17	100	23	100

The majority of women put their youngest child to the breast within 24 hours of delivery: 86.2% of respondents, the difference between Syrian and Lebanese was not statistically significant (p-value=0.16).

Figure 35: When infant put to breast after delivery

How long after birth did you first put your child to the breast after birth?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Immediately after birth	51	40.8	38	31.1
2-24 hours after birth	53	42.4	71	58.2
1 day after birth	13	10.4	3	2.5
2-3days after birth	6	4.8	2	1.6
>3days after birth	2	1.6	8	6.6
Total	125	100	122	100

Overall, 53.9% of women exclusively breastfed their child during the first six months. Among refugees, 60.8% and among Lebanese, 46.7% exclusively breastfed in the first six months; the difference between the two groups was statistically significant (p-value=0.027).

Figure 36: Other drinks outside of breast milk during infant's first 6 months (Combined)

In the first 6 months after delivery, was the child given anything to drink other than breast milk?			
	Frequency	Percent	Confidence Interval
No	133	53.9	47.6, 59.98
Yes	114	46.1	40.02, 52.4
Total	247	100	

Figure 37: Other drinks outside of breast milk in first 6 months (Disaggregated)

In the first 6 months after delivery, was the child given anything to drink other than breastmilk?						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
No	76	60.8	51.83, 69.09	57	46.7	37.94, 55.71
Yes	49	39.2	30.91, 48.17	65	53.3	44.29, 62.06
Total	125	100		122	100	

Among those respondents (n=114) who gave their infant other drinks outside of breast milk during his/her first 6 months, 57.9% gave milk (p-value=0.09), 21.9% gave infant formula (p-value=0.09) and 20.4% of refugees gave water compared to 6.2% of Lebanese (p-value=0.022).

Figure 38: What child drank other than breast milk during first 6 months (refugees)

What was the child given to drink? (other than breast milk)			
	Refugees (n = 49)		
	Frequency	**Percent of responses**	**Percent of cases**
Do not remember	1	1.5	2.04
Honey	1	1.5	2.04
Fruit juice	4	6.0	8.16
Other	5	7.5	10.2
Infant formula	7	10.45	14.29
Sugar water	7	10.45	14.29
Tea	8	11.9	16.33
Water	10	14.9	20.41
Milk	24	35.8	48.98
Total	67	100	136.73

Figure 39: What child drank others than breast milk during first 6 months (Lebanese)

What was the child given to drink? (other than breast milk)			
Lebanese mothers (n = 65)			
	Frequency	**Percent of responses**	**percent of cases**
Fruit juice	1	1.3	1.54
Other	3	3.9	4.62
Tea	4	5.2	6.15
Water	4	5.2	6.15
Sugar water	5	6.5	7.69
Infant formula	18	23.4	27.69
Milk	42	54.5	64.62
Total	77	100	118.46

Over half of mothers are still breastfeeding their children under two years old, refugees at a higher rate (66.4%) than Lebanese respondents (52.5%). This difference is statistically significant (value=0.026). Among those mothers who are no longer breastfeeding their child under two years old (47.5% of Lebanese, 33.6% of refugees), the majority of Lebanese mothers (60.3%) reported that they breastfed until their child was 6 months old. However, only 35.7% of refugee respondents weaned their child at 6 months. This difference between the two groups is statistically significant (p-value=0.016). As indicated in Figure 42 below, with the passage of time, Lebanese mothers stop breastfeeding sooner than refugees: By the time a child is one years old, 35.3% of refugee women were still breastfeeding, whereas 13.8% of Lebanese reported to still be breastfeeding. This difference is statistically significant (p-value=0.011).

Figure 40: Currently breastfeeding child under 2 years' old

Are you still breastfeeding your child?				
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
No	42	33.6	58	47.5
Yes	83	66.4	64	52.5
Total	125	100	122	100

Figure 41: Number of months under-2 child was breastfed (women who are not currently breastfeeding)

For how many months, did you breastfeed your child?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
0-6 months	15	35.7	35	60.3
7-12 months	12	28.6	15	25.9
13-18 months	10	23.8	7	12.1
19-23 months	5	11.9	1	1.7
Total	42	100	58	100

F. VACCINATIONS

1. Existence of vaccination card

In order to ensure that children had potentially received the complete series of priority childhood immunizations, vaccination-related questions were only asked of the youngest child over 12 months old (n=520).

Refugees and vulnerable Lebanese receive a unique vaccination card which indicates that they are eligible to receive free vaccination. 73.7% of refugees and 86.8% of Lebanese stated that they had the vaccination card, this difference was statistically significant (p-value<0.001). However, among those who claimed to have a card, 14.4% of refugee and 31.2% of Lebanese respondents were not able to find it or claimed it was misplaced. This means that a total of 35.8% of refugees and 42.5% of Lebanese did not have a vaccination card available and therefore had to rely on respondents' recall regarding their child's vaccinations. The difference between Syrian refugees and vulnerable Lebanese was statistically significant (p-value<0.001

97.2% of those who had the card shared it with the enumerators who recorded the information directly from the card (n=153 for Lebanese and n=157 for Syrian). The difference was not statistically significant (fisher p-value=0.34). For those who responded that the child never had a vaccination card or could not locate the card, enumerators asked a different set of questions focused on the respondent's recall of priority vaccinations.

Figure 42: Vaccination card

Do you have a card or child health booklet where vaccinations are written down?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Yes	187	73.6	231	86.8
No/don't know	67	26.4	35	13.2
Total	254	100	266	100

2. Polio vaccine

   a. Data from vaccination card

Based on vaccination cards data, 22.3% of refugee and 5.9% of Lebanese respondents' child had not received the polio 0 dose which should be administered within 8 weeks after delivery. The difference between Syrian and Lebanese was statistically significant (p-value<0.001). There are progressively fewer children who get immunized as the polio schedule continues: By the time the polio 3 dose should be administered, 22.3% of children have skipped that dose, the difference between refugees and Lebanese was not statistically significant (p-value=0.59).

Figure 43: Which polio vaccinations received (per vaccination card)

Detailed polio vaccination*(per vaccination card)				
	Refugees		Vulnerable Lebanese	
Polio 0	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	35	22.3	9	5.9
Received	122	77.7	144	94.1
Polio 1	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	31	19.7	10	6.5
Received	126	80.3	143	93.5
Polio 2	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	45	28.7	24	15.7
Received	112	71.3	129	84.3
Polio3	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	60	38.2	54	35.3
Received	97	61.8	99	64.7
Total	157	100	153	100

*Polio 0= before 8 weeks; **Polio 1**= 2 months; **Polio 3**= 6 months

Overall, the percentage of children fully vaccinated against polio in the catchment area of Medair's supported SDCs is 58.7% of respondents, according to the vaccination card data. The difference between Syrian refugees and vulnerable Lebanese was not statistically significant (p-value=0.06).

Figure 44: Fully vaccinated for polio (per vaccination card)

Fully vaccinated for Polio (defined as receiving Polio 0, Polio 1, Polio 2, <u>and</u> Polio 3 on card)				
	Refugees		Vulnerable Lebanese	
	Frequency	**Percent**	**Frequency**	**Percent**
Incomplete vaccination	73	46.5	55	35.9
Fully vaccinated	84	53.5	98	64.1
Total	157	100	153	100

b. Data from respondents' recall

The first polio immunization is to be given by the time an infant is two months old. The responses "2 weeks" and "later" were considered correct responses. Taking into account the recall bias, the percentages of children who may have receive their first polio vaccine was 68.1% of infants, the difference between the two groups was not statistically significant (p-value=0.55).

Figure 45: When child received first polio vaccination (per recall)

When was the first polio vaccine received?				
	Refugees		Vulnerable Lebanese	
First polio	Frequency	Percent	Frequency	Percent
2 weeks	35	38.4	61	54.0
Do not know	31	34.1	34	30.1
Later	25	27.5	18	15.9
Total	91	100	113	100

The level of recall appeared to be higher with this vaccination-related question, as polio series 1, 2, and 3 are the only immunizations administered with drops. Out of those who remembered about the first polio vaccine, 86.5% of respondents confirmed that their children received polio drops. The difference between Syrian and Lebanese was not statistically significant (p-value=0.34).

Figure 46: Child receiving oral polio drops (per recall)

Did the child receive oral polio drops in the mouth?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
No	12	20.0	11	13.9
Yes	48	80.0	68	86.1
Total	60	100	79	100

However, out of the children whose mothers remembered about the polio oral drops, less than one-third of children received all three doses of oral polio (28.5%). The difference between refugees and vulnerable Lebanese was not statistically significant (p-value=0.58).

Figure 47: Number of times child received polio drops (per recall)

How many times did the child receive the polio drops?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
1 time	16	33.3	18	26.5
2 times	11	22.9	22	32.3
3 times	15	31.2	18	26.5
Do not know	6	12.5	10	14.7
Total	48	100	68	100

3. Penta vaccine

   a. Data from vaccination card

The dropout rate of the three-immunization Penta vaccination series is even higher than polio: 24.8% of refugee and 15.0% of Lebanese children do not receive the first dose of Penta at two months; by the time 3rd Penta dose is to be administered, 44.6% of refugee and 37.3% of Lebanese children have not been immunized.

Figure 48: Which penta vaccinations child received (per vaccination card)

Detailed Penta vaccination*(per vaccination card)				
	Refugees		**Vulnerable Lebanese**	
Penta 1	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	39	24.8	23	15.0
Received	118	75.2	130	85.0
Penta 2	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	59	37.6	37	24.2
Received	98	62.4	116	75.8
Penta 3	**Frequency**	**Percent**	**Frequency**	**Percent**
Not received	70	44.6	57	37.3
Received	87	55.4	96	62.7
Total	157	100	153	100

*****Penta 1**=2 months (IPV); **Penta 2**=4 months (OPV); **Penta 3**=6 months (OPV)

The survey reveals that 56.5% of the respondents in this survey, both refugee and Lebanese children, received the full Penta vaccine series according to their vaccination card. The difference between Syrian and Lebanese was not statistically significant (p-value=0.13).

Figure 49: Fully vaccinated for penta (per vaccination card)

Fully vaccinated for penta vaccination (defined as receiving penta1, penta2, and penta3 per card)				
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
Incomplete vaccination	75	47.8	60	39.2
Fully vaccinated	82	52.2	93	60.8
Total	157	100	153	100

   b. Data from respondents' recall

Based on recall, 51.5% of respondents either said that their child didn't receive the Penta vaccination or that they were unsure. The difference between Syrian and Lebanese was not statistically significant (p-value=0.37).

Figure 50: Did child receive penta vaccination (per recall)

Did the child receive the Penta vaccination? (per recall)				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Yes	41	45.0	58	51.3
No	36	39.6	31	27.4
Do not know	14	15.4	24	21.3
Total	91	100	113	100

Among the other half of respondents who recalled that their child received the Penta vaccination, only 7.3% of refugees and 31.0% of Lebanese claimed that their child received all three doses. The difference between these two groups was statistically significant (p-value=0.005). Among all refugees and Lebanese who relied on recall, only 3.3% and 15.9% respectively may have received all three penta doses (i.e. 3 out of 91 refugees, and 18 out of 113 Lebanese).

Figure 51: Number of times child received penta vaccination (per recall)

How many times did the child receive the penta vaccination?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
1 time	28	68.3	20	34.5
2 times	3	7.3	12	20.7
3 times	3	7.3	18	31.0
Do not know	7	17.1	8	13.8
Total	41	100	58	100

4. Hepatitis B1

   a. Data from vaccination card

A very high percentage of children did not receive their HepB1 vaccination, which is to be given at birth: 45.9% of refugee and 32.0% of Lebanese children. The difference between the two groups is statistically significant (p-value=0.013).

Figure 52: Did child receive Hepatitis B1 vaccination (per vaccination card)

HepB1* (per vaccination card)				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Not received	72	45.9	49	32.0
Received	85	54.1	104	68.0
Total	157	100	153	100

HepB1=at birth

Almost three-quarters of respondents (71.1%) don't recall or state that their child didn't receive the hepatitis B vaccination. The difference between Syrian and Lebanese was not statistically significant (p-value=0.92).

Figure 53: Did child receive Hepatitis B1 vaccination (per recall)

Did the child receive the HepB1 vaccine?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Do not know	25	27.5	40	35.4
No	40	44.0	40	35.4
Yes	26	28.6	33	29.2
Total	91	100	113	100

5. Measles and MMR

a. Data from vaccination card

Nearly one-quarter of refugee and Lebanese children (23.9%, p-value=0.69) did not receive their first measles vaccination (to be administered at about 9 months); an even higher percentage didn't receive the MMR vaccination (52.9% of refugee children, 37.9% of Lebanese children; p-value=0.008).

Figure 54: Children who received measles vaccination (per vaccination card)

Measles* (per vaccination card)						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
Not received	39	24.8	18.64, 32.28	35	22.9	16.84, 30.28
Received	118	75.2	67.72, 81.36	118	77.1	69.72, 83.16
Total	157	100		153	100	

*Measles (or "Measles Zero Dose") = at about 9 months

Figure 55: Children who received MMR vaccination (per vaccination card)

MMR* (per vaccination card)						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
Not received	83	52.9	44.94, 60.65	58	37.9	30.50, 45.93
Received	74	47.1	39.35, 55.06	95	62.1	54.07, 69.50
Total	157	100		153	100	

*MMR (or "Measles 1st Dose") = at about 12 months

The results below indicate that 45.2% of the youngest Syrian and 58.8% of the youngest Lebanese children over 12 months old received both measles and MMR. The difference between the two groups is statistically significant (p-value=0.017). Overall, a little over a quarter of the all children sampled received either the measles or the MMR vaccine, though

only 21.6% of Lebanese children were vaccinated compared to 31.9% of Syrian refugee children (statistically significant difference p-value=0.041). The majority (90.4%, p-value=0.17) received the measles over the MMR vaccine. Finally, 21.3% did not receive any of the two vaccines. The difference between Syrian and Lebanese was not statistically significant (p-value=0.48). A child will be protected from measles is s/he has had either the measles or MMR, although receiving both slightly increases the effectiveness[23].

Figure 56: Children who have been vaccinated against measles and/or MMR, or neither (per vaccination card)

Measles*MMR (per vaccination card)				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
None	36	22.9	30	19.6
Measles or MMR	50	31.9	33	21.6
Measles and MMR	71	45.2	90	58.8
Total	157	100	153	100

b. Measles data from respondents' recall

For this set of questions, the survey team were relying on the respondent's memory and not referring to the unavailable vaccination card; therefore, there was only one question related to measles. A "yes" response may have indicated that the child received one or both measles and/or MMR.

Almost half of the respondents claimed that their child did not receive a measles vaccination, or they did not recall. The other half (51.0%, p-value=0.91) recalled their child receiving the measles injection.

Figure 57: Did child receive measles vaccination (per recall)

Did your child ever receive an injection in the arm to prevent measles?						
	Refugees			Vulnerable Lebanese		
Measles 2	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
Yes	46	50.5	40.15, 60.90	58	51.3	42.03, 60.53
No	35	38.5	28.87, 49.05	40	35.4	27.03, 44.77
Do not know	10	11.0	5.96, 19.39	15	13.3	8.10, 21.00
Total	91	100		113	100	

c. Measles (combined data)

By combining both the vaccination card and the recall data, 66.9% of respondents have their youngest child between one and five years old vaccinated against measles. The difference between Syrian and Lebanese was not statistically significant (p-value=0.58).

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[23]Telcon with Dr. Samuel Katz, Duke University Paediatric Department Chair Emeritus, January 2016

Figure 58: Vaccinated for measles (Combined vaccination card & recall)

Measles Vaccine Received (at least one of the two vaccines)				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Not vaccinated	87	34.3	85	32.0
Vaccinated	167	65.7	181	68.0
Total	254	100	266	100

6. Difference in results: Respondents who have vaccination card versus recall

A relatively large percentage of respondents either did not have a vaccination card or couldn't locate it during the survey (35.8% of refugees, and 42.5% of Lebanese).   For those who responded that the child never had a vaccination card or could not locate the card, enumerators asked a different set of questions focused on the respondents' recall of priority vaccinations, and the respective results have been disaggregated as seen in the tables above.

For those mothers who stated vaccination information about their child based on recall, however, vaccination rates were typically much lower. It is unclear as to whether the lower recall figures were due to faulty recollection or whether these women may represent a portion of the population who only go to health facilities when their child is ill and not for preventive care (e.g. vaccinations).

Figure 59: Fully vaccinated children according to vaccination card vs. recall

Card vs. recall data	Refugees		Vulnerable Lebanese		Combined	
POLIO	Frequency	Percent	Frequency	Percent	Frequency	Percent
Fully vaccinated (per card)	84	53.5	98	64.1	182	58.7
Fully vaccinated (per recall)	15	16.5	18	15.9	33	16.2
PENTA						
Fully vaccinated (per card)	82	52.2	93	60.8	175	56.5
Fully vaccinated (per recall)	3	3.3	18	15.9	21	10.3
HEPB1						
Fully vaccinated (per card)	85	54.1	104	68.0	189	61.0
Fully vaccinated (per recall)	26	28.6	33	29.2	59	28.9
MEASLES						
Fully vaccinated (per card)	121	77.1	123	80.4	244	78.7
Fully vaccinated (per recall)	46	50.5	58	51.3	104	51.0
COMBINED VACCINATIONS						
Fully vaccinated (per card)	49	31.2	70	45.8	119	38.4
Fully vaccinated (per recall)	1	1.1	7	6.2	8	3.9

G. FAMILY PLANNING

The next set of questions were asked to women with children under 5 and whose husbands lived with them in the household (n=516).

1. Child spacing

45.7% of refugee and 35.8% of vulnerable Lebanese respondents either did not know how long women should wait before trying to become pregnant again or stated that less than two years between pregnancies was acceptable (p-value=0.022).

Figure 60: Perception of adequate spacing between births

How long should you wait after the birth of your child before you try to become pregnant again?				
	Refugees		Vulnerable Lebanese	
	Frequency	Percent	Frequency	Percent
Less than 2 years	81	34.6	78	27.7
2 to 5 years	105	44.9	150	53.2
More than 5 years	22	9.4	31	11.0
Do not know	26	11.1	23	8.1
Total	234	100	282	100

All respondents were asked to state what they felt the risks of getting pregnant too soon after the birth of a child. Enumerators did not prompt the responses, and the respondent could name more than one reason. 69.4% of Syrian refugees and 76.8 of vulnerable Lebanese respondents stated one or more of the "correct" risks of closely-spaced births (i.e. all of the responses below except for "no risks", "do not know" (all "other" responses reviewed were considered reasonable). This difference is statistically significant (p-value=0.023). Only 30.6% of refugees and 23.2% of Lebanese either didn't know what the risks were, or else stated that there were no risks.

Figure 61: Risks of getting pregnant too soon after birth of a child (Refugees)

Risks of getting pregnant too soon after the birth of a child, refugees			
	Frequency	Percent of responses	Percent of cases (n=234)
*Baby born too early	5	1.7	2.1
*Mother can die	15	5.0	6.4
*Baby born too small	17	5.7	7.3
No risks	25	8.3	10.7
*Other	25	8.3	10.7
Do not know	67	22.2	28.6
*Mother can have miscarriage	69	22.9	29.5
*Mother can suffer anemia	78	25.9	33.3
* = correct responses	209	69.4	
Total	301	100	128.6

Risks of getting pregnant too soon after the birth of a child, vulnerable Lebanese			
	Frequency	**Percent of responses**	**Percent of cases (n=282)**
*Other	18	4.4	6.4
*Baby born too early	22	5.4	7.8
*Mother can die	32	7.9	11.4
*Baby born too small	33	8.1	11.7
No risks	46	11.4	16.3
Do not know	48	11.9	17.0
*Mother can have miscarriage	98	24.2	34.7
*Mother can suffer anemia	108	26.7	38.3
* = correct responses	**311**	**76.8**	
Total	405	100	143.6

2. Contraception

Just over half (52.5%) of respondents are doing something or using a method to delay or avoid getting pregnant. The difference between Syrian and Lebanese was not statistically significant (p-value=0.12).

Figure 63: Using method to delay or avoid getting pregnant

Are you currently doing something or using any method to delay or avoid getting pregnant?				
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
No	120	51.3	125	44.3
Yes	114	48.7	157	55.7
Total	234	100	282	100

Among those who are not taking any measures to delay or avoid getting pregnant, one of the most frequent response among respondents (34.7%) was that they were pregnant; the difference between Lebanese and Syrian was not statistically significant (p-value=0.15). 15.9% of respondents stated that they or their husbands wanted more children, 6.9% of respondents mentioned religious reasons and 4.1% were breastfeeding; for these answers, the difference between the two groups was not statistically significant (respectively, p-value=0.97, p-value=0.74 and p-value=0.18). Finally, 40.0% of Lebanese women and 16.7% of Syrian refugee women did not want to use birth control, the difference between the two groups was statistically significant (p-value<0.001).

Figure 64: Reason(s) why not using method for delaying/avoiding pregnancy (Refugees)

Reasons why not doing something or using a method for delaying/avoiding pregnancy			
	Refugees (n=120)		
	Frequency	Percent of responses	Percent of cases
Husband's religion	2	1.6	1.7
Contraceptive method I want not available	3	2.4	2.5
Both husband's & my religion	3	2.4	2.5
Husband wants more children	4	3.3	3.3
My religion	4	3.3	3.3
I am breastfeeding	7	5.7	5.8
I want more children	15	12.2	12.5
I don't want to use birth control	20	16.3	16.7
Other (2 wet nurses)	18	14.6	15.0
I am pregnant	47	38.2	39.2
Total	123	100	102.5

Figure 65: Reason(s) why not using method for delaying/avoiding pregnancy (Lebanese)

Reasons why not doing something or using a method for delaying/avoiding pregnancy			
	Vulnerable Lebanese (n=125)		
	Frequency	Percent of responses	Percent of cases
Husband wants more children	2	1.6	1.6
Husband's religion	2	1.6	1.6
My religion	2	1.6	1.6
I am breastfeeding	3	2.3	2.4
Husband's and my religion	4	3.1	3.2
Contraceptive method I want not available	5	3.9	4.0
Other (2 wet nurses)	4	3.1	3.2
I want more children	18	14.1	14.4
I am pregnant	38	29.7	30.4
I don't want to use birth control	50	39.1	40.0
Total	128	100	102.4

Among all methods used, seven out of 11 were defined as modern. Out of the respondents who reported using a method to delay or avoid pregnancy, 67.5% use a modern method of family planning. The difference between Lebanese and Syrian refugees was not statistically significant (p-value=0.29). Among the women who take measures to delay or avoid getting pregnant, the pill (31.4%, p-value=0.64) and IUD (14.7% for Lebanese, 28.1% for Syrian, p-value=0.007) were the two most frequently used methods among respondents as a whole.

Figure 66: Method used to delay or avoid pregnancy (Combined)

Which method are you using to delay or avoid getting pregnant?			
	Frequency	Percent	Confidence Interval
*Pill	85	31.4	26.07, 37.19
*IUD	55	20.3	15.97, 25.44
Rhythm	41	15.1	11.31, 19.95
Withdrawal	39	14.4	10.66, 19.14
*Condom	28	10.3	7.21, 14.59
*Female condom	11	4.1	2.25, 7.21
Other	5	1.8	0.76, 4.39
Lactational amenorrhea	3	1.1	0.36, 3.39
*Injectable	2	0.7	0.18, 2.93
*Diaphragm	1	0.4	0.05, 2.60
*Tubal ligation	1	0.4	0.05, 2.60
*= Modern Methods	183	67.6	
Total	271	100	

Figure 67: Method used to delay or avoid pregnancy (Disaggregated)

Which method are you using to delay or avoid getting pregnant?						
	Refugees			Vulnerable Lebanese		
	Frequency	Percent	Confidence Interval	Frequency	Percent	Confidence Interval
*Pill	34	29.8	4.10, 14.65	51	32.5	25.55, 40.28
*IUD	32	28.1	0.12, 6.13	23	14.6	9.89, 21.16
Rhythm	15	13.2	1.31, 9.073	26	16.6	11.48, 23.30
Withdrawal	15	13.2	0.12, 6.13	24	15.3	10.42, 21.88
*Condom	9	7.9	20.57, 37.03	19	12.1	7.82, 18.27
*Female condom	4	3.5	0.83, 8.01	7	4.5	2.12, 9.13
Other	3	2.6	22.01, 39.02	2	1.3	0.31, 5.02
Lactational amenorrhea	0	0.0		3	1.9	0.61, 5.82
*Injectable	1	0.9	8.01, 20.8	1	0.6	0.09, 4.47
*Diaphragm	1	0.9	8.01, 20.8	0	0.0	
*Tubal ligation	0	0.0		1	0.6	0.09, 4.47
*= Modern Methods	81	71.1		102	64.9	
Total	114	100		157	100	

Only 41.9% of refugees reported that they had planned their last pregnancy, compared to 54.6% of Lebanese women interviewed, this difference is statistically significant (p-value=0.004).

	Did you plan your last pregnancy?			
	Refugees		**Vulnerable Lebanese**	
	Frequency	**Percent**	**Frequency**	**Percent**
No	136	58.1	128	45.4
Yes	98	41.9	154	54.6
Total	234	100	282	100

H. NON-COMMUNICABLE DISEASES (NCD)

1. Diabetes

A surprisingly high percentage of refugee and Lebanese reported one or more members of their family are stricken with diabetes: 41.6% of respondents, the difference between the two groups were not statistically significant.

Figure 69: Diabetes in family

	Does anyone in your family have diabetes?					
	Refugees		**Vulnerable Lebanese**		**Combined**	
	Frequency	**Percent**	**Frequency**	**Percent**	**Frequency**	**Percent**
Do not know	2	0.7	1	0.3	3	0.5
No	166	59.5	166	56.3	332	57.85
Yes	111	39.8	128	43.4	239	41.65
Total	279	100	295	100	574	100

When asked how the risk of getting diabetes could be reduced, the most frequent "correct" response that respondents mentioned was to reduce sugar consumption: 40.1% of Syrian refugees and 52.2% of vulnerable Lebanese (p-value=0.004). Very few stated any of the other viable preventive measures. Respondents also mentioned cutting back the quantity of food eaten (24.8% for Lebanese, 11.8% for Syrian), exercise (9.8% for Lebanese, 2.2% for Syrian) and reducing meat consumption (9.8% for Lebanese, 1.1% for Syrian) were also mentioned. All the differences between the two groups for this other responses are statistically significant (p-value<0.001). There was an interesting difference in the percentage respondents who did not know any options for reducing the risk of diabetes among the two groups: 45.5% of Syrian refugees and 24.1% of vulnerable Lebanese (statistically significant difference: p-value<0.001).

"Taking medicine" was not considered a correct response as the survey was trying to determine ways of reducing the risk of diabetes, not how to treat it.

Figure 70: How to reduce risk of diabetes (Disaggregated)

How do you think people can reduce the risk of diabetes						
	Refugees (n=279)			Vulnerable Lebanese (n=295)		
	Frequency	Percent of responses	Percent of cases	Frequency	Percent of responses	Percent of cases
*Reduce sugar	112	31.6	40.1	154	32.6	52.2
Do not know	127	35.8	45.5	71	15.0	24.1
*Reduce quantity of food eaten	33	9.3	11.8	73	15.5	24.8
Take medicine	43	12.1	15.4	54	11.4	18.3
*Eat more nutritious food	22	6.2	7.9	34	7.2	11.5
*Exercise	6	1.7	2.2	29	6.2	9.8
*Reduce meat consumption	3	0.8	1.1	29	6.2	9.8
*Reduce salt	3	0.8	1.1	18	3.8	6.1
Other	4	1.1	1.4	7	1.5	2.4
Nothing	2	0.6	0.7	3	0.6	1.0
* = correct response	**179**	**50.4**		**337**	**71.4**	
Total	355	100	127.2	472	100	160

Figure 71: How to reduce risk of diabetes (Combined)

How do you think people can reduce the risk of getting diabetes? (n=574)				
	Frequency	Confidence Interval	Percent of cases	Percent of responses
*Reduce sugar	266	242.65, 289.35	32.16	46.34
Do not know	198	176.16, 219.84	23.94	34.49
*Reduce quantity food eaten	106	87.96, 124.04	12.82	18.47
Take medicine	97	79.37, 114.63	11.73	16.9
*Eat more nutritious food	56	42.03, 69.97	6.77	9.76
*Exercise	35	23.87, 46.13	4.23	6.1
*Reduce meat	32	21.38, 42.62	3.87	5.57
*Reduce salt	21	12.23, 29.77	2.54	3.66
Other	11	4.55, 17.45	1.33	1.92
Nothing	5	0.62, 9.38	0.6	0.87
* = correct response	**513**		**62.0**	
Total	827		100	144.08

In order to ascertain respondents' knowledge regarding diabetes prevention, they were asked to state all the ways in which people could reduce the risk of getting diabetes. 30.2% of Lebanese and 55.2% of refugees did not know any preventive measures; 28.3% of refugees and 35.9% of Lebanese were able to mention one way. The difference between the two groups is statistically significant (respectively, p-value<0.001 and p-value=0.05). 33.9% of Lebanese and 16.5% of Syrian were able to mention two or more diabetes preventive measures; the difference between the two groups was statistically significant (p-value<0.001).

Number of correct choices selected for how people can reduce the risk of getting diabetes						
	Refugees		Vulnerable Lebanese		Combined Total	
# correct choices selected	Frequency	Percent	Frequency	Percent	Frequency	Percent
0	154	55.2	89	30.2	243	42.3
1	79	28.3	106	35.9	185	32.2
2	38	13.6	75	25.4	113	19.7
3	8	2.9	20	6.8	27	4.7
4	0	0.0	5	1.7	6	1.1
Total	279	100	295	100	574	100

2. High blood pressure/cardiovascular disease

Survey results showed dramatically high numbers of high blood pressure or cardiovascular disease cases among the refugee and Lebanese respondents. Overall, the rate is 49.1%. The difference between Syrian and Lebanese was not statistically significant (p-value=0.31).

Figure 73: High blood pressure/CVD cases in family (Combined)

Does anyone in your family have high blood pressure/ cardiovascular disease?						
	Refugees		Vulnerable Lebanese		Combined	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	145	52.0	141	47.8	286	49.8
Yes	131	46.9	151	51.2	282	49.1
I think so, but not diagnosed	2	0.7	0	0.0	2	0.4
Do not know	1	0.4	3	1.0	4	0.7
Total	274	100	295	100	574	100

3. Knowledge about reducing risk of high blood pressure/cardiovascular disease

When asked how the risk of having high blood pressure/CVD could be reduced, the two most frequent "correct" response that respondents mentioned was to reduce salt consumption (28.0% of refugees, 43.0% of Lebanese, p-value<0.001), followed by reduce stress (17.6% of refugees, 28,1% of Lebanese, p-value=0.002). Very few stated any of the other viable preventive measures. Respondents also mentioned exercise (6.8% for Lebanese, 1.8% for refugees), eating healthy food (5.4% of respondents), stop smoking (11.9% of Lebanese, 2.5% of refugees), reduce quantities of food (16.6% of Lebanese, 3.9% of refugees) as ways to reduce the risk of high blood pressure. The difference between the two groups was statistically significant for all these secondary responses (p-value<0.001) except "eating more nutritious foods" (p-value=0.69).

Not knowing any measures to reduce the risk of high blood pressure was the second most frequently selected option overall: it was the case for 21.7% of Lebanese and 46.6% for refugees (p-value<0.001).

Figure 74: How to reduce risk of high blood pressure/CVD (Disaggregated)

How do you think people can reduce the risk of high blood pressure/cardiovascular disease?						
	Refugees (n=279)			Vulnerable Lebanese (n=295)		
	Frequency	Percent of responses	Percent of cases	Frequency	Percent of responses	Percent of cases
*Reduce salt	78	22.8	28.0	127	25.9	43.0
Do not know	130	38.0	46.6	64	13.1	21.7
*Reduce stress	49	14.3	17.6	83	16.9	28.1
Take medicine	43	12.6	15.4	56	11.4	19.0
*Reduce quantity of food eaten	11	3.2	3.9	49	10.0	16.6
*Stop smoking	7	2.0	2.5	35	7.1	11.9
*Eat more nutritious food	14	4.1	5.0	17	3.5	5.8
*Exercise	5	1.5	1.8	20	4.1	6.8
*Reduce meat consumption	1	0.3	0.35	21	4.3	7.1
Other	3	0.9	1.1	13	2.7	4.4
*Reduce alcohol consumption	0	0.0	0.0	3	0.6	1.0
Nothing	1	0.3	0.35	2	0.4	0.7
* = correct responses	165	48.2		355	72.4	
Total	342	100	122.6	490	100	166.1

*"Taking medicine" was not considered a correct response as the survey was trying to determine ways of reducing the risk of high blood pressure/CVD, not how to treat it.

Figure 75: How to reduce risk of high blood pressure/CVD (Combined)

How do you think people can reduce the risk of high blood pressure/ cardiovascular disease? (n=574)	Frequency	% of responses	% of cases
*Reduce salt	205	24.6	35.7
Do not know	194	23.3	33.8
*Reduce stress	132	15.9	23.0
Take medicine	99	11.9	17.2
*Reduce quantity of food	60	7.2	10.5
*Stop smoking	42	5.1	7.3
*Eat more nutritious food	31	3.7	5.4
*Exercise	25	3.0	4.4
*Reduce meat consumption	22	2.6	3.8
Other	16	1.9	2.8
*Reduce alcohol consumption	3	0.4	0.5
Nothing	3	0.4	0.5
* =correct responses	520	62.5	
Total	832	100	144.9

In order to ascertain respondents' knowledge regarding prevention measures, respondents were asked to state all the ways in which people could reduce the risk of getting high blood pressure/CVD. 32.5% of Lebanese and 58.4% of refugees did not know any preventive measures, the difference between the two groups was statistically significant (p-value<0.001). 28.7% (p-value=0.68) of respondents were able to mention one option (the unprompted

choices are listed on Figure 78 and 79). 13.6% of refugees and 37.9% of vulnerable Lebanese were able to mention two or more high blood pressure/CVD preventive measures, the difference between the two groups is statistically significant (p-value<0.001).

Figure 76: Number of correct responses selected for ways of reducing high blood pressure/CVD (disaggregated and combined)

Respondents selected at least two correct choices for: How do you think people can reduce the risk of high blood pressure/ cardiovascular disease?						
	Refugees		Vulnerable Lebanese		Combined	
# correct choices selected	Frequency	Percent	Frequency	Percent	Frequency	Percent
0	163	58.4	96	32.5	259	45.1
1	78	28.0	87	29.5	165	28.8
2	30	10.7	80	27.1	110	19.2
3	6	2.1	21	7.1	27	4.7
4	1	0.4	10	3.4	11	1.9
5	1	0.4	1	0.3	2	0.3
Total	279	100	295	100	574	100

I. HEALTH PROMOTION

1. Sources of health or nutrition information – People

Among refugee respondents, 44.4% of refugees and 54.6% of vulnerable Lebanese mentioned doctors as one of their sources of health or nutrition information, the difference between the two groups was statistically significant (p-value=0.015). The second most common response was the respondents' mother or mother-in-law (35.5% of respondents, p-value=0.88).

The choices can be divided up into four categories: health staff, family, other community leaders and technology. 57.1% of respondents turn towards health staff (doctors, nurses, midwives, traditional birth attendants or community health workers) for information on health or nutrition. The difference between refugees and Lebanese is not statistically significant (p-value=0.09). 39.7% of respondents turn towards their family (mother or mother in law, husband, sister, aunt or grandparent) for information. The difference between the two groups is not statistically significant (p-value=0.99). 26.3% of vulnerable Lebanese and 7.1% of refugees turn towards technology (either television or internet) for information. The difference between the two groups is statistically significant (p-value<0.001). Only 1.2% of respondents turned towards other community leaders (traditional healer, *shawish* or religious leader) for information. The difference between refugees and Lebanese was not statistically significant (p-value=0.13).

Figure 77: People who are sources for health or nutrition information (Refugees)

People who are sources of health or nutrition information			
	Refugees (n=279)		
Where do you get general information or advice on health or nutrition?	Frequency	Percent of responses	Percent of cases
Religious leader	1	0.2	0.4
Shawish (ITS or landlord rep)	2	0.4	0.7
Internet	7	1.5	2.5
Other	10	2.2	3.6
Nurse midwife	11	2.4	3.9
Husband	13	2.8	4.7
Television	14	3.1	5.0
Grandparent	17	3.7	6.1
Aunt	24	5.2	8.6
Community health worker	27	5.9	9.7
Sister	29	6.3	10.4
Friend	40	8.7	14.3
No one	40	8.7	14.3
Mother/mother-in-law	100	21.8	35.8
Doctor	124	27.0	44.4
Total	**459**	**100**	**164.5**

Figure 78: People who are sources of health and nutrition information (Lebanese)

People who are sources of health or nutrition information			
	Vulnerable Lebanese (n=295)		
Where do you get general information or advice on health or nutrition?	Frequency	Percent of responses	Percent of cases
Religious leader	1	0.2	0.3
Shawish (ITS or landlord representative)	2	0.4	0.7
TBA	2	0.4	0.7
Traditional healer	2	0.4	0.7
Other	4	0.7	1.4
Community health worker	10	1.8	3.4
Grandparent	11	2.0	3.7
Husband	17	3.0	5.75
Nurse midwife	17	3.0	5.75
Aunt	26	4.6	8.8
Friend	33	5.9	11.2
Sister	36	6.4	12.2
No one	38	6.8	12.9
Internet	41	7.3	13.9
Television	57	10.1	19.3
Mother/mother-in-law	104	18.5	35.2
Doctor	161	28.6	54.6
Total	562	100	190.5

2. Sources of health or nutrition information – Media

Health messages received in the doctor's office was the most frequently mentioned source of information about health and nutrition, by 54.2% of respondents (p-value=0.60). Health messages received in clinics was the third most frequently mentioned information source (23.7% refugees, 14.9% Lebanese, p-value=0.003) and messages received through community health workers reached 15.4% of refugees and 6.1% of Lebanese (p-value<0001).

Television was mentioned by 45.5% of refugees and 57.7% of Lebanese (p-value=0.004). Even in the informal tented settlements, almost all of the refugees possessed a television. Based on anecdotal evidence from the enumerators, the television was frequently on while they were conducting the interviews. Interestingly, almost one-third of Lebanese mentioned the internet as a source of health information (29.2% Lebanese, 10.0% Syrian, p-value<0.001).

Messages were also received through advertisement and billboards (16.2% of respondents, p-value=0.53), SMS (13.1%, p-value=0.11), through the radio (10.1%, p-value=0.74), through brochures (5.9%, p-value=0.59) and through newspapers (4.7%, p-value=0.40).

Figure 79: Media sources of health information (Disaggregated and combined)

In the past month, have you received any health messages from the following?						
	Refugees		Vulnerable Lebanese		Combined	
RADIO	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	252	90.3	264	89.5	516	89.9
Yes	27	9.7	31	10.5	58	10.1
NEWSPAPER	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	268	96.1	279	94.6	547	95.3
Yes	11	3.9	16	5.4	27	4.7
TELEVISION	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	152	54.5	125	42.4	277	48.3
Yes	127	45.5	170	57.6	297	51.7
INTERNET	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	251	90.0	209	70.8	460	80.1
Yes	28	10.0	86	29.2	114	19.9
ADVERTISEMENTS / BILLBOARDS	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	231	82.8	250	84.7	481	83.8
Yes	48	17.2	45	15.3	93	16.2
DOCTOR'S OFFICE	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	131	47.0	132	44.7	263	45.8
Yes	148	53.0	163	55.3	311	54.2

CLINIC MESSAGES	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	210	75.3	251	85.1	461	80.3
Yes	69	24.7	44	14.9	113	19.7
CHW MESSAGES	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	236	84.6	277	93.9	513	89.4
Yes	43	15.4	18	6.1	61	10.6
BROCHURES	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	264	94.6	276	93.6	540	94.1
Yes	15	5.4	19	6.4	34	5.9
SMS	Frequency	Percent	Frequency	Percent	Frequency	Percent
No	236	84.6	263	89.2	499	86.9
Yes	43	15.4	32	10.8	75	13.1
Total	279	100	295	100	574	100

V. CONCLUSIONS AND RECOMMENDATIONS

A. UNDER-5 CHILD HEALTH CARE

A.1. Intensify campaign promoting ORS treatment for diarrhea: Children suffered a high rate of diarrhea or blood in stool over the previous two weeks (Refugees: 55%, Lebanese: 45%). And yet among those children, only 38% of refugees and 25% of Lebanese used the ORS pack. An unspecified pill or syrup was the most frequent choice among respondents (45%). However, ORS is one of the fastest, effective and inexpensive means of promptly addressing the rapid replenishment of electrolytes that are lost so rapidly during diarrhea episodes.

> *Recommendation*

In order to promote ORS use as well as ensure that it is used without delay when the child is stricken with diarrhea, a more intensive campaign for promotion of ORS should be planned, stressing home-based preparation of the packets. The promotion approach should involve live demonstrations conducted by clinic-based health practitioners as well as by community health workers during field outreach sessions. Facilitators should confirm that women demonstrate the preparation of ORS themselves.

SDC staff should ensure that mothers receive an adequate supply of ORS packets to take home to enable them to continue treating their child's diarrhea without delay. A mechanism should be set up through which mothers receive a supply each time they bring their child to the clinic for diarrhea treatment. The survey results indicate that both refugee and Lebanese mothers take their child to a health facility when s/he requires medical services (53% of respondents). This can provide an excellent opportunity for promoting ORS and providing extra ORS packets for the women to take home for follow-up treatment.

A.2. If a child gets diarrhea, breastfeeding mothers should give the same quantity or more, not less, breast milk to her child. The same applies to women who no longer breastfeed: They should give the same amount or more liquids to their diarrhea-stricken child. Around half of respondents (51%) cut back on the amount of breast milk they give their child. For women who are occasionally feed their children breast milk, the proportions of those who reduce the amount of milk are about the same (respectively 51% and 48%, see Figures 15&16).

It is crucial to continue breastfeeding at more frequent intervals. The child needs antibodies to fight the diarrhea, and breast milk is the most digestive food source available, and plays a major part in the healing process. For women who don't breastfeed, it is crucial, as mentioned above, to give the child ORS frequently to prevent dehydration and replace electrolytes.

> *Recommendation*

As mentioned above, survey results indicate that 53% of respondents take their children to a health facility for diarrhea treatment. Health providers should take advantage of this

opportunity to promote awareness of the importance of increasing frequency and quantity of breast milk or liquids that the child is given. Community health workers who visit households should underline the importance of this practice as well.

A.3. Mothers with children manifesting symptoms of acute respiratory infection (ARI) should take their child to a health provider, not solely to the pharmacy. Prior to conducting the survey, the team visited Medair-supported SDCs. The medical staff informed us that ARI was the most frequently-seen affliction striking children who came to the health facility for treatment. This was borne out by the survey results: 66% of respondents reported that in the previous two weeks their child had a cough, with trouble breathing or breathed faster. And yet, the survey results indicate that 41% of respondents whose children manifest those symptoms first go to the pharmacy rather than a health facility for advice or treatment for their child's cough or fast breathing. This is a priority issue given the large incidence and potential seriousness of respiratory infections, especially in infants and young children. The danger is that, without a proper diagnosis, the mother may purchase a medicine that's inappropriate for the symptoms, leading to even more harmful reactions or side effects. Such symptoms may not be ARI, but given its potential dangers in children, it is crucial that children be taken to a health facility, and not a pharmacy, for an accurate diagnosis.

Recommendation

Children will often have coughing spells, especially during the cold months. Mothers witness these symptoms so frequently that they often may not take them seriously enough to take their child to a health practitioner. They might prefer to go to a pharmacist for a medicine that might not help, or could actually be harmful, to the child. This is where appropriately trained community health workers could play a role in promoting awareness of respiratory danger signs to mothers which would signal when children should be taken, without delay, to a health facility.

B. MATERNAL-CHILD HEALTH

B.1. There is an overly high rate of C-Sections. Survey results indicate that 24% of refugees and 51% of Lebanese women had a C-Section when they delivered their youngest child. These figures are dramatically higher than the average worldwide rate of 10-15%.[24] According to 2008 figures, Lebanon's C-Section rate is 23.3%.[25] Not only are high C-Section rates linked to a higher risk of negative outcomes in maternal and child health, but result in excessive costs of health care, exacerbated by Lebanon's relatively limited and strained health resources.

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[24]The Global Numbers and costs of Additionally Needed and Unnecessary Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage, World Health Report (2010) Background Paper, No. 30
[25] Ibid.

"In the face of limited resources, 'excess' C-Sections (as well as other overused procedures, drugs and services) can function as a potent barrier to universal coverage with necessary health services. "Excess' C-Sections can therefore have important negative implications for health equity both within and across countries"[26]

Recommendation

It may be beyond Medair's mandate to advocate for reduced C-Sections, as they are not performed in the SDCs. However, given the fact that a substantial number of women who have had C-Sections are among Medair's clients, they may wish to further explore the actual numbers of C-Sections that are carried out in the hospitals that serve these clients; assuming that the figures are similar to the survey results, Medair should ascertain the rationale behind the excessive number of C-Sections that are carried out and explore further the possibility of Medair taking, in even a limited sense, an advocacy role to reduce the number of C-Sections unless its use is justified.

B.2. Advocate for longer post-delivery hospital stays for women who have had a C-Section, especially refugees. A woman who had had a C-Section should remain in the hospital from 2 to 3 days. Survey data indicates that among refugees who have had C-Sections, 53% leave the hospital less than 24 hours after giving birth. Interestingly, this doesn't seem to be an issue for Lebanese women: only 17% remain less than 24 hours after giving birth.

Recommendation

Proper procedures should be in place to ensure that all women who have had a C-Section remain in the hospital for at least 25 hours or longer, depending on their physical state. Given the significant differences between the percentage of refugees and Lebanese who remain in the hospital more than 25 hours after a C-Section (47% vs 83%, respectively), explore how the protocol and procedures for post-C-Sections hospital stays differ between refugees and vulnerable Lebanese and advocate for changes that will be ensure equity.

B.3. Ensure PNC is conducted within 6 days for women who have had a C-Section, preferably at the health facility. Even more concerning is the fact that among the excessive number of women who have had C-Sections, only 47% of refugees and 66% of Lebanese have a postpartum examination at all. And among this very limited number of women with a C-Section who have postpartum care, 73% of refugees and 67% of Lebanese wait more than six days before being examined.   This is a serious issue, as it is essential that women who have a C-Section be examined by a qualified medical practitioner (preferably the same practitioner who performed the delivery) within six days after delivery to ensure that the incision is healing properly. They should return again after two weeks. Following that, a home-based PNC visit could be made by the trained CHW.

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[26] Ibid.

Recommendation

It is essential that a key component of CHW training be on the importance that PNC checks for women who have had a C-Section be conducted at the health facility within a maximum of 6 days after delivery, and again within two weeks. CHWs should liaise frequently with women who have had a C-Section to stress with them the importance of the PNC check, and encourage them to follow through. Continued follow up could then be carried out by the CHW, but the initial visits should take place at the health facility where the woman delivered.

B.4. Ensure that a postpartum check takes place within two weeks after normal delivery:
Almost three-quarters of refugee respondents (70%) and almost one-half of Lebanese respondents (46%) do not arrange a postpartum check with their health provider. For normal deliveries, trained CHWs or trained birth attendants could conduct the PNC check, screen for danger signs and refer the mother to a health facility if there are medical issues which need to be followed up.

Recommendation

It appears that up to now, Medair CHWs have not conducted home-based PNC visits. CHWs can play an important role in conducting home-based PNC visits for women who have had a normal delivery.   An intensive training for CHWs on the rationale and correct procedures for PNC visits should be included in future CHW workshops, including conditions for referral to a health facility.

C. VACCINATIONS

C.1. A more concerted effort needs to be made to ensure women bring their children in for immunizations. Survey results show that there is low immunization coverage among the target population. For example, with the Penta vaccine, 57% of mothers who showed a vaccination card had their child fully vaccinated and 10% of mothers who did not have a card had their child fully vaccinated (3% of refugees, 16% of vulnerable Lebanese). Among mothers who had vaccination cards, immunizations that involve a series (i.e. polio and penta) have a high immunization dropout rate with both refugee and Lebanese populations: 41% of mothers have not completed the polio series and 44% of mothers have not completed the penta series. But even in the case of a single non-series immunization like HepB1, 46% of refugee and 32% of Lebanese children were not immunized, according to the vaccination card data. What is surprising is that coverage should be relatively easy, as HepB1 is given at birth, and over 98% of women deliver in a health facility, according to the survey. It should be standard practice to administer HepB1 while the mother and her baby are still in the hospital.

Among mothers who did not have a vaccination card and therefore had to state vaccination information about their child from memory, vaccination rates were typically much lower than those mothers who had cards (see Figure 61). It is unclear as to whether the lower recall figures were due to faulty recollection or whether these women may represent a portion of the

population who only go to health facilities when their child is ill and not for preventive care (e.g. vaccinations).

Relative to the other immunizations, measles coverage is better (79% according to vaccination card data and 67% if combining vaccination card and recall data), although not high enough in order to attain herd immunity, which would necessitate reaching a 90-95% level of coverage. It is fortunate that if a child has only measles but not MMR or vice versa, the effectiveness is around 96.7%. If the child receives both measles and MMR, effectiveness is slightly better at 99.7% against measles.[27]   However, mothers should be encouraged to bring their children in for both, given MMR's protection against other diseases.

Given the fact that the survey results indicate that slightly over half of children have received each of the required age-appropriate vaccinations (according to the data on vaccination cards) and that 38% of children have received **all** (including complete series) of the 4 age-appropriate vaccinations (4 doses polio, 3 doses penta, HepB1 and measles), an extra effort will need to be done to ensure achieving better vaccination coverage.

Recommendation
There is a plethora of approaches that have been tried vis-à-vis vaccination reminders. One way to better ensure that mothers remember when to bring their child in would be to provide a vaccination date cue card. It lists the various immunizations and the importance of each in a visually attractive card. Health center personnel fill in the actual dates when the child should be brought to the health center for the various vaccinations. They give this custom-made card to the mother, explaining its purpose and the importance of each vaccination. There are certainly other "cue" approaches that can be used -- this is just one example. What is essential is to put in place some kind of customized system so the mother has a way that clearly links the key immunization dates with each of her children – and to regularly underline to her the importance of her children receiving all doses of polio and penta, as well as the HepB1 and measles vaccinations on a timely basis.

It is concerning that such a large percentage of respondents did not have a vaccination card (26% of refugees and 13% of Lebanese). Medair may wish to conduct a more in-depth qualitative survey to ascertain whether women without vaccination card have misplaced the card, or whether they are unaware of the importance of childhood immunizations and thus haven't gone to the SDC to obtain a card and follow the vaccination schedule. Medair extension staff and SDC personnel should make further efforts to stress the importance of childhood immunizations, as well as the importance of bringing the card to the health center each time the child receives a vaccination. If the vaccination card is somehow linked with the cue card explained in the paragraph above, this might raise the profile of this document. Perhaps the cue card and vaccination document could be placed in a colorful, heavy-duty large envelope with the child's name on the outside which may serve as a more vivid visual cue.

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[27]www.ojs.spro.who.int/ojs/index.php/wpsar/article/view/346/506

Finally, project staff should explore in more depth the reasons why HepB1 is not regularly administered to children immediately after birth, prior to the mother and child's departure from the health facility. It would be important to ascertain if the reasons lie with lack of adherence to hospital protocol, lack of vaccine availability or other issues.

D. FAMILY PLANNING/CHILD SPACING

D.1. A greater stress should be placed on the importance of child spacing. The survey revealed four situations of concern:

1. 19% of refugee and 21% of Lebanese respondents with children under 5 are more than 36 years old. This is a high-risk age group for maternal morbidity and birth defects.
2. 35% of refugees and Lebanese respondents have 2 children under 5; 12% of refugee and 7% of Lebanese respondents have 3 or 4 children under 5.
3. 58% of refugees and 45% of Lebanese respondents did not plan their last pregnancy
4. Among the 53% of respondents who report doing something or using a method to delay or avoid getting pregnant, only 68% use a modern form of birth control.

One key factor is that there appears to be a lack of awareness of the risks of getting pregnant too soon after the birth of a child: 46% of refugee and 36% of Lebanese respondents either don't know or reported that it was acceptable to space children with less than two years between delivery and the next pregnancy.

Interestingly, the reasons for not using contraception do not appear to be due to religious reasons: 7% of respondents stated such. However, it is concerning to read that among the 44% of Lebanese who are not using any method of birth control, 40% state that they are not interested in using any family planning method.

Recommendation
There is a limited knowledge about the importance of child spacing – and the survey figures in terms of the number of children under 5 years, the high rate of unplanned pregnancy, and the limited number of women who use birth control (much less a modern method) bears this out. Through their outreach efforts, CHWs should stress the importance of child spacing on the mother's health. Given the influence that husbands and other family members (especially mothers and mothers-in-law) can have on such decisions, insofar as possible, they should also be included in child spacing discussion sessions, either separately and/or together with the children's mother.

However, it is essential to confirm in advance current and projected stock of family planning supplies. If women are motivated to space their children but the birth control methods are unavailable, it could discourage her from pursuing family planning options in the future as well as having a negative effect on the CHWs' credibility.

Finally, it is suggested that project staff explore in more depth the reasons why a relatively high percentage of Lebanese (40%) do not wish to use birth control (ref. Figure 67) and try to address some of the major concerns through more intensive CHW outreach, clinic-based counseling, or other approaches.

E. NON-COMMUNICABLE DISEASES (NCDs)

E.1. Awareness-raising campaigns focused on NCDs should stress prevention to a greater degree. The rate of diabetes and high blood pressure/CVD among both refugees and Lebanese respondents' families is surprisingly high: 42% for diabetes and 49% for HBP/CVD. 30% of respondents do not know how to reduce the risk of either one of these two NCDs, and only 15% know two or more ways to reduce the risk for both diabetes and high blood pressure.

The results reveal that most respondents were unaware of the large number of actions they could take to lower the risk for both NCDs. Increasing fruit and vegetable consumption, avoiding junk food, reducing portion size, cutting back on sugar and salt, and getting more exercise are just some of the risk reduction measures.

Recommendation
The global health community is realizing that the NCD epidemic will not be won through treatment alone – NCD prevention must play an increasingly important role in community-based awareness-raising campaigns. NCDs have become an epidemic which has shown no signs of abating. In addition, it is critically important that NCD prevention interventions begin early in life, as unhealthy habits in childhood exponentially increase the risk of these NCDs in adulthood.

The number of community-based NCD prevention curricula are still limited, but there is one that was developed by the International Federation of Red Cross and Red Crescent Societies (IFRC) which targets CHWs, who then work with their communities on NCD risk self-assessment, and orientation with easily implementation of measures that can be taken by families to reduce the risk of both NCDs. The curriculum also equips the CHW to conduct screening assessments for referral to the health facility for further testing and possible treatment for diabetes and HBP. The curriculum is organized in a way to enable project staff to select the modules that are most relevant to their in-country NCD context.

F. HEALTH PROMOTION / OUTREACH TRAINING

F.1. A focused health awareness-raising program should be conducted in the SDCs. The survey results clearly showed that both refugee and Lebanese women hear much of their information about health or nutrition from the doctor (44% and 55%, respectively). In addition,

54% of respondents received health messages in the doctor's office, although it is unclear if the source of information comes from a nurse, doctor, or clinic-based educator.

Recommendation

The survey results do not reveal the contents, quality, or women's retention of the educational outreach received in the doctors' office or clinic. However, given the frequency that these sources of information were stated, project staff may wish to explore ways in which either project CHWs and/or junior clinic staff can conduct outreach sessions in the waiting room during targeted times when, for example, pregnant women visit the clinic, or when children are immunized. The contents of these sessions can be found in the relevant CBHFA modules referred to in F.1. above.

F.2. Mothers and/or mothers-in-law should be included in outreach sessions conducted at the household. Survey results revealed that mothers or mothers-in-law were the second-most important source of health information for 36% of both refugees and Lebanese. What is not known is the accuracy of the information imparted.

Recommendation

During household visits, it's important that CHWs be able to discuss key health topics privately with their clients; however, depending on the circumstances, CHWs should look for opportunities to include their client's mother and/or mother-in-law in the discussion as well, especially if the client feels that a group discussion would be productive and expose her older female relatives to a different perspective on a given health issue.

G.   OTHER THEMATIC AREAS

G.1. Certain project interventions should do more intensive targeting of either refugee or Lebanese populations. Given the variations in culture, living conditions, and a plethora of other factors, the survey was stratified so that results would reflect the health-related knowledge, practices and coverage of refugees and Lebanese as separate entities. The results revealed that there is, indeed, a large variation in knowledge and practices between these two populations in a number of thematic areas.

Given Medair's large geographical coverage, there may be some community- and clinic-based project interventions that could be more strategically targeted towards one or the other population group based on its unique needs. This could lead to more effective and efficient use of the project's human and financial resources, as well as reducing the risk of impact dilution

Recommendation

Below is a chart which outlines some of the significant KPC result variations between refugees and vulnerable Lebanese. Project staff could select one or more of these population groups and determine a strategy as to how to address their priority needs.

Thematic area	Practice	Refugee %	Lebanese %	P-value
Family planning & child spacing	3 or more children <5 in household	**12%**	7%	0.039
	Last pregnancy planned	**42%**	55%	0.004
ORS	Use of ORS when child had diarrhea	38%	**25%**	0.041
Delivery	Rate of C-Section	24%	**51%**	**<0.001**
	Remaining for <12 hours in health facility after NORMAL delivery	**61%**	41%	0.002
	Remaining for <25 hours in health facility after C-SECTION.	**53%**	17%	<0.001
PNC	PNC within 2 weeks after NORMAL delivery	**21%**	42%	0.002
	PNC after C-Section	**47%**	66%	0.044
Exclusive breast feeding	Exclusive breast feeding during first 6 months.	61%	**47%**	0.027
Non-Communicable diseases	Know 2 or more ways of reducing risk of diabetes and high blood pressure.	**6%**	23%	<0.001

G.2. Ensure that both urban refugees and vulnerable Lebanese are included in project interventions.

Recommendation

For outreach interventions, CHWs need to ensure that urban refugees and vulnerable Lebanese, which make up 85% of the target population, are included. The survey team learned that these populations are much more of a challenge to locate, but the extra effort is warranted. Systems should be established whereby identification and detailed mapping of neighborhoods are conducted. Refugees often have an image of living in tented camps; however, in the case of Medair's targeted population, more than twice as many refugees (33%) actually live in residences as opposed to tented settlements (15%). The large distances between residences may pose challenges for assigning zones where CHWs would focus their outreach efforts.

G.3. Some of the current project indicators should be replaced by other indicators which are a higher priority and have low baseline figures. Most of the current indicators continue to be relevant, and should be retained – only the vaccination-related indicators are disaggregated by type of immunization (i.e. polio, penta, and HepB1).

However, the baseline figures on the red-highlighted indicators below (#3 and #4) are quite high; therefore, it might make sense to replace them with other indicators which have low baseline figures, but are priority interventions for the project (See figure 87).

Figure 81: Proposed revision of project indicators & baseline figures

Thematic Area	Indicator	Baseline*
DIARRHEA	1. Children <5 with diarrhea in past 2 weeks receive ORS *(This baseline figure reflects only the % of children receiving ORS -- As per project guidelines, children who receive both ORS and zinc should also be measured in future surveys)*	38% refugees 25% Lebanese
ARI	2. Children <5 with Acute Respiratory Infection (ARI) in past 2 weeks are treated in a health facility.	54%
ANC	**3. Women attend <u>3 or more</u> antenatal care visits when pregnant with their youngest child.**	**78%**
DELIVERY	**4. Women give birth to their youngest child in a health facility.**	**98%**
PNC	5. Women receiving 1 or more postpartum visits within 2 weeks after birth of their youngest child (normal delivery)	30% refugees 54% Lebanese
VACCINATIONS	6. Youngest child aged 12-59 months receive following age-appropriate vaccinations according to vaccination card: --Polio (4 doses)………………………………………… --Penta (3 doses)………………………………… --HepB1 refugee…………………………………… --HepB1 Lebanese……………………………………… 7. Youngest child aged 12-59 months receives measles and/or MMR vaccination according to vaccination card & recall combined	 59% (polio) 57% (penta) 54% (HepB1 refs) 68% (HepB1 Leb) 67%
EXCLUSIVE BREASTFEEDING	8. Women practice exclusive breastfeeding of their child 0-6 months of age.	61% refugees 47% Lebanese
FAMILY PLANNING	9. Women aged 15-50 use a modern contraceptive method *(among those women using something or a method to delay or avoid pregnancy)*	68%
NON-COMMUNICABLE DISEASES	10. Women know 2 or more ways to reduce the risk of diabetes. 11. Women know 2 or more ways reduce the risk of high blood pressure/ cardiovascular disease.	17% refugees 34% Lebanese 14% refugees 38% Lebanese

* Based on this KPC survey's results

Recommendation

The following indicators should be considered to replace the indicators related to ANC (indicator #3) and delivery (indicator #4) above. There may be other indicators beyond those listed below that project management would feel essential to include.

Figure 82: Proposed indicators to add to revised indicator list (ref. figure 86)

Thematic Area	Proposed Indicator	Baseline
FAMILY PLANNING & CHILD SPACING	1. Women are aware of importance of leaving at least two years between the time of delivery and the next pregnancy	54% refugees 64% Lebanese
DIARRHEA	2. Breastfeeding women give their children the <u>same or more breast milk</u> during their most recent diarrhea episode.	51%
	3. Non-breastfeeding women give their children the <u>same or more liquids</u> during their most recent diarrhea episode	52%