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FROM THE FIELD

# Maternal Health Care Utilization Among Syrian Refugees in Lebanon and Jordan

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**Abstract** *Purpose* The influx of Syrian refugees into Jordan and Lebanon over the last 5 years presents an immense burden to national health systems. This study was undertaken to assess utilization of maternal health services among Syrian refugees in both countries. *Description* A cross-sectional survey of Syrian refugees living in urban and rural (non-camp) settings was conducted using a two-stage cluster survey design with probability proportional to size sampling in 2014–2015. Eighty-six percent of surveyed households in Lebanon and 88% of surveyed households in Jordan included women with a live birth in the last year. Information from women in this sub-set of households was analyzed to understand antenatal and intrapartum health service utilization. *Assessment* A majority of respondents reported seeking antenatal care, 82% and 89% in Jordan and Lebanon, respectively. Women had an average of at least six antenatal care visits. Nearly all births (98% in Jordan and 94% in Lebanon) took place in a health facility. Cesarean rates were similar in both countries; approximately one-third of all births were cesarean deliveries. A substantial proportion of women incurred costs for intrapartum care; 33% of Syrian women in Jordan and 94% of Syrian women in Lebanon reported paying out of pocket for their deliveries. The proportion of women incurring costs for intrapartum care was higher in Jordan both countries for women with cesarean deliveries compared to those with vaginal deliveries; however, this difference was not statistically significant in either country (Jordan p-value = 0.203; Lebanon p-value = 0.099). *Conclusion* Syrian refugees living in Jordan and Lebanon had similar levels of utilization of maternal health services, despite different health systems and humanitarian assistance provisions. As expected, a substantial proportion of households incurred out-of-pocket costs for essential maternal and newborn health services, making cost a major factor in care-seeking decisions and locations. As health financing policies shift to account for the continued burden of refugee hosting on the health system, sustained attention to the availability and quality of essential maternal and newborn health services is needed to protect both refugee and host populations women's rights to health and health care during pregnancy, childbirth, and the postpartum period.

**Keywords** Syria · Jordan · Lebanon · Refugee · Humanitarian assistance · Maternal health · Antenatal care · Intrapartum care · Cesarean

## Significance

The *Global Strategy for Women's Children's and Adolescents'* Health highlights the need to focus on critical population groups such as those living in fragile and conflict-affected settings, and to improve the quality of health services and equity in their coverage. Syrian refugees constitute the second largest refugee population in the world, however little was known about this population's access to maternal and newborn health services. This study was designed to systematically assess utilization of maternal

Collaborators of the of the Jordan Health Access Study Team and Lebanon Health Access Study Team Working Groups are listed in "Acknowledgment".

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health services among Syrian refugees living outside of refugee camps in both Lebanon and Jordan.

## Purpose

More than 80% of the high-mortality countries that did not achieve the Millennium Development Goals have suffered a recent conflict, recurring natural disasters, or both.(Zeid et al. 2015) These are countries where two-thirds of preventable maternal deaths and 45% of preventable newborn and child deaths occur, and millions of women and girls face increased risks of morbidity in unsafe environments (UNFPA 2015). The profound impact of disasters and conflicts highlights the critical importance of strengthening the resilience of communities and health systems to better withstand the effects of crisis and hasten recovery.

The *Global Strategy for Women's Children's and Adolescents' Health* highlights the need to focus on critical population groups such as those living in fragile and conflict-affected settings to improve the quality of health services and equity in their coverage (United Nations 2015). Now in its fifth year, the crisis in Syria continues to propel one of the largest refugee exoduses since World War II. Syrian refugees currently constitute the second largest refugee population in the world (4.3 million registered refugees) after Palestinians. This includes more than 1 million registered Syrian refugees in Lebanon and more than 600,000 registered Syrian refugees in Jordan (United Nations 2016).

As the nature of forced displacement becomes increasingly characterized by urban populations in middle income countries, there is less need for the international humanitarian community to establish parallel health systems for camp-based refugee populations and greater need for attention to strategies that bolster national systems and improve access to care in an efficient and sustainable manner (Spiegel 2015; United Nations 2016).

### Health Services Availability for Refugees

In Lebanon, where approximately 25% of the population residing in the country are Syrian refugees registered with the United Nations Refugee Agency (UNHCR), the impact of refugee hosting on the national health system is enormous. This impact is exacerbated by the fact that 85% of registered refugees live in localities in which two-thirds of the host population live below the poverty line (Government of Lebanon and United Nations 2014). Syrians who are registered with the UNHCR are entitled to subsidized healthcare through a private third party administrator that contracts hospitals in the Lebanese public system; UNHCR contributes 75% of costs and the remaining 25% must be paid out of pocket. (Parkinson and Behrouzan 2015) Average household expenditure on health services was approximately US $90 per month in 2014 (UNHCR 2014). In terms of maternal health services, UNHCR covers most of the fee for four antenatal care (ANC) visits, 85% of laboratory costs and 75% of delivery costs; micronutrient supplements and two ultrasounds are provided free of charge. Access to breastfeeding and personal hygiene awareness sessions are also provided, as well as free access to family planning services and two postnatal consultations. Unregistered Syrians have access to the same package of ANC and delivery care. Privately funded primary care centers or dispensaries that are not subsidized by UNHCR also offer health services to Syrian refugees, including ANC (Benage et al. 2015).

In Jordan, the Ministry of Health provided refugees with free access to primary and secondary care until late 2014, provided they had a current UNHCR-issued asylum seeker certificate and Ministry of Interior (MoI) Service Card issued in the governorate in which they were seeking services (Amnesty International 2016). When this policy was in effect, average household expenditure on health services was approximately US $32 per month (UNHCR 2014). A policy change in November 2014 required Syrian refugees with MoI cards to pay the same heavily subsidized rate as uninsured Jordanians, and those without MoI cards to pay rates charged to foreigners (30–60% higher than rates for uninsured Jordanians). UNHCR covers costs of ANC, and normal deliveries for those meeting vulnerability criteria such as being a current or eligible recipient of UNHCR cash assistance. UNHCR also supports complicated deliveries such as medically indicated cesarean sections and other obstetric and neonatal complications regardless of vulnerability (UNHCR 2015).

This study was undertaken to assess utilization of maternal health services among Syrian refugees, and provide insights into disparities in the continuum of care available to Syrians living in non-camp settings in both Lebanon and Jordan. It is the first study to compare refugee maternal health service utilization across the two countries, providing data to guide regional humanitarian assistance programming and inform global guidance for maternal and newborn health programming for refugee populations in non-camp settings.

## Description

Two cross-sectional surveys of Syrian refugees were conducted to characterize health seeking behaviors and better understand issues related to accessing health services. One survey was conducted in Jordan in June 2014 and the other in Lebanon in March and April 2015. For both surveys, a two-stage cluster survey design with probability

proportional to size sampling was used to attain a nationally representative sample of Syrian refugees living outside of camps.

Sample size was determined for key study objectives based on the most conservative prevalence rate estimate of 50%; calculations assumed 80% power, a design effect of 2.0 to account for the cluster sample design and up to a 10% non-response rate. Cluster assignment by governorate in both countries is shown in Fig. 1. In Jordan, the distribution of households interviewed in the final sample set was representative of the Syrian refugee population on the sub-district level. In Lebanon, according to UNHCR registration data used for survey planning, 52.8% of registered refugees resided in cadastrals included in the survey coverage area (Doocy et al. 2016).

Different sampling strategies were used to identify respondents in Jordan and Lebanon, and are reported, along with details of questionnaire development, in detail elsewhere (Doocy et al. 2016). In Jordan, UNHCR randomly selected five registered refugee households that were listed as living in that cluster's assigned sub-district five randomly selected households from UNHCR's registration pool were called for each cluster and after verifying their residence location within the sub-district, the first household agreeing to meet with the study team was used as the index household for the cluster. Following an abbreviated interview with the index household, within-cluster referrals were used to sample 12 additional households per cluster. The results from the index household interview are not included in the survey database, to minimize the bias toward interviewing registered vs. non-registered households. In Lebanon, ARC GIS software was used to randomly allocate cluster start points from which interviewer pairs were sent in different directions to locate households. Within-cluster referrals were used until with one Lebanese household interviewed following every two Syrian refugee household interviews until a total of 14 Syrian refugee and seven Lebanese households were interviewed.

Households in both countries were randomly selected regardless of whether they had a recent delivery. Interviewers obtained verbal informed consent from all participants by reading a consent form in Arabic outlining the purpose of the assessment, intended use of results, confidentiality, and the voluntary nature of participation Interviews were conducted with either the head of household or the caretaker/health decision maker. The household head was prioritized as the respondent of the early sections; however, questions related to pregnancy and child health were asked directly to the woman or the mother of the child in question, or a suitable adult proxy if this person was not available.

Data was collected on tablets using the Magpi mobile data platform by DataDyne LLC (Washington, DC). Data was analyzed using Stata 13 (College Station, TX) and Tableau Desktop (Seattle, WA) software packages and employed standard descriptive statistics and methods for comparison of means and proportions. The Stata '*svy*' command was used to account for the cluster survey design so that standard errors of the point estimates were adjusted for survey design effects.

The Jordan study was reviewed by ethics committees at the World Health Organization, Jordan University of

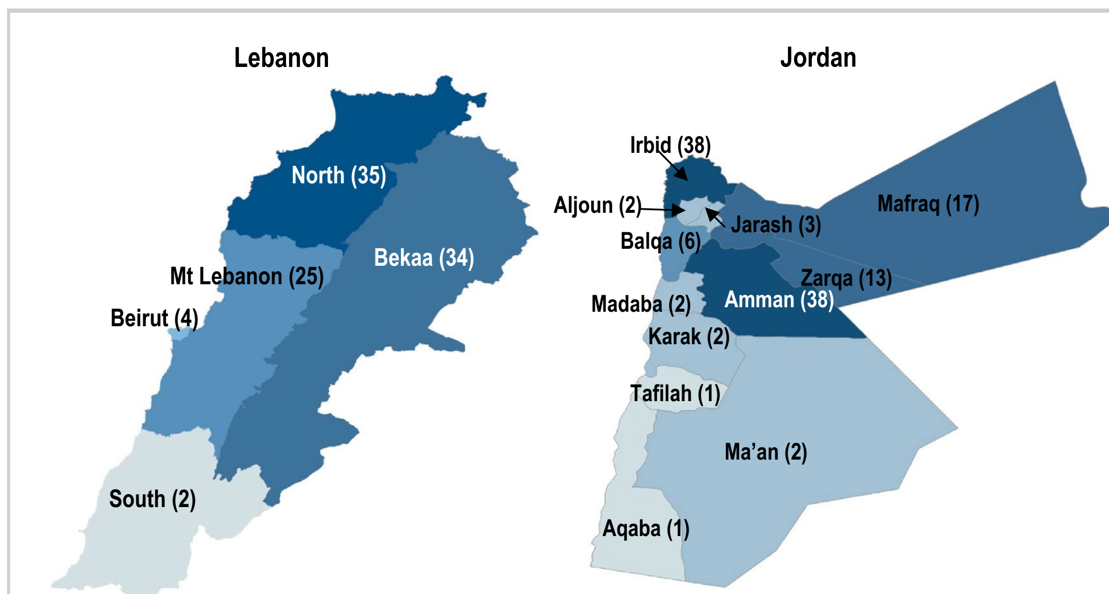


**Fig. 1** Cluster assignment by Governorate

Science and Technology, and Johns Hopkins School of Public Health and was approved by the Jordanian Ministry of Health. The Lebanon study was approved by the Institutional Review Boards at the American University of Beirut and Johns Hopkins School of Public Health.

## Assessment

A total of 1634 households in Jordan and 2165 in Lebanon were approached to participate in the survey. Of households approached in Jordan, 2.9% (n = 47) were not at home, 0.8% (n = 14) were already interviewed for this survey, and 1.4% (n = 23) declined to be interviewed. In Lebanon, 1.9% (n = 40) of approached households were not at home or not available, 0.2% (n = 4) were already interviewed for the survey, 0.05% (n = 1) was ineligible for participation, and 2.7% (n = 58) declined to be interviewed. The final samples included 1,550 households in Jordan (with 9580 household members; response rate of 94.7%) and 2062 households (1376 Syrian refugee and 686 host Lebanese households) in Lebanon (overall response rate of 93.6%).

In both countries, survey respondents were predominantly female (61.7%, CI 58.6–64.8 of refugees in Jordan; 59.3%, CI 55.9-62.78 of refugees in Lebanon). The average age of refugee respondents was also similar in both countries (Jordan mean = 38 years, median = 36, range: 15–95; Lebanon mean = 36, median = 34; range: 16–95).

### Households with Births in the Year Preceding the Survey

A total of 314 households in Jordan (20.3%) and 308 households in Lebanon (22.0%) reported a birth in the past year. Characteristics of refugee households with a birth in the past year are presented in Table 1.

### Health Service Utilization During Pregnancy

Among respondents who reported giving birth in Jordan/Lebanon in the year preceding the survey, 82.2% of women in Jordan and 88.7% of women in Lebanon reported seeking ANC. (Table 2).

In Jordan, women had an average of 6.2 ANC visits. ANC was typically first received in the fourth month of pregnancy (mean = 4.7 months, median = 4.0 months); 44.1% of Syrian women receiving ANC while pregnant in Jordan (n = 100) had an initial check-up during the first trimester of pregnancy. Most ANC visits were at private Jordanian clinics or doctors (30.4%, n = 69), followed by government primary health care centers (15.9%, n = 36), private hospitals (14.5%, n = 33), and public hospitals (13.2%, n = 30). For women who were pregnant but did not receive ANC while in Jordan, the main reasons given were cost (32.6%, n = 15), not thinking that ANC was important (19.6%, n = 9), or ANC not being a priority for the household (15.2%, n = 7).

In Lebanon, women had an average of 4.8 ANC visits; ANC was typically first received in the third month of pregnancy (mean = 3.9 months, median = 3.0 months); 54.5% of Syrian women receiving ANC while pregnant in Lebanon (n = 128) had an initial check-up during the first trimester of pregnancy. The most common locations for receiving ANC were a primary health care center (54.9%, n = 129) or private clinic (42.6%, n = 100). For women who were pregnant but did not receive ANC while in Lebanon, the primary reasons given were cost (75.9%, n = 22), family deciding that ANC should not be sought (no male permission) (10.3%, n = 3), and long wait times during previous visits to health facilities (6.9%, n = 2).

### Health Service Utilization at Birth

As Table 3 shows, the vast majority of respondents who reported giving birth in the year preceding the survey (88% of women in Jordan and 86% of women in Lebanon), did so in their current country of residence.

In Jordan, approximately half of deliveries took place in a public hospital (51.8%. n = 143) or a private hospital (30.4%, n = 84); only 2.2% of births (n = 6) took place at home (1.8% with a skilled attendant and 0.4% without). The primary reasons for choosing the delivering location were cost (54.8%, n = 148), proximity to their place of residence (10.4%, n = 28), and liking the staff or quality of treatment at the facility (10.4%, n = 28). The majority of households (67.7%, n = 182) did not pay out-of-pocket for delivery. Among those who did pay, average out of pocket payment was US$265 for a normal or assisted delivery and US$375 for cesarean surgery. Respondents were significantly more likely to cite cost as the primary reason for choosing the delivery location if the woman gave birth at a charity-run or public facility as opposed to a private facility (76.3 vs. 61.5%, $p < 0.001$; data not shown).

In Lebanon, most deliveries took place in a private hospital (43.8%, n = 116) or public hospital (38.5%, n = 102); 6.4% of births (n = 17) took place at home (6.0% with a skilled attendant and 0.4% without). The primary reasons for choosing the delivery location were cost (59.7% for low cost delivery, n = 148; 6.9% for free delivery, n = 17), proximity to their place of residence (16.9%, n = 76), and liking the staff or quality of treatment at the facility (5.6%, n = 14). Most households incurred an out-of-pocket payment for delivery (93.6%, n = 248), with the average cost of US$114 for a normal or assisted delivery and US$262 for cesarean surgery. The proportion of women reporting

**Table 1** Characteristics of households with a live birth in the last year

| | Jordan (n=314) | | Lebanon (n=308) | |
|---|---|---|---|---|
| | Point | 95% CI | Point | 95% CI |
| Governorate of origin in Syria | | | | |
| Al-Hasakeh | 1.0% | [0.2, 4.1] | 2.6% | [0.9, 7.5] |
| Aleppo | 8.6% | [5.3, 13.7] | 18.8% | [13.4, 25.7] |
| Damascus | 9.2% | [6.4, 13.1] | 7.1% | [4.5, 11.2] |
| Dar'a | 46.8% | [39.1, 54.7] | 6.8% | [4.0, 11.4] |
| Deir ez-Zor | 0.3% | [0.0, 2.3] | 1.9% | [0.8, 4.8] |
| Hama | 4.1% | [2.3, 7.5] | 10.4% | [6.9, 15.3] |
| Homs | 20.7% | [14.7, 28.4] | 25.6% | [18.7, 34.0] |
| Idlib | 0.6% | [0.2, 2.6] | 14.6% | [10.0, 20.8] |
| Latakia | 0.3% | [0.0, 2.3] | 0.6% | [0.2, 2.6] |
| Quneitra | — | — | 1.3% | [0.4, 4.2] |
| Ar-Raqqah | 1.6% | [0.7, 3.8] | 3.6% | [1.8, 6.9] |
| Rural Damascus | 6.1% | [3.5, 10.1] | 5.8% | [3.4, 9.9] |
| As-Suwayda | 0.6% | [0.1, 4.5] | — | — |
| Tartus | — | — | 0.6% | [0.2, 2.6] |
| Area within Syrian governorate of origin | | | | |
| Capital city | 7.0% | [4.6, 10.5] | 2.9% | [1.5, 5.5] |
| Other main city | 40.1% | [33.7, 47.0] | 26.6% | [22.3, 31.4] |
| Small village/town | 28.3% | [23.0, 34.3] | 16.6% | [12.6, 21.4] |
| Rural or remote area | 24.5% | [19.6, 30.2] | 53.9% | [48.2, 59.5] |
| Year of arrival in Jordan | | | | |
| 2011 | 8.9% | [6.1, 12.9] | 14.9% | [11.0, 20.0] |
| 2012 | 43.3% | [37.6, 49.2] | 29.5% | [24.5, 35.2] |
| 2013 | 43.0% | [37.4, 48.8] | 36.4% | [30.7, 42.4] |
| 2014 | 4.8% | [2.9, 7.9] | 19.2% | [14.5, 24.9] |
| Residence type | | | | |
| Apartment or house | 87.9% | [83.5, 91.2] | 42.2% | [34.5, 50.3] |
| Room within an apartment or house | — | — | 21.1% | [16.3, 26.9] |
| Tent, shack, or temporary structure | 2.2% | [1.1, 4.6] | 19.8% | [13.2, 28.7] |
| Addition to house | 8.0% | [5.2, 12.0] | 10.1% | [7.4, 13.6] |
| Unfinished building or construction site | 1.9% | [0.8, 4.7] | 5.8% | [3.7, 9.2] |
| Public building or collective/communal shelter | — | — | 1.0% | [0.3, 3.0] |
| Residence arrangement | | | | |
| Rent | 95.8% | [92.7, 97.7] | 85.7% | [79.5, 90.3] |
| Pay to occupy land | 0.3% | [0.0, 2.3] | 1.3% | [0.5, 3.4] |
| Stay in exchange for work | 1.3% | [0.5, 3.4] | 7.1% | [4.2, 11.8] |
| Stay without permission (squat) | 0.0% | [0.0, 2.3] | 1.3% | [0.5, 3.4] |
| Hosted (no payment) | 1.9% | [0.8, 4.8] | 4.2% | [2.3, 7.6] |
| Own | 0.3% | [0.0, 2.3] | 0.3% | [0.0, 2.3] |
| Household size | | | | |
| Median | 7 | | 6 | |
| Mean | 7.4 | [7.0, 7.8] | 7.0 | [6.5, 7.5] |
| Household Income (USD) | | | | |
| Median | | | | |
| Mean | 180.3 | [151.6, 209.0] | 329.4 | [286.1, 372.8] |
| Borrowed money and asset sales | | | | |
| Households that sold or borrowed money in the past 3 months (%) | 72.9% | [67.3, 77.9] | 89.6% | [85.7, 92.6] |

**Table 2** Antenatal care utilization among Syrian refugees with birth in the past year

| | | Jordan | | | | Lebanon | | |
|---|---|---|---|---|---|---|---|---|
| | | Point | 95% CI | N | | Point | [95% CI] | N |
| Households with a woman who received ANC while pregnant in Jordan/Lebanon[a] | n = 276 | 82.2% | [76.6, 86.7] | 227 | n = 265 | 88.7% | [83.5, 92.4] | 235 |
| Month of pregnancy in which the first ANC visit took place[b] | Median | 4.0 | — | 227 | Median | 3.0 | — | 225 |
| | Mean | 4.7 | [4.3, 5.1] | | Mean | 3.9 | [3.5, 4.2] | |
| Number of ANC visits during pregnancy[b] | Median | 5.0 | — | 227 | Median | 4.0 | — | 231 |
| | Mean | 6.2 | [5.7, 6.8] | | Mean | 4.8 | [4.3, 5.2] | |
| Place of ANC care[b] | n = 227 | | | | n = 235 | | | |
| Government primary health care center | | 15.9% | [11.2, 21.9] | 36 | | 54.9% | [47.4, 62.2] | 129 |
| Government comprehensive center | | 9.3% | [6.0, 14.0] | 21 | | — | — | — |
| Private clinic or doctor | | 30.4% | [24.5, 37.0] | 69 | | 42.6% | [35.3, 50.2] | 100 |
| Hospital emergency room | | — | — | — | | 2.1% | [0.9, 5.0] | 5 |
| Public hospital | | 13.2% | [9.1, 18.8] | 30 | | — | — | — |
| Private hospital | | 14.5% | [10.4, 20.0] | 33 | | — | — | — |
| Syrian doctor | | 2.2% | [0.9, 5.2] | 5 | | — | — | — |
| Mobile medical unit | | — | — | — | | 0.4% | [0.1, 3.0] | 1 |
| Islamic charity | | 6.6% | [4.0, 10.8] | 15 | | — | — | — |
| Non-religious charity | | 7.9% | [4.7, 13.0] | 18 | | — | — | — |
| Reason for no ANC care[c] | n = 46 | | | | n = 29 | | | |
| Cost/too expensive | | 32.6% | [19.4, 49.4] | 15 | | 75.9% | [50.9, 90.5] | 22 |
| Could not afford transportation costs | | — | — | — | | 3.4% | [0.5, 21.4] | 1 |
| Poor quality/dislike services | | 4.3% | [1.1, 15.6] | 2 | | — | — | — |
| Disliked long wait time on previous visit(s) | | — | — | — | | 6.9% | [1.9, 22.5] | 2 |
| Could not take time off work/other commitments | | — | — | — | | 3.4% | [0.5, 19.0] | 1 |
| Family decided care should not be sought | | — | — | — | | 10.3% | [3.7, 25.7] | 3 |
| Did not know where to go | | 8.7% | [3.2, 21.4] | 4 | | — | — | — |
| Did not think it was important | | 19.6% | [10.3, 33.9] | 9 | | — | — | — |
| Household decided it was not a priority | | 15.2% | [6.5, 31.7] | 7 | | — | — | — |
| Other | | 13.0% | [5.4, 28.3] | 6 | | — | — | — |
| No reason | | 6.5% | [2.0, 19.1] | 3 | | — | — | — |

[a] Among households with a woman who delivered in the past year in Jordan/Lebanon

[b] Among households with a woman who delivered in the past year in Jordan/Lebanon and received ANC

[c] Among households with a woman who delivered in the past year in Jordan/Lebanon and did not receive ANC

out-of-pocket costs varied slightly by delivery location, but these differences were not statistically significant.

Cesarean rates were similar in both countries: 32.2% of deliveries in Jordan (n = 87) and 30.6% in Lebanon (n = 76). In Jordan, 37.9% of women with cesarean deliveries (n = 33) were required to pay for services, compared with 29.7% of women with normal or assisted deliveries (n = 54) (p-value = 0.203). In Lebanon, 96.1% of women with cesarean deliveries (n = 73) were required to pay for services, compared with 92.4% of women with normal or assisted deliveries (n = 159) (p-value = 0.285).

**Table 3** Intrapartum care utilization among Syrian refugees with birth in the past year

| | | Jordan | | | Lebanon | | |
|---|---|---|---|---|---|---|---|
| | | Point | 95% CI | N | Point | [95% CI] | N |
| Country of delivery | | N = 314 | | | n = 308 | | |
| Syria | | 12.1% | [8.6, 16.8] | 38 | 13.6% | [9.8, 18.7] | 42 |
| Host Country (Jordan/Lebanon) | | 87.9% | [83.2, 91.4] | 276 | 86.0% | [80.9, 90.0] | 265 |
| Place of delivery[a] | | n = 276 | | | n = 265 | | |
| Government primary health care center | | 1.1% | [0.3, 3.3] | 3 | — | — | — |
| Private clinic or doctor | | — | — | — | 4.2% | [2.5, 6.9] | 11 |
| Public hospital | | 51.8% | [45.3, 58.2] | 143 | 38.5% | [31.8, 45.7] | 102 |
| Private hospital | | 30.4% | [25.0,36.5] | 84 | 43.8% | [36.5,51.0] | 116 |
| Hospital (type unknown) | | — | — | — | 6.0% | [3.5,10.2] | 16 |
| NGO hospital | | 11.2% | [8.1,15.3] | 31 | | | |
| Islamic charity | | 2.5% | [1.1,5.8] | 7 | — | — | — |
| At home, with skilled birth attendant | | 1.8% | [0.6,5.0] | 5 | 6.0% | [3.2,11.0] | 16 |
| At home, without skilled birth attendant | | 0.4% | [0.1,2.6] | 1 | 0.4% | [0.1,2.6] | 1 |
| Other | | 0.7% | [0.2,2.9] | 2 | 1.1% | [0.4,3.4] | 3 |
| Reason for delivery at this location[b] | | n = 270 | | | n = 248 | | |
| Free delivery | | — | — | — | 6.9% | [4.1,11.2] | 17 |
| Affordable cost | | 54.8% | [48.8,60.7] | 148 | 59.7% | [53.0,66.0] | 148 |
| Close to place of residence | | 10.4% | [7.1,15.0] | 28 | 16.9% | [11.7, 23.8] | 76 |
| Not aware of other facilities | | 5.6% | [3.2,9.4] | 15 | 2.4% | [1.1,5.2] | 6 |
| Like staff/treatment quality | | 10.4% | [7.1,15.0] | 28 | 5.6% | [3.5,9.0] | 14 |
| Emergency or high risk birth | | 8.9% | [6.1,12.8] | 24 | 3.2% | [1.7,6.2] | 8 |
| Other | | 8.9% | [6.0,12.9] | 24 | 5.2% | [2.8,9.7] | 13 |
| No reason | | 1.1% | [0.4,3.4] | 3 | — | — | — |
| Deliveries involving a cesarean surgery[a] | | | | | | | |
| Deliveries involving a cesarean surgery | | 32.2% | [27.5, 37.3] | 87 | 30.6% | [25.4, 36.5] | 76 |
| Payments for cesarean deliveries | | n = 87 | | | n = 76 | | |
| Paid for delivery (%) | | 37.9% | [27.6, 49.5] | 33 | 96.1% | [89.0, 98.7] | 73 |
| Delivery cost among those receiving a cesarean section (USD) | Median | 494 | — | 33 | 204 | — | 72 |
| | Mean | 374.8 | [299.0, 450.5] | | 262.0 | [223.8, 300.2] | 72 |
| Payments for normal/assisted deliveries | | n = 182 | | | n = 172 | | |
| Paid for delivery (%) | | 29.7% | [23.3, 36.9] | 54 | 92.4% | [87.3, 95.6] | 159 |
| Delivery cost (USD) | Median | 212 | — | 54 | 83 | — | 159 |
| | Mean | 265.3 | [222.3, 308.3] | | 113.8 | [98.2, 129.5] | 159 |

[a] Among households with a woman who delivered in the past year in Jordan/Lebanon

[b] Among deliveries at a health facility

## Limitations

This study was designed to provide representative samples of Syrian refugee households living in non-camp settings in Lebanon and Jordan, but was not designed specifically to be representative of households with a birth in the last year, or of households paying out-of-pocket for maternal health services. In Lebanon, political factions in some areas did

not agree to allow implementation of the survey, resulting in inclusion of only 53% of registered Syrian refugees in the sampling frame. With respect to sampling, reliance on UNHCR registration data may have resulted in sampling bias if the geographic distribution of registered and unregistered households differed. Replacement sampling, which was done for logistical purposes, also could contribute to bias if there are systematic differences between households where no one was at home compared with those interviewed. Finally, interviews were conducted by Lebanese in Lebanon and Jordanians in Jordan which could have resulted in a higher refusal rate, hesitance or influence on the part of Syrian refugees in responding to certain questions than if interviews had been conducted by Syrians.

## Conclusions

At the time of these surveys, Syrian refugees living in Jordan and Lebanon had similar levels of utilization of maternal health services, which is likely a reflection of both the care-seeking practices of women in Syria before the conflict (Bashour and Abdulsalam 2005) and of the availability of health service providers in Jordan and Lebanon. While each country's health system and approach to addressing the health needs of Syrian refugees differs, needs are similar, and more must be done to protect and improve access to quality health services for refugees during pregnancy, childbirth, and the postpartum period.

Findings regarding the factors determining women's use and location of services are consistent with those identified in other settings (Finlayson and Downe 2013). This and other studies show that the refugee populations outside of camps live under considerable financial stress. While maternal health services may be widely available in the public and private sectors of both countries, costs remain a substantial factor in care-seeking decisions and locations. Without legal right to work and sustainable livelihood opportunities (Verme et al. 2016) the ability to access essential maternal health services will remain a challenge.

The average time a refugee spends in displacement is more than 20 years (Spiegel 2015). As the crisis in Syria endures, refugees in Lebanon and Jordan are depleting limited assets and household debts are increasing. Policy shifts driven by increasing burdens on the health system since these surveys were conducted have prompted humanitarian agencies to explore new approaches for assisting Syrian women to access quality care throughout pregnancy, childbirth, and the postpartum period. For example, the shift in Jordanian policy requiring refugees to pay the same user fees has led UNHCR to explore cash-based assistance modalities. Building on its experience providing cash payments to offset refugees' costs of accessing maternal health services in Egypt, UNHCR began piloting a similar cash transfer program in Jordan in 2015 (UNHCR 2015). The introduction of cash assistance for vulnerable Syrian refugee women for normal deliveries and for planned medically indicated caesarean sections for all Syrian refugee women has offset the need for high out-of-pocket payments. Sustainability of the cash assistance program is a problem, however. The referral system managed by UNHCR and its partner, Jordan Health Aid Society, seeks to refer pregnant women to other NGO or charity providers who may offer these services for free. Although this group cannot assist everyone, their program also reduces the cost burden on UNHCR and the government system. UNHCR also continues to advocate for expansion of livelihood opportunities through issuance of work permits for Syrian refugees in Jordan, which will increase the proportion of households that are able to cover their own medical expenses. Even greater challenges persist in Lebanon, where government policy does not allow refugees to obtain work and there are few organizations offering subsidized or free maternal and newborn health services. UNHCR and other UN partners, including the World Bank, are exploring different financing mechanisms to assist the Ministry of Health in Lebanon in offsetting some of the high costs of health care for refugees and strengthening the national system for the benefit of both the host population and refugees.

This survey focused on access to health services, and did not assess the quality of care provided to Syrian refugees in Jordan and Lebanon. While a higher number of ANC visits suggests that refugees are more likely to receive recommended content of care than women with fewer visits, the average timing of the first visit was at the end of the third or fourth month of pregnancy. Efforts need to be strengthened to ensure that the first visit occurs earlier in pregnancy, and that antenatal care providers at both public and private facilities provide the full content of care recommended by WHO (Hodgins and D'Agostino 2014). High cesarean surgery rates are concerning. This survey found cesarean rates among Syrian refugees in both Lebanon and Jordan are comparable to that of host country nationals, which have been increasing over the last decade and remain among the highest in the region (DeJong et al. 2010; Huster et al. 2014). As in many other parts of the world, the high levels of cesarean deliveries are observed together with the increasing trend in medicalizing childbirth and routine use of unnecessary procedures, including cesareans performed without medical indication (Miller et al. 2016). Qualitative research among Lebanese has shown that fear of childbirth, specifically fear of labor pain is the main impetus for women to consider cesareans, and also reveals the major role that healthcare providers play in reinforcing beliefs related to cesareans being the way for pain free deliveries

(Kabakian-Khasholian 2013). It is reasonable to expect that Syrian women within the same health system are provided with similar information as host country nationals, and may be treated with less respect during consultations as there is evidence of widespread discrimination against Syrian refugees in both Jordan and Lebanon (Yasmine and Moughalian 2016; Alsaba and Kapilashrami 2016; Wells et al. 2016). High quality research on women's fears, lives, and socio-cultural pressures during pregnancy, as well as the factors driving provider decision-making, is needed to guide interventions to reduce unindicated cesareans (Betrán et al. 2016).

Access to quality, respectful care during pregnancy and childbirth is a right for all women, and is critical for achieving global development goals of ending preventable maternal and child mortality and "ensuring healthy lives and promoting well-being for all at all ages" (Koblinsky et al. 2016). This includes both documented and undocumented refugees, as well as the national populations hosting them. However, the strain that large-scale population movements place on health systems threatens the ability of health systems to adequately address the health needs of both refugees and host country populations. Greater engagement of development oriented actors is needed in both Jordan and Lebanon to support the Ministries of Health through their respective refugee response plans. This will greatly assist in strengthening national health systems to provide quality essential maternal and newborn health services for both host community and refugee women and contribute to international solidarity in response to large refugee movements.

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