Expanded Programme on Immunization

District-Based Immunization Coverage Cluster Survey

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Acronyms and Abbreviations

CRD	*Connecting Research to Development*
DTP	*Diphtheria, Tetanus and Pertussis*
EPI	*Expanded Programme on Immunization*
GPS	*Global Positioning System*
Hib	*Haemophilus influenzae Type b*
IPV	*Inactivated Polio Vaccine*
IRB	*Institutional Review Board*
IS	*Informal Settlement*
LPS	*Lebanese Pediatric Society*
MCV	*Measles-Containing Vaccine*
MDG4	*Millennium Development Goal 4*
MMR	*Measles, Mumps and Rubella*
MoPH	*Ministry of Public Health*
NGO	*Non-Governmental Organization*
OPV	*Oral Polio Vaccine*
PHC	*Primary Health Care*
PPS	*Probability Proportionate to Size*
PSU	*Primary Sampling Unit*
SD	*Standard Deviation*
SOP	*Standard Operating Procedure*
SPSS	*Statistical Package for Social Sciences*
UNHCR	*United Nations High Commissioner for Refugees*
UNICEF	*United Nations Children's Fund*
WHO	*World Health Organization*

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A. INTRODUCTION

1. Overview of the Expanded Programme on Immunization (EPI)

The 1959 "Declaration of the Rights of the Child" (United Nations General Assembly Resolution No. 1386) stated in principle 2 that "every child shall enjoy special protection and shall be given opportunities and facilities […] to enable him to develop physically, mentally, morally, spiritually and socially in a healthy and normal manner"[1].This principle required that governments provide children with the necessary safeguards to promote their wellbeing through ensuring their healthy and safe development. The World Health Organization (WHO) established the Expanded Programme on Immunization (EPI) in 1974, aiming to ensure that every child in the world- regardless of their socio-economic or demographic status- has access to recommended life-saving vaccines against diseases such as diphtheria, pertussis, tetanus, poliomyelitis, and measles[2,3,4].

To date, the basic vaccines provided through the EPI have included[4]:

- *Haemophilus influenzae Type B (Hib)* preventing meningitis and pneumonia;
- *Hepatits B,* protecting against liver viral infections and their consequences;
- *Measles*, preventing a viral disease that can result in high fever and rash and possibly lead to encephalitis or death;
- *Mumps,*preventing a contagious viral infection that can cause painful swelling of the parotid gland, fever, headache, muscle aches and might lead to meningitis;
- *Rubella,* preventing a viral disease thatcan cause fetal death or congenital rubella syndrome leading to defects of the brain, heart, eyes and ears during early pregnancy;
- *Poliomyelitis,* preventing a viral disease that can cause irreversible paralysis;
- *Diphtheria,* preventing a serious disease caused by a toxin that can cause a thick coating in the back of the nose or throat that makes it hard to breathe or swallow;
- *Tetanus,* preventing an infection by a bacterium growing in contaminated wounds or unclean umbilical cord leading to death;
- *Pertussis,* preventing whooping cough, a highly contagious respiratory tract infection.

The EPI aiming to eradicate infectious diseases has played an important role in reducing child morbidity and mortality rates[5]. Immunization coverage has been proven to be the best tool to

[1]United Nations General Assembly. (1959). *Declaration of the rights of the child* (Resolution No. 1386 (XIV)). Retrieved from http://www.unicef.org/barbados/spmapping/Legal/global/General/declaration_child1959.pdf
[2]World Health Organization (WHO). (1974). Resolution WHA 27.57. WHO Expanded Programme on Immunization. Twenty-seventh World Health Assembly, Geneva, 1974. WHA27/1974/REC/1. World Health Organization, Geneva.
[3]Keja, K., Chan, C., Hayden, G., Henderson, R.H. (1988). Expanded Programme on Immunization. World Health Statistics Quarterly, 41, 59–63. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/3176515
[4]WHO. (2013). Immunization coverage, Fact sheet N°378. Updated November 2013. Retrieved from http://www.who.int/mediacentre/factsheets/fs378/en/index.html
[5]UNDP. (1997). Chapter 3- Children. Retrieved from

control and eliminate life-threatening diseases and disability averting from 2 to 3 million deaths each year[6]. In addition, the EPI has contributed positively to achieving the 4th Millennium Development Goal (MDG4) of reducing "mortality rate in children younger than five years by two-thirds between 1990 and 2015"[7]. As a result to these continuous endeavors, under-five mortality has dropped by 53 per cent, from an estimated rate of 91 deaths per 1000 live births in 1990 to 43 deaths per 1000 live births in 2015[8].

2. Factors Affecting under-5 Immunization

Children's immunization rates have been associated with certain demographic factors, such as parental knowledge regarding immunization and practice, as well as parents' age, educational level, and employment status[9,10].

Many studies have indicated that factors such as lack of parents' awareness, misconceptions, and fear of side-effects of vaccines were the most reported reasons for low immunization coverage in countries which allow EPI opting-out[10,11,12].Moreover, a study conducted in Tikrit, Iraq by Abdulrahman and colleagues (2008) found a significant association between immunization completeness and mother's educational level, residence, child sex, mother's age and job respectively[13]. Similar results were reported in Lebanon as vaccination of female children less than 2 years and high parental education were found significantly associated with vaccination compliance[14].

http://www.undp.org.lb/programmeme/governance/advocacy/nhdr/nhdr97/chpt3i.pdf

[6]WHO. (2013). Immunization coverage, Fact sheet N°378. Updated November 2013. Retrieved fromhttp://www.who.int/mediacentre/factsheets/fs378/en/index.html

[7] UN Department of Public Information. (2013). Goal 4: Reduce Child Mortality, Fact Sheet, September 2013, Retrieved from www.un.org/millenniumgoals

[8]WHO. (2015). Global Health Observatory (GHO) data: Under-five mortality. Retrieved from http://www.who.int/gho/child_health/mortality/mortality_under_five_text/en/

[9]Abdulrahman, S.K., Sarhat, A.R., Tawfeek, R.S. (2008). Factors Predicting immunization coverage in Tikrit city. *Middle East Journal of Family Medicine*, 6(1), 8-10. Retrieved from http://www.biomedcentral.com/1471-2458/12/566

[10]Qutaiba B Al-lela, O., Bahar,. M.B., Al-Qazaz, H.K., Salih M.R.M., Jamshed S.K., ElKalmi R.M. (2014). Are parents' knowledge and practice regarding immunization related to pediatrics' immunization compliance? A mixed method study. *BMC Pediatrics*, 14, 20. Retrieved from http://www.biomedcentral.com/content/pdf/1471-2431-14-20.pdf

[11] UNICEF & Ministry of Public Health. (2001). Report on the Immunization Coverage Level in the Districts of Akkar/Danniyeh-Minyeh in the North and Baalbeck/Hermel in the Beqaa. Ministry of Public Health and UNICEF, Beirut, 1997.

[12]Sinno, D.D., Shoaib, H.A., Musharrafieh, U.M., & Hamadeh, G.N. (2009). Prevalence and predictors of immunization in a health insurance plan in a developing country. *Pediatrics International*, 51, 520–525. Retrieved fromhttp://onlinelibrary.wiley.com.ezproxy.aub.edu.lb/doi/10.1111/j.1442-200X.2008.02769.x/pdf

[13]Abdulrahman, S.K., Sarhat, A.R., Tawfeek, R.S. (2008). Factors Predicting immunization coverage in Tikrit city. *Middle East Journal of Family Medicine, 6*(1), 8-10. Retrieved fromhttp://www.biomedcentral.com/1471-2458/12/566

[14]Sinno, D.D., Shoaib, H.A., Musharrafieh, U.M., & Hamadeh, G.N. (2009). Prevalence and predictors of immunization in a health insurance plan in a developing country. *Pediatrics International*, 51, 520–525. Retrieved from http://onlinelibrary.wiley.com.ezproxy.aub.edu.lb/doi/10.1111/j.1442-200X.2008.02769.x/pdf

The likelihood of a child being fully vaccinated was nearly nine times higher among children whose mothers had at least a primary education than among those whose mothers had no education[15]. In addition, a Turkish study conducted in 2005 found that children from a higher socio-economic status were more likely to be fully vaccinated before reaching 5 years[16,17].

Additionally, a significant relationship was found between parents' marital status and children's immunization compliance in Canada, where children with single parents had lower immunization coverage than those living with married parents[18].

3. Vaccination Coverage in Lebanon

In line with the global EPI trends, and in order to improve and regulate children's immunization coverage in the country, the Lebanese Ministry of Public Health (MoPH) established the EPI with the collaborative efforts of the United Nations Children's Fund **(**UNICEF) and WHO, starting the early 1990s.

The programme has been expanded to cover more than 50% of the children residing in Lebanon through a network of around 200 primary health care (PHC) centers and more than 700 dispensaries. After launching the programme, Lebanon managed to eliminate neonatal tetanus and polio by 2011[19,20].

The Lebanese EPI currently includes mandatory and optional vaccines to be administered for children since birth. According to the routine vaccination schedule of the MoPH, at the age of 12 months, a child should have received at least 3 doses of polio vaccine (oral polio vaccine (OPV) or inactivated polio vaccine (IPV)), diphtheria-tetanus-pertussis-containing vaccine (DTP), Hib vaccine, 4 doses of hepatitis B vaccine including one dose at birth and at least 1 dose of measles-

[15] Torun, S.D., & Bakirci, N. (2006). Vaccination coverage and reasons for non-vaccination in a district of Istanbul. *BMC Public Health*, 6, 125. Retrieved from http://www.biomedcentral.com/content/pdf/1471-2458-6-125.pdf

[16]Topuzoglu, A., Ozaydın, G.A.N., Cali, s., Cebeci, D., Kalaca, S., & Harmanci, H. (2005). Assessment of socio-demographic factors and socio-economic status affecting the coverage of compulsory and private immunization services in Istanbul, Turkey. *Public Health*, 119, 862–869. Retrieved from http://www.sciencedirect.com/science/article/pii/S0033350605000624

[17] Adem, A., Tacettin, I., Sevin, A., & Vildan, E. (2003). Diphtheria immunization rates and the effect of several socio-demographic factors on immunization of children in eastern Turkey. *Pediatrics International*, 45, 461-466. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12911485

[18]Duclos P. (1997). Vaccination coverage of 2-year-old children and immunization practices-Canada, 1994. Vaccine, 15(1), 20-24. Retrieved fromhttp://www.ncbi.nlm.nih.gov/pubmed/9041662

[19] Ministry of Public Health. (2011). Statistical Bulletin 2011. Beirut: Lebanon. Retrieved from http://www.moph.gov.lb/

containing vaccine (MCV), either measles or measles, mumps and rubella (MMR) vaccines[20],[21]*(Appendix A)*.

According to EPI cluster survey conducted in 2013, 90.40% and 92.60% of Lebanese infants were fully immunized respectively against DTP and hepatitis B, 89.3% were fully immunized against OPV, 89.40% were immunized against Hib and 60.6% were reported to have an immunization card.

Despite these promising results, immunization rates differed amongst districts[22] and some vaccine-preventable diseases persisted. The EPI has suffered tremendous pressure recently, caused by the influx of hundreds of thousands Syrian refugees into Lebanon which jeopardized its capacity to deliver and maintain adequate vaccination coverage[22]. A large proportion of the Syrian population, mainly in opposition-held areas, did not receive any polio or other childhood vaccination since 2012[23,24].

In 2013, Lebanon witnessed a national outbreak of measles, out of which 82% of cases were Lebanese and 13% were Syrians, and 53% cases were among children under 5 years old. Moreover, until December 2015, 37 cases of pertussis, 3 cases of tetanus, 1400 cases of mumps, 9 cases of rubella and 140 cases of viral hepatitis B were reported to the Lebanese MoPH in 2015 but no acute poliomyelitis case was reported[25].

As a consequence, the MoPH in collaboration with WHO and UNICEF has embarked in an acceleration strategy, entailing opening new vaccination posts at the borders, and within United Nations High Commissioner for Refugees (UNHCR) registration centers, intensifying vaccination sessions and conducting pulse and national campaigns. More than 700 thousand children were vaccinated against measles and polio throughout 2012 and 2013[26]. In 2015, the MoPH initiated a national polio campaign in two phases in March 2015 and April 2015[27]. The campaign targeted

[20]United Nations Children Fund (UNICEF). (2001). Preliminary Report on the Multiple Cluster Survey On the Situation of Children in Lebanon. Lebanon February 2001. Republic of Lebanon, Presidency of the Council of Ministers, Central Bureau of Statistics. Retrieved from http://www.childinfo.org/files/lebanon.pdf

[21]Central Administration of Statistics (CAS), and UNICEF (2009). Social statistics indicators from surveys. CAS mics3 survey, Beirut, 2009. Retrieved from http://www.cas.gov.lb/images/Mics3/CAS_MICS3_survey_2009.pdf

[22] Ministry of Public Health (MOPH) (2014, March 10). Launching of the Third Phase of the National Campaign against Polio. Message posted to: http://www.moph.gov.lb/Media/Pages/Polio2014.aspx

[23]Sahloul, Z., Coutts, A., Fouad, M.F., Jabri, S., Hallam, R., Azrak, F., & Maziak, W. (2014). Health response system for Syria: beyond official narrative. *The Lancet*, 383 (9915), 407. doi:10.1016/S0140-6736(13)62558-1

[24]Aylward, R.B., & Alwan, A. (2014). Polio in Syria. *The Lancet*, 383 (9916), 489 - 491. doi:10.1016/S0140-6736(14)60132-X

[25]Ministry of Public Health. (2015, December 26). Current health event: Health impact of wastecrisis in Lebanon. *Lebanese Weekly Epi-Monitor, 2*(10). Retrieved from http://www.emro.who.int/images/stories/lebanon/NO_2_12_AIDS_December_2015.pdf?ua=1

[26] Ministry of Public Health. (2013, October 26). Launching of the Vaccination Campaign against Polio. Message posted to: http://www.moph.gov.lb/Media/Pages/VaccinationCampaignAgainstPolio.aspx

all children under 5 years old residing in Lebanon. More than 1,000,000 doses were given during the polio national immunization days.

WHO subcontracted Connecting Research to Development (CRD) to conduct an EPI cluster survey covering all Lebanese districts, as part of its monitoring and evaluation procedures.

4. Objectives of the Study

The main aim behind the study was to assess the routine immunization coverage in Lebanon among children aged between 12 and 59 months (completed).

The specific objectives of the study were:

1. To determine the routine immunization coverage rate for the children aged between 12 and 59 months (completed) (DTP containing vaccines, Hib, OPV, IPV, hepatitis B, measles and MMR) by district;
2. To analyze the demographic and geographic characteristics of non-vaccination in a subsample of the selected population.

B. METHODS

1. Study Design

A national cross-sectional survey was conducted following a stratified cluster sampling design. The study was implemented in all districts of Lebanon with the exception of Nabatieh, and was designed to provide district-based vaccine coverage estimates.

2. Survey Population

The study population consisted of 2 samples. The first one included 12 to 59-month resident[27] children in Lebanon, irrespective of their nationalities. The second one included 12 to 59-month children residing in the Syrian refugees' informal settlements (ISs) in Lebanon.

All children aged between 12 and 59 months were eligible for inclusion, irrespective of the availability (or not) of their immunization cards.

Recruiting children aged between 12 and 59 months was intended to explore the impact of the Syrian crisis on the vaccination coverage in Lebanon, as these children form the 4 birth cohorts (2011-2015) after the start of the crisis in 2011.

3. Sampling Technique

a. Sample Size

The sample size required from each district was determined by assuming a vaccination coverage of 50%[28], a desired precision of ±5%[29], a probability of achieving that precision of 0.95 and a design effect of 2. The minimum required sample was 390 children from each district, leading to a total sample of 10,140 children *(Appendix C)*. Using the same statistics, the sample size required from the ISs was 1,800. The total population of the survey consisted of 11,940 children.

b. Sampling Frame

Population estimates[30] were used to randomly recruit 26 primary sampling units (PSUs) (clusters) from each district by probability proportionate to size (PPS) *(Appendices D & E)*. The PSUs were the cadasters. To account for the issue of the variability in the cadasters' sizes relative to the district size, cadasters with a total population less than 100 were removed (because of the unlikelihood of finding 15 target children). On the other hand, cadasters with large population size that were guaranteed to be sampled at least twice were handled as strata and each stratum was assigned a fixed number of starting points based on how often it was selected with certainty.

[27]See definition of "Eligible child" in Appendix B.
[28]p=0.5 was chosen to produce the largest sample size, thus allowing us to account for all possibilities without relying on existing data
[29] The expected precision for the national coverage based on the same assumptions is ±1.4%.
[30]Lebanese Numbers: GIST Website. Last Updated 2007; Syrian Numbers: UNHCR Website. Last Updated March 2014

15 children were recruited from each cluster, using a systematic random approach following the WHO-UNICEF-EPI cluster method. One child was recruited from each household.

4. Project Implementers

The survey team consisted of:

- Research committee: comprised of experts in the field from WHO and CRD who provided sound feedback on the study
- Project coordinator: responsible on following on all project details
- 8 Regional coordinators: responsible of follow-up with zone coordinators to monitor and control the data collection process
- 60 Fieldworkers: responsible of administering the survey questionnaires within households. Fieldworkers had previous experience in conducting national surveys and were familiar with the villages they were assigned to.
- 12 Data entry personnel
- Data analysis personnel
- Transportation network

Before the start of the fieldwork, local leaders in the selected cadasters were informed about the details of the survey conduct, and were asked to inform local communities about the study details.

5. Training of Fieldworkers

Prior to the survey, all fieldworkers received a unified training manual and underwent an intensive training on good practices for interviewing, pictures collection processes and use of the Global Positioning System (GPS). The training session was prepared by the project coordinator, with input from the research committee to train the members of the implementation team. This was done in order to minimize participation refusals, standardize data collection amongst them and ensure quality data collection. The following points were covered during this training:

- Role of each member in the research team;
- Reporting system and communication means between survey implementers;
- Use of GPS;
- Sampling
- Content of the questionnaire;
- Taking pictures of immunization cards;
- Interview conduct, administration of the questionnaire and refusals acceptance.

6. Piloting

Prior to the fieldwork, each fieldworker was asked to pilot the questionnaire with 4 to 5 households. The completed questionnaires were checked by the supervisor in the presence of the fieldworker for missing information and inconsistencies.

7. Questionnaire

A structured 65-item questionnaire developed based on previous questionnaires and EPI reports, was used *(Appendix F)*. It included close- and open-ended questions and consisted of 3 parts: 1) front page, 2) information on the child's immunization status, and 3) demographics. The first part included an introductory statement explaining the objectives of the study, the confidentiality of the data and obtained an informed oral consent from the parent/legal guardian of the selected children. The second part included questions about the child's sociodemographic characteristics and immunization status, as well as the caretaker's practices, experiences, knowledge, perceptions and attitudes related to the child's vaccination, reasons for non-vaccination (where applicable), and utilization patterns of the immunization card. It also included taking a picture of the immunization card, if available. The third part assessed the household and caregiver's demographics.

The questionnaire was developed in English, it was reviewed and approved by all parties involved in immunization in Lebanon (WHO, country office Lebanon, UNICEF, MoPH). It was then translated to Arabic and pilot tested in Dekweneh and Nabaa areas. Feedback from the pilot was incorporated to produce the final version of the questionnaire. The questionnaires were pre-coded.

8. Household Tracking Form

An original form was elaborated to allow fieldworkers to track all households encountered during fieldwork. However, completing this document was found to be cumbersome by fieldworkers, and thus it was decided to lighten it and include only information that will be used to calculate refusals and revisits *(Appendix G)*.

9. Fieldwork

Initially, fieldworkers were asked to use GPS units with pre-loaded maps of the selected cadasters (or stratums, in case of large cadasters) upon arrival to the cluster, in order to delineate the cadaster (or strata) boundaries. However, the use of maps was found to be burdensome, especially with the limited connection. The research team then asked the fieldworkers to rely on local authorities to define their fields' limits.

The WHO-UNICEF-EPI cluster approach method was used. In each cluster, a list of landmarks was identified. The fieldworkers wrote each landmark's name on a slip of paper and chose one slip at random. From the selected landmark, a random direction by spinning a pen or any sharp object was chosen. After identifying the first household, the second household to be visited was the one which is nearest to the first. In the case of a building, all its households were visited starting with the upper floor downwards. After the whole building was assessed, the fieldworker

went to the nearest door of the nearest building and repeated the same process. Figure 1 below illustrates how to move from one building to the nearest building.

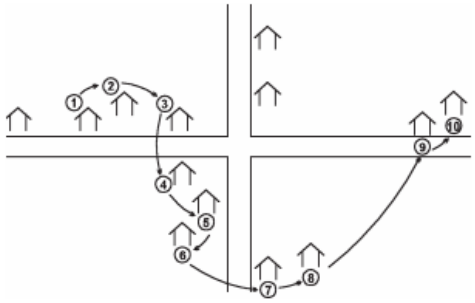


Figure 1. Sequence of next nearest households beginning with a randomly selected starting household.

If the boundary of a street (within the same cluster) was attained, the neighboring street was chosen following a clockwise fashion. The recruitment was carried on until 15 children were sampled in each cluster. In case several eligible children were found in the same household, fieldworkers wrote each child's name on a slip of paper and chose one slip at random.

In the situation where the household hosted an eligible child, but the parent/legal guardian (caretaker) was absent, the fieldworker revisited the household at least twice. Similarly, in case of an empty house, fieldworkers inquired from the neighbors whether it hosted an eligible child or not. Where applicable, these houses were visited at least twice.

If the boundary of a cluster was reached without being able to recruit 15 children, the sampling in this cluster stopped without replacement from another cluster.

10. Data Collection and Management

a. Data Collection Process

Standard operating procedures (SOPs) were elaborated for interview conduct and immunization card pictures collection and management. Survey teams administered the questionnaire to any available caregiver (mother, father, legal guardian). They took pictures of the child's available (one or more) immunization card(s) in the house or at the health facility (PHC or private physician cabinet). The survey was conducted in all districts from December 1st 2015 to June 6th 2016 with suspension in fieldwork activities during the months of January, February and March 2016.

b. Data Management

Each completed questionnaire was checked by supervisors in the field for completeness, legibility and accuracy. Epidata was used to enter data. A database was developed. It was designed to catch or prevent as many data entry errors as possible, using filters, skip patterns and error checking. The database was tested with pilot data. Data entry was performed by trained data entry

operators. Codes were established for all open-ended questions and close-ended questions with the option "Other, specify". All answers were listed, grouped and assigned suitable codes, each corresponding to an appropriate answer.

A team of trained public health agents independent from the survey team transcribed information in each child's immunization card (doses received and dates of administration), where applicable. These agents followed a set of definitions[31] related to vaccination status elaborated according to the national vaccination calendar and validated by the Lebanese Pediatric Society (LPS).

A series of quality checks for all variables and all records were performed. The data manager checked for duplicate, missing or conflicting data as well as implausible or illogical responses. They also corrected any implausible values found through consultation with the original paper form or picture of the immunization card. For other circumstances where an unlikely or invalid value was noted, the data manager re-coded the value to the most valid one. Decisions to re-code responses were documented clearly and applied consistently. Where ambiguity about the correct value persisted, improbable values were re-coded into "missing" and pertaining recoding decisions were documented.

11. Data Analysis

Statistical analyses were conducted using complex samples procedures on the Statistical Package for Social Sciences (SPSS) version 21, IBM. National and district-based descriptive analyses of study participants and household demographics were presented as proportions and means with standard deviations (SD), as appropriate.

National and district-bivariate analyses of coverage, practices, experiences, knowledge, perceptions and attitudes related to the child's vaccination and utilization patterns of the immunization card stratified by sociodemographic factors were performed.

3 sets of coverage estimates were carried out. They were based on 1) recall data (for children with no information available through immunization cards); 2) documented vaccination (for children with information available through immunization cards); 3) recall and documented vaccination (all children). National coverage estimates were calculated, overall and stratified by birth cohorts (12-23, 24-35, 36-47 and 48-59 months). The completeness of any vaccine doses, specific vaccine doses, and all vaccine doses were calculated. In this report, and until further analysis, the recall was not considered for children with immunization cards.

12. Ethical Considerations

[31]See definition of "Eligible child" in Appendix B.

The survey was conducted in accordance with policies on ethics for surveys involving human subjects. Ethical approval was attained from the Institutional Review Board (IRB) at Sagesse University. Interviewers obtained oral informed consent *(Appendix H)* from the child's caretaker before starting the interview. Fieldworkers explained to all participants that collected information will be treated with confidentiality and published results were to be in aggregate form with no reference to names. They also stressed the fact that participation was voluntary, where the participants could withdraw at any time and/or not answer questions they felt uncomfortable with. Collected data were de-identified ensuring confidentiality; each questionnaire had a unique identifier that was linked to the district where the interview took place. After data entry, collected questionnaires and household tracking forms were stored at CRD in locked cabinets. Pictures of immunization cards were downloaded into one flash memory and stored at CRD. All documents were kept confidential, and were used only for the purpose of this study. The survey was conducted with endorsement by the WHO-Lebanon, the Lebanese MoPH, and the LPS.

C. RESULTS

I. Results of the Participants Residing in the Lebanese Communities

1. Demographic Characteristics of the Surveyed Children

The survey was able to identify and recruit 9,560 children. The access to Nabatieh district was restricted even after receiving the municipality's approval. The characteristics of the sampled children are summarized in Table 1. Children aged between 12 and 59 months (completed) were sampled from all Lebanese districts with the majority being between 12-23 months (27.6%; n=2,642) and 48-59 months (27.5%; n=2,631). More than half of the children were males (54.0%; n=5,166), and 74.6% (n=7,136) were Lebanese.

Table 1: ***Sample Size and Characteristics by Districts (N=9,560).***

	n	%
Districts		
Akkar	390	4.08
Baalbek	390	4.08
Hermel	390	4.08
Beirut	389	4.07
Rachaya	390	4.08
West Bekaa	389	4.07
Zahle	238	2.49
Aley	390	4.08
Baabda	383	4.01
Chouf	390	4.08
El Metn	390	4.08
Jbeil	390	4.08
Keserwan	389	4.07
Bint Jbeil	390	4.08
Hasbaya	381	3.99
Marjeyoun	388	4.06
Batroun	381	3.99
Bcharre	384	4.02
Koura	390	4.08
Minieh-Donnieh	390	4.08
Tripoli	390	4.08
Zgharta	390	4.08
Jezzine	388	4.06
Saida	390	4.08
Sour	390	4.08
Age Groups (months)		
12-23 Months	2642	27.6
24-35 Months	2315	24.2
36-47 Months	1972	20.6
48-59 Months	2631	27.5

Gender		
Male	5166	54.0
Female	4394	56.0
Nationality		
Lebanese	7136	74.6
Syrian	2179	22.8
Other*	245	2.6

*"*Other" includes Palestinians, Iraqis, Egyptians, Sudanese, Jordanians, Canadians, Brazilians, Americans, Australians, French, Mexicans, Russians, Turkish and Venezuelans.*

2. Family Characteristics of the Surveyed Children

The mean number of under 5-year old children per household visited was 1.59 child (±SD 0.88). The majority of the interviews were conducted with the children's mothers (81.1%; n=7,749). Respondents were between 16 and 82 years old, with a mean age of 30.89 years (±SD 6.79). Twenty-seven per cent (n=2,592) of the children fathers have reached university level whereas 25.2% (n=2,412) of the children mothers reported having primary education. Most of the participating children had currently married parents (91.9%; n=8,786); 66.4% (n=6,351) had a full-time working father and 49.5% (n=4,732) had a stay-at-home mother, as illustrated in Table 2.

Table 2: ***Family Characteristics of the Surveyed Children (N=9,560).***

	n	%
Number of children<5 years in the family		
Mean ± SD (Min-Max)	1.59 ± 0.88 (1–9)	
Relation of respondent to the child		
Father	1319	13.8
Mother	7749	81.1
Legal Guardian	431	4.5
Refused to Answer	61	0.6
Nationality of respondent		
Lebanese	6672	69.8
Syrian	2637	27.6
Other*	251	2.6
Age of caregiver (years) *(N=8,252)*		
Mean ± SD (Min-Max)	30.89 ± 6.79 (16.57– 82.00)	
Social status		
Single	458	4.8
Married	8786	91.9
Divorced	145	1.5
Widowed Man	51	0.5
Widowed Woman	90	0.9
Refused to Answer	30	0.3
Place of residency		
Rented House/Apartment	4618	48.3

Owned House/Apartment	4624	48.4
Informal Settlement	132	1.4
Collective Shelter	80	0.8
Other	55	0.6
Refused to Answer	51	0.5
Number of individuals living in your household *(N=8,951)*		
Mean ± SD (Min-Max)	5.19 ± 2.26 (2-25)	
Father's educational status		
Doesn't Know How to Read and Write	631	6.6
Knows How to Read and Write	1449	15.2
Primary/Complementary Level	1895	19.8
Secondary Level	1808	18.9
Post School Technical Level	1051	11.0
University Level	2592	27.1
Doesn't Know/Doesn't Remember	41	0.4
Refused to Answer	93	1.0
Mother's educational status		
Doesn't Know How to Read and Write	718	7.5
Knows How to Read and Write	1135	11.9
Primary/Complementary Level	2412	25.2
Secondary Level	1893	19.8
Post School Technical Level	1279	13.4
University Level	2021	21.1
Doesn't Know/Doesn't Remember	20	0.2
Refused to Answer	82	0.9
Father's employment status		
Full-time Employee	6351	66.4
Part-time Employee	2251	23.6
Unemployed	729	7.6
Retiree	48	0.5
Refused to Answer	181	1.9
Mother's employment status		
Full-time Employee	2883	30.2
Part-time Employee	1812	18.9
Unemployed	4732	49.5
Retiree	21	0.2
Refused to Answer	112	1.2

**"Other" includes Palestinians, Iraqis, Egyptians, Sudanese, Canadians, Brazilians, Ghanaians, Filipinos, Russian, Sri Lankans, French and Ethiopians.*

3. Vaccination Behavior

Ninety-two percent (92.4%, n=8,619) of the visited families reported receiving immunization cards, but only 62.9% (n=5,866) presented them to the fieldworkers; few of the unseen cards were available in PHCs and health facilities. Only 81.1% (n=7,045) of those who have at least one

vaccination card reported always taking it with them when going for vaccination; 83.9% (n=7,390) had their cards signed by the doctor or nurse after the vaccination, as exhibited in Table 3. The percentage of immunization cards provided in each district is shown in Figure 1.

Additionally, 89.2% (n=8,318) perceived vaccination as being up-to-date for their children age. More than half of the respondents reported the last place of vaccination being PHC centers (53.1%; n=4,950) followed by private clinics (37.4%; n=3,495).

Table 3: ***Behaviors Associated with Vaccination of Sampled Children (N=9,560).***

	n	%
Ever received vaccination		
Yes	9100	95.2
No	231	2.4
Doesn't Know/Doesn't Remember	215	2.3
Refused to Answer	14	0.1
Reported reasons for not vaccinating *(N=231)*		
Parents were not aware of the need for immunization	29	12.6
Parents were not aware of the vaccine's importance	16	6.9
Parents did not know when to go to vaccinate your child	34	14.7
Parents did not trust the quality of the vaccine	38	16.5
Parents were unable to pay the fees	19	8.2
Parents postponed the vaccination for other times	10	4.3
Parents were busy; nobody can bring the child to a center	15	6.5
Parents were not advised to vaccinate	17	7.4
Child has a chronic illness	3	1.3
Child was sick	49	21.2
Other	1	0.4
Received a vaccination card or health record *(N=9,329)*		
Yes, seen	5866	62.9
Yes, not seen	2753	29.5
Total "Yes"	***8619***	***92.4***
No	642	6.9
Doesn't Know/Doesn't Remember	63	0.6
Refused to Answer	5	0.1
Reported reasons for not having a vaccination card or health record *(N=642)*		
Never Given One	111	17.3
Doctor/Health Facility Keeps it	120	18.7
It is Lost	393	61.2
Doesn't Know/Doesn't Remember	13	2.0
Refused to Answer	5	0.8
Number of vaccination cards available *(N=8,687)*		
One Card	8102	93.3
Two Cards	245	2.8
Three or More Cards	51	0.6
Doesn't Know/Doesn't Remember	257	3.0
Refused to Answer	32	0.3

Vaccination card taken to vaccination center *(N=8,687)*		
Always	7045	81.1
Often	919	10.6
Sometimes	361	4.2
Rarely	161	1.8
Never	88	1.0
Not the One Taking the Child for Vaccination	56	0.6
Doesn't Know/Doesn't Remember	41	0.5
Refused to Answer	16	0.2
Doctor/Nurse register the administered vaccine on the vaccination card *(N=8,807)*		
Always	7390	83.9
Often	690	7.8
Sometimes	385	4.4
Rarely	156	1.8
Never	60	0.7
Doesn't Know/Doesn't Remember	109	1.2
Refused to Answer	17	0.2
Vaccination card have all the vaccinations that child received recorded *(N=8,807)*		
Yes	7684	87.2
No	745	8.5
Doesn't Know/Doesn't Remember	360	4.1
Refused to Answer	18	0.2
Perceived vaccination as being up-to-date for the child's age *(N=9,329)*		
Yes	8318	89.2
No	531	5.7
Doesn't Know/Doesn't Remember	446	4.8
Refused to Answer	34	0.3
Place of last vaccination *(N=9,329)*		
Private Clinic	3495	37.4
Mobile Clinic	297	3.2
Health Facility/PHC	4950	53.1
At Home	305	3.3
Informal Settlement	37	0.4
Other*	167	1.8
Doesn't Know/Doesn't Remember	67	0.7
Refused to Answer	11	0.1
Received any advice on when to bring the child for next vaccination *(N=9,329)*		
Always	6921	74.2
Often	1017	10.9
Sometimes	735	7.9
Rarely	348	3.7
Never	192	2.1
Doesn't Know/Doesn't Remember	88	0.9
Refused to Answer	28	0.3
Likeliness of child to become sick if not immunized		
Extremely Likely	5534	57.9
Likely	2951	30.9
Neutral	454	4.8

Unlikely	177	1.8
Extremely Unlikely	63	0.6
Doesn't Know/Doesn't Remember	337	3.5
Refused to Answer	44	0.5

*"Other" includes Military Hospitals, Municipalities, Non-Governmental Organization (NGOs), Nurseries, Schools, Red Cross, UN and UNRWA Offices, and Localities Outside Lebanon.

As displayed in Table 4, the main source of information used to decide about vaccination among respondents were private physicians (34.3%; n=3,283), followed by health facility staff and health workers (25.8%; n=2,464). Both parents were the decision makers regarding vaccination of the child in more than half of the households (59.6%; n=5,700).

Table 4: ***Decisions about Vaccinating the Sampled Children (N=9,560).***

	n	%
Main source of information used to decide about vaccinating the child		
Media (Radio, TV, Newspaper)	1730	18.1
Internet and Social Media	316	3.3
School	270	2.8
Nursery	141	1.5
Friend/Relative	733	7.7
Private Physician	3283	34.3
Health Facility Staff/Health Worker	2464	25.8
Awareness Session by NGO/Volunteers	130	1.3
Awareness Session at ISs/Collective Shelters	52	0.5
Shawish in ISs	14	0.2
Municipality	125	1.3
Religious Centre (Church, Mosque, etc.)	18	0.2
Brochures, Poster, Banner or Billboard	104	1.1
Other*	112	1.2
Refused to Answer	68	0.7
Person in the family who makes decisions about vaccinating the child		
No One	169	1.8
Both Parents	5700	59.6
Mother	2988	31.3
Father	534	5.6
Mother in Law	56	0.6
Father in Law	33	0.3
Other‡	17	0.2
Doesn't Know/Doesn't Remember	29	0.3
Refused to Answer	34	0.3

*"Other" includes Pharmacies, Red Cross, and UN and UNRWA Offices.
‡"Other" includes Aunts and Siblings.

Table 5 reports the knowledge of the respondents regarding the vaccination of the children. Fifty-four per cent of the respondents (53.7%; n=5,138) knew the number of vaccination times to reach a complete vaccination status before the age of 1 year with a reported mean of 5.83 times (±SD

2.35). The majority of the surveyed parents/legal guardians knew that the vaccines are given free of cost in the public sector/primary healthcare centers (83.2%; n=7,952) and that the vaccination status of the child is checked when starting school/kindergarten (83.2%; n=7,956).

Table 5: ***Knowledge of Respondents about Vaccination (N=9,560).***

	n	%
Know number of times the child should be taken for vaccination to complete all the vaccines before reaching 1 year of age		
Yes	5138	53.7
No	4249	44.5
Refused to Answer	173	1.8
Number of times the child should be taken for vaccination *(N=5,138)*		
Mean ± SD (Min-Max)	5.83 ± 2.35 (1-20)	
Know that vaccines are given free of cost in the public sector/primary healthcare centers		
Yes	7952	83.2
No	1578	16.5
Refused to Answer	30	0.3
Know that vaccination status of your child is checked when starting school/kindergarten		
Yes	7956	83.2
No	1525	16.0
Refused to Answer	79	0.8

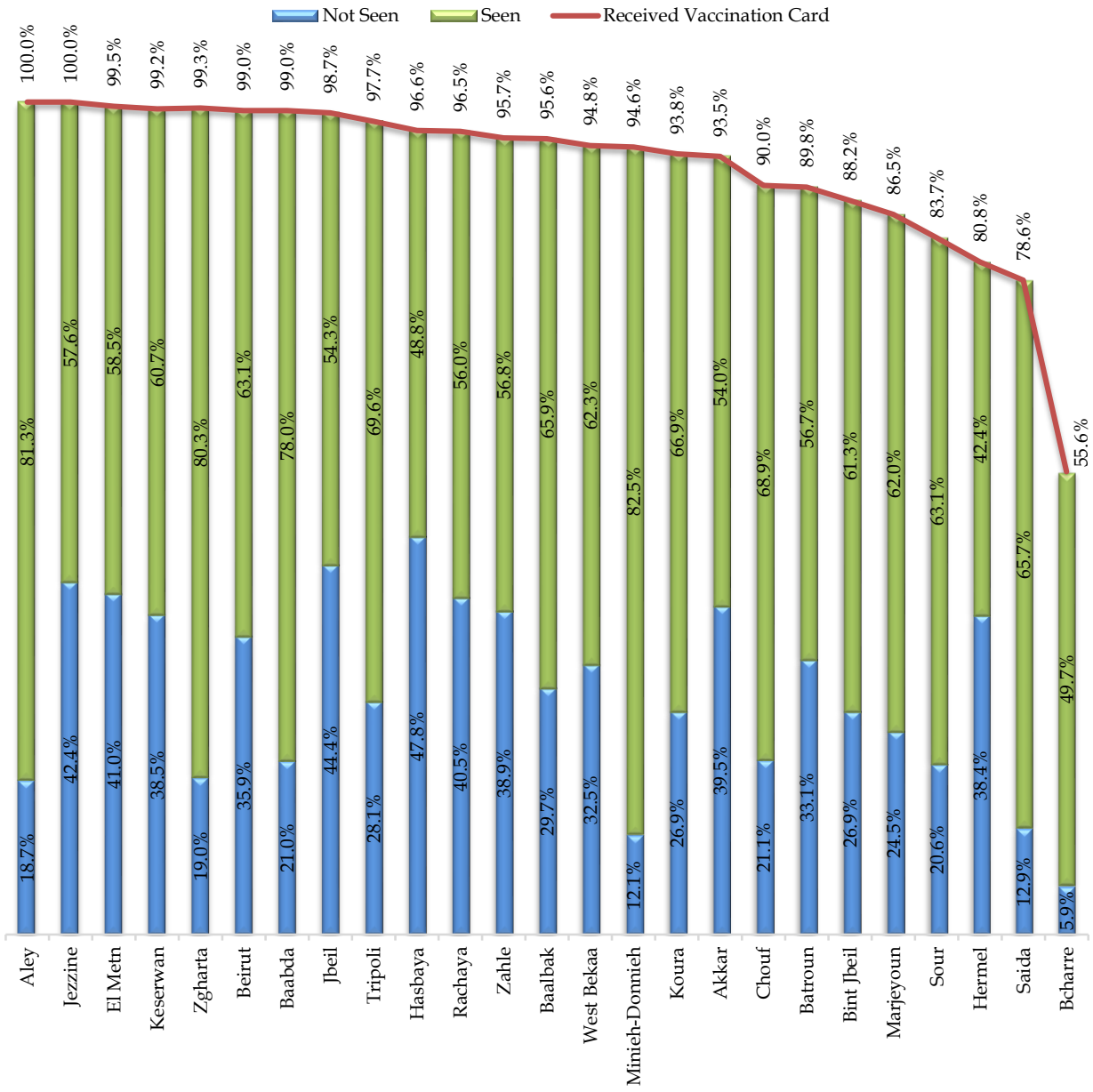


Figure 1: ***Received Immunization Cards by District (N=9,329).***

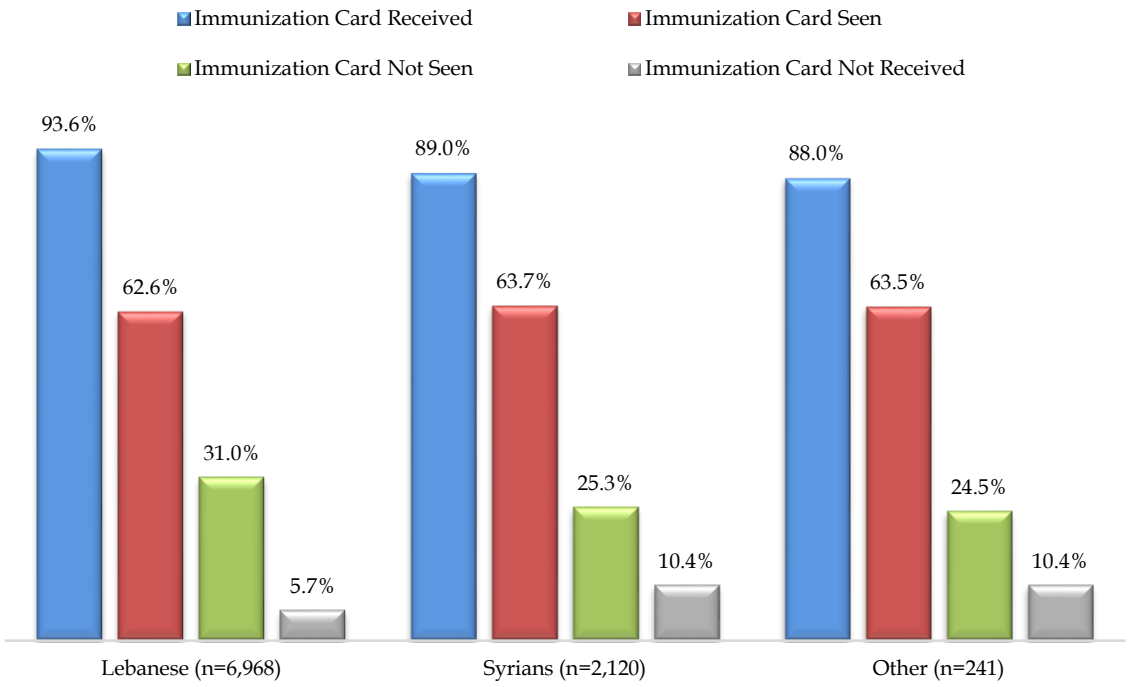


Figure 2: ***Received Immunization Cards by Nationality (N=9,329).***

Table 6 describes the place of last vaccination among the different districts and nationalities. Across the majority of districts, PHC centers were the most chosen settings for vaccination; while respondents from the districts of Zgharta, Batroun, Aley, Jbeil and Marjeyoun reported higher prevalence of vaccinations in private clinics (67.2%, 58.3 %, 55.4%, 54.8% and 51.5%, respectively).

Table 6: ***Place of Last Vaccination by Districts and Nationalities (N=9,329).***

	Place of Last Vaccination					
	PHC		Private Clinic		Other*	
	n	%	n	%	n	%
Districts						
Akkar	240	63.2	86	22.6	54	14.2
Baalbek	239	61.3	132	33.8	19	4.9
Hermel	184	49.7	123	33.2	63	17.1
Beirut	176	45.5	200	51.7	11	2.8
Rachaya	218	62.6	123	35.3	7	2.1
West Bekaa	279	72.5	96	24.9	10	2.6
Zahle	175	74.8	51	21.8	8	3.4
Aley	154	39.5	216	55.4	20	5.1
Baabda	211	56.0	149	39.5	17	4.5
Chouf	173	44.5	193	49.6	23	5.9

El Metn	267	68.5	89	22.8	34	8.7
Jbeil	146	38.1	210	54.8	27	7.1
Keserwan	167	43.2	214	55.3	6	1.5
Bint Jbeil	210	58.8	101	28.3	46	12.9
Hasbaya	244	64.0	121	31.8	16	4.2
Marjeyoun	139	36.7	195	51.5	45	11.8
Batroun	123	33.1	217	58.3	32	8.6
Bcharre	294	83.1	50	14.1	10	2.8
Koura	99	25.6	137	35.4	151	39.0
Minieh-Donnieh	218	56.2	105	27.1	65	16.7
Tripoli	235	61.7	97	25.5	49	12.8
Zgharta	98	25.1	262	67.2	30	7.7
Jezzine	253	65.4	115	29.7	19	4.9
Saida	215	59.1	75	20.6	74	20.3
Sour	193	50.9	138	36.4	48	12.7
Nationality						
Lebanese	3272	47.0	3151	45.2	545	7.8
Syrians	1541	72.7	310	14.6	269	12.7
Other	137	56.8	34	14.1	70	29.1

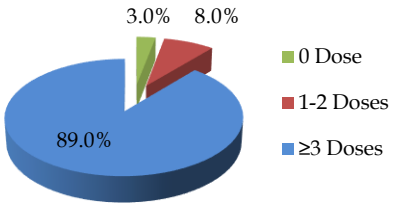
**"Other" includes Mobile Clinics, At Home and Informal Settlements.*

4. Vaccination Status per Received Immunization Cards and Participants' Recall

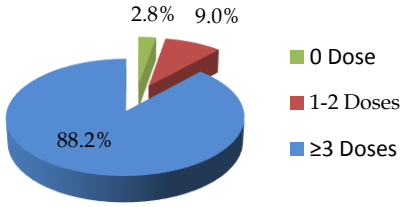
The vaccination status for the various antigens of all children with unseen or no cards relying on recall of the respondents (N=3,463) and of those who presented their immunization cards (N=5,866) are provided respectively in Figures 3 and 4.

The majority of the sampled children have completed their vaccination for polio (89.0%; n=3,080), DTP (86.2%; n=2,986), Hib (88.1%; n=3,050) and hepatitis B (88.2%; n=3,055). Moreover, 89.5% (n=3,098) of the children received hepatitis B vaccine at birth and 80.7% (n=2,793) have received at least 1 measles vaccine, as reported by the participants.

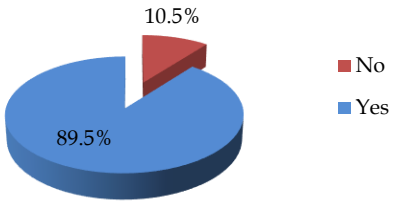
Polio



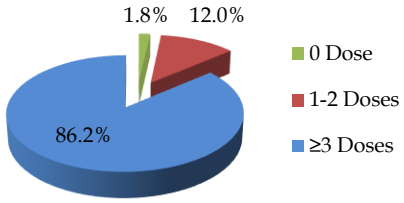
Hep B



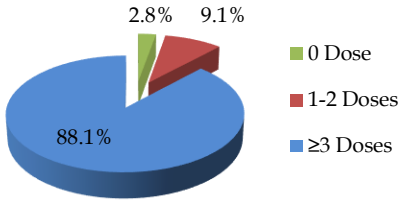
Hep B at Birth



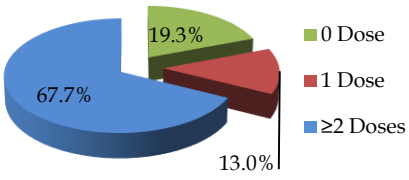
DTP



Hib



Measles



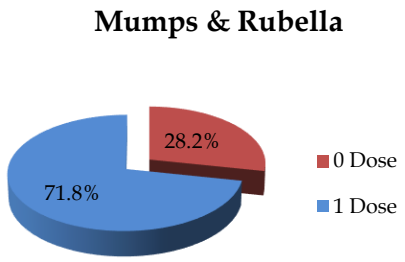
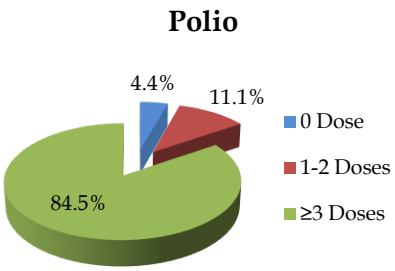
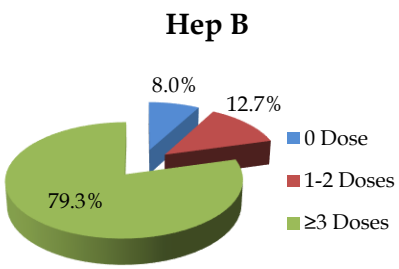
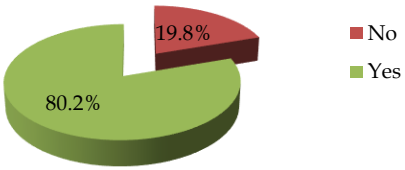


Figure 3: ***Routine Vaccine Coverage as Reported by Participants (recall) (N=3,463).***

The majority of the sampled children have completed their vaccination for polio (84.5%; n=4,955), DTP (83.7%; n=4,910), Hib (83.3%; n=4,887) and hepatitis B (79.3%; n=4,654). Moreover, 80.2% (n=4,704) of the children received hepatitis B vaccine at birth and 65.7% (n=3,851) have received two doses of measles vaccine, as documented on immunization cards.







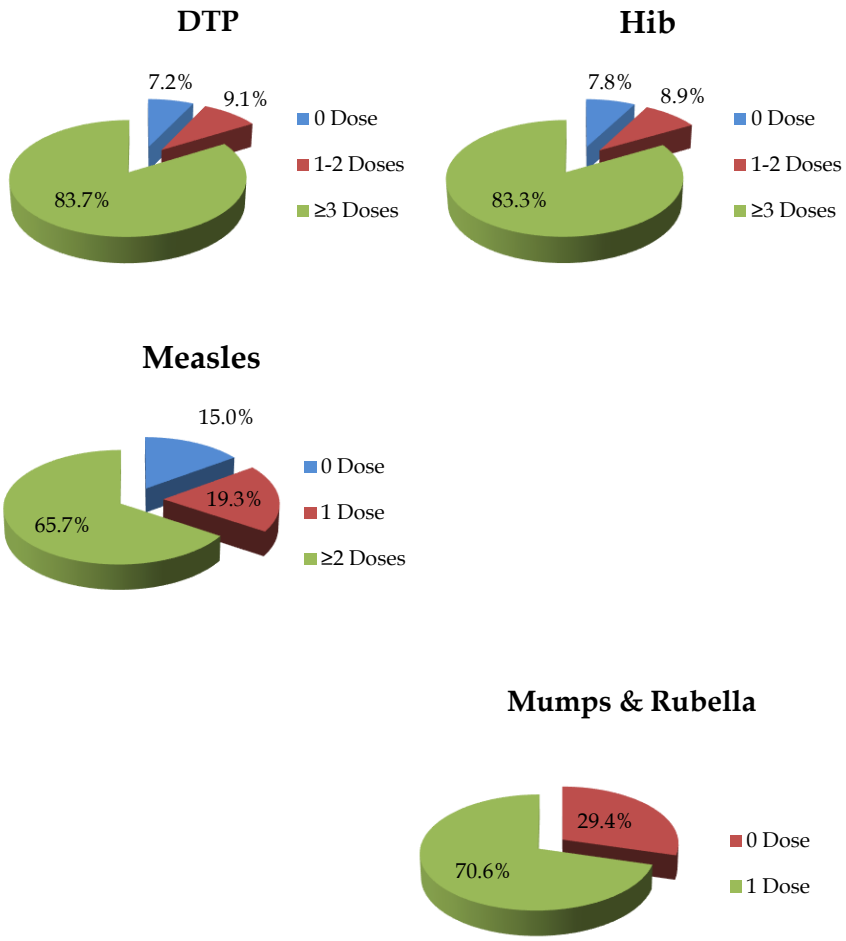


Figure 4: ***Routine Vaccine Coverage per Received Immunization Cards (N=5,866).***

The following section details the vaccination coverage per vaccine.

a. Polio Vaccination Status

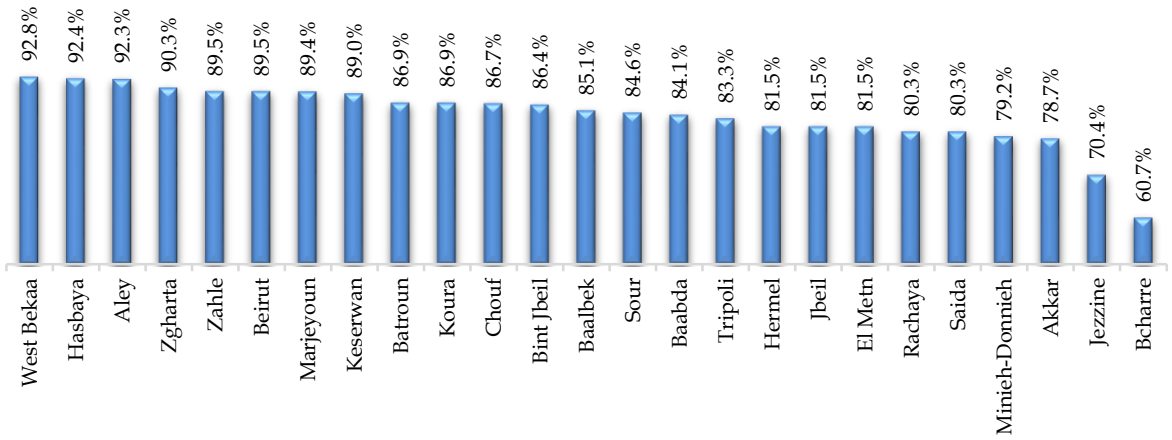


Figure 5: *Complete Polio Vaccination Status by District (N=9,560).*

Table7: *Polio Vaccination Status by Demographic Variables (N=9,560).*

		Polio Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	8035	84.1	931	9.7	594	6.2
Nationality							
Lebanese	7136	6206	87.0	541	7.6	389	5.4
Syrians	2179	1614	74.1	371	17.0	194	8.9
Other	245	215	87.7	19	7.8	11	4.5
Age groups (months)							
12-23 Months	2642	2126	80.5	354	13.4	162	6.1
24-35 Months	2315	1977	85.4	213	9.2	125	5.4
36-47 Months	1972	1688	85.6	177	9.0	107	5.4
48-59 Months	2631	2244	85.3	187	7.1	200	7.6
Gender							
Male	5166	4333	83.9	501	9.7	332	6.4
Female	4394	3702	84.2	430	9.8	262	6.0
Mother's educational status							
Doesn't Know How to Read and Write	718	523	72.8	103	14.4	92	12.8
Knows How to Read and Write	1135	876	77.2	138	12.2	121	10.6
Primary/Complementary Level	2412	1989	82.5	294	12.2	129	5.3
Secondary Level	1893	1664	87.9	160	8.4	69	3.7
Post School Technical Level	1279	1107	86.5	111	8.7	61	4.8
University Level	2021	1796	88.9	113	5.6	112	5.5
Doesn't Know/Doesn't Remember	20	18	90.0	1	5.0	1	5.0
Refused to Answer	82	62	75.6	11	13.4	9	11.0

Table 8: ***Reported Reasons for not Vaccinating against Polio (N=594).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	96	16.2
Parents were not aware of the vaccine's importance	51	8.6
Parents were not aware of the need for further doses	19	3.2
Parents did not know where to go to vaccinate your child	12	2.0
Parents did not know when to go to vaccinate your child	10	1.7
Parents were afraid of the side effects of the vaccine	16	2.7
Parents did not trust the quality of the vaccine	84	14.1
Parents did not trust the vaccinator	22	3.7
Parents were unable to pay the fees	40	6.7
Parents postponed the vaccination for other times	10	1.7
Parents were busy; nobody can bring the child to a center	11	1.9
Child has a chronic illness	10	1.7
Child was sick	64	10.8
Parents were not advised to vaccinate	189	31.8
School/kindergarten did not advise to vaccinate	1	0.2
Waiting time at the vaccination center was too long	2	0.3
Vaccination place was far	14	2.4
Vaccinator was absent	10	1.7
Approach and attitude of vaccinators was repellent	2	0.3
Vaccine was not available	67	11.3
Other	144	24.2
Doesn't Know/Doesn't Remember	277	46.6
Refused to Answer	24	4.0

‡ *The values do not add up to 594 as multiple answers were given in some cases.*

b. Hepatitis B Vaccination Status

Hepatitis B at Birth Vaccination Status

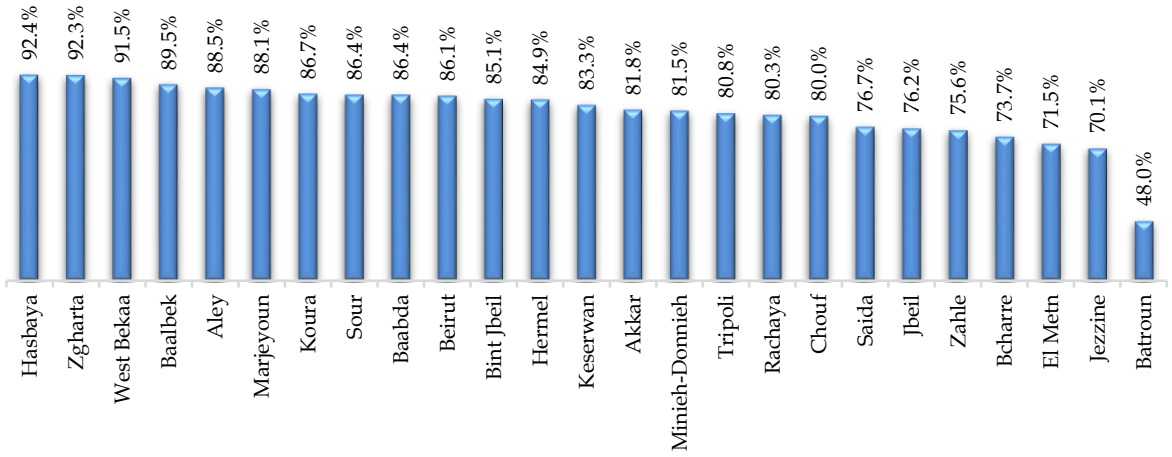


Figure 6: *Children who Received a First Dose of Hepatitis B at Birth by District (N=9,560).*

Table 9: *Hepatitis B Vaccination at Birth by Demographic Variables (N=9,560).*

		Hep B Vaccination at Birth			
		Yes		No	
	N	n	%	n	%
Prevalence	9560	7802	81.6	1758	18.4
Nationality					
Lebanese	7136	6066	85.0	1070	15.0
Syrians	2179	1518	69.7	661	30.3
Other	245	218	89.0	27	11.0
Age groups (months)					
12-23 Months	2642	2112	79.9	530	20.1
24-35 Months	2315	1887	81.5	428	18.5
36-47 Months	1972	1650	83.7	322	16.3
48-59 Months	2631	2153	81.8	478	18.2
Gender					
Male	5166	4190	81.1	976	18.9
Female	4394	3612	82.2	782	17.8
Mother's educational status					
Doesn't Know How to Read and Write	718	514	71.6	204	28.4
Knows How to Read and Write	1135	813	71.6	322	28.4
Primary/Complementary Level	2412	1955	81.0	457	19.0
Secondary Level	1893	1644	86.9	249	13.1
Post School Technical Level	1279	1065	83.3	214	16.7
University Level	2021	1727	85.5	294	14.5

Doesn't Know/Doesn't Remember	20	16	80.0	4	20.0
Refused to Answer	82	68	82.9	14	17.1

Hepatitis B Vaccination Status

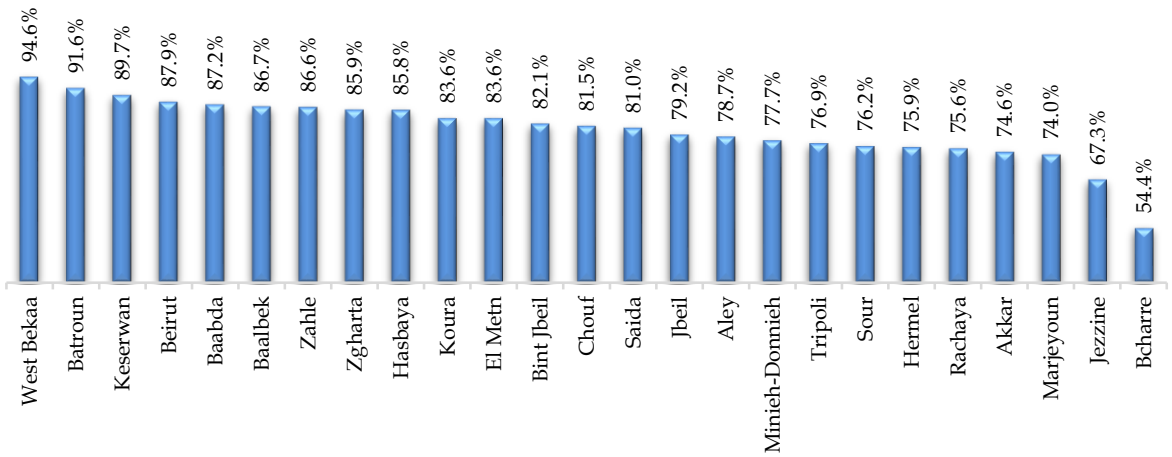


Figure 7: *Complete Hepatitis B Vaccination Status by District (N=9,560).*

Table 10: *Hepatitis B Vaccination Status by Demographic Variables (N=9,560).*

		Hepatitis B Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7709	80.6	1054	11.0	797	8.4
Nationality							
Lebanese	7136	5963	83.6	687	9.6	486	6.8
Syrians	2179	1556	71.4	321	14.7	302	13.9
Other	245	190	77.5	46	18.8	9	3.7
Age groups (months)							
12-23 Months	2642	2074	78.5	372	14.1	196	7.4
24-35 Months	2315	1873	80.9	274	11.8	168	7.3
36-47 Months	1972	1616	81.9	193	9.8	163	8.3
48-59 Months	2631	2146	81.6	215	8.2	270	10.2
Gender							
Male	5166	4153	80.4	575	11.1	438	8.5
Female	4394	3556	80.9	479	10.9	359	8.2
Mother's educational status							
Doesn't Know How to Read and Write	718	513	71.5	100	13.9	105	14.6
Knows How to Read and Write	1135	849	74.8	122	10.7	164	14.5
Primary/Complementary Level	2412	1895	78.6	321	13.3	196	8.1
Secondary Level	1893	1595	84.3	193	10.2	105	5.5
Post School Technical Level	1279	1070	83.6	120	9.4	89	7.0

University Level	2021	1710	84.6	187	9.3	124	6.1
Doesn't Know/Doesn't Remember	20	18	90.0	2	10.0	0	0.0
Refused to Answer	82	59	71.9	9	11.0	14	17.1

Table 11: ***Reported Reasons for not Vaccinating against Hepatitis B (N=797).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	66	8.3
Parents were not aware of the vaccine's importance	34	4.3
Parents were not aware of the need for further doses	22	2.8
Parents did not know where to go to vaccinate your child	2	0.3
Parents did not know when to go to vaccinate your child	4	0.5
Parents were afraid of the side effects of the vaccine	1	0.1
Parents did not trust the quality of the vaccine	2	0.3
Parents were unable to pay the fees	21	2.6
Parents postponed the vaccination for other times	3	0.4
Parents were busy; nobody can bring the child to a center	4	0.5
Child has a chronic illness	3	0.4
Child was sick	54	6.8
Parents were not advised to vaccinate	34	4.3
Vaccination place was far	5	0.6
Vaccine was not available	17	2.1
Other	62	7.8
Doesn't Know/Doesn't Remember	90	11.3
Refused to Answer	4	0.5

‡ *The values do not add up to 797 as answers were not given in some cases.*

c. DTP Vaccination Status

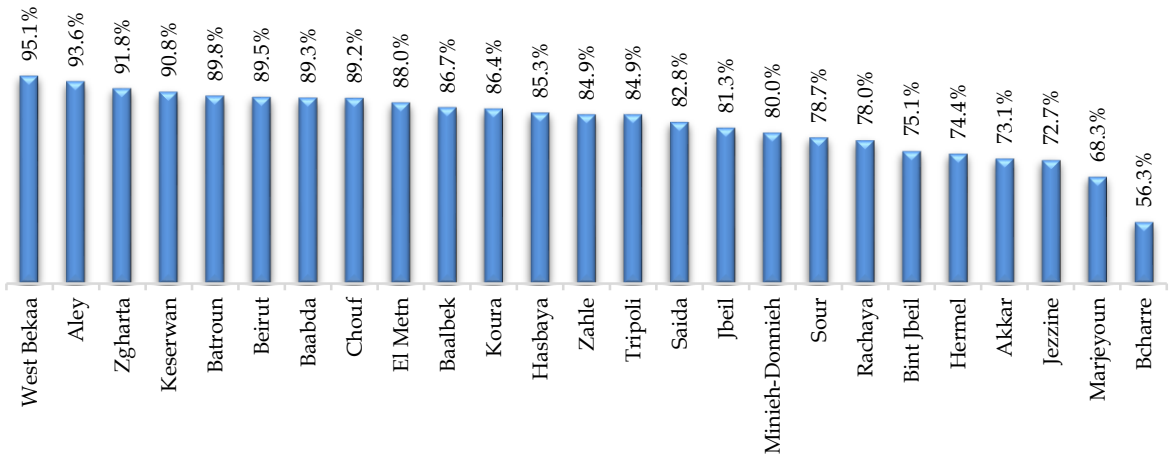


Figure 8: ***Complete DTP Vaccination Status by District (N=9,560).***

Table 12: ***DTP Vaccination Status by Demographic Variables (N=9,560).***

		DTP Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7896	82.6	948	9.9	716	7.5
Nationality							
Lebanese	7136	6129	85.9	591	8.3	416	5.8
Syrians	2179	1563	71.7	323	14.8	293	13.5
Other	245	204	83.3	34	13.9	7	2.8
Age groups (months)							
12-23 Months	2642	2086	79.0	372	14.0	184	7.0
24-35 Months	2315	1933	83.5	231	10.0	151	6.5
36-47 Months	1972	1680	85.2	151	7.7	141	7.1
48-59 Months	2631	2197	83.5	194	7.4	240	9.1
Gender							
Male	5166	4246	82.2	519	10.0	401	7.8
Female	4394	3650	83.1	429	9.8	315	7.1
Mother's educational status							
Doesn't Know How to Read and Write	718	512	71.3	100	13.9	106	14.8
Knows How to Read and Write	1135	856	75.4	124	10.9	155	13.7
Primary/Complementary Level	2412	1919	79.5	308	12.8	185	7.7
Secondary Level	1893	1630	86.1	173	9.1	90	4.8
Post School Technical Level	1279	1100	86.0	106	8.3	73	5.7
University Level	2021	1797	88.9	127	6.3	97	4.8
Doesn't Know/Doesn't Remember	20	19	95.0	1	5.0	0	0.0
Refused to Answer	82	63	76.8	9	11.0	10	12.2

Table 13: ***Reported Reasons for not Vaccinating against DTP (N=716).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	53	7.4
Parents were not aware of the vaccine's importance	49	6.8
Parents were not aware of the need for further doses	43	6.0
Parents did not know where to go to vaccinate your child	5	0.7
Parents did not know when to go to vaccinate your child	6	0.8
Parents were afraid of the side effects of the vaccine	13	1.8
Parents did not trust the quality of the vaccine	3	0.4
Parents did not trust the vaccinator	1	0.1
Parents were unable to pay the fees	32	4.5
Parents postponed the vaccination for other times	10	1.4
Parents were busy; nobody can bring the child to a center	10	1.4
Child has a chronic illness	8	1.1

Child was sick	117	16.3
Parents were not advised to vaccinate	17	2.4
Waiting time at the vaccination center was too long	1	0.1
Vaccination place was far	7	1.0
Vaccinator was absent	4	0.6
Approach and attitude of vaccinators was repellent	1	0.1
Vaccine was not available	41	5.7
Other	100	14.0
Doesn't Know/Doesn't Remember	146	20.4
Refused to Answer	13	1.8

‡ *The values do not add up to 716 as multiple answers were given in some cases.*

d. Hib Vaccination Status

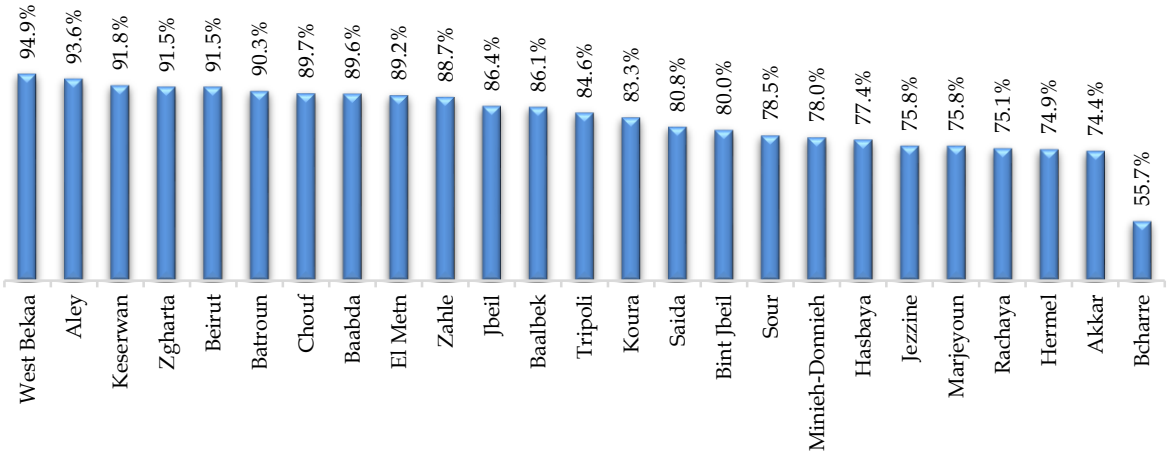


Figure 9: ***Complete Hib Vaccination Status by District (N=9,560).***

Table 14: ***Hib Vaccination Status by Demographic Variables (N=9,560).***

		Hib Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7937	83.0	838	8.8	785	8.2
Nationality							
Lebanese	7136	6133	85.9	518	7.3	485	6.8
Syrians	2179	1599	73.4	288	13.2	292	13.4
Other	245	205	83.7	32	13.1	8	3.2
Age groups (months)							
12-23 Months	2642	2097	79.4	352	13.3	193	7.3
24-35 Months	2315	1958	84.6	175	7.6	182	7.8
36-47 Months	1972	1689	85.7	136	6.9	147	7.4
48-59 Months	2631	2193	83.4	175	6.7	263	9.9
Gender							

Male	5166	4275	82.7	453	8.8	438	8.5
Female	4394	3662	83.3	385	8.8	347	7.9
Mother's educational status							
Doesn't Know How to Read and Write	718	504	70.2	109	15.2	105	14.6
Knows How to Read and Write	1135	842	74.2	131	11.5	162	14.3
Primary/Complementary Level	2412	1973	81.8	250	10.4	189	7.8
Secondary Level	1893	1632	86.2	154	8.1	107	5.7
Post School Technical Level	1279	1089	85.1	104	8.1	86	6.8
University Level	2021	1817	89.9	79	3.9	125	6.2
Doesn't Know/Doesn't Remember	20	16	80.0	2	10.0	2	10.0
Refused to Answer	82	64	78.1	9	11.0	9	10.9

Table 15: ***Reported Reasons for not Vaccinating against Hib (N=785).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	60	7.6
Parents were not aware of the vaccine's importance	31	3.9
Parents were not aware of the need for further doses	32	4.1
Parents did not know where to go to vaccinate your child	11	1.4
Parents did not know when to go to vaccinate your child	8	1.0
Parents were afraid of the side effects of the vaccine	15	1.9
Parents did not trust the quality of the vaccine	85	10.8
Parents were unable to pay the fees	139	17.7
Parents postponed the vaccination for other times	28	3.6
Parents were busy; nobody can bring the child to a center	13	1.7
Child has a chronic illness	6	0.8
Child was sick	53	6.8
Child's elder siblings were sick as a result of vaccination	1	0.1
Parents were not advised to vaccinate	56	7.1
School/kindergarten did not advise to vaccinate	8	1.0
Vaccination place was far	5	0.6
Vaccine was not available	14	1.8
Other	63	8.0
Doesn't Know/Doesn't Remember	147	18.7
Refused to Answer	9	1.1

‡ *The values do not add up to 785 as multiple answers were given in some cases.*

e. Measles Vaccination Status

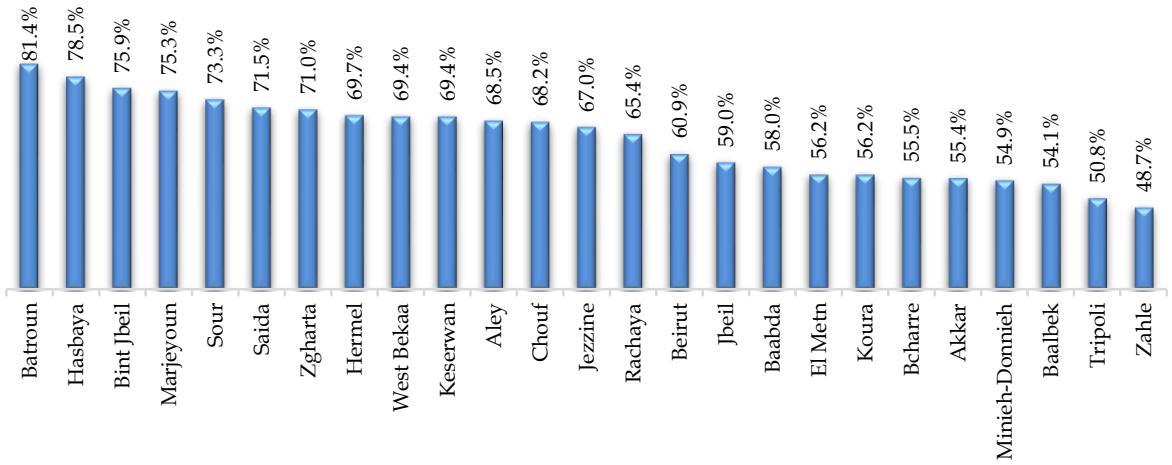


Figure 10: *Complete Measles Vaccination Status by District (N=9,560).*

Table 16: *Measles Vaccination Status by Demographic Variables (N=9,560).*

		Measles Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	6194	64.8	1583	16.6	1783	18.6
Nationality							
Lebanese	7136	4900	68.7	1103	15.5	1133	15.8
Syrians	2179	1117	51.3	448	20.6	614	28.1
Other	245	177	72.2	32	13.1	36	14.7
Age groups (months)							
12-23 Months	2642	1381	52.3	582	22.0	679	25.7
24-35 Months	2315	1563	67.5	369	15.9	383	16.6
36-47 Months	1972	1373	69.6	316	16.0	283	14.4
48-59 Months	2631	1877	71.3	316	12.0	438	16.7
Gender							
Male	5166	3351	64.9	830	16.1	985	19.0
Female	4394	2843	64.7	753	17.1	798	18.2
Mother's educational status							
Doesn't Know How to Read and Write	718	354	49.3	106	14.8	258	35.9
Knows How to Read and Write	1135	630	55.5	181	16.0	324	28.5
Primary/Complementary Level	2412	1447	60.0	471	19.5	494	20.5
Secondary Level	1893	1353	71.5	290	15.3	250	13.2
Post School Technical Level	1279	896	70.1	205	16.0	178	13.9
University Level	2021	1452	71.9	318	15.7	251	12.4
Doesn't Know/Doesn't Remember	20	16	80.0	1	5.0	3	15.0
Refused to Answer	82	46	56.1	11	13.4	25	30.5

Table 17: ***Reported Reasons for not Vaccinating against Measles (N=1,783).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	20	1.1
Parents were not aware of the vaccine's importance	29	1.6
Parents were not aware of the need for further doses	9	0.5
Parents did not know where to go to vaccinate your child	2	0.1
Parents did not know when to go to vaccinate your child	10	0.6
Parents were afraid of the side effects of the vaccine	1	0.1
Parents did not trust the quality of the vaccine	2	0.1
Parents did not trust the vaccinator	1	0.1
Parents were unable to pay the fees	58	3.3
Parents postponed the vaccination for other times	18	1.0
Parents were busy; nobody can bring the child to a center	18	1.0
Child has a chronic illness	8	0.4
Child was sick	237	13.3
Child's elder siblings were sick as a result of vaccination	1	0.1
Chronically-ill person lived in house	1	0.1
Parents were not advised to vaccinate	26	1.5
Vaccination place was far	8	0.4
Vaccinator was absent	2	0.1
Vaccine was not available	24	1.3
Other	63	3.5
Doesn't Know/Doesn't Remember	75	4.2
Refused to Answer	17	1.0

‡ *The values do not add up to 1,783 as answers were not given in some cases.*

f. Mumps and Rubella Vaccination Status

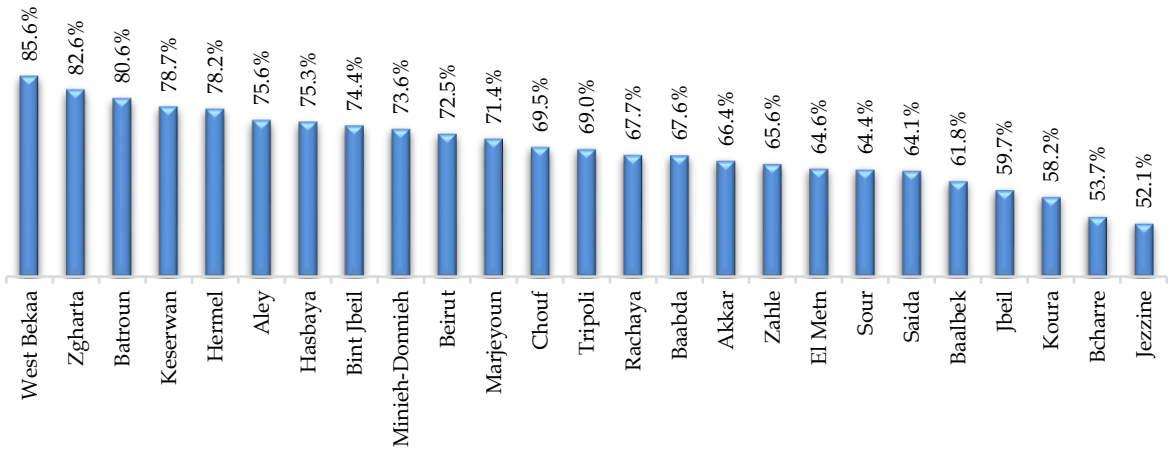


Figure 11: ***Complete Mumps and Rubella Vaccination Status by District (N=9,560).***

Table 18: *Mumps and Rubella Vaccination Status by Demographic Variables (N=9,560).*

		Mumps and Rubella Vaccination Status			
		Yes		No	
	N	n	%	n	%
Prevalence	9560	6631	69.4	2929	30.6
Nationality					
Lebanese	7136	5162	72.3	1974	27.7
Syrians	2179	1306	59.9	873	40.1
Other	245	163	66.5	82	33.5
Age groups (months)					
12-23 Months	2642	1575	59.6	1067	40.4
24-35 Months	2315	1640	70.8	675	29.2
36-47 Months	1972	1460	74.0	512	26.0
48-59 Months	2631	1956	74.3	675	25.7
Gender					
Male	5166	3571	69.1	1595	30.9
Female	4394	3060	69.6	1334	30.4
Mother's educational status					
Doesn't Know How to Read and Write	718	385	53.6	333	46.4
Knows How to Read and Write	1135	683	60.2	452	39.8
Primary/Complementary Level	2412	1647	68.3	765	31.7
Secondary Level	1893	1381	72.9	512	27.1
Post School Technical Level	1279	966	75.5	313	24.5
University Level	2021	1502	74.3	519	25.7
Doesn't Know/Doesn't Remember	20	16	80.0	4	20.0
Refused to Answer	82	51	62.2	31	37.8

Table 19: *Reported Reasons for not Vaccinating against Mumps and Rubella (N=2,929).*‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	31	1.1
Parents were not aware of the vaccine's importance	18	0.6
Parents were not aware of the need for further doses	4	0.1
Parents did not know where to go to vaccinate your child	1	0.0
Parents did not know when to go to vaccinate your child	5	0.2
Parents did not trust the quality of the vaccine	4	0.1
Parents did not trust the vaccinator	1	0.0
Parents were unable to pay the fees	42	1.4
Parents postponed the vaccination for other times	12	0.4
Parents were busy; nobody can bring the child to a center	10	0.3
Child has a chronic illness	5	0.2
Child was sick	134	4.6
Parents were not advised to vaccinate	27	0.9
Vaccination place was far	10	0.3
Vaccinator was absent	1	0.0
Vaccine was not available	24	0.8

Other	78	2.7
Doesn't Know/Doesn't Remember	73	2.5
Refused to Answer	9	0.3

‡ *The values do not add up to 2,929 as answers were not given in some cases.*

II. Results of the Syrian Participants in the Informal Settlements

1. Demographic Characteristics of the Surveyed Children

The survey was able to identify and recruit 1,800 Syrian children. The characteristics of the sampled children are summarized in Table 1. Children aged between 12 and 59 months (completed) were sampled from 7 districts in the Bekaa and North. The majority of the selected children within the informal settlements were between 12-23 months (30.4%; n=548) .The children were equally distributed between males (50.2%; n=904) and females (49.8%; n=896).

Table 1: ***Sample Size and Characteristics by Districts (N=1,800).***

	n	%
Districts		
Akkar	270	15.0
Baalbek	465	25.8
West Bekaa	270	15.0
Zahle	675	37.5
Koura	30	1.7
Minieh-Donnieh	75	4.2
Zgharta	15	0.8
Age Groups (months)		
12-23 Months	548	30.4
24-35 Months	468	26.0
36-47 Months	413	23.0
48-59 Months	371	20.6
Gender		
Male	904	50.2
Female	896	49.8

2. Family Characteristics of the Surveyed Children

The mean number of under 5-year old children per family was 1.98 child (±SD 0.97). The majority of the interviews were conducted with the children's mothers (84.2%; n=1,515). Respondents were between 16 and 67 years old, with a mean age of 30.46 years (±SD 7.21). Forty-three per cent (43.2%, n=778) of the children fathers know how to read and write whereas 38.0% (n=684) of the children mothers reported not knowing how to read and write. Most of the participating children had currently married parents (96.3%; n=1,733); 26.6% (n=479) had a part-time working father and 92.3% (n=1,661) had a stay-at-home mother, as illustrated in Table 2.

Table 2: ***Family Characteristics of the Surveyed Children (N=1,800).***

	n	%
Number of children<5 years in the family		
Mean ± SD (Min-Max)	1.98 ± 0.97 (1–9)	
Relation of respondent to the child		
Father	261	14.5
Mother	1515	84.2
Legal Guardian	14	0.8
Refused to Answer	10	0.5
Nationality of respondent		
Lebanese	19	1.1
Syrian	1781	98.9
Age of caregiver (years) *(N=1,640)*		
Mean ± SD (Min-Max)	30.46 ± 7.21 (16.48 – 67.32)	
Social status		
Single	4	0.2
Married	1733	96.3
Divorced	23	1.3
Widowed Man	5	0.3
Widowed Woman	33	1.8
Refused to Answer	2	0.1
Place of residency		
Informal Settlement	1800	100.0
Number of individuals living in your household *(N=1,787)*		
Mean ± SD (Min-Max)	6.17 ± 2.39 (1-27)	
Father's educational status		
Doesn't Know How to Read and Write	496	27.6
Knows How to Read and Write	778	43.2
Primary/Complementary Level	418	23.2
Secondary Level	54	3.0
Post School Technical Level	3	0.2
University Level	16	0.9
Doesn't Know/Doesn't Remember	15	0.8
Refused to Answer	20	1.1
Mother's educational status		
Doesn't Know How to Read and Write	684	38.0
Knows How to Read and Write	661	36.7
Primary/Complementary Level	361	20.1
Secondary Level	73	4.1
Post School Technical Level	4	0.2
University Level	7	0.4
Doesn't Know/Doesn't Remember	3	0.2
Refused to Answer	7	0.3
Father's employment status		
Full-time Employee	167	9.3
Part-time Employee	479	26.6

Unemployed	1089	60.5
Retiree	12	0.7
Refused to Answer	53	2.9
Mother's employment status		
Full-time Employee	14	0.8
Part-time Employee	95	5.3
Unemployed	1661	92.3
Retiree	1	0.1
Refused to Answer	29	1.5

3. Vaccination Behavior

Eighty-two percent (84.2%; n=1,435) of the visited families presented immunization cards to the fieldworkers. Only 71.9% (n=1,110) of those who have at least one vaccination card reported always taking it with them when going for vaccination, 74.3% (n=1,149) had their cards signed by the doctor or nurse after the vaccination, as exhibited in Table 3.

Additionally, 81.5% (n=1,388) perceived vaccination as being up-to-date for their children age. The majority reported vaccinating their children in the informal settlements (84.8%; n=1,444).

Table 3: ***Behaviors Associated with Vaccination of Sampled Children (N=1,800).***

	n	%
Ever received vaccination		
Yes	1701	94.5
No	96	5.3
Doesn't Know/Doesn't Remember	3	0.2
Reported reasons for not vaccinating *(N=96)*		
Parents were not aware of the need for immunization	8	8.3
Parents were not aware of the vaccine's importance	2	2.1
Parents were not aware of the need for further doses	3	3.1
Parents did not know where to go to vaccinate your child	4	4.2
Parents did not know when to go to vaccinate your child	3	3.1
Parents were afraid of the side effects of the vaccine	13	13.5
Parents did not trust the quality of the vaccine	14	14.6
Parents did not trust the vaccinator	1	1.0
Parents postponed the vaccination for other times	1	1.0
Child has a chronic illness	5	5.2
Child was sick	13	13.5
Child's elder siblings were sick as a result of vaccination	3	3.1
Vaccine was not available	10	10.4
Other	1	1.0
Doesn't Know/Doesn't Remember	9	9.5
Refused to Answer	6	6.4
Received a vaccination card or health record *(N=1,704)*		
Yes, seen	1435	84.2
Yes, not seen	95	5.6

Total "Yes"	***1530***	***89.8***
No	160	9.4
Doesn't Know/Doesn't Remember	14	0.8
Reported reasons for not having a vaccination card or health record *(N=160)*		
Never Given One	9	5.6
Doctor/Health Facility Keeps it	3	1.9
It is Lost	144	90.0
Doesn't Know/Doesn't Remember	3	1.9
Refused to Answer	1	0.6
Number of vaccination cards available *(N=1,544)*		
One Card	1433	92.8
Two Cards	30	1.9
Three or More Cards	2	0.1
Doesn't Know/Doesn't Remember	72	4.7
Refused to Answer	7	0.5
Vaccination card taken to vaccination center *(N=1,544)*		
Always	1110	71.9
Often	189	12.2
Sometimes	109	7.1
Rarely	45	2.9
Never	40	2.6
Not the One Taking the Child for Vaccination	34	2.2
Doesn't Know/Doesn't Remember	16	1.0
Refused to Answer	1	0.1
Doctor/Nurse register the administered vaccine on the vaccination card *(N=1,547)*		
Always	1149	74.3
Often	236	15.3
Sometimes	109	7.0
Rarely	21	1.4
Never	4	0.3
Doesn't Know/Doesn't Remember	28	1.7
Vaccination card have all the vaccinations that child received recorded *(N=1,547)*		
Yes	1342	86.7
No	76	4.9
Doesn't Know/Doesn't Remember	125	8.1
Refused to Answer	4	0.3
Perceived vaccination as being up-to-date for the child's age *(N=1,704)*		
Yes	1388	81.5
No	191	11.2
Doesn't Know/Doesn't Remember	123	7.2
Refused to Answer	2	0.1
Place of last vaccination *(N=1,704)*		
Private Clinic	28	1.6
Mobile Clinic	26	1.5
Health Facility/PHC	194	11.4
Informal Settlement	1444	84.8
Other	2	0.1
Doesn't Know/Doesn't Remember	8	0.5

Refused to Answer	2	0.1
Received any advice on when to bring the child for next vaccination *(N=1,704)*		
Always	1258	73.8
Often	217	12.7
Sometimes	148	8.7
Rarely	48	2.8
Never	18	1.1
Doesn't Know/Doesn't Remember	14	0.8
Refused to Answer	1	0.1
Likeliness of child to become sick if not immunized		
Extremely Likely	1179	65.6
Likely	368	20.4
Neutral	150	8.3
Unlikely	61	3.4
Extremely Unlikely	8	0.4
Doesn't Know/Doesn't Remember	29	1.6
Refused to Answer	5	0.3

As displayed in Table 4, the main source of information used to decide about vaccination among respondents were radios, TVs and newspapers (34.9%; n=628), followed by the Shawish in the informal settlements (19.2%; n=345). Both parents were the decision makers regarding vaccination of the child in more than half of the families (55.5%; n=1,000).

Table 4: ***Decisions about Vaccinating the Sampled Children (N=1,800).***

	n	%
Main source of information used to decide about vaccinating the child		
Media (Radio, TV, Newspaper)	628	34.9
Internet and Social Media	179	9.9
School	18	1.0
Nursery	6	0.3
Friend/Relative	92	5.1
Private Physician	19	1.1
Health Facility Staff/Health Worker	290	16.2
Awareness Session by NGO/Volunteers	38	2.1
Awareness Session at ISs	157	8.7
Shawish in ISs	345	19.2
Municipality	3	0.2
Religious Centre (Church, Mosque, etc.)	2	0.1
Brochures, Poster, Banner or Billboard	15	0.8
Refused to Answer	8	0.4
Person in the family who makes decisions about vaccinating the child		
No One	14	0.8
Both Parents	1000	55.5
Mother	452	25.1
Father	313	17.3
Mother in Law	12	0.7
Father in Law	3	0.2

Other	1	0.1
Doesn't Know/Doesn't Remember	4	0.2
Refused to Answer	1	0.1

Table 5 reports the knowledge of the respondents regarding the vaccination of the children. Less than half of the respondents (35.6%; n=641) knew the number of vaccination times to reach a complete vaccination status before the age of 1 year with a mean of 4.57 times (±SD 1.63). The majority of surveyed parents/legal guardians (88.1%; n=1,586) knew that the vaccines are given free of cost in the public sector/primary healthcare centers, and 67.2% (n=1,209) knew that the vaccination status of the child is checked when starting school/kindergarten.

Table 5: ***Knowledge of Respondents about Vaccination (N=1,800).***

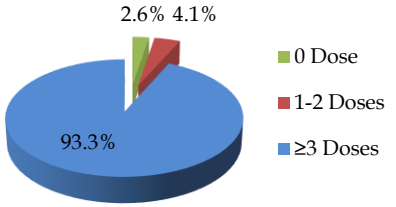
	n	%
Know number of times the child should be taken for vaccination to complete all the vaccines before reaching 1 year of age		
Yes	641	35.6
No	1123	62.4
Refused to Answer	36	2.0
Number of times the child should be taken for vaccination *(N=641)*		
Mean ± SD (Min-Max)	4.57 ± 1.63 (1-12)	
Know that vaccines are given free of cost in the public sector/primary healthcare centers		
Yes	1586	88.1
No	196	10.9
Refused to Answer	18	1.0
Know that vaccination status of your child is checked when starting school/kindergarten		
Yes	1209	67.2
No	560	31.1
Refused to Answer	31	1.7

4. Vaccination Status per Received Immunization Cards and Participants' Recall

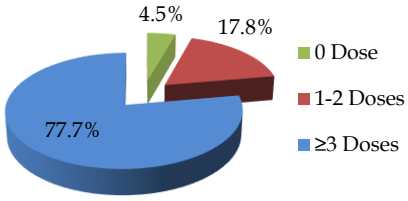
The vaccination status for the various antigens of all children with unseen or no cards relying on recall of the respondents (N=269) and of those who presented their immunization cards (N=1,435) are provided respectively in Figures 1 and 2.

The majority of the sampled children in the informal settlements have completed their vaccination for polio (93.3%; n=251), DTP (84.8%; n=228), Hib (59.5%; n=160) and hepatitis B (77.7%; n=209). Moreover, 84.0% (n=226) of the children received hepatitis B vaccine at birth and 90.7% (n=244) have received at least 1 measles vaccine, as reported by the participants.

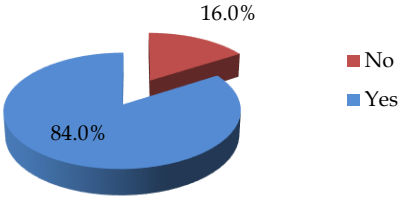
Polio



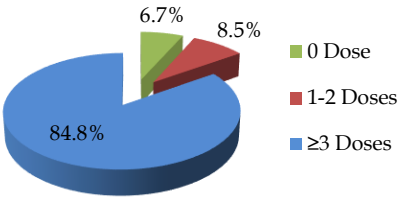
Hep B



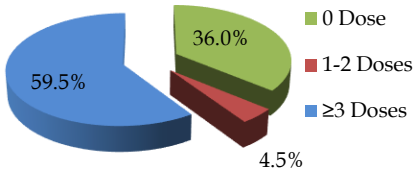
Hep B at Birth



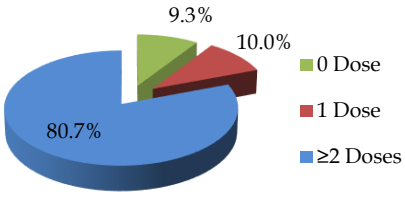
DTP



Hib



Measles



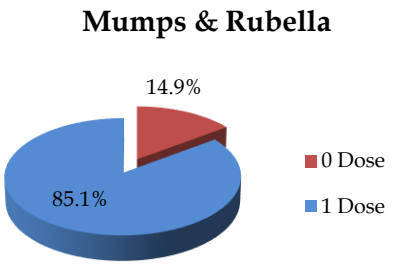
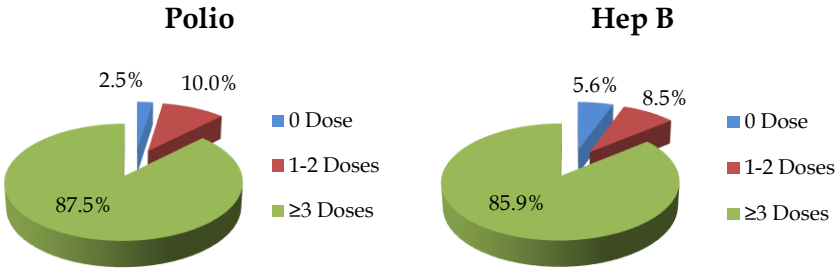
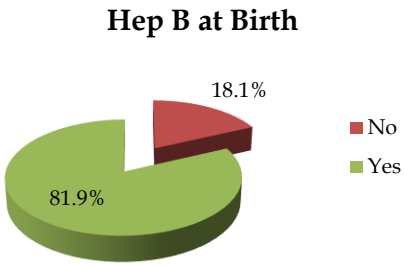


Figure 1: ***Routine Vaccine Coverage as Reported by Participants (recall) (N=269).***

The majority of the sampled children in the informal settlements have completed their vaccination for polio (87.5%; n=1,256), DTP (86.1%; n=1,235), Hib (85.9%; n=1,233) and hepatitis B (85.9%; n=1,232). Moreover, 81.9% (n=1,175) of the children received hepatitis B vaccine at birth and 72.0% (n=1,034) have received two doses of measles vaccine, as documented on immunization cards.





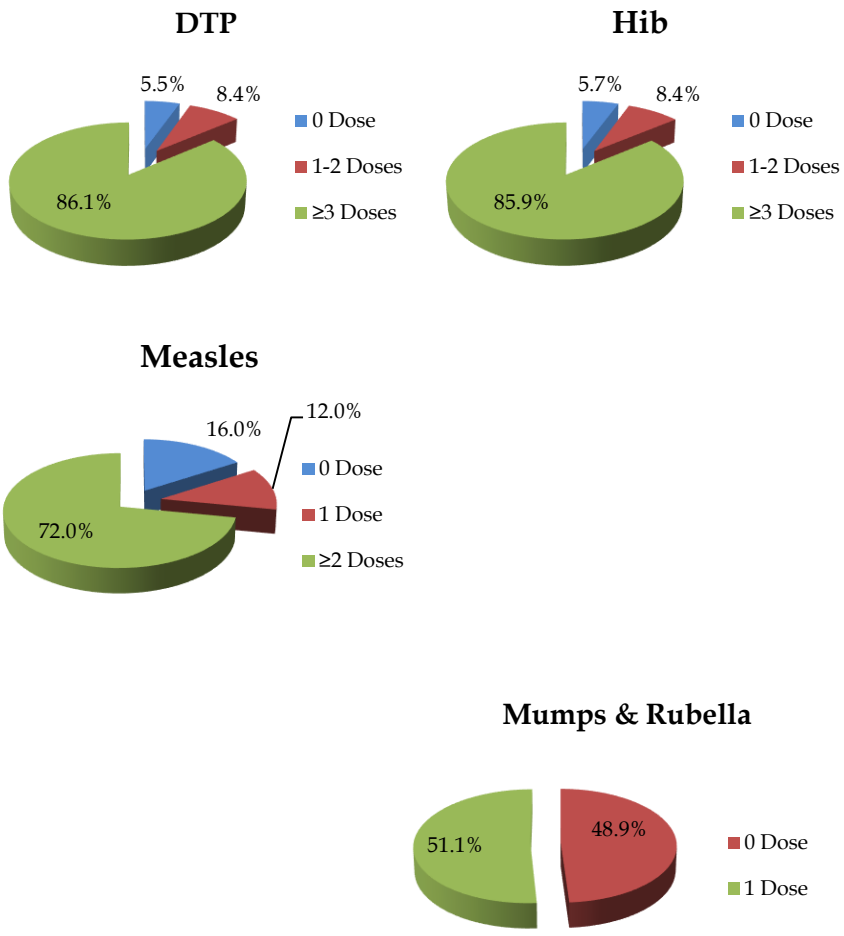


Figure 2: ***Routine Vaccine Coverage per Received Immunization Cards (N=1,435).***

The following section details the vaccination coverage per vaccine.

a. Polio Vaccination Status

Table 6: ***Polio Vaccination Status by Demographic Variables (N=1,800).***

		Polio Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	1800	1507	83.7	154	8.6	139	7.7
Age groups (months)							
12-23 Months	548	438	79.9	62	11.3	48	8.8
24-35 Months	468	387	82.7	41	8.8	40	8.5
36-47 Months	413	352	85.2	28	6.8	33	8.0
48-59 Months	371	330	89.0	23	6.2	18	4.8
Gender							
Male	904	739	81.8	83	9.2	82	9.0
Female	896	768	85.7	71	7.9	57	6.4
Mother's educational status							
Doesn't Know How to Read and Write	684	576	84.2	53	7.8	55	8.0
Knows How to Read and Write	661	543	82.2	60	9.1	58	8.7
Primary/Complementary Level	361	306	84.8	32	8.9	23	6.3
Secondary Level	73	64	87.7	7	9.6	2	2.7
Post School Technical Level	4	4	100.0	0	0.0	0	0.0
University Level	7	5	71.4	2	28.6	0	0.0
Doesn't Know/Doesn't Remember	3	3	100.0	0	0.0	0	0.0
Refused to Answer	7	6	85.7	0	0.0	1	14.3

Table 7: ***Reported Reasons for not Vaccinating against Polio (N=139).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	14	10.1
Parents were not aware of the vaccine's importance	9	6.5
Parents were not aware of the need for further doses	3	2.2
Parents did not know where to go to vaccinate your child	3	2.2
Parents did not know when to go to vaccinate your child	1	0.7
Parents were afraid of the side effects of the vaccine	3	2.2
Parents did not trust the quality of the vaccine	9	6.5
Parents were unable to pay the fees	3	2.2
Parents postponed the vaccination for other times	2	1.4
Parents were busy; nobody can bring the child to a center	3	23.7
Child was sick	33	0.7
Child's elder siblings were sick as a result of vaccination	1	0.7
Waiting time at the vaccination center was too long	1	2.2
Vaccine was not available	6	4.3
Other	5	3.6
Doesn't Know/Doesn't Remember	44	31.7
Refused to Answer	1	0.7

‡ *The values do not add up to 139 as multiple answers were given in some cases.*

b. Hepatitis B Vaccination Status

Hepatitis B at Birth Vaccination Status

Table 8: *Hepatitis B Vaccination at Birth by Demographic Variables (N=1,800).*

		Hep B Vaccination at Birth			
		Yes		No	
	N	n	%	n	%
Prevalence	1800	1401	77.8	399	22.2
Age groups (months)					
12-23 Months	548	419	76.5	129	23.5
24-35 Months	468	350	74.8	118	25.2
36-47 Months	413	318	77.0	95	23.0
48-59 Months	371	314	84.6	57	15.4
Gender					
Male	904	700	77.4	204	22.6
Female	896	701	78.2	195	21.8
Mother's educational status					
Doesn't Know How to Read and Write	684	536	78.4	148	21.6
Knows How to Read and Write	661	493	74.6	168	25.4
Primary/Complementary Level	361	296	82.0	65	18.0
Secondary Level	73	60	82.2	13	17.8
Post School Technical Level	4	3	75.0	1	25.0
University Level	7	6	85.7	1	14.3
Doesn't Know/Doesn't Remember	3	2	66.7	1	33.3
Refused to Answer	7	5	71.4	2	28.6

Hepatitis B Vaccination Status

Table 9: *Hepatitis B Vaccination Status by Demographic Variables (N=1,800).*

		Hepatitis B Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	1800	1441	80.1	170	9.4	189	10.5
Age groups (months)							
12-23 Months	548	427	77.9	63	11.5	58	10.6
24-35 Months	468	368	78.6	46	9.8	54	11.6
36-47 Months	413	326	78.9	35	8.5	52	12.6
48-59 Months	371	320	86.3	26	7.0	25	6.7
Gender							
Male	904	715	79.1	84	9.3	105	11.6
Female	896	726	81.0	86	9.6	84	9.4
Mother's educational status							
Doesn't Know How to Read and Write	684	544	79.5	72	10.6	68	9.9
Knows How to Read and Write	661	519	78.5	56	8.5	86	13.0
Primary/Complementary Level	361	297	82.3	34	9.4	30	8.3
Secondary Level	73	62	84.9	7	9.6	4	5.5

Post School Technical Level	4	4	100.0	0	0.0	0	0.0
University Level	7	6	85.7	1	14.3	0	0.0
Doesn't Know/Doesn't Remember	3	3	100.0	0	0.0	0	0.0
Refused to Answer	7	6	85.7	0	0.0	1	14.3

Table 10: ***Reported Reasons for not Vaccinating against Hepatitis B (N=189).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	69	36.5
Parents were not aware of the vaccine's importance	94	49.7
Parents were not aware of the need for further doses	41	21.7
Parents did not know where to go to vaccinate your child	39	20.6
Parents did not know when to go to vaccinate your child	17	9.0
Parents were afraid of the side effects of the vaccine	16	8.5
Parents did not trust the quality of the vaccine	6	3.2
Parents were unable to pay the fees	4	2.1
Parents postponed the vaccination for other times	21	11.1
Parents were busy; nobody can bring the child to a center	3	1.6
Child has a chronic illness	1	0.5
Child was sick	63	33.3
Doctor did not advise to vaccinate	7	3.7
Waiting time at the vaccination center was too long	1	0.5
Opening hours of centers were not convenient	2	1.1
Vaccination place was far	3	1.6
Vaccine was not available	14	7.4
Other	5	2.6
Doesn't Know/Doesn't Remember	40	21.2
Refused to Answer	21	11.1

‡ *The values do not add up to 189 as multiple answers were given in some cases.*

c. DTP Vaccination Status

Table 11: ***DTP Vaccination Status by Demographic Variables (N=1,800).***

		DTP Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	1800	1463	81.3	144	8.0	193	10.7
Age groups (months)							
12-23 Months	548	429	78.3	61	11.1	58	10.6
24-35 Months	468	373	79.7	39	8.3	56	12.0
36-47 Months	413	330	79.9	30	7.3	53	12.8
48-59 Months	371	331	89.2	14	3.8	26	7.0
Gender							
Male	904	726	80.3	68	7.5	110	12.2
Female	896	737	82.3	76	8.5	83	9.2
Mother's educational status							
Doesn't Know How to Read and Write	684	553	80.9	58	8.5	73	10.6

Knows How to Read and Write	661	527	79.7	49	7.4	85	12.9
Primary/Complementary Level	361	303	83.9	28	7.8	30	8.3
Secondary Level	73	61	83.6	8	11.0	4	5.4
Post School Technical Level	4	4	100.0	0	0.0	0	0.0
University Level	7	6	85.7	1	14.3	0	0.0
Doesn't Know/Doesn't Remember	3	3	100.0	0	0.0	0	0.0
Refused to Answer	7	6	85.7	0	0.0	1	14.3

Table 12: ***Reported Reasons for not Vaccinating against DTP (N=193).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	24	12.4
Parents were not aware of the vaccine's importance	18	9.3
Parents were not aware of the need for further doses	23	11.9
Parents did not know where to go to vaccinate your child	8	4.1
Parents did not know when to go to vaccinate your child	5	2.6
Parents were afraid of the side effects of the vaccine	9	4.7
Parents did not trust the quality of the vaccine	8	4.1
Parents were unable to pay the fees	5	2.6
Parents postponed the vaccination for other times	24	12.4
Parents were busy; nobody can bring the child to a center	3	1.6
Child has a chronic illness	2	1.0
Child was sick	99	51.3
Child's elder siblings were sick as a result of vaccination	1	0.5
Vaccination place was far	2	1.0
Approach and attitude of vaccinators was repellent	1	0.5
Vaccine was not available	6	3.1
Other	6	3.1
Doesn't Know/Doesn't Remember	20	10.4
Refused to Answer	1	0.5

‡ *The values do not add up to 193 as multiple answers were given in some cases.*

d. Hib Vaccination Status

Table 13: ***Hib Vaccination Status by Demographic Variables (N=1,800).***

		Hib Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	1800	1393	77.4	132	7.3	275	15.3
Age groups (months)							
12-23 Months	548	425	77.6	55	10.0	68	12.4
24-35 Months	468	360	76.9	36	7.7	72	15.4
36-47 Months	413	300	72.6	26	6.3	87	21.1
48-59 Months	371	308	83.0	15	4.1	48	12.9
Gender							
Male	904	687	76.0	66	7.3	151	16.7

Female	896	706	78.8	66	7.4	124	13.8
Mother's educational status							
Doesn't Know How to Read and Write	684	526	76.9	47	6.9	111	16.2
Knows How to Read and Write	661	504	76.3	50	7.6	107	16.1
Primary/Complementary Level	361	289	80.1	26	7.2	46	12.7
Secondary Level	73	58	79.5	8	11.0	7	9.5
Post School Technical Level	4	4	100.0	0	0.0	0	0.0
University Level	7	6	85.7	1	14.3	0	0.0
Doesn't Know/Doesn't Remember	3	2	66.7	0	0.0	1	33.3
Refused to Answer	7	4	57.1	0	0.0	3	42.9

Table 14: ***Reported Reasons for not Vaccinating against Hib (N=275).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	87	31.6
Parents were not aware of the vaccine's importance	102	37.1
Parents were not aware of the need for further doses	39	14.2
Parents did not know where to go to vaccinate your child	43	15.6
Parents did not know when to go to vaccinate your child	29	10.5
Parents were afraid of the side effects of the vaccine	14	5.1
Parents did not trust the quality of the vaccine	4	1.5
Parents did not trust the vaccinator	3	1.1
Parents were unable to pay the fees	140	50.9
Parents postponed the vaccination for other times	12	4.4
Parents were busy; nobody can bring the child to a center	2	0.7
Child has a chronic illness	1	0.4
Child was sick	48	17.5
Child's elder siblings were sick as a result of vaccination	2	0.7
Vaccination place was far	3	1.1
Approach and attitude of vaccinators was repellent	1	0.4
Vaccine was not available	117	42.5
Doesn't Know/Doesn't Remember	84	30.5
Refused to Answer	1	0.4

‡ *The values do not add up to 275 as multiple answers were given in some cases.*

e. Measles Vaccination Status

Table 15: ***Measles Vaccination Status by Demographic Variables (N=1,800).***

		Measles Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	1800	1251	69.5	199	11.1	350	19.4
Age groups (months)							
12-23 Months	548	332	60.6	67	12.2	149	27.2

24-35 Months	468	326	69.7	44	9.4	98	20.9
36-47 Months	413	301	72.9	48	11.6	64	15.5
48-59 Months	371	292	78.7	40	10.8	39	10.5
Gender							
Male	904	629	69.6	105	11.6	170	18.8
Female	896	622	69.4	94	10.5	180	20.1
Mother's educational status							
Doesn't Know How to Read and Write	684	470	68.7	76	11.1	138	20.2
Knows How to Read and Write	661	443	67.0	81	12.3	137	20.7
Primary/Complementary Level	361	269	74.5	31	8.6	61	16.9
Secondary Level	73	54	74.0	8	11.0	11	15.0
Post School Technical Level	4	1	25.0	0	0.0	3	75.0
University Level	7	7	100.0	0	0.0	0	0.0
Doesn't Know/Doesn't Remember	3	3	100.0	0	0.0	0	0.0
Refused to Answer	7	4	57.1	3	42.9	0	0.0

Table 16: ***Reported Reasons for not Vaccinating against Measles (N=350).***‡

	n	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	21	6.0
Parents were not aware of the vaccine's importance	42	12.0
Parents were not aware of the need for further doses	15	4.3
Parents did not know where to go to vaccinate your child	8	2.3
Parents did not know when to go to vaccinate your child	7	2.0
Parents were afraid of the side effects of the vaccine	4	1.1
Parents did not trust the quality of the vaccine	3	0.9
Parents did not trust the vaccinator	1	0.3
Parents were unable to pay the fees	28	8.0
Parents postponed the vaccination for other times	61	17.4
Parents were busy; nobody can bring the child to a center	4	1.1
Child was sick	140	40.0
Doctor did not advise to vaccinate	2	0.6
Waiting time at the vaccination center was too long	3	0.9
Opening hours of centers were not convenient	1	0.3
Vaccination place was far	4	1.1
Vaccinator was absent	1	0.3
Vaccine was not available	5	1.4
Other	2	0.6
Doesn't Know/Doesn't Remember	14	4.0

‡ *The values do not add up to 350 as multiple answers were given in some cases.*

f. Mumps and Rubella Vaccination Status

Table 17: *Mumps and Rubella Vaccination Status by Demographic Variables (N=1,800).*

		Mumps and Rubella Vaccination Status			
		Yes		No	
	N	n	%	n	%
Prevalence	1800	963	53.5	837	46.5
Age groups (months)					
12-23 Months	548	230	42.0	318	58.0
24-35 Months	468	267	57.0	201	43.0
36-47 Months	413	229	55.5	184	44.5
48-59 Months	371	237	63.9	134	36.1
Gender					
Male	904	500	55.3	404	44.7
Female	896	463	51.7	433	48.3
Mother's educational status					
Doesn't Know How to Read and Write	684	374	54.7	310	45.3
Knows How to Read and Write	661	350	53.0	311	47.0
Primary/Complementary Level	361	175	48.5	186	51.5
Secondary Level	73	49	67.1	24	32.9
Post School Technical Level	4	1	25.0	3	75.0
University Level	7	6	85.7	1	14.3
Doesn't Know/Doesn't Remember	3	3	100.0	0	0.0
Refused to Answer	7	5	71.4	2	28.6

Table 18: *Reported Reasons for not Vaccinating against Mumps and Rubella (N=837).*‡

	N	%
Reported reasons for not vaccinating		
Parents were not aware of the need for immunization	9	1.1
Parents were not aware of the vaccine's importance	13	1.6
Parents were not aware of the need for further doses	8	1.0
Parents did not know when to go to vaccinate your child	4	0.5
Parents were afraid of the side effects of the vaccine	3	0.4
Parents did not trust the quality of the vaccine	3	0.4
Parents were unable to pay the fees	1	0.1
Parents postponed the vaccination for other times	21	2.5
Parents were busy; nobody can bring the child to a center	3	0.4
Child was sick	57	6.8
Child's elder siblings were sick as a result of vaccination	1	0.1
Doctor did not advise to vaccinate	1	0.1
Vaccination place was far	1	0.1
Vaccinator was absent	1	0.1
Vaccine was not available	6	0.7
Other	5	0.6
Doesn't Know/Doesn't Remember	16	1.9

‡ *The values do not add up to 837 as answers were not given in some cases.*

Appendices

Appendix A

The Official Calendar of the Expanded Programme on Immunization

الجمهورية اللبنانية
وزارة الصحة العامة

الرزنامة الوطنية للقاحات الأساسيّة

عمر الطفل	اللقاح	الجرعة
عند الولادة (خلال الساعات الأولى في المستشفى)	صفيرة "ب" Hepatitis B	جرعة صفر (في المستشفى)
شهران	شلل عضلي IPV	جرعة أولى
	خماسي (شاهوق، خانوق، كزاز، هـ. انفلونزا ب، صفيرة ب)	
4 أشهر	شلل فموي OPV	جرعة ثانية
	خماسي (شاهوق، خانوق، كزاز، هـ. انفلونزا ب، صفيرة ب)	
	لقاح المكورات الرئوية المقترن PCV13	جرعة أولى
6 أشهر	شلل فموي OPV	جرعة ثالثة
	خماسي (شاهوق، خانوق، كزاز، هـ. انفلونزا ب، صفيرة ب)	
	لقاح المكورات الرئوية المقترن PCV13	جرعة ثانية
9 أشهر	الحصبة	جرعة صفر
12 شهر	حصبة، حصبة ألمانية، أبو كعب (MMR)	جرعة أولى
	لقاح المكورات الرئوية المقترن PCV13	جرعة تذكيرية
18 شهراً	شلل فموي OPV	تذكير أول
	خماسي (شاهوق، خانوق، كزاز، هـ. انفلونزا ب، صفيرة ب)	
	حصبة، حصبة ألمانية، أبو كعب (MMR)	جرعة ثانية
5-4 سنوات	شلل فموي OPV	تذكير ثاني
	ثلاثي (شاهوق، خانوق، كزاز)	
12-10 سنة	شلل فموي OPV	تذكير ثالث
	ثنائي (خانوق، كزاز)	
18-16 سنة	شلل فموي OPV	تذكير رابع
	ثنائي (خانوق، كزاز)	

(Adapted from http://www.moph.gov.lb/userfiles/files/(1)(1)202016%20للقاحات%20الأساسيّة%20الوطنية%20الرزنامة.pdf)

Appendix B

Adopted Definitions

Definitions

Household: Group of people who share a residence and food. A household may be different from a family and a house/apartment.

Residence (house/apartment): space delimited by walls, ceilings/roofs and floor constructed with any material, where one or more people live, sleep, eat and get shelter. Residences have an independent entrance, i.e., people do not need to cross another house/apartment to enter. One of more households can inhabit a residence.

Legal guardian: an adult who looks after and is legally responsible for a child.

Eligible child: any child who is aged between 12 months and 59 months (i.e., until the day before his/her 5th birthday), who has been living in the visited household for at least three months OR whose family or legal guardian intends to live in that house for at least three months, and whose parent or legal guardian provides oral informed consent for the survey.

Survey respondent: person aged >18 years of age who is the parent or guardian of the selected child and who is able to provide information about the vaccination status of the selected child.

Definitions Related to Vaccination Status

Zero dose child: child that has never been vaccinated (as reported by parent/guardian)

Unvaccinated: a child not vaccinated with a particular vaccine or a dose of that vaccine (e.g., unvaccinated with third dose of DTP)

Vaccinated: a child that has received a particular vaccine dose

Up-to-date: a child that has received all vaccine doses recommended in the Vaccination Schedule for his/her age.

***Complete basic* immunization schedule**: a child that has received at least 3 doses of polio vaccine (OPV or IPV), at least 3 doses of diphtheria-tetanus-pertussis-containing vaccine (DTP or Pentavalent), at least 3 doses of *Haemophilus influenzae* type b (Hib), at least 3 doses of Hepatitis B vaccine (HepB) and at least 1 dose of a measles-containing vaccine (MCV), either measles or measles-mumps-rubella (MMR) vaccines.

Complete infant **immunization schedule**: a child that has received at least 3 doses of polio vaccine (OPV or IPV), at least 3 doses DTP or Pentavalent, at least 3 doses of Hib, at least 3 doses of HepB vaccine with one of them given at birth (one the date of birth, or the day after), 1 dose of measles vaccine and 1 dose of MMR.

Appendix C

Number of Clusters per District in the Lebanese Communities

District	Number of Clusters	Minimum Sample Size
Akkar	**26**	**390**
Akkar	26	390
Baalbek-Hermel	**52**	**780**
Baalbek	26	390
Hermel	26	390
Beirut	**26**	**390**
Beirut	26	390
Bekaa	**78**	**1,170**
Rashaya	26	390
West Bekaa	26	390
Zahle	26	390
Mount Lebanon	**156**	**2,340**
Aley	26	390
Baabda	26	390
Chouf	26	390
El Metn	26	390
Jbeil	26	390
Keserwan	26	390
Nabatieh	**104**	**1,560**
Bint Jbeil	26	390
Hasbaya	26	390
Marjeyoun	26	390
Nabatieh	26	390
North	**156**	**2,340**
Batroun	26	390
Bcharre	26	390
Koura	26	390
Minieh-Donieh	26	390
Tripoli	26	390
Zgharta	26	390
South	**78**	**1,170**
Jezzine	26	390
Saida	26	390
Sour	26	390
Total	**676**	**10,140**

Appendix D

Villages and Town Areas Chosen with the Corresponding Number of Children to Target in the Lebanese Communities

AKKAR		
District	**Area**	**Number of Children Required**
Akkar	Al-Mehamra	45
	Danbou	15
	Dayret Nahr El-Kébir	15
	Daoura	15
	Zouk-El-Hosmie	15
	Mazraet-El-Nahrieh	15
	Rahbé	15
	Harare	15
	Mechaïlha Hakour	15
	Bkarzala	15
	Bebnine	15
	Beit Mallat	15
	Machha	15
	Michmiche	15
	Al-Semmakli	15
	Hnaïder	15
	Ouadi Khaled	15
	Eyoune-El-Ghouzlane	15
	Fneidek	15
	Tal Abbas El-gharbié	15
	Al-Jédidé	15
	Akroum	15
	Halba	15
	Akkar El-Atika	15
BAALBEK/HERMEL		
District	**Area**	**Number of Children Required**
Baalbek	Baalbek	75
	Arsale	60
	Harbta	15
	Chemistar	15
	Al-Labouat	15
	Brital	15
	Al-Qa El-Benjakie	15
	Tamnine El-Tahta	15

	Al-Qa Baayoun	15
	Al-Aïne	15
	Saraïne	15
	Haddet	15
	Tamnine-el-Fauqa	15
	Ksarnaba	15
	Ras Baalbek El-Sahl	15
	Bednayel	15
	Zaboud	15
	Dair El-Ahmar	15
	Douress	15
Hermel	Hermel	345
	Hermel Charbine	30
	Hermel Zighrine	15
BEIRUT		
District	**Area**	**Number of Children Required**
Beirut	Mazraa	120
	Moussaytbeh	90
	Achrafieh	60
	Ras Beyrouth	45
	Rmeil	30
	Bachoura	15
	Medawar	15
	Zoukak el-Blatt	15
BEKAA		
District	**Area**	**Number of Children Required**
Rachaya	Rachaya El-Wadi	60
	Dahr El-Ahmar	30
	Kherbet Rouha	30
	El-Rafide	30
	Akabé	30
	Mdoukha	30
	Aïha	30
	Yanta	30
	Mohaïdcé	15
	Bakkifa	15
	Aïn Aata	15
	Aïta El-Fokhar	15
	Majdel Balhice	15
	Kaoukaba	15
	El-Biré	15
	Kfar Kouk	15
West Bekaa	Jib Jénine	45
	Ghazzé	45

	Al-Marje	45
	Machghara	30
	Kamed-el-Lauze	30
	El-Karaoun	30
	Al-Sawiré	30
	Al-Khiara	15
	Hamara	15
	Sohmor	15
	Kherbet Kanafar	15
	Mansoura	15
	Lebbaya	15
	Haouche-el-Harimé	15
	Al-Istable	15
	Lala	15
Zahle	Kab Elias	45
	Bar-Elias	45
	Talabaya	30
	Saïd Neil	30
	Mejdel-Anjar	30
	Zahlé Midan	30
	Tchiflik Eddt	15
	Aïn Kfar Zabed	15
	Zahlé Al-Rassié	15
	Fourzol	15
	Zahlé Mar Elias	15
	Anjar	15
	Rayak	15
	Dair-el-Ghazel	15
	Zahlé Maallaka Kerek	15
	Al-Ali-Nahri	15
	Terbol	15
	Kfar Zabed	15
MOUNT LEBANON		
District	**Area**	**Number of Children Required**
Aley	Chouaifat Amroussyat	120
	Chouaifat Qobbat	45
	Aley	45
	Aramoun	30
	Aïn Ksour	15
	El-Kamatiyeh	15
	Chanay	15
	Aïn-El-Jdeidé	15
	Chouaifat Oumara	15
	Aïn Sofar	15
	Bchamoune	15

	Baïssour	15
	El-Fsaïkine	15
	Remhala	15
Baabda	Chiah	150
	Borge el Baragenat	90
	Haret Horaïk	45
	Hadace	30
	Baalchemay	15
	Kfarchima	15
	Baabda	15
	Hammana	15
	Boutchay	15
Chouf	Naamat	30
	Chehime	30
	Barja	30
	Hasroute	15
	El-Barouk	15
	Sebline	15
	Majdel Meouche	15
	Mristé	15
	Deir El-Kamar	15
	Anbal	15
	Katermaya	15
	Ammatour	15
	El-Jdeidé	15
	Baassir	15
	Rmeileh	15
	El-Moghaïré	15
	Mazraet El-Chouf	15
	Batloune	15
	Botmé	15
	Gharifé	15
	El Jiyeh	15
	El-Moghaïriyeh	15
	Baakline	15
El Metn	Borge Hammoud	75
	Baouchariat	60
	Senn el Fil	30
	Dekouanet	30
	Jodaidat	15
	Aïn-Saâdé	15
	Beit Mery	15
	Haret El-Belleni	15
	Bkennaya	15
	Beit Chebab	15
	El-Zalka	15

	Baabdat et Sfaïlé	15
	Baskinta	15
	Jal-el-Dib	15
	Biakoute	15
	Zacrite	15
	Zouk-Khrab	15
Jbeil	Jbail	60
	Amchite	60
	Blat	45
	Halate	30
	El-Kfoune	15
	Mayfouk	15
	Kartaboune	15
	Hboub	15
	Hsarate et Richkif	15
	Kartaba	15
	Hbeline	15
	Tartige	15
	Mazraet-el-Siyad	15
	Kattara	15
	Bejjé	15
	Nahr-Ibrahim	15
	El-Mouncef	15
Keserwan	Zouk Mikaèl	45
	Zouk Mousbeh	45
	Djounié Sarba	30
	Djounié Ghadir	30
	Djounié Haret Sakhr	30
	Ajeltoun	15
	EL-Safra	15
	Mazraet Kfardebiane	15
	Yahchouche	15
	Bzoumar	15
	Ghazir	15
	Djounié Salel Alma	15
	Tabarja	15
	Hrajel	15
	Jeita	15
	Ballouné	15
	El-Ghuiné	15
	Boukak El Dine	15
	Zaaitré	15
NABATIEH		
District	**Area**	**Number of Children Required**
Bint Jbeil	Bint Jbail	60

	Aïtaroun	30
	Rmeiche	30
	Chakra	30
	Harisse	30
	Aïnata	30
	Haddacé	15
	Yaroune	15
	Tibnine	15
	Kfardounine	15
	Borge Kalaouiyé	15
	Ghandouriyé	15
	Kalaouiyé	15
	Beit Lif	15
	Aïn-Ebel	15
	Safad-el-Battikh	15
	Aïta-el-Chaab	15
	Yater	15
Hasbaya	Hasbaya	90
	Chabaaa	90
	El-Habbariyé	30
	Chouaya	30
	Aïn Kinia	30
	Nkhailé	30
	El- Mery	15
	Kfar Hamame	15
	Mimas	15
	El-Kfeir	15
	Khalouet	15
	Marj-El-Zouhour	15
Marjeyoun	EL-Khiam	45
	Merjayoun	30
	El-Kleia	30
	Kfarkala	30
	Al-Taïbé	30
	Houla	30
	Meis El-Jabal	30
	Majdel Selm	30
	Deir Mimas	15
	Touline	15
	Adeicé	15
	Souané	15
	Talloussa	15
	Blida	15
	Kabrikha	15
	Ebel-El-Saki	15
	Dibbine	15

Nabatieh	Nabatiyé El-Tahta	60
	Douair	30
	Ksaibé	15
	Zebdine	15
	Zaoutar El-Charkiyé	15
	Kafra-Jbah	15
	Kfar Remmane	15
	Nabatiyé El-Faouka	15
	Houmine El-Tahta	15
	Ansar	15
	Harouf	15
	Kfar Tebnite	15
	Habbouche	15
	El-Kfour	15
	Deir El-Zehrani	15
	Nmériyé	15
	Maifadoune	15
	Abba	15
	Arab Salim	15
	Kefer Sir	15
	Jobchite	15
	Sir El-Gharbiyé	15
NORTH		
District	**Area**	**Number of Children Required**
Batroun	Chekka	75
	Kfar Obeida	60
	Batroune	30
	Tannourine el Tahta	15
	Kfifane	15
	Dar Bella	15
	Zane	15
	Tannourine Foka	15
	Abrine	15
	Al-Hery	15
	Chabtine	15
	Assia	15
	Hamat	15
	Eddé	15
	Kfar Halda	15
	Helta	15
	Jrane	15
	Ras Nahhache	15
Bcharre	Beit Menzer	105
	Hadchite	60
	Hasroune	45

	Bcharré	30
	Mugher-el-Ahwel	15
	Bikaa kafra	15
	Knate	15
	Bazoune	15
	El-Dimane	15
	Hadeth-el-Jebbé	15
	Abdine	15
	Billa	15
	Berhalioun	15
	Bkarkacha	15
Koura	Enfeh	45
	Ras Maska	45
	Amioune	30
	Kfar Akka	30
	Kousba	30
	Déddé	30
	Btaaboura	15
	Btouratige	15
	Fih	15
	Kfar Hazir	15
	Bechmezzine	15
	Bziza	15
	En-Nakhlé	15
	Beitroumine	15
	Barsa	15
	Majdel	15
	Kfar Hatta	15
	Bterram	15
Minieh-Donieh	Al-Beddaoui	90
	Al-Minieh	90
	Bakhoune	30
	Deir Omar	30
	Sir	30
	Mrah-el-Sreige	15
	Btermaz	15
	Zouk Bhanine	15
	Nemrine et Bakoura	15
	Bkaa Safrine	15
	Omar	15
	Behweité	15
	Assoun	15
Tripoli	Tripoli Al-Tal	75
	Tripoli Al-Kobbé	75
	Tripoli Al Haddadin	60
	Tripoli Zeitoun	30

	Tripoli Al-Tabbaneh	30
	Al-Mina Jardins	30
	Al-Mina No3	30
	Al Mina No2	15
	Tripoli Al-Nouri	15
	Tripoli Al-Souéka	15
	Al Mina No1	15
Zgharta	Zghorta	90
	Mejdlaya	60
	Rachehine	30
	Ardé	30
	Mériata	30
	Daraya	15
	Alma	15
	Aïto	15
	Kfar hata	15
	Kfar Dalakoss	15
	Ehden	15
	Acheiche	15
	Miziara	15
	Al-Khaldyé	15
	Ardate	15
SOUTH		
District	**Area**	**Number of Children Required**
Jezzine	Djezzine	105
	Kefer-Houné	30
	Roum	30
	Wadi Baankoudine	15
	Kafr-Falouce	15
	Bkessine	15
	Kafr-Jarra	15
	Katrani	15
	El-Harf	15
	Benwati	15
	Aramté	15
	Handab	15
	Jensnaya	15
	El-Rihane	15
	Haytoura	15
	Aïchiyé	15
	El-Wadié	15
	Lebaa	15
Saida	Saïda Dekerman	75
	Saïda Ville	30
	Miemié	30

	Ghazyat	30
	El-Zrariyé	15
	Haret Saïda	15
	Teffehta	15
	Ankoune	15
	Kfar Hatta	15
	Saïda Wastani	15
	Saksakiat	15
	Helaliat	15
	Sarafend	15
	Bissariat	15
	Arzey	15
	Adloun	15
	Abra	15
	El-Kharayeb	15
	Maghdouché	15
Sour	Sour (Tyr)	90
	Borge El-Chémali	45
	Abbassyat	30
	Mâaraké	15
	Remadiyeh	15
	Batouliyat	15
	Beiriche	15
	Jouaya	15
	Taïr-Dabba	15
	Hanawé	15
	Aïtite	15
	Tairzibna	15
	El-Kleilé	15
	Bazouriat	15
	Aïn Baal	15
	Mazraat Mechref	15
	Srifa	15
	Chihine	15

Appendix E

Informal Settlements Chosen with the Corresponding Number of Individuals Present in Each IS

P-Code Name	Cadastral	Number of Tents	Number of Individuals	Number of Clusters	Number of Children Required
BEKAA					
Baalbek					
Aarsal	Aain Baalbek/Aarsal	4008	20031	13	195
Baalbeck	Ablah/Baalbeck	252	1650	1	15
Brital/Khodr Baalbeck	Brital	122	802	1	15
Chaat/ Maqne	Chaat	142	987	1	15
Bechouat/Deir El Ahmar	Bechouat	242	1427	1	15
Douris	Douris	93	557	1	15
Haouch En-Nabi/ Haouch Er-Rafqa	Haouch En-Nabi	310	1953	1	15
Haouch Tall Safiyé	Haouch Tall Safiyé	85	619	1	15
Haour Taala/Hizzine	Haour Taala	98	514	1	15
Kfar Dabach/Kfar Dane	Kfar Dabach	81	508	1	15
Qaa Baalbek	Qaa Baalbek	51	342	1	15
Saaidé	Saaidé	190	1154	1	15
Serraaine Et-Tahta	Serraaine Et-Tahta	287	1992	1	15
Taibet Baalbek	Taibet Baalbek	380	2550	2	30
Chmistar/Bednayel/Taraya	Chmistar	124	589	1	15
Temnine Et-Tahta	Temnine Et-Tahta	232	1439	1	15
Youmine	Youmine	389	2424	2	30
West Bekaa					
Baaloul BG	Baaloul BG	76	413	1	15
Ghazzé	Ghazzé	879	5248	4	60
Haouch El-Harime	Haouch El-Harime	242	1757	1	15
Joubb Jannine	Joubb Jannine	597	3729	3	45

Kamed El-Laouz	Kamed El-Laouz	231	1614	1	15
Khirbet Qanafar	Khirbet Qanafar	125	702	1	15
Mansoura BG	Mansoura BG	256	1427	1	15
Marj BG	Marj BG	962	6946	4	60
Qaraaoun	Qaraaoun	172	1184	1	15
Soultan Yaacoub/Tall Znoub/Ain Kfar zabad/Raouda/Saghbine	Soultan Yaacoub Faouqa	105	622	1	15
Zahle					
Aanjar (Haouch Moussa)	Aanjar (Haouch Moussa)	707	4625	3	45
Barr Elias	Barr Elias	1677	11245	8	120
Dalhamiyet Zahlé	Dalhamiyet Zahlé	645	4340	2	30
Haouch El-Ghanam	Haouch El-Ghanam	219	1486	1	15
Haouch Hala	Haouch Hala	76	527	1	15
Haouch Qayssar	Haouch Qayssar	108	929	1	15
Kfarzabad	Kfarzabad	263	1810	1	15
Majdel Aanjar	Majdel Aanjar	560	3756	3	45
Mzaraat Zahlé	Mzaraat Zahlé	200	1436	1	15
Qabb Elias	Qabb Elias	794	5490	4	60
Saadnayel	Saadnayel	798	5268	4	60
Taanayel	Taanayel	275	1806	2	30
Terbol Zahlé	Terbol Zahlé	551	3543	2	30
Zahlé Haouch El-Oumara	Zahlé Haouch El-Oumara	1148	8327	5	75
Zahlé Maallaqa Aradi	Zahlé Maallaqa Aradi	1387	9327	7	105
NORTH					
Akkar					
Aarqa	Aarqa	341	2016	1	15
Bebnine	Bebnine	228	1266	1	15
Deir Dalloum	Deir Dalloum	190	941	1	15
Halba/Cheikh Taba/ Jebrayel	Halba	203	1194	1	15
Kfar Melki Aakkar	Kfar Melki Aakkar	118	716	1	15
Kouachra	Kouachra	204	1052	1	15
Massaaoudiyé/Hayssa	Massaaoudiyé	57	348	1	15

Mhammara	Mhammaret	617	2836	2	30
Mqaiteaa/ Tall Sebaal	Mqaiteaa	245	1480	1	15
Ouadi El-Jamous	Ouadi El-Jamous	158	911	1	15
Qleiaat Aakkar/Rmoul	Qleiaat Aakkar	85	551	1	15
Qoubber Chamra	Qoubber Chamra	307	2013	1	15
Saadine/darine/Haouchab/ Rihaniyet Aakkar/Barcha	Saadine	236	1251	1	15
Sammaqiyé	Sammaqiyé	151	924	1	15
Sammouniyé	Sammouniyé	268	1491	1	15
Tall Aabbas Ech-Charqi/ El-Gharbi	Tall Aabbas Ech-Charqi	277	1850	1	15
Tall Meaayan Tall Kiri	Tall Meaayan Tall Kiri	122	744	1	15
Koura					
Enfé	Enfé	256	1274	1	15
Kfar Kahel/Nakhle/Ras masqa	Kfar Kahel	57	340	1	15
Minieh-Donieh					
Markabta/Nabi Youcheaa	Merkebta	411	2451	1	15
Minie/Beddaoui	Minie	710	4270	3	45
Zouq Bhannine	Zouq Bhannine	323	1900	1	15
Zgharta					
Mejdlaiya Zgharta/Miriata/Iaal	Mejdlaiya Zgharta	47	261	1	15

Appendix F

Survey Questionnaire

المسح العنقودي للبرنامج الموسع للتحصين

رقم المحافظة	رقم القضاء	رقم البلدة	رقم العنقود	رقم الإستمارة

الشخص الذي يجري المقابلة *(الاسم ورقم الفريق)*		
المشرف *(الاسم والرقم)*		
الموظف الذي يُدخل البيانات *(الاسم والرقم)*		

تاريخ المقابلة التاريخ: _____ *(اليوم)*/ _____ *(الشهر)*/ _____ *(السنة)*

وضع المقابلة النهائية للمنزل (___) مقابلة كاملة (___) مقابلة جزئية

تفقّد نوعية الاستمارة من قبل المشرف

[___] جُمعت الموافقة
[___] كان عمر الطفل بين 12 و59 شهراً
[___] الاستمارة مكتملة
[___] أُخذت صورة بطاقةالتلقيح
[___] كافة الأجوبة مقروءة
[___] جرى ملء التواريخ بشكل صحيح
[___] استخدمت طرق تخطي الأسئلة بشكل مناسب
[___] يظهر رقم الإستمارة على كل صفحة

الإمضاء: _____ **التّاريخ:** _____

الجزء الأول: معلومات عن وضع تلقيح الطفل

1. ما هو عدد الأطفال الذين تتراوح أعمارهم بين 12 و59 شهراً (كاملاً) القاطنين في هذا المنزل؟ _____ طفلاً
2. في حال كان هنالك أكثر من طفل(ة) يتراوح عمره بين 12 و59 شهراً (كاملاً)، تختارون أحدهم عبر سحب عشوائي لإحدى الأوراق الصغيرة ***(على الميّسر كتابة أعمار كافة الأطفال على أوراق صغيرة منفصلة وسحب ورقة)***.
3. ما هي صلتكم بهذا الطفل؟***(على الميّسر ذكر الاسم الأول للطفل المختار أو لقبه خلال طرح الأسئلة)***

1	الأب	3	الوصي الشرعي
2	الأم	98	غيره، هل يمكن التحديد؟ _____

4. هل هو الطفل ___ في المنزل؟*(ترتيب الطفل)*

1	الأول	4	لا أعرف / لا أتذكّر
2	الثاني	98	رفض الإجابة
3	الثالث أو أكثر		

5. ما هي جنسيتكم؟

1	لبنانية(ننتقل إلى السؤال رقم 7)	3	غيره، هل يمكن التحديد؟ _____
2	سورية	98	رفض الإجابة

6. متى أتيتم إلى لبنان؟

1	____ / _____ (الشهر / السنة)	98	رفض الإجابة

7. جنس الطفل:

1	ذكر	2	أنثى

8. ما هو تاريخ ولادة الطفل؟ _____ *(اليوم)* / _____ *(الشهر)* / _____ *(السنة)* (في حال توفّرت المعلومات، ننتقل إلى السؤال رقم 10)
9. في حال كان تاريخ الولادة غير متوفّر، ما هو عمر طفلكم؟

1	____ شهراً أو _____ سنة	98	رفض الإجابة

10. ما هي جنسية الطفل؟

1	لبنانية	3	غيره، هل يمكن التحديد؟ _____
2	سورية	98	رفض الإجابة

11. هل ولد الطفل في لبنان؟

1	نعم(ننتقل إلى السؤال رقم 14)	4	لا أعرف / لا أتذكر(ننتقل إلى السؤال 14)
2	لا	98	رفض الإجابة(ننتقل إلى السؤال 14)

12. هل جرى تلقيح طفلكم في البلد الذي وُلد فيه؟

1	نعم	4	لا أعرف / لا أتذكر(ننتقل إلى السؤال 14)
2	لا(ننتقل إلى السؤال 14)	98	رفض الإجابة(ننتقل إلى السؤال 14)
3	لم يكن الطفل في عمر التلقيح حتى ذلك الحين(ننتقل إلى السؤال 14)		

13. أين جرى تلقيح طفلكم (جرعات اللقاح) في معظم الأحيان في بلد الولادة؟

1	في عيادة خارجية	6	في المخيّم
2	في عيادة خاصة	7	غيره، هل يمكن التحديد؟ _____
3	في عيادة متنقّلة	8	لا أعرف / لا أتذكر
4	في مركز رعاية صحيّة	98	رفض الإجابة
5	في المنزل		

14. هل جرى تلقيح طفلكم في أي وقت؟

1	نعم(ننتقل إلى السؤال رقم 16)	3	لا أعرف / لا أتذكر(ننتقل إلى السؤال 16)
2	لا	98	رفض الإجابة(ننتقل إلى السؤال 16)

15. لماذا لم يجر تلقيح طفلكم أبداً؟ ***(على الميّسر أن يختار رمز الجواب في نهاية المقابلة من ضمن اللائحة الموجودة في نهاية الاستمارة)***(بعد الإجابة، ننتقل إلى السؤال 53)

- السبب الرئيسي: _____ ☐
- الأسباب الثانوية*(إذا بادر المجيب إلى إعطاء أسباب أخرى)*: ☐

_____

16. هل تعتقدون أن تلقيح طفلكم يجاري عمره/ها؟

1	نعم	3	لا أعرف / لا أتذكر
2	لا	98	رفض الإجابة

17. هل تلقيتم في أي وقت بطاقة تلقيح أو سجلاً صحياً لطفلكم؟

1	نعم، وقد رآها ألميّسر(ننتقل إلى السؤال رقم 19)	4	لا أعرف / لا أتذكر(ننتقل إلى السؤال 19)
2	نعم، لم يراها ألميّسر (ننتقل إلى السؤال رقم 19)	98	رفض الإجابة(ننتقل إلى السؤال 19)
3	لا		

18. لماذا ليس لديكم بطاقة تلقيح أو سجل صحي لطفلكم؟

1	لم يعُطكم أحد إياها(ننتقل إلى السؤال 22)	4	لا أعرف / لا أتذكر(ننتقل إلى السؤال 22)
2	الطبيب/المرفق الصحي يحتفظ بها(ننتقل إلى السؤال 20)	98	رفض الإجابة(ننتقل إلى السؤال 20)
3	هي ضائعة(ننتقل إلى السؤال 22)		

19. هل تأخذون بطاقة التلقيح/السجل الصحي التابع/ة لطفلكم معكم عندما تزورون الطبيب/ مركز الرعاية الصحيّة للتلقيح؟

1	دائماً	5	لستم أنتم من يأخذون الطفل للتلقيح
2	غالباً	6	أبداً
3	في بعض الأحيان	7	لا أعرف / لا أتذكر
4	نادراً	98	رفض الإجابة

20. هل يسجّل الطبيب أو الممرض جرعة التلقيح الذي يُجريها على البطاقة أو السجل الصحي؟

1	دائماً	5	أبداً
2	غالباً	6	لا أعرف / لا أتذكر
3	أحياناً	98	رفض الإجابة

4 نادراً

21. هل كافة جرعات التلقيح التي تلقّاها طفلكم مسجّلة على البطاقة؟
1 نعم
2 لا
3 لا أعرف / لا أتذكر
98 رفض الإجابة

22. أين جرى تلقيح طفلكم في موعد التلقيح الأخير؟
1 في مستشفى خاص
2 في مستشفى حكومي
3 في عيادة خاصة
4 في عيادة متنقّلة
5 في مركز رعاية صحيّة
6 في المنزل
7 في المخيّم
8 غيره، هل يمكن التحديد؟ _____
9 لا أعرف / لا أتذكر
98 رفض الإجابة

23. عندما تزورون العيادة أو المركز الصحي أو الطبيب، هل تتلقون نصيحة حول موعد اللقاح التالي؟
1 دائماً
2 غالباً
3 أحياناً
4 نادراً
5 أبداً
6 لا أعرف / لا أتذكر
98 رفض الإجابة

24. هل تلقى طفلكم أي لقاح مضاد لشلل الأطفال عن طريق الفم (Oral Polio) خلال أي من جرعاته التلقيحية الروتينية؟
1 نعم 2 لا(ننتقل إلى السؤال 26) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 27)

25. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 27)

26. لماذا لم يتلقَّ طفلكم لقاحاً مضاداً لشلل الأطفال عن طريق الفم؟
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية(*إذا بادر المجيب إلى إعطاء أسباب أخرى*): ☐
_____

27. هل تلقى طفلكم أي لقاح مضاد لشلل الأطفال عن طريق الحقن (Injected Polio) ؟
1 نعم 2 لا(ننتقل إلى السؤال 29) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 30)

28. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 30)

29. لماذا لم يتلقَّ طفلكم لقاحاً مضاداً لشلل الأطفال عن طريق الحقن؟
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية(*إذا بادر المجيب إلى إعطاء أسباب أخرى*): ☐
_____

30. هل تلقى طفلكم لقاحاً خلال حملات التلقيح التكميلية التي تجري؟
1 نعم 2 لا(ننتقل إلى السؤال 32) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 33)

31. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 33)

32. لماذا لم يتلقَّ طفلكم لقاحاً خلال حملات التلقيح التكميلية التي تجري؟
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية *(إذا بادر المجيب إلى إعطاء أسباب أخرى)*: ☐

_____

33. هل تلقى طفلكم أي لقاح ضد الخانوق والكزاز والسعال الديكي (الشاهوق) / الطعم الخماسي (Diphtheria, Tetanus, Pertussis)؟
1 نعم 2 لا(ننتقل إلى السؤال 35) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 36)

34. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 36)

35. في حال كان الجواب لا أو أقل من ثلاث مرّات،
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية *(إذا بادر المجيب إلى إعطاء أسباب أخرى)*: ☐

_____

36. هل تلقى طفلكم أي لقاح محقون في الفخذ؟
1 نعم 2 لا 3 لا أعرف / لا أتذكر

37. هل تلقى طفلكم أي لقاح ضد التهاب الكبد "ب" (Hepatitis B) ؟
1 نعم 2 لا(ننتقل إلى السؤال 39) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 40)

38. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 40)

39. في حال كان الجواب لا أو أقل من ثلاث مرّات،
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية *(إذا بادر المجيب إلى إعطاء أسباب أخرى)*؟ ☐

_____

40. هل تلقى طفلكم جرعة الولادة (جرعة الصفر) المضادة لالتهاب الكبد "ب" (Hepatitis B - Zero Dose)؟
1 نعم 2 لا 3 لا أعرف / لا أتذكر

41. هل تلقى طفلكم أي لقاح ضد المستدمية النزلية من النوع "ب" (Haemophilus Influenzae type B)؟
1 نعم 2 لا(ننتقل إلى السؤال 43) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 44)

42. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 44)

43. في حال الجواب كان لا أو أقل من ثلاث مرّات،
- السبب الرئيسي: _____ ☐
- الأسباب الثانوية*(إذا بادر المجيب إلى إعطاء أسباب أخرى)*؟ ☐

_____

44. هل تلقى طفلكم أي لقاح مضاد للحصبة (Measles)؟

1 نعم(ننتقل إلى السؤال 46) 2 لا 3 لا أعرف / لا أتذكر

45. لماذا لم يتلقَّ طفلكم لقاحاً مضاداً للحصبة؟
- السبب الرئيسي:_____ ☐
- الأسباب الثانوية *(إذا بادر المجيب إلى إعطاء أسباب أخرى)*؟ ☐

_____

46. هل تلقى طفلكم أي لقاح ثلاثي ضد الحصبة و النكاف (أبو كعيب) والحصبة الألمانية (Measles, Mumps, Rubella)؟
1 نعم 2 لا(ننتقل إلى السؤال 48) 3 لا أعرف / لا أتذكر(ننتقل إلى السؤال 49)

47. كم مرّة (عدد المرات)؟ _____ (ننتقل إلى السؤال 49)

48. لماذا لم يتلقَّ طفلكم لقاحاً مضاداً للحصبة و النكاف (أبو كعيب) والحصبة الألمانية؟
- السبب الرئيسي:_____ ☐
- الأسباب الثانوية *(إذا بادر المجيب إلى إعطاء أسباب أخرى)*؟ ☐

_____

49. كم بطاقة تلقيح لديكم لطفلكم؟
1 بطاقة واحدة
2 بطاقتان
3 ثلاث بطاقات أو أكثر
4 لا أعرف / لا أتذكر
98 رفض الإجابة

50. صوّر المعلومات التالية من بطاقة(قات) التلقيح/السجل الصحي *(يصوّر الميسّر بطاقة التلقيح/السجل الصحي وسوف تُدوّن المعلومات ضمن مكاتب مركز الأبحاث لاحقاً)*:

	أعطيت الجرعة		في حال أعطيت الجرعة		
	نعم	لا	اليوم	الشهر	السنة
OPV الجرعة الأولى					
OPV الجرعة الثانية					
OPV الجرعة الثالثة					
IPV الجرعة الأولى					
IPV الجرعة الثانية					
IPV الجرعة الثالثة					
DTP الجرعة الأولى					
DTP الجرعة الثانية					
DTP الجرعة الثالثة					
Hepatitis B جرعة صفر					
Hepatitis B الجرعة الأولى					
Hepatitis B الجرعة الثانية					
Hepatitis B الجرعة الثالثة					
Hib الجرعة الأولى					
Hib الجرعة الثانية					
Hib الجرعة الثالثة					
Measles					
MMR الجرعة الأولى					
MMR الجرعة الثانية					

اللقاح(لقاحات) المعزِّز(ة) _____ _____ _____ _____					

لقد أُخذت صورة (صور) بطاقة (بطاقات) التلقيح / السجل الصحي في:
1 البيت 2 مركز رعاية صحيّة
اسم المركز: _____
عنوان المركز: _____

51. عدد البطاقات المصورة: _____
52. العدد الإجمالي للصور: _____
53. هل تعلمون عدد المرات التي ينبغي أخذ طفلكم للتلقيح من أجل استكمال كافة الجرعات قبل إتمامه عامه الأول؟
1 نعم، الرجاء تحديد الرقم: _____
2 لا
98 رفض الإجابة
54. برأيكم، ما هو احتمال مرض طفلكم(طفلتكم) في حال لم يجر تلقيحه(ها)؟
1 احتمال شديد
2 احتمال معقول
3 لا فرق
4 غير معقول
5 غير معقول أبداً
6 لا أعرف / لا أتذكر
98 رفض الإجابة
55. ما هو مصدر المعلومات الرئيسي التي تستخدمونه من أجل اتّخاذ قرار حول تلقيح طفلكم؟
1 الإعلام (الراديو والتلفزيون والصحف)
2 الإنترنت ووسائل التواصل الاجتماعي
3 المدرسة
4 الحضانة
5 صديق / قريب
6 طبيب خاص
7 موظف في مركز رعاية صحيّة/ عامل صحي
8 جلسة توعية من منظمة غير حكومية/متطوعين
9 جلسات توعية في المخيّم /مأوى جماعي
10 الشاويش في مرافق غير رسمية
11 البلدية
12 مقر ديني (كنيسة أو جامع، الخ)
13 منشورات أو ملصقات أو يافطات أو لوحة إعلانات
14 غيره، هل يمكن التحديد؟ _____
15 لا أعرف / لا أتذكر
98 رفض الإجابة
56. مَن في العائلة يأخذ القرارات في ما يخص تلقيح طفلكم؟
1 لا أحد
2 كِلا الوالدين
3 الأم
4 الأب
5 الحماة (أم الزوج/ة)
6 الحمو (أب الزوج/ة)
7 غيره، هل يمكن التحديد؟ _____
8 لا أعرف / لا أتذكر
98 رفض الإجابة
57. هل تعلمون أن اللقاحات تقدّم مجاناً في مراكز الرعاية الصحية التابعة للقطاع الرسمي؟
1 نعم 2 لا 98 رفض الجواب
58. هل تعلمون أنّه يجري تفقّد وضع طفلكم من ناحية تلقّي اللقاحات عند بدء المدرسة أو الحضانة؟

1 نعم 2 لا 98 رفض الجواب

الجزء الثاني: المعلومات الديموغرافية

59. ما هو تاريخ ميلادك؟ ___(اليوم)/ _____ (الشهر)/ _____ (السنة)

60. أين تقطنون حالياً؟

1 بيت/شقة مستأجر(ة)
2 بيت/شقة مملوك(ة)
3 المخيّم
4 مأوى جماعي
5 غيره، هل يمكن التحديد؟ _____
98 رفض الإجابة

61. ما هو عدد الأشخاص الذين يعيشون في مكان سكنكم/منزلكم؟

1 _____ فرداً
98 رفض الإجابة

62. ما هو وضعكم الاجتماعي؟

1 أعزب / عزباء
2 متزوج(ة)
3 مطلّق(ة)
4 أرمل
5 أرملة
98 رفض الإجابة

63. ما هو المستوى التعليمي لأب/أم الطفل؟

1-63	الأب	2-63	الأم
1	لا يعرف القراءة والكتابة	1	لا تعرف القراءة والكتابة
2	يعرف القراءة والكتابة	2	تعرف القراءة والكتابة
3	مستوى ابتدائي/تكميلي	3	مستوى ابتدائي/تكميلي
4	مستوى ثانوي	4	مستوى ثانوي
5	تعليم تقني بعد المدرسة	5	تعليم تقني بعد المدرسة
6	مستوى جامعي	6	مستوى جامعي
7	لا أعرف / لا أتذكر	7	لا أعرف / لا أتذكر
98	رفض الإجابة	98	رفض الإجابة

64. ما هو وضع والديْ الطفل المهني في الوقت الحالي؟

1-64	الأب	2-64	الأم
1	لديه وظيفة بوقت كامل، الرجاء التحديد: _____	1	لديها وظيفة بوقت كامل، الرجاء التحديد: _____
2	لديه وظيفة بوقت جزئي، الرجاء التحديد: _____	2	لديها وظيفة بوقت جزئي، الرجاء التحديد: _____
3	لا يعمل	3	لا تعمل
4	متقاعد	4	متقاعدة
98	رفض الإجابة	98	رفض الإجابة

65. ما هي ديانتك؟

1 مسلم شيعي
2 مسلم سني
3 درزي
4 مسيحي
2 غيره، هل يمكن التحديد؟ _____
98 رفض الإجابة

مشاهدات / ملاحظات للمشرف:

إستخدم الجدول أدناه من أجل ترميز الأجوبة المقدّمة لك في حال لم يتلقّ الطفل أي لقاح، أو كان الجواب "لا" أو "أقل من ثلاث مرّات" عن أسئلة التذكير المتعلقة بالخناق والكزاز والشاهوق (الطعم الخماسي) والتهاب الكبد "ب" والمستديمة النزلة "ب".

نقص المعلومات	
1	لم تكونوا عارفين بضرورة التحصين
2	لم تكونوا عارفين بأهمية اللقاحات
3	لم تكونوا عارفين بضرورة العودة من أجل جرعات إضافية
4	لم تكونوا تعلمون أين ينبغي الذهاب من أجل تلقيح طفلكم
5	لم تكونوا تعلمون متى ينبغي الذهاب من أجل تلقيح طفلكم
6	كنتم تخافون من التأثيرات الجانبية للّقاح
غياب الدوافع	
7	لم تكونوا تثقون بنوعية اللقاح
8	لم تكونوا تثقون بمن سيقوم بالتلقيح (العامل الصحي)
9	لم تكونوا قادرين على تحمّل الكلفة
10	قمتم بتأجيل التلقيح إلى مرات أخرى
عقبات	
11	طفلكم مصاب بمرض مزمن
12	كان طفلكم مريضاً
13	أخوة الطفل الأكبر مرضوا نتيجةً للتلقيح
14	كان يعيش معكم شخص مصابٌ بمرض مزمن
15	لم ينصحكم الطبيب بالتلقيح
16	لم تنصحكم المدرسة/الحضانة بالتلقيح
17	كان وقت الانتظار في مركز التلقيح طويلاً جداً
18	أوقات عمل مراكز التلقيح لم تكن مناسبة بالنسبة لكم
19	مركز التلقيح كان بعيداً
20	كنتم مشغولين، ولم يكن هنالك أحد آخر لأخذ الطفل إلى مركز التلقيح
21	الشخص الذي يقوم بالتلقيح كان غائباً

22	تعاطي الأشخاص الذين يقومون بالتلقيح ومواقفهم كانت منفّرة
23	لم يكن اللقاح متوفّراً
24	غيره، الرجاء التحديد
25	لا أعرف / لا أتذكّر
98	رفض الإجابة

Appendix G

Household Tracking Form

نموذج إدراج الأسر

المحافظة:

القضاء:

البلدة:

الرجاء استخدام الرموز التالية في عواميد الزيارة للإشارة إلى نتيجة الزيارة المنزلية، كما نرجو تدوين التاريخ والوقت لكل زيارة.

الرمز	التفسير
P	لا أحد في البيت ولديهم على الأقل ولد مؤهل لهذه الدراسة (جُمعت المعلومات من أحد الجيران)
C	هنالك أحد في البيت ويوجد على الأقل ولد واحد مؤهل في المنزل لهذه الدراسة، ولكن الأم/الأب/الوصي الشرعي غير موجود
R	هنالك أحد في البيت وهو/هي مؤهل/ة لهذه الدراسة، ولكن المجيب يرفض المشاركة

F	اكتملت المقابلة

رمز الزيارة	رقم الإستمارة	العنوان أو البلدة	رقم الهاتف	تاريخ الزيارة	تضعون إشارة ✓في حال جرى ملء الاستمارة	تضعون إشارة ✓في حال أُخذت صورة بطاقة التلقيح	في حال أخذت الصورة، تشيرون أين أُخذت: في المنزل أو في مركز الرعاية الصحية	ملاحظات / مشاهدات

Appendix H

Informed Consent

منظمة الصحة العالمية

دراسة حول التطعيم ضد أمراض الطفولة في لبنان

كانون الأول ٢٠١٥

إنّ الهدف من هذه الدّراسة الّتي تقوم بها منظّمة الصّحة العالمية هو معرفة نسبة التّغطية بالقاحات ضد أمراض الطفولة في لبنان. وقد تمّ إختيار أسرتكم من ضمن عينة الأسر الّتي لديها أطفال ما دون الخامسة من العمر وستتمّ مقابلتها علماً أنّكم لستم مستهدفين إسمياً بل كأسرة مقيمة في لبنان تمثّل مجموعة أسر.

إنّ كافة المعلومات الّتي يتمّ جمعها ستبقى سرية وستستعمل لأغراض إحصائية وعلمية بحتة. كما أنّ المشاركة في هذه المقابلة طوعية تماماً وبإمكانك التّوقف عن المشاركة ساعة تريد/تريدين.

تستغرق تعبئة هذه الاستمارة حوالي ١٥ دقيقة.

إنّ مشاركتك مفيدة جدّاً في تقييمنا. لذلك أرجو من حضرتكم الموافقة على إجراء المقابلة.

شكراً لحسن تعاونك

Appendix I

Vaccination Status of the targeted Children in the Lebanese Communities

Table 1: Routine Vaccine Coverage as Reported by Participants in the Lebanese Communities (recall) (N=3,463).

	n	%
Hepatitis B Vaccination at Birth		
No	365	10.5
Yes	3098	89.5
Polio Vaccination Status		
No vaccination	105	3.0
Incomplete Vaccination	278	8.0
Complete Vaccination (≥3 Doses)	3080	89.0
Hepatitis B Vaccination Status		
No vaccination	97	2.8
Incomplete Vaccination	311	9.0
Complete Vaccination (≥3 Doses)	3055	88.2
DTP Vaccination Status		
No vaccination	61	1.8
Incomplete Vaccination	416	12.0
Complete Vaccination (≥3 Doses)	2986	86.2
Hib Vaccination Status		
No vaccination	99	2.8
Incomplete Vaccination	314	9.1
Complete Vaccination (≥3 Doses)	3050	88.1
Measles Vaccination Status		
No vaccination	670	19.3
Incomplete Vaccination	450	13.0
Complete Vaccination (≥2 Doses)	2343	67.7
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	975	28.2
Complete Vaccination (≥1 Dose)	2488	71.8

Table 2: Routine Vaccine Coverage per Received Immunization Cards in the Lebanese Communities (N=5,866).

	n	%
Hepatitis B Vaccination at Birth		
No	1162	19.8
Yes	4704	80.2
Polio Vaccination Status		
No vaccination	258	4.4
Incomplete Vaccination	653	11.1
Complete Vaccination (≥3 Doses)	4955	84.5
Hepatitis B Vaccination Status		
No vaccination	469	8.0
Incomplete Vaccination	743	12.7
Complete Vaccination (≥3 Doses)	4654	79.3
DTP Vaccination Status		
No vaccination	424	7.2
Incomplete Vaccination	532	9.1
Complete Vaccination (≥3 Doses)	4910	83.7
Hib Vaccination Status		
No vaccination	455	7.8
Incomplete Vaccination	524	8.9
Complete Vaccination (≥3 Doses)	4887	83.3
Measles Vaccination Status		
No vaccination	882	15.0
Incomplete Vaccination	1133	19.3
Complete Vaccination (≥2 Doses)	3851	65.7
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	1723	29.4
Complete Vaccination (≥1 Dose)	4143	70.6

Table 3: Overall Adjusted Routine Vaccine Coverage* in the Lebanese Communities (card+recall+never vaccinated) (N=9,560).

	n	%
Hepatitis B Vaccination at Birth		
No	1758	18.4
Yes	7802	81.6
Polio Vaccination Status		
No vaccination	594	6.2
Incomplete Vaccination	931	9.7
Complete Vaccination (≥3 Doses)	8035	84.1
Hepatitis B Vaccination Status		
No vaccination	797	8.4
Incomplete Vaccination	1054	11.0
Complete Vaccination (≥3 Doses)	7709	80.6
DTP Vaccination Status		
No vaccination	716	7.5
Incomplete Vaccination	948	9.9
Complete Vaccination (≥3 Doses)	7896	82.6
Hib Vaccination Status		
No vaccination	785	8.2
Incomplete Vaccination	838	8.8
Complete Vaccination (≥3 Doses)	7937	83.0
Measles Vaccination Status		
No vaccination	1783	18.6
Incomplete Vaccination	1583	16.6
Complete Vaccination (≥2 Doses)	6194	64.8
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	2929	30.6
Complete Vaccination (≥1 Dose)	6631	69.4

** If the vaccination card was missing, the recall of caregivers was considered to assess the child's vaccination status.*

The following section details the vaccination coverage per doses and by age groups.

Table 4: Routine Vaccine Coverage by Age Groups According to Vaccination cards or Card Information and Recall of Caregivers for Children in the Lebanese Communities (N=9,560).

Vaccine	Total		Age groups							
	12-59 months		12-23 months		24-35 months		36-47 months		48-59 months	
Source	Card (n=5866)	Card + Recall (n=9560)	Card (n=1308)	Card + Recall (n=2642)	Card (n=1405)	Card + Recall (n=2315)	Card (n=1385)	Card + Recall (n=1972)	Card (n=1768)	Card + Recall (n=2631)
HepB 0 dose	80.2	81.6	74.5	79.9	78.6	81.5	83.5	83.7	83.1	81.8
Polio 1st dose	95.6	93.8	93.9	93.9	95.7	94.6	96.1	94.6	96.4	92.4
Polio 2nd dose	89.9	89.5	86.1	88.9	89.7	90.2	91.2	90.5	91.7	88.9
Polio 3rd dose	84.5	84.1	76.7	80.5	85.0	85.4	86.1	85.6	88.6	85.3
HepB 1st dose	92.0	91.6	90.4	92.6	92.5	92.7	92.8	91.7	92.3	89.7
HepB 2nd dose	88.0	85.9	83.8	84.6	87.5	86.4	90.5	87.8	89.5	85.5
HepB 3rd dose	79.3	80.6	71.5	78.5	78.4	80.9	82.2	82.0	83.7	81.6
DTP 1st dose	92.8	92.5	90.5	93.0	92.9	93.5	93.7	92.9	93.7	90.9
DTP 2nd dose	88.8	85.8	84.1	83.5	88.8	86.6	91.1	88.4	90.3	85.3
DTP 3rd dose	83.7	82.6	75.1	79.0	83.8	83.5	86.6	85.2	87.7	83.5
Hib 1st dose	92.2	91.8	90.6	92.7	92.3	92.1	93.4	92.6	92.5	90.0
Hib 2nd dose	88.4	86.2	84.3	83.9	88.8	87.6	90.8	88.8	89.3	85.1
Hib 3rd dose	83.3	83.0	75.2	79.4	83.8	84.6	86.3	85.7	86.7	83.4
MCV 1st dose	85.0	81.4	72.7	74.3	86.7	83.5	88.5	85.7	89.9	83.4
MCV 2nd dose	65.7	64.8	44.5	52.3	67.1	67.5	71.3	69.6	75.8	71.3
RCV 1st dose	70.6	69.4	54.4	59.6	70.4	70.8	75.2	74.0	79.2	74.3

** If the vaccination card was missing, the recall of caregivers was considered to assess the child's vaccination status.*

The following section details the acceptable timely vaccination coverage for each completed antigen by age groups. The acceptable timely vaccination coverage is the proportion of children having received the recommended number of doses of polio, hepatitis B, DTP, Hib before 365 days of age (11 months completed), and the recommended number of doses of MCV and RCV before 730 days of age (23 months completed). A month was considered as having 30.4 days in average.

Table 5: Percentage of Children Having Received Acceptable Timely Vaccination Coverage in the Lebanese Communities, by Age Groups.

Antigen	n	Total	Age groups			
		12-59 months	12-23 months	24-35 months	36-47 months	48-59 months
Polio	2915	82.8	91.9	83.2	75.1	76.7
HepB	2738	82.3	91.1	84.0	74.5	75.2
DTP	2952	83.8	91.7	85.0	76.4	78.9
Hib	2946	84.0	91.8	84.8	76.3	79.9
MCV	1950	84.8	99.8	91.2	76.3	70.7
RCV	2239	87.9	99.5	92.4	79.3	77.7

Appendix J

Vaccination Status of the targeted Children in the Informal Settlements

Table 1: Routine Vaccine Coverage as Reported by Participants in the Informal Settlements (recall) (N=269).

	n	%
Hepatitis B Vaccination at Birth		
No	43	16.0
Yes	226	84.0
Polio Vaccination Status		
No vaccination	7	2.6
Incomplete Vaccination	11	4.1
Complete Vaccination (≥3 Doses)	251	93.3
Hepatitis B Vaccination Status		
No vaccination	12	4.5
Incomplete Vaccination	48	17.8
Complete Vaccination (≥3 Doses)	209	77.7
DTP Vaccination Status		
No vaccination	18	6.7
Incomplete Vaccination	23	8.5
Complete Vaccination (≥3 Doses)	228	84.8
Hib Vaccination Status		
No vaccination	97	36.0
Incomplete Vaccination	12	4.5
Complete Vaccination (≥3 Doses)	160	59.5
Measles Vaccination Status		
No vaccination	25	9.3
Incomplete Vaccination	27	10.0
Complete Vaccination (≥2 Doses)	217	80.7
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	40	14.9
Complete Vaccination (≥1 Dose)	229	85.1

Table 2: Routine Vaccine Coverage per Received Immunization Cards in the Informal Settlements (N=1,435).

	n	%
Hepatitis B Vaccination at Birth		
No	260	18.1
Yes	1175	81.9
Polio Vaccination Status		
No vaccination	36	2.5
Incomplete Vaccination	143	10.0
Complete Vaccination (≥3 Doses)	1256	87.5
Hepatitis B Vaccination Status		
No vaccination	81	5.6
Incomplete Vaccination	122	8.5
Complete Vaccination (≥3 Doses)	1232	85.9
DTP Vaccination Status		
No vaccination	79	5.5
Incomplete Vaccination	121	8.4
Complete Vaccination (≥3 Doses)	1235	86.1
Hib Vaccination Status		
No vaccination	82	5.7
Incomplete Vaccination	120	8.4
Complete Vaccination (≥3 Doses)	1233	85.9
Measles Vaccination Status		
No vaccination	229	16.0
Incomplete Vaccination	172	12.0
Complete Vaccination (≥2 Doses)	1034	72.0
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	701	48.9
Complete Vaccination (≥1 Dose)	734	51.1

Table 3: Overall Adjusted Routine Vaccine Coverage* in the Informal Settlements (card+recall+never vaccinated) (N=1,800).

	n	%
Hepatitis B Vaccination at Birth		
No	399	22.2
Yes	1401	77.8
Polio Vaccination Status		
No vaccination	139	7.7
Incomplete Vaccination	154	8.6
Complete Vaccination (≥3 Doses)	1507	83.7
Hepatitis B Vaccination Status		
No vaccination	189	10.5
Incomplete Vaccination	170	9.4
Complete Vaccination (≥3 Doses)	1441	80.1
DTP Vaccination Status		
No vaccination	193	10.7

Incomplete Vaccination	144	8.0
Complete Vaccination (≥3 Doses)	1463	81.3
Hib Vaccination Status		
No vaccination	275	15.3
Incomplete Vaccination	132	7.3
Complete Vaccination (≥3 Doses)	1393	77.4
Measles Vaccination Status		
No vaccination	350	19.4
Incomplete Vaccination	199	11.1
Complete Vaccination (≥2 Doses)	1251	69.5
Mumps and Rubella Vaccination Status		
Incomplete Vaccination	837	46.5
Complete Vaccination (≥1 Dose)	963	53.5

** If the vaccination card was missing, the recall of caregivers was considered to assess the child's vaccination status.*

The following section details the vaccination coverage per doses and by age groups.

Table 4: Routine Vaccine Coverage by Age Groups According to Vaccination cards or Card Information and Recall of Caregivers for Children in the Informal Settlements (N=1,800).

Vaccine Source	Total		Age groups							
	12-59 months		12-23 months		24-35 months		36-47 months		48-59 months	
	Card (n=1435)	Card + Recall (n=1800)	Card (n=447)	Card + Recall (n=548)	Card (n=377)	Card + Recall (n=468)	Card (n=316)	Card + Recall (n=413)	Card (n=295)	Card + Recall (n=371)
HepB 0 dose	81.9	77.8	82.1	76.5	78.8	74.8	80.4	77.0	87.1	84.6
Polio 1st dose	97.5	92.3	98.4	91.2	96.3	91.5	96.2	92.0	99.0	95.2
Polio 2nd dose	93.7	89.2	93.7	87.0	93.1	88.9	92.7	89.4	95.6	92.5
Polio 3rd dose	87.5	83.7	85.9	79.9	85.7	82.7	87.7	85.2	92.2	89.0
HepB 1st dose	94.4	89.5	96.4	89.4	92.3	88.5	91.5	87.4	97.0	93.3
HepB 2nd dose	91.4	85.3	92.6	84.8	89.7	84.0	88.3	83.8	95.3	89.5
HepB 3rd dose	85.9	80.1	84.3	77.9	83.8	78.6	83.9	78.9	92.9	86.3
DTP 1st dose	94.5	89.3	96.4	89.4	92.6	88.0	91.8	87.2	97.0	93.0
DTP 2nd dose	91.6	86.5	92.6	85.8	89.9	85.3	88.6	84.5	95.3	91.4
DTP 3rd dose	86.1	81.3	84.6	78.3	84.1	79.7	84.2	79.9	92.9	89.2
Hib 1st dose	94.3	84.7	96.2	87.6	92.3	84.6	91.5	78.9	97.0	87.1
Hib 2nd dose	91.4	81.9	92.4	84.3	89.7	82.1	88.3	76.0	95.3	84.9
Hib 3rd dose	85.9	77.4	84.3	77.5	83.8	76.9	84.2	72.6	92.9	83.0
MCV 1st dose	84.0	80.6	77.2	72.8	81.7	79.1	87.7	84.5	93.6	89.5

MCV 2nd dose	72.0	69.5	64.4	60.6	71.9	69.7	74.1	72.9	81.7	78.7
RCV 1st dose	51.1	53.5	40.5	42.0	55.4	57.1	50.6	55.5	62.4	63.9

** If the vaccination card was missing, the recall of caregivers was considered to assess the child's vaccination status.*

The following section details the acceptable timely vaccination coverage for each completed antigen by age groups. The acceptable timely vaccination coverage is the proportion of children having received the recommended number of doses of polio, hepatitis B, DTP, Hib before 365 days of age (11 months completed), and the recommended number of doses of MCV and RCV before 730 days of age (23 months completed). A month was considered as having 30.4 days in average.

Table 5: Percentage of Children Having Received Acceptable Timely Vaccination Coverage in the Informal Settlements, by Age Groups.

Antigen	n	Total	Age groups			
		12-59 months	12-23 months	24-35 months	36-47 months	48-59 months
Polio	412	72.8	79.1	58.0	73.0	84.8
HepB	369	71.0	80.3	51.9	65.6	88.9
DTP	372	70.4	80.3	52.4	63.6	87.0
Hib	371	71.2	80.3	51.9	66.7	88.9
MCV	254	83.5	100.0	85.9	77.1	61.8
RCV	383	71.8	98.9	61.3	58.4	70.7

Appendix K

Vaccination Status by Districts in the Lebanese Communities

A- Polio Vaccination Status by District in the Lebanese Communities (N=9,560)

		Polio Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	8035	84.1	931	9.7	594	6.2
Districts							
Akkar	390	307	78.7	61	15.6	22	5.7
Baalbek	390	332	85.1	36	9.2	22	5.7
Hermel	390	318	81.5	46	11.8	26	6.7
Beirut	389	348	89.5	31	8.0	10	2.5
Rachaya	390	313	80.3	27	6.9	50	12.8
West Bekaa	389	361	92.8	23	5.9	5	1.3
Zahle	238	213	89.5	17	7.1	8	3.4
Aley	390	360	92.3	25	6.4	5	1.3
Baabda	383	322	84.1	37	9.7	24	6.2
Chouf	390	338	86.7	37	9.5	15	3.8
El Metn	390	318	81.5	57	14.6	15	3.9
Jbeil	390	318	81.5	52	13.3	20	5.2
Keserwan	389	346	89.0	32	8.2	11	2.8
Bint Jbeil	390	337	86.4	14	3.6	39	10.0
Hasbaya	381	352	92.4	20	5.3	9	2.3
Marjeyoun	388	347	89.4	19	4.9	22	5.7
Batroun	381	331	86.9	30	7.9	20	5.2
Bcharre	384	233	60.7	83	21.6	68	17.7
Koura	390	339	86.9	35	9.0	16	4.1
Minieh-Donnieh	390	309	79.2	65	16.7	16	4.1
Tripoli	390	325	83.3	41	10.5	24	6.2
Zgharta	390	352	90.3	28	7.2	10	2.5
Jezzine	388	273	70.4	57	14.6	58	15.0
Saida	390	313	80.3	32	8.2	45	11.5
Sour	390	330	84.6	26	6.7	34	8.7

B- Received Hepatitis B Vaccine at Birth by District in the Lebanese Communities (N=9,560)

		Hep B Vaccination at Birth			
		Yes		No	
	N	n	%	n	%
Prevalence	9560	7802	81.6	1758	18.4
Districts					
Akkar	390	319	81.8	71	18.2
Baalbek	390	349	89.5	41	10.5
Hermel	390	331	84.9	59	15.1
Beirut	389	335	86.1	54	13.9
Rachaya	390	313	80.3	77	19.7
West Bekaa	389	356	91.5	33	8.5
Zahle	238	180	75.6	58	24.4
Aley	390	345	88.5	45	11.5
Baabda	383	331	86.4	52	13.6
Chouf	390	312	80.0	78	20.0
El Metn	390	279	71.5	111	28.5
Jbeil	390	297	76.2	93	23.8
Keserwan	389	324	83.3	65	16.7
Bint Jbeil	390	332	85.1	58	14.9
Hasbaya	381	352	92.4	29	7.6
Marjeyoun	388	342	88.1	46	11.9
Batroun	381	183	48.0	198	52.0
Bcharre	384	283	73.7	101	26.3
Koura	390	338	86.7	52	13.3
Minieh-Donnieh	390	318	81.5	72	18.5
Tripoli	390	315	80.8	75	19.2
Zgharta	390	360	92.3	30	7.7
Jezzine	388	272	70.1	116	29.9
Saida	390	299	76.7	91	23.3
Sour	390	337	86.4	53	13.6

C- Hepatitis B Vaccination Status by District in the Lebanese Communities (N=9,560)

		Hepatitis B Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7709	80.6	1054	11.0	797	8.4
Districts							
Akkar	390	291	74.6	64	16.4	35	9.0
Baalbek	390	338	86.7	22	5.6	30	7.7
Hermel	390	296	75.9	68	17.4	26	6.7
Beirut	389	342	87.9	27	6.9	20	5.2
Rachaya	390	295	75.6	30	7.7	65	16.7
West Bekaa	389	368	94.6	14	3.6	7	1.8
Zahle	238	206	86.6	21	8.8	11	4.6
Aley	390	307	78.7	65	16.7	18	4.6
Baabda	383	334	87.2	25	6.5	24	6.3
Chouf	390	318	81.5	58	14.9	14	3.6
El Metn	390	326	83.6	46	11.8	18	4.6
Jbeil	390	309	79.2	50	12.8	31	8.0

Keserwan	389	349	89.7	31	8.0	9	2.3
Bint Jbeil	390	320	82.1	31	8.0	39	9.9
Hasbaya	381	327	85.8	41	10.8	13	3.4
Marjeyoun	388	287	74.0	67	17.3	34	8.7
Batroun	381	349	91.6	7	1.8	25	6.6
Bcharre	384	209	54.4	51	13.3	124	32.3
Koura	390	326	83.6	39	10.0	25	6.4
Minieh-Donnieh	390	303	77.7	61	15.6	26	6.7
Tripoli	390	300	76.9	66	16.9	24	6.2
Zgharta	390	335	85.9	42	10.8	13	3.3
Jezzine	388	261	67.3	23	5.9	104	26.8
Saida	390	316	81.0	39	10.0	35	9.0
Sour	390	297	76.2	66	16.9	27	6.9

D- DTP Vaccination Status by District in the Lebanese Communities (N=9,560)

		DTP Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7896	82.6	948	9.9	716	7.5
Districts							
Akkar	390	285	73.1	69	17.7	36	9.2
Baalbek	390	338	86.7	21	5.3	31	8.0
Hermel	390	290	74.4	72	18.5	28	7.1
Beirut	389	348	89.5	24	6.2	17	4.3
Rachaya	390	304	78.0	26	6.7	60	15.3
West Bekaa	389	370	95.1	13	3.3	6	1.6
Zahle	238	202	84.9	28	11.8	8	3.3
Aley	390	365	93.6	15	3.9	10	2.5
Baabda	383	342	89.3	22	5.7	19	5.0
Chouf	390	348	89.2	27	6.9	15	3.9
El Metn	390	343	88.0	38	9.7	9	2.3
Jbeil	390	317	81.3	43	11.0	30	7.7
Keserwan	389	353	90.8	29	7.5	7	1.7
Bint Jbeil	390	293	75.1	54	13.9	43	11.0
Hasbaya	381	325	85.3	40	10.5	16	4.2
Marjeyoun	388	265	68.3	91	23.5	32	8.2
Batroun	381	342	89.8	14	3.7	25	6.5
Bcharre	384	216	56.3	45	11.7	123	32.0
Koura	390	337	86.4	30	7.7	23	5.9
Minieh-Donnieh	390	312	80.0	55	14.1	23	5.9
Tripoli	390	331	84.9	41	10.5	18	4.6
Zgharta	390	358	91.8	26	6.7	6	1.5
Jezzine	388	282	72.7	31	8.0	75	19.3
Saida	390	323	82.8	36	9.2	31	8.0
Sour	390	307	78.7	58	14.9	25	6.4

E- Hib Vaccination Status by District in the Lebanese Communities (N=9,560)

		Hib Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	7937	83.0	838	8.8	785	8.2
Districts							
Akkar	390	290	74.4	50	12.8	50	12.8
Baalbek	390	336	86.1	21	5.4	33	8.5
Hermel	390	292	74.9	63	16.1	35	9.0
Beirut	389	356	91.5	11	2.8	22	5.7
Rachaya	390	293	75.1	26	6.7	71	18.2
West Bekaa	389	369	94.9	13	3.3	7	1.8
Zahle	238	211	88.7	15	6.3	12	5.0
Aley	390	365	93.6	14	3.6	11	2.8
Baabda	383	343	89.6	20	5.2	20	5.2
Chouf	390	350	89.7	25	6.4	15	3.9
El Metn	390	348	89.2	24	6.2	18	4.6
Jbeil	390	337	86.4	24	6.2	29	7.4
Keserwan	389	357	91.8	23	5.9	9	2.3
Bint Jbeil	390	312	80.0	29	7.4	49	12.6
Hasbaya	381	295	77.4	75	19.7	11	2.9
Marjeyoun	388	294	75.8	61	15.7	33	8.5
Batroun	381	344	90.3	12	3.2	25	6.5
Bcharre	384	214	55.7	44	11.5	126	32.8
Koura	390	325	83.3	38	9.8	27	6.9
Minieh-Donnieh	390	304	78.0	57	14.6	29	7.4
Tripoli	390	330	84.6	40	10.3	20	5.1
Zgharta	390	357	91.5	24	6.2	9	2.3
Jezzine	388	294	75.8	25	6.4	69	17.8
Saida	390	315	80.8	44	11.2	31	8.0
Sour	390	306	78.5	60	15.4	24	6.1

F- Measles Vaccination Status by District in the Lebanese Communities (N=9,560)

		Measles Vaccination Status					
		Complete		Incomplete		No Vaccine	
	N	n	%	n	%	n	%
Prevalence	9560	6194	64.8	1583	16.6	1783	18.6
Districts							
Akkar	390	216	55.4	70	18.0	104	26.6
Baalbek	390	211	54.1	68	17.4	111	28.5
Hermel	390	272	69.7	56	14.4	62	15.9
Beirut	389	237	60.9	91	23.4	61	15.7
Rachaya	390	255	65.4	48	12.3	87	22.3
West Bekaa	389	270	69.4	87	22.4	32	8.2
Zahle	238	116	48.7	55	23.1	67	28.2
Aley	390	267	68.5	66	16.9	57	14.6
Baabda	383	222	58.0	95	24.8	66	17.2
Chouf	390	266	68.2	65	16.7	59	15.1
El Metn	390	219	56.2	106	27.2	65	16.6

Jbeil	390	230	59.0	86	22.0	74	19.0
Keserwan	389	270	69.4	74	19.0	45	11.6
Bint Jbeil	390	296	75.9	27	6.9	67	17.2
Hasbaya	381	299	78.5	24	6.3	58	15.2
Marjeyoun	388	292	75.3	41	10.6	55	14.1
Batroun	381	310	81.4	8	2.1	63	16.5
Bcharre	384	213	55.5	52	13.5	119	31.0
Koura	390	219	56.2	94	24.1	77	19.7
Minieh-Donnieh	390	214	54.9	105	26.9	71	18.2
Tripoli	390	198	50.8	96	24.6	96	24.6
Zgharta	390	277	71.0	64	16.4	49	12.6
Jezzine	388	260	67.0	24	6.2	104	26.8
Saida	390	279	71.5	35	9.0	76	19.5
Sour	390	286	73.3	46	11.8	58	14.9

G- Mumps and Rubella Vaccination Status by District in the Lebanese Communities (N=9,560)

		Mumps and Rubella Vaccination Status			
		Complete		Incomplete	
	N	n	%	n	%
Prevalence	9560	6631	69.4	2929	30.6
Districts					
Akkar	390	259	66.4	131	33.6
Baalbek	390	241	61.8	149	38.2
Hermel	390	305	78.2	85	21.8
Beirut	389	282	72.5	107	27.5
Rachaya	390	264	67.7	126	32.3
West Bekaa	389	333	85.6	56	14.4
Zahle	238	156	65.6	82	34.4
Aley	390	295	75.6	95	24.4
Baabda	383	259	67.6	124	32.4
Chouf	390	271	69.5	119	30.5
El Metn	390	252	64.6	138	35.4
Jbeil	390	233	59.7	157	40.3
Keserwan	389	306	78.7	83	21.3
Bint Jbeil	390	290	74.4	100	25.6
Hasbaya	381	287	75.3	94	24.7
Marjeyoun	388	277	71.4	111	28.6
Batroun	381	307	80.6	74	19.4
Bcharre	384	206	53.7	178	46.3
Koura	390	227	58.2	163	41.8
Minieh-Donnieh	390	287	73.6	103	26.4
Tripoli	390	269	69.0	121	31.0
Zgharta	390	322	82.6	68	17.4
Jezzine	388	202	52.1	186	47.9
Saida	390	250	64.1	140	35.9
Sour	390	251	64.4	139	35.6