NATIONAL IMMUNIZATION PLAN OF IRAQ for 2015

DECEMBER 2014
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I. Preface

Immunization is one of the most successful, safe and cost-effective public health interventions for preventing deaths and disabilities from vaccine preventable diseases. Smallpox has been eradicated and the world is on the verge of eradicating polio. Significant reductions have been achieved in reducing illness, disability and death from diphtheria, tetanus, whooping cough and measles. In 2003 alone, it is estimated that immunization averted more than 2 million deaths.

Yet it is an unfinished agenda. Immunization program needs to be sustained year after year since new children are born every year, new vaccines are being introduced and a high level of population immunity has to be maintained to prevent reintroduction of any illness or outbreaks.

Immunization will help to achieve the Millennium Development Goals (MDGs) on reducing child mortality, improving maternal health and combating diseases.

Immunization has a promising future. We are entering a new era in which it is expected that the number of available vaccines will double. Immunization services are increasingly used to deliver other important health interventions, making them a strong pillar of health systems.

There are still millions of people who do not benefit from the protection that vaccination provides. They are at risk of life-threatening illness every day. In Iraq there are still thousands of children who do not complete all their doses and hence not fully protected. Hence there is always the risk of outbreaks and reintroduction of diseases.

This document presents Iraq’s National Immunization Plan for 2015. It has been prepared by the Ministry of Health with technical support from partners including the United States Agency for International Development’s (USAID’s) Primary Health Care Project in Iraq (PHCPI).

PHCPI has assisted the Iraqi Ministry of Health (MOH) to achieve its strategic goal of quality primary health care (PHC) services in the country. PHCPI supports the MOH in three key components: 1) strengthening health management systems, 2) improving the quality of clinical services, and 3) encouraging community involvement to increase the demand for and use of PHC services. In October 2013, a modification to PHCPI’s technical scope of work had the project re-focus its efforts to further help the MOH accelerate the achievement of MDGs 4 and 5, reduce child mortality and improve maternal health.

For PHCPI, awareness and improvement of vaccination coverage has been a key element in addressing MDG 4 and PHCPI specifically addresses this goal with activities providing training to health care providers, traditional birth attendants, and community partners on the importance of proper nutrition and vaccinations in the healthy development of infants and young children. Additionally, PHCPI has trained a core of immunization Master Trainers as well as vaccinators and supervisors for Iraq’s Expanded Program on Immunization (EPI).

Further support for Iraq’s immunization efforts has included the development of a tablet program used by field vaccinators to track child immunizations and the creation of an acute flaccid paralysis (AFP) field manual for the detection of poliomyelitis.

II. Acknowledgement
The University Research Co., LLC wishes to thank all the people who have collaborated on the design, implementation, and analysis and reporting of this study. They have given generously of their time and their experience. Significant contributions to the development of this plan were made by USAID/Primary Health Care Project in Iraq (PHCPI) team in the field, Dr. Hala Jassim AlMossawi, Chief of Party, Dr. Ahlam Kadhum and HQ team, Dr. Neeraj Kak, and Taylor Price and to Dr. Omer Mekki from the World Health Organization and Dr. Ali Al-Taei from UNICEF who provided significant technical assistance in the review of the plan. Special thanks are due to Ministry of Health Public Health Directorate headed by Dr. Ziad Tariq and the technical working group who contributed time and experience to develop this study.

Ministry of Health Technical Working Group:
  1. Dr. Nabeel Abrahim Abass - Director of the Immunization Section
  2. Dr. Thaear Saleem Salman - Immunization Section
  3. Dr. Yousra Khalaf - Immunization Section
  4. Dr. Sundus Jamal Putrus - Immunization section
Acknowledgment

We, the technical working group, hereby acknowledge that we have met at the PHC Dept. meeting hall on Feb 2nd, 2015 to review and revise the National Immunization Plan 2015. We hereby confirm the final version of the National Immunization Plan 2015 prepared jointly with USAID/Primary Health Care Project (PHCPI) on February, 2015.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yosri Ibrahim Abdal</td>
<td></td>
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<tr>
<td>Hassan R. Ismail</td>
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<tr>
<td>ADEL RASOUI ALI Hassun</td>
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<tr>
<td>Antasir Alansor</td>
<td></td>
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<tr>
<td>Mr. Weida Mahmoud</td>
<td></td>
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<tr>
<td>Dr. Sundus Jamal PA BSc</td>
<td></td>
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<tr>
<td>M. Mohan Hussein</td>
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<tr>
<td>Mudher Subheyy</td>
<td></td>
</tr>
</tbody>
</table>
III. Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>Bacillus Calmette-Guerin</td>
</tr>
<tr>
<td>DOH</td>
<td>Directorate of Health</td>
</tr>
<tr>
<td>DQA</td>
<td>Data Quality Assessment</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Care Centers</td>
</tr>
<tr>
<td>DPT</td>
<td>Diphtheria, Tetanus, Pertussis</td>
</tr>
<tr>
<td>EPI</td>
<td>Expanded Program on Immunization</td>
</tr>
<tr>
<td>HipB</td>
<td>Haemophilus influenza type B</td>
</tr>
<tr>
<td>HEXA</td>
<td>HEXAVALENT Vaccine: (Diphtheria, Tetanus, Pertussis + Hepatitis B + Haemophilus influenza type B) + injectable Polio Vaccine.</td>
</tr>
<tr>
<td>IDP</td>
<td>Internally Displaced Persons</td>
</tr>
<tr>
<td>KIMADIA</td>
<td>General Company for Drug Marketing and Medical Appliances</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MICS4</td>
<td>Multiple Indicators Cluster Survey Round 4-2011</td>
</tr>
<tr>
<td>MMR</td>
<td>Measles, Mumps, Rubella</td>
</tr>
<tr>
<td>NID</td>
<td>National Immunization Days</td>
</tr>
<tr>
<td>OPV</td>
<td>Oral Polio Vaccine</td>
</tr>
<tr>
<td>Penta</td>
<td>Diphtheria, Tetanus, Pertussis + Hepatitis B + Haemophilus influenza type B</td>
</tr>
<tr>
<td>RED</td>
<td>Reach Every District</td>
</tr>
<tr>
<td>SIA</td>
<td>Supplementary Immunization Activities</td>
</tr>
<tr>
<td>SNIDs</td>
<td>Sub National Immunization Days</td>
</tr>
<tr>
<td>Tetra</td>
<td>Tetravalent Vaccine: DPT (Diphtheria, Tetanus, and Pertussis) + Haemophilus influenza type B</td>
</tr>
<tr>
<td>VPDs</td>
<td>Vaccine Preventable Diseases</td>
</tr>
<tr>
<td>PAB</td>
<td>Protection of infant at Birth</td>
</tr>
</tbody>
</table>
IV. Introduction and Background

Preventing disease through immunization benefits all people, resulting in positive health, economic and social yield at global, national and community levels. Immunization is a cost effective and life-saving intervention, preventing needless diseases, disabilities and deaths. Immunization and other linked interventions will provide an important contribution to achieving the Millennium Development Goals (MDGs) either directly by contributing to the reduction of childhood deaths or indirectly in reducing the incidence of other infectious diseases, and ultimately, by improving the health of the population and thus contributing to poverty reduction.

In 1985, the Expanded Program of Immunization (EPI) was well established in Iraq delivering immunization services to targeted groups, implementing national and global strategies to achieve main objectives. Until two decades ago health status indicators were improving, especially in controlling EPI targeted diseases reflecting high standards of EPI achievements.

From 1980 to 2003, Iraq faced the tragedy of three wars with economic sanctions during which there was neglect of all aspects of life including the health sector that witnessed progressive deterioration of the quality and accessibility of health services resulting in health indicators December lining to the levels of the least developed countries. EPI was one of the major victims of this December line.

This National Immunization Plan gives a brief analysis of the current situation and the goals, objectives and activities planned for 2015.

1. Current situation

For eleven years following the war, health system staff has tried their best to overcome and minimize the consequences and negative effects through reviving many of the primary health care facilities. Through EPI, the MOH is now trying to achieve its goals of reducing Iraq’s maternal and child mortality rates by two thirds. Yet, now more than before, the Iraqi EPI is confronted with many challenges and obstacles hindering progress. These include:

- Security complications;
- Military operations;
- Power supply shortages (electricity & fuel);
- Political difficulties affecting the major political and strategic decisions and short- or long-term plans of the Ministry of Health;
- Inadequate communication and coordination between the MOH and other directorates. This is affecting performance; and
- Financial barriers.

In 2014, in addition to a polio outbreak, wild measles virus was imported to Iraq via Syrian refugees. The abrupt down trend in June 2014 is most probably due to seasonality and to disruption of surveillance following the chaos created by the sudden takeover of the government in these provinces.

The current conflict has severely and adversely affected the health care delivery system in Salah Al-Din, Anbar, Ninewa and Diyala Governorates, significantly affecting availability and access to both preventive and curative health services.
The Anbar conflict on January 9, 2014 and the Mosul crisis on June 9, 2014 not only damaged the physical infrastructure of health facilities (hospitals, public health clinics, etc.), but displaced health workers (doctors, nurses, displaced health workers, nurses, paramedics, etc.) and caused myriad other issues.

The influx of over 1,500,000 internally displaced persons (IDPs) in the Kurdistan Region Government has further overwhelmed the fragile health system in the three Governorates (Erbil, Duhuk and Sulaymania). The region was already burdened with over 200,000 Syrian refugees and facing tremendous financial challenges due to political disputes with the Central Government.

Prior to the current crisis, Anbar, Ninewa, Diyala, Salah Al-Din and Kirkuk already had some of the lowest health and nutrition indicators in the country.

In the MICS4-UNICEF (2012), over a third of children are reported as stunted (33%) in Anbar. With the recent outbreak of the wild-polio virus in Deir Ez-Zor in Syria (bordering Anbar), the likelihood of virus importation to Anbar, Ninewa, Diyala, Salah Al-Din and Kirkuk is very high due to population movement. The ongoing conflict has adversely affected the immunization campaigns jointly implemented by MOH/WHO/UNICEF decreasing coverage levels.

Tables 1 through 4 provide information about basic population and EPI data, national coverage rates as well as districts coverage.

**Table 1: Basic Population and EPI Data**

<table>
<thead>
<tr>
<th>Items</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Births</td>
<td>1,318,392, (2014)</td>
</tr>
<tr>
<td>Area of Iraq covers</td>
<td>435,052 sq. Km.</td>
</tr>
<tr>
<td>Total population</td>
<td>36,000,000</td>
</tr>
<tr>
<td>Surviving infants</td>
<td>1,166,253 (2014)</td>
</tr>
<tr>
<td>Infant mortality rate (per 1,000 live births)</td>
<td>32.7 (2011, MICS)</td>
</tr>
<tr>
<td>Under-five mortality rate (per 1,000 live births)</td>
<td>37.9 (2011, MICS)</td>
</tr>
<tr>
<td>Gross national income per capita (PPP, US$)</td>
<td>6,710</td>
</tr>
<tr>
<td>Percentage of routine EPI vaccines financed by government</td>
<td>100</td>
</tr>
<tr>
<td>Home-based vaccination records (percent)</td>
<td>70 (2011, MICS)</td>
</tr>
<tr>
<td>Male constitute</td>
<td>0.502</td>
</tr>
<tr>
<td>Under 5 year of age</td>
<td>5,871,642</td>
</tr>
<tr>
<td>Adolescents (age 10-19 years)</td>
<td>about 23%</td>
</tr>
<tr>
<td>Children in general</td>
<td>about 54.3%</td>
</tr>
<tr>
<td>Women of child</td>
<td>bearing 22%</td>
</tr>
<tr>
<td>Directorates of Health (DOH)</td>
<td>19</td>
</tr>
<tr>
<td>Districts</td>
<td>132</td>
</tr>
<tr>
<td>PHCCs</td>
<td>2,638</td>
</tr>
<tr>
<td>Number of PHCCs offering routine immunization</td>
<td>1,532</td>
</tr>
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Table 2: National coverage rates (%) (WHO/UNICEF estimates, 2013)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>BCG</td>
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<td>90</td>
<td>90</td>
<td>92</td>
<td>87</td>
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<td>92</td>
<td>93</td>
<td>97</td>
<td>96</td>
<td>76</td>
</tr>
<tr>
<td>DTP1</td>
<td>82</td>
<td>87</td>
<td>90</td>
<td>86</td>
<td>88</td>
<td>81</td>
<td>68</td>
<td>76</td>
<td>84</td>
<td>92</td>
<td>86</td>
<td>93</td>
<td>36</td>
</tr>
<tr>
<td>DTP3</td>
<td>68</td>
<td>69</td>
<td>79</td>
<td>74</td>
<td>78</td>
<td>69</td>
<td>59</td>
<td>59</td>
<td>65</td>
<td>80</td>
<td>74</td>
<td>83</td>
<td>36</td>
</tr>
<tr>
<td>HepB3</td>
<td>43</td>
<td>37</td>
<td>32</td>
<td>27</td>
<td>60</td>
<td>92</td>
<td>90</td>
<td>88</td>
<td>93</td>
<td>0</td>
<td>0</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>HepB3</td>
<td>66</td>
<td>61</td>
<td>77</td>
<td>72</td>
<td>75</td>
<td>66</td>
<td>56</td>
<td>59</td>
<td>65</td>
<td>67</td>
<td>57</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Hib3</td>
<td>68</td>
<td>36</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>rota (last)</td>
<td>52</td>
<td>31</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>PcV3</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>Pol3</td>
<td>70</td>
<td>70</td>
<td>80</td>
<td>74</td>
<td>78</td>
<td>71</td>
<td>74</td>
<td>63</td>
<td>69</td>
<td>83</td>
<td>73</td>
<td>83</td>
<td>16</td>
</tr>
<tr>
<td>MCV1</td>
<td>63</td>
<td>69</td>
<td>77</td>
<td>75</td>
<td>81</td>
<td>76</td>
<td>64</td>
<td>62</td>
<td>69</td>
<td>86</td>
<td>80</td>
<td>75</td>
<td>9</td>
</tr>
<tr>
<td>MCV2</td>
<td>57</td>
<td>68</td>
<td>77</td>
<td>77</td>
<td>87</td>
<td>76</td>
<td>64</td>
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<td>58</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>PAB</td>
<td>72</td>
<td>85</td>
<td>85</td>
<td>80</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>70</td>
<td>71</td>
<td>75</td>
<td>81</td>
<td>70</td>
<td>4</td>
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</table>

Table 3: District coverage (as reported)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of districts in country</td>
<td>130</td>
<td>133</td>
</tr>
<tr>
<td>Percentage of districts reporting</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>DPT3: proportion of districts with coverage (%)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>MCV1: proportion of districts with coverage at 95% or above (%)</td>
<td>Below 50%</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Between 50-79%</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>At 80% or above</td>
<td>11</td>
</tr>
<tr>
<td>DTP1-DTP3 drop-out rate: proportion of districts that have achieved a rate of less than 10% (%)</td>
<td>23</td>
<td>48</td>
</tr>
</tbody>
</table>

2. Stakeholders functions in supporting Immunization in Iraq

There are three main stakeholders in the immunization program: the government, non-governmental organizations (NGOs) and international partners, and the community. The Government of Iraq (GOI) provides overall leadership and stewardship to the program through policy and program development as well as infrastructure for program delivery, both physical and human resources. Main actors are comprised of UNICEF, WHO, UNFPA, World Bank and USAID. National NGOs and professional associations assist in advocacy and social mobilization activities specifically during large-scale vaccination campaigns and other special vaccination activities. The community, or beneficiary, facilitates the immunization program by providing necessary support through local structures, such as local health committees, to the health providers in terms of space and community mobilization.
3. Situational Analysis of Routine EPI by System based on Previous Years' Data (2008-2010)
A tabular analysis of various components of routine EPI is presented in Annex 1 which indicates
that an effective functioning system of routine EPI services is in place in Iraq in spite of wars,
conflicts and other issues that may have adversely affected program performance. This system
will be further strengthened and serve as the foundation for activities during 2015 as presented in
Section 3.

In 2015, Iraq’s National Immunization Schedule will be updated. Table 5, below, gives the current
schedule and Table 6 gives the schedule effective 2015. The TT schedule for pregnant women
and women of child bearing age will remain the same.

Table 5: Vaccination Schedule for Infants and Children 2012

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 Week</td>
<td>OPV0 dose , HepB1 , BCG</td>
</tr>
<tr>
<td>2 Months</td>
<td>OPV1 , PENTA1,ROTA1</td>
</tr>
<tr>
<td>4 Months</td>
<td>OPV2 , TETRA1,ROTA2</td>
</tr>
<tr>
<td>6 Months</td>
<td>OPV3 , PENTA2,ROTA3</td>
</tr>
<tr>
<td>9 Months</td>
<td>Measles + VIT A</td>
</tr>
<tr>
<td>15 Months</td>
<td>MMR (Measles , Mumps , Rubella)</td>
</tr>
<tr>
<td>18 Months</td>
<td>TETRA2, OPV First Booster dose + VIT A</td>
</tr>
<tr>
<td>4-6 Years</td>
<td>DPT , OPV Second Booster dose + MMR2</td>
</tr>
</tbody>
</table>

Table 6: National Immunization Schedule for Infants and Children 2015

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1 Week</td>
<td>HepB1 , BCG + OPV0dose</td>
</tr>
<tr>
<td>2 Months</td>
<td>HEXA 1,ROTA1 ,PREV13-1+OPV1</td>
</tr>
<tr>
<td>4 Months</td>
<td>HEXA2,ROTA2,PREV13-2 + OPV2</td>
</tr>
<tr>
<td>6 Months</td>
<td>HEXA3,ROTA3,PREV13-3 + OPV3</td>
</tr>
<tr>
<td>9 Months</td>
<td>Measles + VIT A</td>
</tr>
<tr>
<td>15 Months</td>
<td>MMR(Measles , Mumps , Rubella)</td>
</tr>
<tr>
<td>18 Months</td>
<td>PENTA (DTP+IPV+Hib ) OPV + VIT A</td>
</tr>
<tr>
<td>4-6 Years</td>
<td>TETRA (DTaP +IPV ) + OPV + MMR</td>
</tr>
</tbody>
</table>

5. Key Achievements in 2014 in collaboration with USAID, WHO and UNICEF

- 5 Polio NIDs and 7 SNIDs were conducted with more than 90% coverage by administrative report. The following NIDS were conducted
  - Spring - first round in March 2014
  - Spring second round) in April 2014
  - Spring third round) in May 2014
  - Autumn - first round in September 2014
  - Autumn - second round in October 2014
- Polio and measles campaigns for IDPs;
- Influenza campaigns for high-risk people;
- Completed RED Approach strategy;
- Developed four guidelines for health workers (National guideline on EPI, National guideline on SIAs, National guideline on AEFI and National guideline on vaccine and cold chain management);
- Achieved OPV3 coverage of 77%.
- Achieved measles coverage of 72%.
- Conducted five central training courses on cold chain management;
- Conducted one central training course for workers on immunization guidelines;
- Conducted three training courses for workers in PHC districts and PHC Centers on immunization management.
- Conducted three meetings for EPI managers at the DOH.
- Conducted five training courses for AFP Surveillance officers on Acute Flaccid Paralysis (AFP) surveillance.
- Conducted five peripheral training courses to improve performance of health workers in immunization units in DOH.
- Conducted five advocacy meetings for workers in Surveillance units for activation of surveillance of AFP;
- Conducted a campaign for seasonal Influenza for high risk populations and areas in November 2014.
- Conducted a polio and measles vaccination campaign for IDP's in August 2014;
- Conducted a comprehensive sub-national measles campaign December 2014;
- Conducted two master training of trainers (TOT) in immunization management and surveillance for 47 Master Trainers in Amman and Erbil in November – December 2014;
- Training of vaccinators and supervisors on immunization by PHCPI/USAID (1661 vaccinators and 425 supervisors till end December 2014).

Immunization coverage - a key measure of immunization performance.

The following are methods, materials and tools used to measure or estimate immunization coverage, and on immunization coverage at the country level based on data reported by provinces.

Methods:

- *The administrative method* – collected from reported routine immunization data, i.e. registry system of doses administered;

The following is a link to immunization coverage (up to 2013) by the WHO and UNICEF for all countries, including Iraq.

http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tscoveragebcg.html

Access to Immunization

Population access to routine immunization is estimated based on the proportion of children under the age of one year that have received the first dose of pentavalent vaccine. An acceptable level of access would be over 90%. The lower coverage rates in the subsequent routine doses attributed to irregular and shortage of vaccines supplies.

The routine immunization coverage monitored by the achieved coverage of the following vaccine doses, OPV3, Penta2, Rota (last dose) and Measles.

Figure 1 shows progressive decline in the achieve coverage of the most EPI antigens since 2011

**Figure 1: Immunization Coverage OPV3, Penta2, Rota3 and measles 2011-2013**

![Figure 1: Immunization Coverage OPV3, Penta2, Rota3 and measles 2011-2013](image)

The 2013 national coverage levels for each vaccine, presented in Figure 2, indicate that, except for BCG, coverage of all vaccines is significantly below the national goal of 95% with measles/MMR and TT coverage levels below 80%. Increasing routine immunization coverage to 95% at national and provincial levels and 90% at district level is of top priority in 2015.
**Immunization Drop-out Rate**

The capacity of the health system to complete the immunization course for a child or woman is estimated based on the drop-out rate indicator between the first dose and the third dose of the pentavalent vaccine. This indicator shows the percentage of children under the age of one year that initiate immunization but do not complete three doses within the first year of life. The maximum acceptable drop-out rate is 10%; higher rates indicate inefficiency of the health service, service discontinuity at fixed posts, lack of information to mothers about returning for the follow-up doses, and a lack of subsequent visits by outreach or mobile teams.

As shown in Figure 3 below, a large number of children did not receive the required three doses of OPV in 2013. Many Governorates including Nineveh, Baghdad, Thi-Qar, Babylon and Wasit have a large number of under immunized children indicating low levels of population immunity.

**Figure 3: Number of Unvaccinated Children <1 Year with OPV3 by Governorate, 2013 Iraq**

Figure 4 and Figure 5 (missing data from three provinces due to security unrest) further substantiate the varying coverage levels of OPV3 by Governorates, however in 2014, coverage levels decreased in many Governorates.
The next two Figures indicate levels of dropout between Penta1 and Penta2 (Figure 6) and PENTA 1-measles (Figure 7). In general, Penta1 coverage is fairly high in most provinces, but there is a 7-10% drop from Penta1 to Penta2.

The dropout rate between DTP1 and measles is much higher (Figure 7) ranging from 9% in Kirkuk to 34% in Baghdad- Rusafa. Ten of the 15 Governorates had a dropout rate of over 15%. Reducing dropout rates should be of priority in 2015.
Figure 6: Comparison between Penta 1 and Penta 2, 2014

![Graph showing comparison between Penta 1 and Penta 2, 2014.]

Figure 7: Sum of Dropout DTP1 and DTP3, 2014

![Graph showing sum of Dropout DTP1 and DTP3, 2014.]

The low achieved coverage with rota3 dose is attributed partially to introduction of two types of Rota vaccines, ROTATEQ with a recommended three doses and ROTARIX with two doses only.

7. Strengths, Issues of Concern and Challenges

Points of strength

- Good systematic documentation and analysis of EPI data through VACC-IFA database;
- Partial implementation of DQS;
- Good surveillance system for VPDs (attention to hot zones still needed) and more than 95% of the reporting sites reporting timely and regularly;
- Satisfactory integration between EPI, CDC and CPHL with a feedback from center to the governorates (almost 100%);
- Sustained funding of EPI activities by the Government and USAID, UNICEF and WHO.
- Adequate coordination and collaboration between National EPI Team and concerned partners (USAID, UNICEF and WHO).
- Conducting a substantial numbers of POLIO SIAs that stopped WPV transmission.
- Presence of an efficient and adequate vaccine cold chain system with significant expansion of its capacity in 2014.

Issues of concern

- Lack of accurate demographic data (as the last census was conducted in 1987);
- Over reporting of the achieved coverage of targeted age groups.
- Low routine immunization coverage levels (OPV3, Penta2, Hep B3 and measles).
- High level dropout rates, especially between Penta1 and measles;
- Rapid turnover of trained EPI staff;
- Bureaucratic financial regulations and instructions.
- Complicated vaccines procurements procedure;
- Security issues.
• Inadequate AEFI reporting system;
• Private sector involvement is inadequate

Key challenges
The main challenges facing EPI.
• A deteriorating security situation;
• competing health priorities;
• poor management of health systems;
• inadequate monitoring and supervision;
• vaccine transportation in/out of national vaccines store;
• a rapidly depleting capital of human resources for health;
• difficulty in reaching vulnerable children/women in high risk areas as well as an increasing number of IDPs;
• Ineffective monitoring and supervision activities; and lack of sustained operational resources.

V. National Immunization Plan for 2015

1. Vision of the National EPI Program
The long term vision of the National EPI program for Iraq are as follows:
1. Every child born and present in Iraq should receive complete, safe and high quality EPI services;
2. All people at-risk should be protected from vaccine preventable diseases.

2. Guiding Principles of the National EPI Program

1. Maximize access to EPI services by expanding provision of vaccination in hospitals and reestablishment of outreach immunization sessions
2. Improve EPI services to decrease the dropout rate and control EPI targeted diseases
4. Special budget for EPI allocated from the Ministry of Finance to cover all routine and supplementary immunization activities.
5. Ensuring wide range community participation in the planning and implementation of EPI activities.
6. Full range of coordination and cooperation with WHO –USAID- UNICEF for implementation of national and global strategies to achieve planned goals.
7. Establishing work plans, products and services sufficient to achieve expected results.
8. Establishing an emergency preparedness plan in the event of a pandemic.
9. Raise the protection of all populations against VPDs and ensuring equity.
10. Increase vaccine storage capacity and improve distribution system.
11. Improve quality of cold chain system.
3. Goals of the EPI program in Iraq

1. Reduction of morbidity and mortality from EPI targeted diseases.
2. Stop transmission of poliomyelitis by 2015.
3. Control measles outbreaks and eliminate rubella and CRS (congenital rubella syndrome).

4. Objectives and Planned Activities for 2015

<table>
<thead>
<tr>
<th>Objective 1</th>
<th>Stop transmission of poliomyelitis virus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone</td>
<td>Zero laboratory confirmed Polio case under high quality of surveillance.</td>
</tr>
<tr>
<td>Activities</td>
<td>• Improve routine coverage of OPV3 to 95% at national level and 90% at district level/ along all the year</td>
</tr>
<tr>
<td></td>
<td>• Implement four NIDs and emergency SNIDs campaigns with OPV/ along all the year</td>
</tr>
<tr>
<td></td>
<td>• Mop-up campaigns according to the epidemiological situation/ along all the year</td>
</tr>
<tr>
<td></td>
<td>• Executing the comprehensive national plan for combating imported poliomyelitis cases/ first quarter of the year</td>
</tr>
<tr>
<td></td>
<td>• Sustain an effective surveillance system for timely detection of AFP cases/ along all the year</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective 2</th>
<th>Maintain the current status of MNT (Maternal &amp; Neonatal Tetanus) elimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone</td>
<td>Maintain less than 1 case per 1000 live births</td>
</tr>
<tr>
<td>Activities</td>
<td>• Achieve routine immunization coverage for pregnant women and women of child bearing age of 85% at national level and 80% at district level</td>
</tr>
<tr>
<td></td>
<td>• Improve coordination and communication through quarterly meetings with concerned personnel centrally and peripherally (MCH, CPHL, CDC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objective 3</th>
<th>Prevent measles outbreaks and eliminate rubella and CRS (congenital rubella syndrome)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone</td>
<td>Reduction in the number of measles outbreaks</td>
</tr>
<tr>
<td></td>
<td>Zero cases of rubella</td>
</tr>
<tr>
<td>Activities</td>
<td>• Raise routine immunization coverage to 95% at national level and 90% at district level (measles).</td>
</tr>
<tr>
<td></td>
<td>• complete Phase 1 national measles campaign for children aged 9 months to 5 years/ on arrival of required vaccine.</td>
</tr>
<tr>
<td></td>
<td>• National campaign using MR vaccine for age group (14-22 years) / on arrival of required vaccine.</td>
</tr>
<tr>
<td></td>
<td>• Maintain surveillance system for detection of all cases of (fever and rash) and suspected CRS through an explicit and delineated work plan using all prerequisite preventive resources</td>
</tr>
<tr>
<td></td>
<td>• Maintain national measles laboratory activities</td>
</tr>
</tbody>
</table>
### Objective 4  
**Control all types of viral hepatitis**

**Milestone**

Reduction in the number and frequency of cases compared to 2014

**Activities**

- Increase routine immunization coverage to 95% with Pent2/ along all the year
- Increase coverage with birth dose within the first 24 hours of birth to 60%/ along all the year
- Vaccination of high-risk groups with HepB for adults, specifically students of medical colleges, health institutes and institutes of mentally disabled in cooperation with the Ministry of Labor and Social Affairs/ along all the year
- Vaccinating immune-compromised patients, thalassemia patients, those with hemophilia and those who need continuous blood transfusions with viral hepatitis type A and type B/ along all the year

### Objective 5  
**Control of other EPI targeted diseases through reducing number and frequency of cases in comparison to 2014**

**Milestone**

Reduction in the number of reported cases of diphtheria, pertussis (whooping cough), Hib, Mumps, rota, TB and tetanus.

**Activities**

- Improve routine coverage to 95% for EPI targeted diseases. / along all the year

### Objective 6  
**Improve the quality of immunization activities in PHCCs and districts through application of service indicators and standards**

**Milestone**

Improvement in service indicators and standards

**Activities**

- Improve data quality through continues and regular data monitoring. / along all the year
- Training of vaccinators and supervisors on DQS (data quality self-assessment).
- Strengthen electronic management of logistics distribution.
- Ensure adequate stocks and cold chain equipment.
### Objective 7
Achieve 95% routine immunization coverage of all EPI vaccines at national and provincial levels and at least 90% at district level

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Coverage levels as measured through MOH routine reports and periodic surveys if and where possible</th>
</tr>
</thead>
</table>
| Activities | - Expanding routine immunization network through additional fixed and mobile sites for remote regions and IDP zones/ first quarter of the year  
- Improve utilization through improving service delivery at vaccination sites. / along all the year  
- Minimize missed opportunities/ along all the year  
- Adopt proper precautions and contraindications/ along all the year  
- Strengthen community involvement/ along all the year |

### Objective 8
Ensure uninterrupted vaccine supply

<table>
<thead>
<tr>
<th>Milestone</th>
<th>No periods of vaccine shortage</th>
</tr>
</thead>
</table>
| Activities | - Ensure political and financial commitment to provide the required vaccines and other logistics. / first quarter of the year  
- Regular meetings with KEMADIA to ensure vaccines availability around the year  
- Facilitating procurement of vaccines by WHO and UNICEFt/first half of the year  
- Continues monitoring of vaccines stocks at all levels (Central, DOHs, districts and PHCC). / along all the year |

### Objective 9
Capacity building of immunization personnel

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Number of personnel trained at various levels on various topics</th>
</tr>
</thead>
</table>
| Activities | - Training of vaccinators by DOH (2-4 participants from each PHC Center (twice yearly)  
- Training of supervisors (District and DOH) /first half of the year  
- Training of EPI Managers at DOHs and districts levels through conducting 5 training courses. /first half of the year  
- Developing/editing training guidelines according to need |
### Objective 10: Strengthen supervision

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Number of effective supervisory visits</th>
</tr>
</thead>
</table>
| Activities | • Supervision and monitoring of high risk areas (monthly at district level)  
• Monitoring and evaluation of data quality at DOH level (quarterly)  
• Monitoring and evaluation of data quality at district level (quarterly)  
• Monitoring and evaluation of data quality at PHCC (every two months)  
• Supervision of EPI activities at PHCC (every two months)  
• Ensuring safety practices at all level with especial emphasis at PHCC level./ monthly |

These objectives and activities are presented in a Gantt chart in Annex 2.

### VI. Monitoring and Evaluation

1. **Strategic approaches to ensure an effective immunization program**

The national strategies should be geared towards increasing routine immunization in an integrated and sustainable manner in order to increase access to and use of services.

- Advocacy and broad-based partnerships with provincial government agencies, technical and financial support organizations (WHO, UNICEF and USAID), civil society entities such as provincial authorities, religious leaders, community health agents, NGOs, private health services, and so on.
- Information, education and communication to strengthen the capacity of families and communities to actively seek vaccinations in order to complete children's courses of immunization before they reach one year of age. For this purpose, educational messages will be disseminated through - mainly local - mass media (radio and television) and local activists such as traditional leaders, religious leaders and community agents will be mobilized (talks, theatre, community debates, house-to-house visits).
- Integration of routine immunization activities with other health interventions with the aim of reducing costs and optimizing benefits for the health of the population.

The objectives of this plan will be met through effective implementation of all the activities listed under each objective. To ensure success, following program aspects will be strengthened:

1. Ensure uninterrupted vaccine supply through full coordination with KEMADIA (General Company for drug marketing and Medical Appliances), political commitment, financial commitment and improved DG leadership.
2. Capacity building of EPI staff at various levels through refresher trainings, periodic meetings and supportive supervision.
3. Continuous and regular monitoring of EPI targeted diseases incidence in coordination with the CPHL and Center for Control of Communicable Diseases (CDC).

4. Taking timely preventive and outbreak response measures in coordination with the CDC.

5. Use the reaching every child (REC) approach for increasing immunization coverage for all EPI vaccines and reaching planned objectives at each PHC sector level.

6. Effective planning and timely implementation of all NIDs and other SIAs depending on the epidemiological situation.

7. Upgraded quality of immunization activities in PHC centers and districts through regular monitoring of performance indicators regarding vaccination activities.

8. Coordinating with other supporting governmental institutions and civil society institutions and the municipality council for insuring effective community participation in planning and execution of campaigns.

9. Achieve Immunization coverage will be further expanded and intensified through PHCCs, sub-centers, outreach sites and other sectors as follows:

2. Key Performance Indicators

   At the input level:
   - Timely release of funds (no shortages or delays);
   - Timely availability of vaccines and other supplies (shortages, if any); and
   - Availability of immunization staff at all levels (staff shortages, especially vaccinators and supervisors).

   At the Immunization site level:
   - Implementation of fixed and outreach immunization sessions at each level as per the micro-plans (through monitoring of district level monthly reports);
   - Implementation of SIAs and other campaigns as per the plan (coverage levels by district and high-risk areas);
   - Governorate and district level inter-sectorial coordination meetings (through monthly reports); and
   - Monthly review of coverage and implementation issues (through local area monitoring by supervisors).

   At the performance/output level:
   - Immunization coverage levels of each EPI vaccine;
   - Occurrence of vaccine preventable diseases as per the surveillance reports;
   - Stopping of wild polio virus transmission;
   - Control of measles outbreaks and reduction of cases to < 1 / 1000000 total population.
   - Other indicators as per the milestones indicated under each objective.

Monitoring will be through routine DOH reports and periodic supervisory visits assessments.
Recording and flow of information about routine immunization activities

- The forms for recording the outreach immunization activities will be the same as for fixed immunization activities and the results of the two types of activities will be integrated.
- At the district level, the reports of all the PHCCs will be integrated in the monthly routine immunization report.
- The monthly reports of all the districts send to the DOH by the 7th of each month, as an original or scanned copy.
- The monthly reports of all the DOHs send to MOH/EPI by the 15th of each month, as an electronic and original copy.

Implementation of high-quality NIDs against vaccine-preventable diseases

- Improve the micro-planning and micro-mapping at district and PHCC levels
- Enhancing the technical capacity of vaccinators and supervisors.
- Recruitment, training, redeployment of special teams to support campaigns in areas of high risk and difficult access.
- Proper monitoring by recruiting and training of independent monitors.
- Provision of adequate operational costs.

3. Financing of immunization activities
The immunization program is led and run by the MOH with the support of international agencies. The Government of Iraq funding to the program is in terms of human resources, salaries, facilities and establishment and operational costs. UNICEF, USAID and WHO support the EPI of Iraq with technical, logistics and operational costs.

VII. Strategies towards program sustainability
To ensure sustainability of the program, the GOI will ensure effective mechanisms for sustainable financing and vaccine supplies. Mobilizing of the fund for the country program in the next year plan period should be considered especially with the emergence of new outbreaks and evolving situation of IDPs in Iraq. All efforts will be made to leverage resources to facilitate introduction of new vaccines like (IPV, conjugated pneumococcal) in the country program. The program, as part of its regular monitoring process, will monitor the trends in financing to ensure it is moving towards improved financial sustainability by reducing its financing gaps. Indicators for financial sustainability that the program will use include:

- % of funding gaps to total program needs for the period of 2015-2016;
- % of total program costs financed by government;
- % of total program costs financed by non-government sources;
- What percentage of total routine vaccine spending was financed using government funds.

This is a one year work plan and these activities need to be sustained year after year with further improvement and modifications as needed. Strategies for sustaining these activities will depend on:
• Adequate and timely funding by the GOI and donor partners;
• Political and programmatic commitment;
• Effective program management – planning, implementation, supervision, monitoring and timely corrective action; and
• Community mobilization.

Long term strategies should be articulated upon the following:

• Strategies to ensure effectiveness/efficiency of the immunization program;
• Strategies to increase resource allocations
• Strategies to increase resource reliability.

At the World Health Assembly in 2014, Member States addressed the following:

• “Sustainable access to vaccines—especially newer vaccines—at affordable prices for all countries;
• technology transfer to facilitate local manufacture of vaccines as a means of ensuring vaccine security;
• improved data quality including through the use of new technologies like electronic registries;
• risk communication and management to address misinformation on immunization and its impact on vaccination coverage; and
• Evidence reviews and economic analysis for informed decision-making based on local priorities and needs”.
| Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Activity | Expected Deliverables/Milestones |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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