# ZAMBIA
# Immunisation Comprehensive Multi-Year Plan, (c-MYP), 2017-2021

Ministry of Health

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| | |
|---|---|
| 7NDP | Seventh National Development Plan |
| AEFI | Adverse Effects/Events Following Immunisation |
| AFP | Acute Flaccid Paralysis |
| cMYP | Comprehensive Multi Year Plan |
| CSO | Civil Society Organisation |
| DHS | Demographic Health Survey |
| DQS | Data Quality Survey |
| DoV | Decade of Vaccines |
| EPI | Expanded Programme on Immunisation |
| GAVI | Global Alliance for Vaccines and Immunisation |
| HC | Health Centre |
| HCW | Healthcare workers |
| HSS | Health Systems Strengthening |
| ICC | Inter-Agency Coordinating Committee |
| IDSR | Integrated Disease Surveillance Response |
| IMR | Infant Mortality Rate |
| MDG | Millennium Development Goals |
| MoH | Ministry of Health |
| MTEF | Medium-term Expenditure Framework |
| MYP | Multi Year Plan |
| NHSP | National Health Strategic Plan |
| RED/C | Reaching Every District/Child Strategy |
| SDBNIS | Strategy District Based National Immunisation System |

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# Preface

The morbidity and mortality pattern due to vaccine preventable diseases in Zambia remains high, there has been a notable decrease in the rates. The immunisation programme in Zambia has been recognized for its sustained high coverage levels, contributing to reduction in childhood morbidity and mortality rates. The health sector has also been implementing reforms since 1992 aimed at achieving efficiency in service delivery and effectiveness in terms of responding to the people's needs. This involved transfer of power to the lower levels as part of the decentralization process to empower them to become more responsible for their own programme activities and solutions thereby encouraging ownership.

Over the years, there has been an emphasis for increased collaboration across various sectors such as education, agriculture, housing, water, and sanitation, among others. The sixth National Health Strategic Plan 2017–2021 has been developed with a focus on this collaboration. In this regard, strong multi-sectoral collaboration has been emphasized to gain on determinants of health in an effort to prevent various diseases as the Strategic Plan is implemented. Stemming from the Vision 2030 and the Seventh National Development Plan, the legacy for the 2017-2021 National Health Strategic Plan is to have a transformation agenda. The plan will build a robust and resilient health system through a primary health care approach across the continuum of care. It will cover promotive, preventive, curative, rehabilitative, and palliative health services provided as close to the family setting as possible. Consequently, the attainment of Universal Health Coverage will be made possible through primary health care with a focus on community health.

Through the integrated community and primary health care approach, Zambia is envisaged to achieve a reduction in under-five child mortality from 75 to fewer than 35 per 1,000 live births and increase the health profession workforce as by approximately 30,000 health professionals working in the public health facilities country-wide, among other achievements.

Zambia has drawn a comprehensive multi-Year Plan for immunisation for the next five years (2017 - 2021). The processes will run along with the sector National Health Strategic Plan (NHSP), the Mid Term Expenditure Framework (MTEF) to be implemented for the next five years till the year 2021 and for a period of three years respectively.

This Multi-Year Plan seeks to address vaccine preventable diseases through integrated interventions, and; it is hoped that it will contribute towards the attainment of the Sustainable Development Goals (SDGs) number 3: Ensure healthy lives and promote wellbeing for all at all ages.

Hon. Chilufya Chitalu- M.P

**Minister of Health**

# Foreword

The Zambia Expanded Programme on Immunisation has been recognized for its sustained high coverage and contribution towards economic development. Since its inception in 1975, the immunisation programme has made considerable achievements.

The previous multi-year plans have been developed within the framework of Global Immunisation and Vision Strategy (GIVS) and subsequently the Global Vaccination Action Plan (GVAP) in the context of Decade of Vaccines (DoV).

The Multi-Year Plan for the national immunisation programme that has been developed reflects a total picture of milestones to be achieved within the coming five years, taking into account constraints that the health sector is facing in human resource and infrastructure development. It forms a framework for operationalising the immunisation goals, objectives and strategies that are aimed at reaching the millennium development goals.

As immunisation is one of the cornerstones of health and well-being, it contributes to improvement in health and life expectancy through its social and economic impact at national and community level; it is a cost-saving intervention which reduces preventable morbidity and mortality. The multi-year plan gives guidance to invest in children country's future. Therefore, immunisation should be seen as a critical part of a wider health system strengthening effort and a scaling up of efforts to meet the SDGs.

The implementation of the comprehensive multi-year plan strives to build on the gains made in the MDGs and now in the era of sustainable development goal, aims at supporting the attainment of SDG 3 - Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines[1] for all which should ultimately contribute to reduction of childhood morbidity and mortality.

I wish to thank all the cooperating partners who contributed to the development of the multi-year plan.

Dr. Jabbin. L. Mulwanda
**Permanent Secretary- Health Services**
**Ministry of Health**

[1] http://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-3-good-health-and-well-being/targets/

# Acknowledgments

The Ministry of Health would like to thank cooperating partners for providing financial and technical support that saw the updating of the comprehensive multi-year plan 2017 -2021 for immunisation in Zambia.

Special thanks go to individuals for their contributions during the meetings for drafting and editing of the document.

The updating of this document was supported by the World Health Organization and UNICEF Country Offices and other cooperating partners.

I wish to sincerely express my gratitude to the leadership of Ministry of Health for supporting efforts for development of this important document and the EPI team for taking the lead in developing this Immunisation Strategic Plan for the future leaders of this nation under the slogan 'Our children, Our investment'.

Furthermore, I acknowledge sincerely the technical support rendered by the World Health Organization, UNICEF and other partners. I want to thank the EPI team at Child Health Unit, secretariat of the Ministry of Health for their tireless efforts in drafting and editing the document.

Dr. Andrew Silumesii
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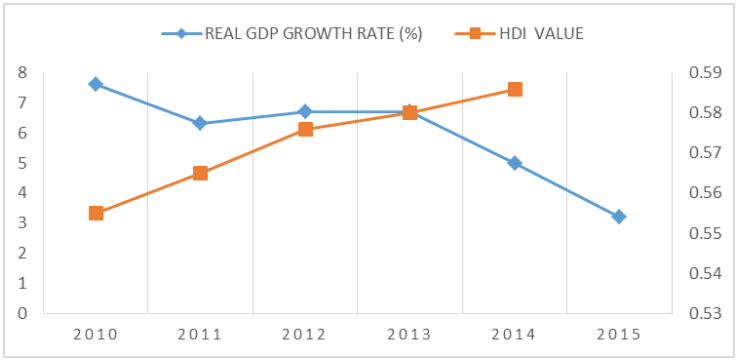
# 1. BACKGROUND

## 1.1. Socio and Economic Status

Socio-economic developments/trends: The Zambian economy has not performed well in the recent past. Though overall GDP has been increasing, the growth rate has been too low to meaningfully cause a change in the economic status of the population. The growth rate of real GDP has generally been on a decline, falling from 7.6 percent in 2010 to around 3.2 percent in 2015. As at end of 2016, growth was projected to be just above 3 percent with the figure marginally rising to 3.4 for 2017. Growth rate in per capita real GDP has also been declining, averaging 3.1 percent between 2010 and 2015.

The slowing growth in the economy has resulted in minimal change in the poverty profile of the country. The poverty levels still remain high in the country. The 2015 Living Conditions Monitoring Survey report that 76.6 percent of the rural population is regarded as poor with a national average of 54.4 percent. It is also reported that about 41 percent of the national population live in extreme poverty. On the Human Development Index ladder, the UNDP reports that Zambia has an HDI scored 0.586 in 2014, ranking 139 out of the 188 countries.

**Figure 1. HDI and Growth rate in Real GDP for Zambia**




The levels of inequality also continue to be high especially between the gender and rural-urban divide. As noted above, the poverty levels are higher among the rural population than it is in urban setups. Economic and employment prospects are not only lower among the rural population but are also low

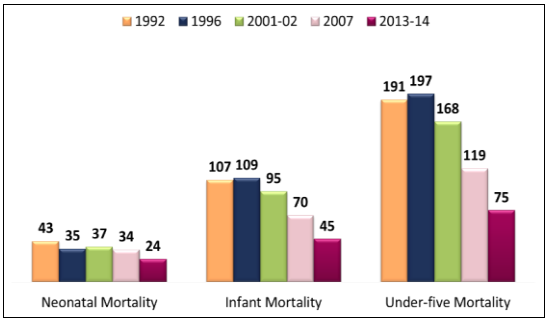
paying mainly in the agriculture sector. The most recent country's Gini coefficient stood at 55.62 percent in 2010, a percentage point increase from 54.62 percent recorded in 2006. This is an upward trend in inequality levels and recent government efforts towards an inclusive growth and development are yet show fruits.

A study conducted by Phiri and Ataguba pointed to focus in ensuring equitable access to health services especially for the poor and needy which includes strengthening primary facilities that serve the poor and reducing access barriers to ensure that health care utilisation at higher-level facilities is distributed in accordance with need for it. Their conclusions were that these initiatives could reduce the observed inequities and accelerate the move towards universal health coverage in Zambia[2].

## 1.2. Health Status of Children

The country has continued to record significant decline in morbidity and mortality among children in the last three demographic and health surveys although these remain high. The Demographic Health Surveys have revealed a declining trend in Infant mortality rate (IMR) from 109 in 1996 to 95 in 2002 and further to 70 in 2007 and 45 in 2013/14 DHS. Figure 1 below illustrates the under-five mortality trends which dropped from 197 in 1996 to 168 in 2002 (DHS 2001-2002) and 119 in 2007 (DHS, 2007) the 75 in 2013/14.

**Figure 2: Trends in Infant and Under 5 Mortality**




**Source: ZDHS 1991, 1996, 2001, 2007, 2013/14**

The burden of infectious but preventable diseases is high and contributes significantly to child morbidity and mortality. The majority of neonatal deaths in Zambia are due to sepsis, prematurity and asphyxia. Beyond the neonatal period, Pneumonia, Malaria and diarrhoea are leading contributors to high under 5 mortality rates (ZHDS 2013/14). In line with the SDG number 3 and target number 3.2, by 2030, end

[2] Phiri and Ataguba International Journal for Equity in Health 2014, 13:24; http://www.equityhealthj.com/content/13/1/24

preventable deaths of new-borns and children under-5 years of age. The country met the fourth Millennium development goal target on reduction of under-five mortality from the 1990 levels by 2015 to which Immunisation was a key contributor.

## *1.3.* Immunisation and the health sector

Organisation and management structures: the health sector is undergoing a major restructuring process since 2016. Over the years, there has been an emphasis for increased collaboration across various sectors such as education, agriculture, housing, water, and sanitation, among others. The sixth National Health Strategic Plan 2017–2021 has been developed with a focus on this collaboration. In this regard, strong multi-sectoral collaboration has been emphasized to gain on determinants of health in an effort to prevent various diseases as the Strategic Plan is implemented. Stemming from the Vision 2030 and the Seventh National Development Plan, the legacy for the 2017-2021 National Health Strategic Plan is to have a transformation agenda. The plan will build a robust and resilient health system through a primary health care approach across the continuum of care. It will cover promotive, preventive, curative, rehabilitative, and palliative health services provided as close to the family setting as possible. Consequently, the attainment of Universal Health Coverage will be made possible through primary health care with a focus on community health.

Through the integrated community and primary health care approach, Zambia is envisaged to achieve a reduction in under-five child mortality from 75 to fewer than 35 per 1,000 live births and increase the health profession workforce as by approximately 30,000 health professionals working in the public health facilities country-wide, among other achievements.

Through this process, the health sector has established comprehensive organisation and management structures at national, provincial, district and community levels, intended to facilitate efficient and effective management of health services. However, the organisation and management structures have very weak linkages with the community that existed before the repeal of the National Health Services Act (NHSA) in 2006. There are plans to repeal and replace the Public Health Act (PHA) to incorporate these components of the NHSA. The new PHA has had the EPI and Surveillance sections updated leading to the creation of the Zambia National Public Health Institute.

The table 1 below presents information on the background statistics for health facilities in each province. The table shows that 2,922 health facilities were recorded in Zambia, in 2017. Provincial comparisons show that, Lusaka Province (473) had the highest number of health facilities followed by Copperbelt (438); then Southern (348) province. Muchinga province (139) had the lowest number of health facilities in the country.

Seventy-Nine percent (i.e. 2,317) of the facilities in the country are Government owned, 19 percent (i.e. 544) are owned by private health facilities and 2 percent (i.e. 68) are owned by faith based health facilities.

When all health facilities are compared by levels of care rural health centres representing about 40 percent (i.e. 1,161), have the highest proportion of health facilities followed by health posts at 33 percent (i.e. 953) and then urban health at 15 percent (i.e. 661).

In 2017, six (6) third level health facilities were recorded; 34 second level hospitals; 99 first level hospitals; 661 urban health centres; 1,161 rural health centres and 953 health posts.

**Table 1: Health Facilities by Province and Type, 2016**

| District | No. of Health Facilities by levels of care | | | | | | | | No. of Health Facilities by ownership | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | TLHs | SLHs | FLHs | Clinics | UHCs | RHCs | HPs | Total HFs | GRZ HFs | Mission HFs | Private HFs | Total HFs |
| Central | 0 | 2 | 8 | 6 | 37 | 108 | 105 | **266** | 233 | 6 | 25 | **266** |
| Copperbelt | 3 | 9 | 13 | 11 | 216 | 56 | 130 | **438** | 272 | 7 | 159 | **438** |
| Eastern | 0 | 1 | 9 | 0 | 11 | 163 | 135 | **320** | 297 | 11 | 12 | **320** |
| Luapula | 0 | 2 | 8 | 0 | 7 | 135 | 65 | **217** | 207 | 5 | 5 | **217** |
| Lusaka | 2 | 4 | 21 | 0 | 281 | 66 | 99 | **473** | 217 | 3 | 253 | **473** |
| Muchinga | 0 | 4 | 2 | 0 | 10 | 70 | 53 | **139** | 126 | 7 | 6 | **139** |
| Northern | 0 | 3 | 5 | 0 | 13 | 94 | 69 | **184** | 174 | 5 | 5 | **184** |
| North-Western | 0 | 2 | 11 | 0 | 12 | 155 | 68 | **248** | 215 | 11 | 31 | **248** |
| Southern | 1 | 5 | 9 | 0 | 58 | 169 | 106 | **348** | 301 | 5 | 42 | **348** |
| Western | 0 | 2 | 13 | 0 | 16 | 145 | 123 | **289** | 275 | 8 | 6 | **289** |
| **Zambia** | **6** | **34** | **99** | **17** | **661** | **1,161** | **953** | **2,922** | **2,317** | **68** | **544** | **2,922** |

To address the staff shortage, the Ministry of Health has embarked on mass recruitment of health workers, opening of new health worker training institutions, training and deployment of community health assistants. Gaps have been noted in skills for EPI at subnational levels and plans exist to conduct capacity building trainings.

## 1.4. The National Immunization Program

Routine EPI is fully integrated into health service delivery system at levels. The EPI Committee has the following subcommittees (SC) through which it operates. These are: Service Delivery SC; Cold chain and Logistics SC; Social Mobilisation SC; and Monitoring and Evaluation SC. Other programme components such as health financing and surveillance are integrated within the appropriate mainstream departments of the Ministry of Health. The subcommittees meet at least once every month.

**Service Delivery - Access and Coverage**: The Immunisation programme aims at reaching all children with the targeted vaccines before they attain their second birthday. Immunisation service delivery is organized and offered at all static points and outreach posts. In efforts to achieve universal health coverage for immunisation services and leaving no one behind, the immunisation programme has been using the reaching every child approach with focus on integration of delivery of services, reducing equity gaps, targeting populations at risk of non-vaccination, vaccination for urban slums. The biannual Child Health Week, offers an opportunity where immunisation is offered to children under the age of five years who may have missed their earlier opportunity.

# 2. SITUATION ANALYSIS

## 2.1. Immunization Coverage

Achievements of Immunisation coverage performance against set targets for 2017 were met. This is illustrated in the table below:

**Table 2: 2017 Antigen target vs. actual coverage (JRF, 2017)**

| *Antigen* | *2017 Target* | *2017 Coverage* |
|---|---|---|
| DTP3 | 95% | 94% |
| PCV3 | 90% | 94% |
| OPV3 | 95% | 92% |
| RV2 | 88% | 96% |
| MCV2 | 60% | 64% |

Drop-out rates (JRF 2017) were as follows: Penta 1-3: 1.03%; PCV1-3: 6%; RV1-3.03: 0%; MCV1-2: 33.3%. As indicated above, the drop-out rates for MCV2 remain very high though it has reduced from 40%. Continuous effects towards social mobilisation activities were undertaken to order to improve MCV2 coverage. Figure 3 shows trends of immunisation coverages nationally from 2014 – 2017.

**Figure 3: Penta3, Rota, PCV3, MCV1 & MCV2 (Administrative coverage data): 2014-17**

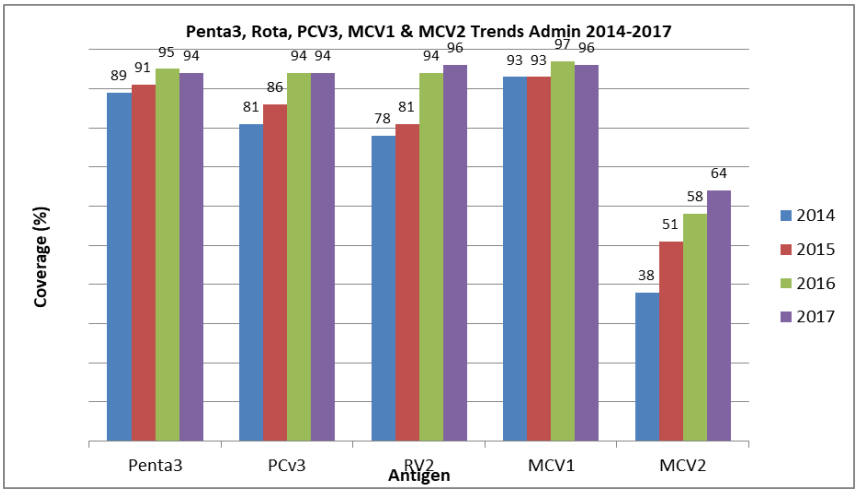



**Table 3: 2017 Provincial coverage of selected antigens (HMIS, 2017)**

| Province | DPT 3 | OPV 3 | PCV 3 | RV 1 | RV 2 | MCV1 | MCV2 |
|---|---|---|---|---|---|---|---|
| Central | 115% | 111% | 115% | 125% | 118% | 121% | 88% |
| Copperbelt | 77% | 76% | 76% | 82% | 80% | 86% | 62% |
| Eastern | 107% | 103% | 106% | 109% | 107% | 108% | 68% |
| Lusaka | 96% | 95% | 111% | 99% | 97% | 102% | 74% |
| Luapula | 109% | 110% | 96% | 119% | 113% | 113% | 67% |
| Muchinga | 90% | 82% | 88% | 92% | 90% | 89% | 56% |
| Northern | 106% | 101% | 105% | 105% | 104% | 95% | 60% |
| North Western | 98% | 102% | 103% | 108% | 100% | 97% | 61% |
| Southern | 104% | 100% | 103% | 108% | 110% | 105% | 77% |
| Western | 99% | 90% | 99% | 109% | 109% | 97% | 66% |

Immunisation Performance by province in the year 2017 is illustrated in table 3 above. It is notable that there denominator issues as reflected in the coverages reported above 100%.

**Figure 4: Trends in Proportion of Districts - DTP3 Performance**

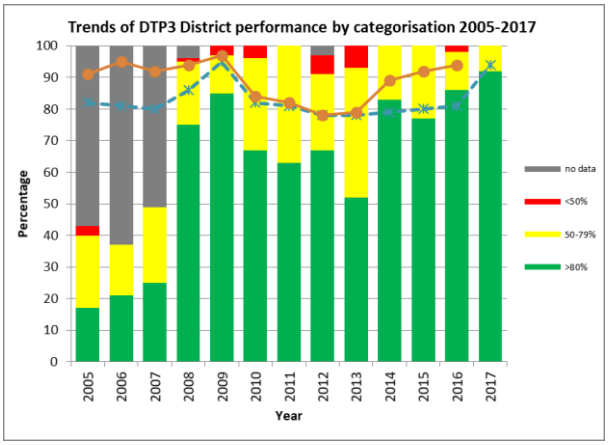



**Figure 5: Map of 2017 DTP3 District Coverage by category[3]**

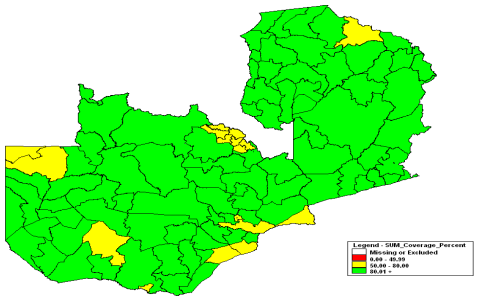


Figure 5 above shows that in 2017, there were no districts that reported coverage for DTP3 below of less than 50%. In the recent years, Zambia has introduced a number of new vaccines into the routine immunisation schedule namely rotavirus vaccine, pneumococcal conjugate vaccine, measles second dose, Measles Rubella and HPV vaccine as a demonstration. The country switched successfully from tOPV to bOPV. In 2017, the country also introduced the Rubella in the routine immunisation schedule through the replacement of the Measles-only containing vaccine with Measles Rubella vaccine after successfully conducting Measles rubella campaign in 2016. Reaching Every District /Every Child (RED/C) Strategy is implemented in all the districts.

[3] Health Management Information, 2017; Ministry of Health

## 2.2. Surveillance and Disease Control

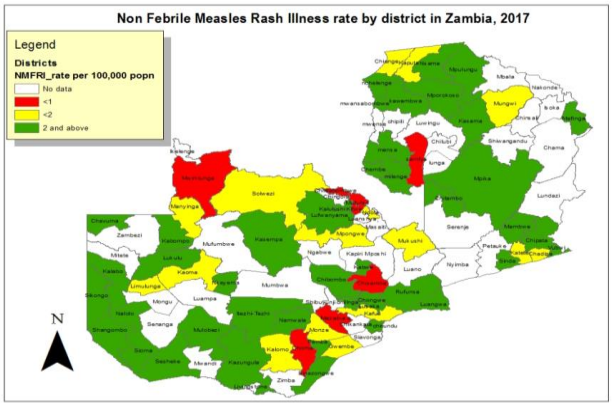
**Accelerated Measles Control:** Measles /rubella case based surveillance is well established with all suspected measles patients have serum samples tested serially for both measles and rubella. In September 2016, the country conducted a preventative SIA against rubella and measles targeting 9 months to 14 years children. The aim for introducing rubella containing vaccine was to prevent rubella infection and eventual elimination of Congenital Rubella Syndrome. The country has not recorded any measles outbreak since 2012. There also exist plans to constitute a Measles Verification Committee in line with the measles elimination strategy.

**Table 4: Measles surveillance performance indicators, 2015-2017**

| Year | # Suspected measles cases | # (%) measles IgM positive cases (Target: <10%) | # (%) rubella IgM positive cases | # (%) non-measles febrile rash illness rate (Target: 2 per 100,000) | Districts with at least one blood sample per year |
|---|---|---|---|---|---|
| 2015 | 400 | 9 (2.3%) | 94 (23.5%) | 2.38 | 54% |
| 2016 | 420 | 6 (1.4%) | 34 (8.1%) | 2.52 | 55% |
| 2017 | 401 | 10 (2.5%) | 16 (4.0%) | 2.38 | 64% |

Measles case based surveillance trends over the previous three years shows that the non-measles improvement in both indicators non-measles febrile rash illness rate and Districts with at least one blood sample per year. However, only one of the two indicators has met the target. The map in figure 6 shows the performance by district.

**Figure 6: Map of the Distribution of suspected measles cases, 2017**




The distribution of suspected cases in the year 2017 are indicated in the above map with a number of silent district reflected (no colour in the map) that are not detecting and investigating (blood sample collected) at least one case during the year (Target >80%).

As at Q1, 2018, the measles indicators were as follows:

Measles surveillance indicators:

a. Non-measles febrile rash illness rate was at 1.9 per 100,000 (target: > 2 per 100,000)
b. Percent districts with, at least, 1 case with blood specimen / year was at 43.7% (target > 80%)
c. 1 percent of the 330 suspected measles cases were measles IgM positive cases while 0 percent were rubella IgM positive cases (Target <10%).

Past performance for measles and rubella & measles and rubella 5 year plan: Regarding the performance of measles rubella, the coverage of as at the end of 2017, the JRF reported very high coverage of MCV1 above 90% which MCV2 lags behind but making slow and upwards progress from previous years' performance from the below 40% in 2014 to now just above 60%. The country is still yet to meet targets for both measles indicators: Non-measles febrile rash illness rate and % Districts with at least 1 case with blood specimen/ year. There is notable improvement in the proportion of districts reporting at least a case with blood sample per year as efforts for orientation of health workers at facility level and district level are intensified.

The program has an outdated measles and rubella strategic plan that focused on five core components of achieving and maintain high levels of population immunity by providing high vaccination coverage with two doses of measles- and rubella-containing vaccines; monitoring disease using effective case based, laboratory based measles surveillance, and evaluate programmatic efforts to ensure progress; develop and maintain outbreak preparedness, respond rapidly to outbreaks and manage cases adequately to reduce fatalities; communication for community awareness to increase demand for immunisation; perform the research and development needed to support cost-effective operations and

improve vaccination and diagnostic tools. Progress against these include: introduction of MCV2 into routine, attainment of very coverage by survey result of MR SIA in 2016, implementation of measles case based surveillance and sensitization of staff at sub-national level in surveillance to increase awareness as well as strengthened capacities for preparedness, rapid response and case management. As part of measles control is planning a follow up measles supplemental immunisation activity in 2020 to vaccine the accumulated population of susceptible children.

**Rotavirus Surveillance:** The performance of Rota surveillance has shown Positive results for Rota at 28% (target > 30%).The table below shows the trend of performance for Rota surveillance indicators for the past three years.

**Table 5: Rotavirus sentinel surveillance performance, 2015-2017**

| Year | Diarrhoea cases | Enrolled cases (≥80%) | Stool collected in 2 days (Target ≥90%) | Specimens received in the Laboratory (Target ≥95%) | Specimens tested (Targeted ≥90%) | Positive for rota (>30%) |
|---|---|---|---|---|---|---|
| 2015 | 1,400 | 1,395 (100%) | 1,389 (100%) | 1,386 (100%) | 1,312 (94%) | 365 (28%) |
| 2016 | 996 | 965 (100%) | 898 (93%) | 963 (100%) | 955 (99%) | 363 (38%) |
| 2017 | 663 | 663 (100%) | 612 (92%) | 658 (99%) | 447 (68%) | 137 (30.6%) |

**Paediatric Bacterial Meningitis:** The pneumococcal surveillance is integrated into the PBM surveillance at the Bacteriology Department at the University Teaching Hospital. This intervention will be the focus of the EPI laboratory based surveillance activities to ensure adequate monitoring. The table below shows the performance indicators trends from 2015-2017.

**Table 6: PBM sentinel surveillance performance, 2015-2017**

| Year | # Suspected meningitis | # (%) LP performed (≥90%) | # (%) LP performed that has a culture result recorded (Target ≥90%) | # (%) suspected meningitis cases with HI identified by culture, latex or PCR (Target 5%) | # (%) suspected meningitis cases with pneumococcus identified by culture, latex or PCR (Target 20%) | # (%) suspected meningitis cases with meningococcus identified by culture, latex or PCR (Target 5%) |
|---|---|---|---|---|---|---|
| 2015 | 455 | 238 (58%) | 237 (100%) | 3 (0%) | 14 (6%) | 5 (10%) |
| 2016 | 362 | 173 (48%) | 154 (89%) | 0 (0%) | 4 (3%) | 0 (0%) |
| 2017 | 113 | 103 (91%) | 103 (100%) | 0 (0%) | 6 (6%) | **0 (0%)** |

Paediatric Bacterial Meningitis (PBM) surveillance has been sustained with the following indicators:

- Percent suspected meningitis cases with Haemophilus Influenza Type B (HiB) identified by culture, latex or PCR was at 0% (target 5%).
- Percent suspected meningitis cases with pneumococcus identified by culture, latex or PCR was at 17% (target 20%).

**Acute Flaccid Paralysis Surveillance:** The program sustained polio free status under optimal surveillance performance. AFP surveillance core indicators:

a. Non-polio AFP rate was at 3.8 per 100,000 (target > 2 per 100,000)
b. Stool adequacy rate was at 91% (target > 80%)

**Figure 7: Zambia - trend of reported AFP cases and stool adequacy**

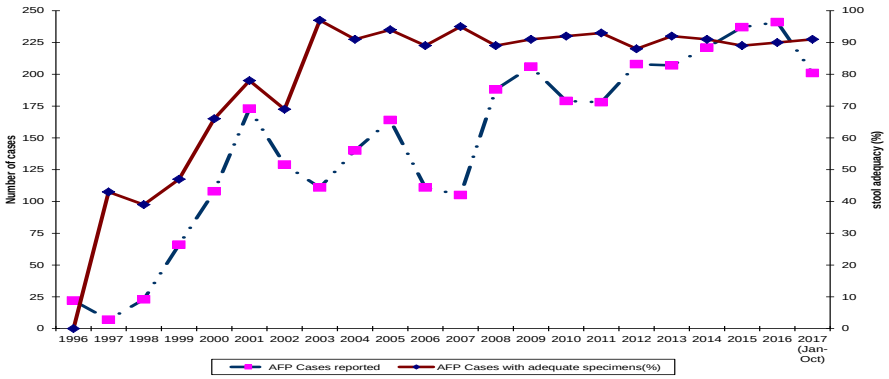



Figure 7 shows the trends of AFP cases reported as well as the proportion of AFP cases with adequate stool samples. Zambia's EPI Surveillance has sustained non Polio AFP rate surveillance indicators above minimum threshold.

**Table 7: Zambia - Core AFP surveillance indicators, 2017**

| Province | Total 'non-polio' AFP cases reported | Non-polio AFP rate | Total AFP cases with adequate stool samples | % AFP cases with adequate stool samples |
|---|---|---|---|---|
| Northern | 30 | 4.9 | 28 | 93 |
| North-western | 9 | 2.3 | 11 | 85 |
| Copperbelt | 34 | 3.1 | 30 | 88 |
| Central | 27 | 3.6 | 22 | 81 |
| Luapula | 71 | 13.5 | 66 | 93 |
| Muchinga | 17 | 4.0 | 17 | 100 |
| Lusaka | 17 | 1.3 | 11 | 65 |
| Eastern | 28 | 3.3 | 25 | 95 |
| Southern | 14 | 1.7 | 13 | 93 |
| Western | 9 | 2.0 | 9 | 100 |
| **Zambia** | **260** | **3.6** | **232** | **89** |

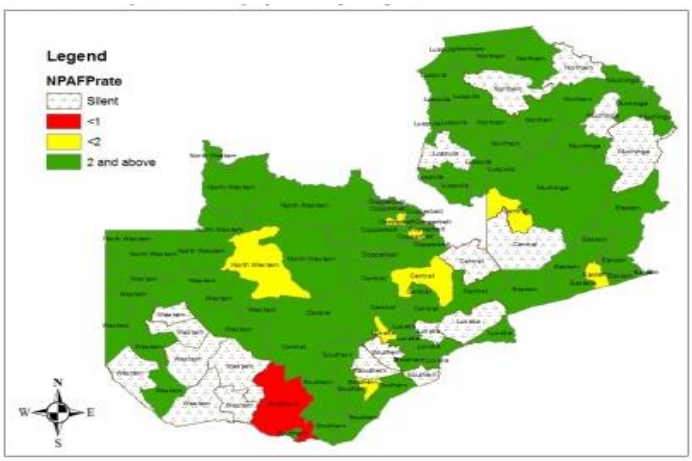
| |
|---|
| Surveillance gap |
| Yellow for NPAFP rate - certification level BUT surveillance gap for stool adequacy |
| Green indicates provinces with operational + certification-level surveillance |

**Key:**

1). Non - polio AFP rate - target ≥ **2 per 100,000** under 15 years children
2). AFP cases with stool samples within 14 days (stool adequacy) - target ≥ **80%**
3). Surveillance index - target ≥ **1.5**

For 2017, the country's AFP surveillance performance is illustrated in the table below. There are notable variations in provincial performance. In addition there are a number of districts that have not reported any AFP cases and this is indicated in figure

**Figure 8: 2017 Map of AFP Silent districts**




In 2017, the country reported zero cases for Adverse Events Following Immunisations (AEFI). Surveillance for AEFI still remains weak and requires strengthening.

There are a number of challenges in surveillance which include:

- No establishment of surveillance officer position at district level
- Inadequate funding at district level for sample transportation to National Virology Laboratory
- Inadequate funds for laboratory consumables and equipment for confirmation of diagnosis
- Transportation for active surveillance and outbreak response
- Weak community surveillance
- Weak community and health worker sensitisation
- Weak Reporting among Health Workers

## 2.3. Service Delivery

**Service Delivery - Access and Coverage**: The Immunisation programme aims at reaching all children with the targeted vaccines before they attain their second birthday. Immunisation service delivery is organized and offered at all static points and outreach posts. In efforts to achieve universal health coverage for immunisation services and leaving no one behind, the immunisation programme has been

using the reaching every child approach with focus on integration of delivery of services, reducing equity gaps, targeting populations at risk of non-vaccination, vaccination for urban slums. The biannual Child Health Week, offers an opportunity where immunisation is offered to children under the age of five years who may have missed their earlier opportunity. The implementation of immunisation service delivery has been hampered by a number of challenges. The table below shows the strengths, weakness, opportunities and threats for the program.

**Table 8: SWOT ANALYSIS**

| **Strengths** | **Weakness** |
|---|---|
| • Outreach and static being conducted<br>• Vaccine control Stock cards being used<br>• Mothers still bring children for immunisation<br>• Expanded vaccine storage space at all levels<br>• Immunisations service delivery systems in place<br>• National child health policy prepared<br>• Dedicated vaccine and logistics budget line<br>• Functional AFP surveillance system<br>• Effective partnerships in-country partners agencies<br>• Regular supply of vaccines and injection supplies<br>• Logistimo (web-based) Immunisation supply management tool introduced<br>• Functional Health management information system and surveillance reporting systems<br>• ZITAG established and functional<br>• Existence of web- based immunisation supply chain management system | • Weak linkages between health facility and community staff<br>• Long walking distances for communities to health facilities and dilapidated community outreach post infrastructure<br>• Irregular supportive supervision by National, Provinces, districts and facilities to lower levels<br>• Poor vaccine management at facility levels<br>• Health Facilities not utilizing vaccine/ immunisation monitoring tools<br>• Lack of use of local data for decision making<br>• Poor record keeping<br>• Health Workers have inadequate knowledge on immunisation<br>• Inefficient resources for outreach services / Irregular outreach services<br>• Intermittent vaccine stock outs at district and facility level<br>• Inadequate human resource for immunisation service delivery and demand generation<br>• Inadequate financial resources for demand generation activities for routine immunisation<br>• Weak AEFI surveillance<br>• Incomplete Cold chain inventory database<br>• Overburdened and demotivated EPI staff<br>• No district and health facility RED/C microplans for REC operationalization<br>• Inadequate transport facility for vaccinators<br>• Inadequate transport for vaccine distribution<br>• Poor vaccine management<br>• Weak capacity for vaccine forecasting and procurement and financial management<br>• Inadequate community awareness of the importance and benefits of immunisation<br>• Low confidence in immunisation<br>• Inadequate social mobilization<br>• Inadequate incentives for community engagements<br>• Outdated law and legislation on immunisation<br>• Inadequate limited use of community registers for child immunisation data capturing leading to difficulties in defaulter tracing |
| **Opportunities** | **Threats** |

| | |
|---|---|
| • Existence of community structures (NHCs, traditional leaders, Church leaders, Civil society)<br>• Governments commitment to the attainment of the health related SDGs<br>• Government agenda to recruit additional health workers and build additional health infrastructure<br>• Existence Public-private partnerships for service delivery and community mobilization<br>• Prioritization of immunisation services by the government | • Hard to reach due to geographical terrains<br>• Dwindling resources/ Insufficient funding of immunisation<br>• Humanitarian crises/ natural disasters<br>• Social and cultural barriers<br>• Global supply and availability of commodities<br>• Vaccine wastage due to unsuitable presentation |

## 2.4. Logistics, Communication and Training

**EPI Logistics:** Following the 2011 effective vaccine management assessment (EVMA), the country embarked on addressing the recommendations that were raised following the report through the cold chain expansion strategy which included expansion of the cold chain at national level with 5 walk in cold rooms, 10 at Provincial Medical Offices. There has been significant cold chain expansion at district and facility levels[4]. The country currently has adequate space to accommodate all vaccines in the current routine immunisation schedule including HPV and IPV vaccines. The adequacy of cold chain is based on the 2012 MOH Health Facility Listing. The expansion of cold chain is still on going. The government has dedicated separate funding for cold chain equipment.

The follow up EVMA conducted in 2015 noted significant improvement in all criteria, however persistent challenges were noted in: (a) vaccine management, (b) temperature monitoring, (c) maintenance,(d) building-equipment- transport and (e) stock management[5]. In order to further improve vaccine management national, provincial and district pharmacists have been oriented in vaccine management. Additionally, to improve vaccine stock real time monitoring at national, provincial and district levels, through the introduction and scaling up LOGISTIMO. A pilot is also being conducted in two districts on Remote Temperature Monitoring (RTM) to improve continuous temperature monitoring.

Communication: A 2012/13 KAP study on immunisation reveals key knowledge gaps among caretakers of under-five children: (i) many caretakers do not know why children should be immunised; (ii) some did not know diseases prevented by immunisation; (iii) misperceptions about immunisation exist e.g. that it causes diseases, it makes children infertile; and (iv) though in small numbers some religions e.g. Zion Church forbid their members from accessing immunisation services. Zambia has one of the lowest proportion of pregnant women who deliver with the help of skilled staff; hence some children miss

[4] 2015 EVMA Report and Cold Chain Program reports

[5] Zambia EVMA Report 2015

antigens given at birth because they are born at home. Among some cultures in Zambia a newly born child is kept in the house for as long as 6-8 weeks for fear of witchcraft and other cultural related reasons; hence such children miss some antigens which are supposed to be given to children at this age[6].

According to the multiple injection study conducted in 2015, Parents/caregivers also believe that the child needs to receive all the immunisation injections for them to grow well, hence the children who are injected with immunisation injections are expected to grow up stronger and healthier than the children who are not injected with the immunisation injections.

Communication for immunisation has been mainly conducted during and Child Health Week and Supplemental Immunisation Activities (SIAs). This has affected the immunisation demand creation and awareness in the communities. In response to the challenges, the government has partnered with Civil Society Organizations (CSOs) to assist in social mobilisation activities. An integrated communication strategy has been developed to streamline and strengthen immunisation communication activities as part of creating demand for immunisation services and addressing risk communication. Routinisation of communication for Immunisation as well as demand creation interventions needs to be an integral part of routine immunisation programming. There have been some efforts to update key strategic documents that will guide the overall communication for immunisation in the country. Community participation and engagement in micro-planning has been a weak area, which needs to be strengthened. This was also reflected in the EPI review conducted in 2014. The EPI review found that in some districts the community participates in the planning and management of immunisation services as key stakeholders through community structures such as CHWs, NHCs and SMAGS. Lack of active participation of community members has also contributed to weak defaulter tracing mechanism, a problem which was identified by the EPI review. Innovations such as mVaccination are being pilot to address week defaulter tracing.

## 2.5. Health System and Program Management

Program Management: Routine EPI is fully integrated into health service delivery system at levels. The EPI Committee has the following subcommittees (SC) through which it operates. These are: Service Delivery SC; Cold chain and Logistics SC; Social Mobilisation SC; and Monitoring and Evaluation SC. Other programme components such as health financing and surveillance are integrated within the appropriate mainstream departments of the Ministry of Health. The subcommittees meet at least once every month.

[6] RuralNet Associates Ltd. (2013). *Knowledge, attitudes, practices, barriers and social norms in health seeking behavior on immunisation and child care in Zambia.* Lusaka: RuralNet and Associates Ltd.

**Health Systems:**

### Health Workforce

Availability of adequate numbers of appropriately qualified and experienced health workers, in the right skills-mix, is a major determinant of health service performance. Zambia has long identified the critical shortages of health workers, as a major obstacle to the attainment of the national health priorities including health related MDGs. The two main problems concerning the human resource situation are the critical shortages of health workers, leading to abnormal staff to patient ratios, and the inequitable distribution of the available health workers, leading to imbalances. In addition to this the current establishment is inadequate to meet health workforce needs. The most affected are the rural areas, which do not have adequate capacities to attract and retain qualified health workers. Table 3 below presents the ratios of categories of health workforce to populations.

**Table 9: Table of Health Workforce in Zambia – WHO 2015**

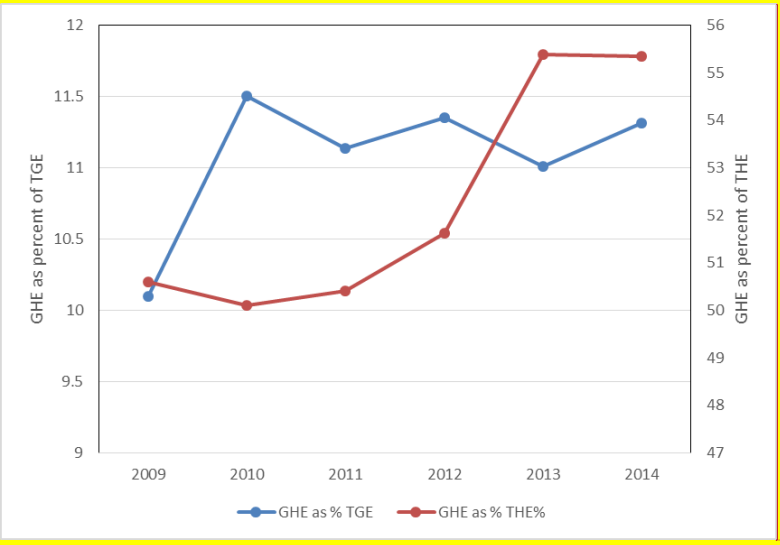
| Health Work force | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|
| Environmental/ Public Health workers /1000 population | 0.019 | 0.019 | 0.028 | 0.029 |
| Nursing and modwifery personel density/ 1000 population | 0.762 | 0.784 | | |
| Pharmaceutical personel/ 1000 personel | 0.028 | 0.028 | 0.08 | 0.088 |

**Health Financing**

Health care financing continues to be a challenge for most low income countries. The Abuja Declaration 2001 urged the WHO member countries to increase health expenditure to at least 15 percent of the national budget. Zambia, like many other African states, is struggling behind in meeting this target. In the figure below are government expenditure on Health expressed as percentages of total government expenditure and total health expenditure. this comparison is especially important in highlighting government's contribution to health expenditure.

**Commented [WU1]:** Needs updating from Gavi FCE team possibly

**Figure 9. Government expenditure on Health as a percentage of Total Government expenditure (TGE) and Total Health Expenditure (THE)**




The percentage allocation to the health budget was highest in 2010 at about 11.5 percent. In the recent past, it has been just over 11 percent. A comparison to total health expenditure shows that government share has been increasing steadily from 50 percent in 2010 to just over 55 percent in 2014.The remaining portion is divided between donor finances and the out-of-pocket. The 2016 NHA currently being finalized will be more informative on the direction of government portion of total health expenditure. The government continues to engage both external and internal partners on the financing of the health sector.

**Commented [WU2]:** Look for updated information

# 3. VISION AND GOALS

The vision, goals and guiding principles of the 2017-2021 Multi Year Plan are articulated in this section. The vision of the program is to have ' A Zambia in which all individuals and communities enjoy lives free from vaccine-preventable diseases'.

## 3.1. National Goal and Priorities of the National Immunization Program

The national goals and priorities are as follows:

- Sustain a Zambia free of poliomyelitis
- Zambia to reach global and regional elimination targets for all vaccine preventable diseases.
- Meet the vaccination coverage targets in each province , district and community
- To increase to 90% awareness the benefits of full immunisation among caretaker by 2021
- Develop and introduce new and improved vaccines and technologies
- Meet the SDG number 3; target 3.2 (which aim at ending vaccine preventable deaths in children under five years of age).

## 3.2. Objectives Of National Immunization Program

National programme objectives and their related regional or global objectives are highlighted in Table 4 below.

**Table 10: The National Objectives & Related Global Objectives**

| National Objectives | Related Global and Regional Objectives |
|---|---|
| Achieve 90% DTP3 coverage in every district by 2021 | DTP3 vaccine coverage to reach 90% region wide by the end of 2020 |
| To reduce MCV1 - MCV2 drop out from 43% to less than 10% by 2021 | MCV 1 coverage to be 6atleast 95% at the national and district levels and SIA coverage to be 95% in all districts. |
| To increase Fully Immunised Coverage from 47% (cf:HMIS) to 90% by 2021 | To improve immunisation coverage beyond current levels |
| To improve immunisation coverage of targeted districts to at least 80% for all antigens by 2021 | |
| To introduce national wide HPV Vaccination by 2018. | At least 35 countries introduce HPV by the end of 2020. |
| To introduce IPV Vaccination into the NIP in 2018<br><br>To sustain polio free status through 2021 and beyond<br><br>To sustain non-polio AFP rate of > 2 per 100000 population under 15 years and stool adequacy rate of > 80% in every province in 2021<br><br>To sustain non-polio AFP rate of > 2 per 100000 population under 15 years and stool adequacy rate of $\geq$ 80% in every province in 2021 | To complete interruption of polio virus transmission and ensure virus containment. |
| To establish a functional NITAG by 2017<br><br>To strengthen the roles of existing coordination committees by 2017 | All Countries Commit to immunisation as a Priority. |
| To achieve 100% government funding for vaccines used in routine immunisation programme by 2021<br><br>To lobby for amendment of the Law on immunisation taking into consideration current status by 2018 | |

| | |
|---|---|
| To have 80% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria by 2021 | Strong immunisation systems are an integral Part of a Well-functioning health system |
| To attain non-measles febrile rash like rate of >2 per 100,000 in 80% of district by 2021 | To attain the elimination of measles |
| To improve data quality and utilization | Strong immunisation systems are an integral Part of a Well-functioning health system |
| To implement the 2017-2021 communication strategy | individuals and Communities understand the value of vaccines and demand immunisation as both their right and responsibility |
| To build capacity of CSOs, community health workers and communities | Strengthened capacity of CSOs, community health workers and communities to support and improve ownership of immunisation programmes |
| To improve immunisation coverage in the existing school health package and reporting by 2021 | Integration of immunisation systems with other primary health care delivery programs |

## 3.3. Strategies of national immunization program

## The Strategic Framework

### 3.3.1. Zambia Commits to Immunisation as a Priority.

In line with the GVAP strategic objective which requires countries to have legal framework or legislation that guarantees financing for immunisation and the presence of an independent technical advisory group that meets defined criteria, the Public Health Act in which the immunisation section has been updated, is currently undergoing revision. The. Further, the Ministry of Health has established a technical immunisation advisory group, Zambia Immunisation Advisory Group (ZITAG) to advise the program on immunisation related issues. Currently, Zambia has in the national budget, a separate dedicated budget line for vaccine procurement and cold chain equipment, subnational level also include immunisation as a major component in their Medium Term Expenditure Framework (MTEF). There has been increased funding to the immunisation programme both for the procurement of vaccines and general programme management.

### 3.3.2. Individuals and Communities Understand the Value of Vaccines and Demand Immunisation as Both their Right and Responsibility.

In the quest to improve demand and create awareness, the Ministry is working with CSOs with support from GAVI. In addition to this, the Ministry has included communication and social mobilization as a main component in the GAVI HSS proposal. The focus is now moving towards greater involvement of communities and their structures through sensitisation meeting, mapping and orientation of community agents in immunisation activities and working with community and religious leaders to promote immunisation and its utilization. To further understand community dynamics around multiple injections, the government with support from partners conducted a multiple injection study. The government embarked on CSO mapping and training to assist in social mobilisation activities at district level. Despite the efforts, there are still a number of challenges in routine demand creation activities. The RED strategy has a strong component of community engagement including micro-planning and to strengthen the community linkages with health systems.

### 3.3.3. The benefits of immunisation are equitably extended to all People.

The immunisation program has noted a reversal of declining trends of immunisation coverage over the last three years, attributed to a number of efforts including well-coordinated technical and financial support by government and partners, cold chain expansion and improved EPI logistics management. The ZDHS 2013-14 has noted that there are no disparities between the sexes on child immunisation coverage. To help reduce the challenges of long distance to health facilities, government has embarked on an ambitious plan to construct 650 health post country wide most of which have been completed and operationalised. This is in line with the mission statement of the Ministry of Health of taking health services within a distance of 5 km radius for every community in Zambia. However, there have been challenges in universal access due to inadequate skilled human resource and unreliable transport that has resulted to inconsistent outreach activities, hard to reach areas and populations (mushrooming of unplanned settlements, highly mobile populations in search of economic activities and socio-cultural barriers). However, there is need to further understand the drivers of inequities to accessing immunisation. The country plans to undertake an Equity Study in 2018 to understand these aspects. The Gavi HSS is also being implemented in selected districts with various challenges to provide equitable access to the benefits of immunisation.

### 3.3.4. Strong Immunisation Systems are an Integral Part of a Well-Functioning Health System.

Dropout rates for 2016 were as follows: penta1-3 0%; PCV1-3 1%; RV1-2 0%; and MCV1-2 40%. While there have been improvements on most dropout rates as compared to 2014, there is still a significant dropout between MCV1 and MCV2. To address this, a review was conducted to understand reasons for low uptake of MCV2 and a road map developed. Interventions identified to address are planned

through the second year of life platform and RED/REC approach. The Immunisation manual and EPI communication Strategy have been update but are yet to be printed and disseminated. There is also implementation of immunisation messages on the national media on the importance of completion of all vaccines on the immunisation schedule and also integrating immunisation behaviours into other child survival programmes.

### 3.3.5. Individuals and communities understand the value of vaccines and demand vaccines equitably extended to all people

Routine communication for immunisation has been mainly conducted during Supplemental Immunisation Activities (SIAs, Child Health weeks, African vaccination week and introduction of new vaccines). The challenges have mainly been due to high cost of communication materials and inadequate funding. In an effort to address the challenges, government has partnered with Civil Society Organizations (CSOs) and other partners to assist in social mobilisation activities. An integrated communication strategy has been developed to streamline and strengthen immunisation communication activities. In order to enhance communication, Zambia in line with global initiatives conducts Africa vaccination week every year. To further strengthen community partnerships and ownership advocacy strategies will be employed to engage various stake holders including parliamentarians, traditional leaders, church leaders and the community at large.

### 3.3.6. Immunisation Programmes have Sustainable Access to Predictable Funding, Quality Supply and Innovative Technologies.

Key indicators to monitor progress towards this strategic objective will be the percentage of routine immunisation costs financed through government budgets and globally installed capacity for production of universally recommended vaccines within five years of licensure/potential demand. There has been a notable increase in financing for immunisation towards vaccine procurement and programme management. There have also been a number of innovations that have been introduced to enhance the programme management.

### 3.3.7. Country, Regional and Global Research and Development Innovations Maximize the Benefits of Immunisation.

Zambia's Ministry of Health has a research unit under the department of public health and research which coordinates all health research activities including immunisation research. Over the next five years operational social research in immunisations shall be conducted to help to understand the needs of communities and drivers of immunisation. The country plans to conduct an operational research,

equity study and Data Quality Assessments (DQSA) including the development implementation of a data quality improvement plan.

Strategies that have been prioritised are shown in the table below:

| Programmatic Area | Strategies |
|---|---|
| Improve Immunisation Coverage | Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) |
| Immunisation Equity | 1. Operationalisation of full complement of REC Approach<br>2. Equity Analysis study |
| New Vaccine Introduction | 1. Introduction of HPV vaccine through school based programmes into the national schedule by 2020<br>2. Introduction of IPV into the NIP in 2018<br>3. Introduction of Hepatitis B birth dose into the NIP in 2021 |
| Financial Sustainability | Advocacy for increased allocation for domestic resources |
| Coordination and Governance | 1. Operationalisation of NITAG<br>2. Strengthening the roles of the coordination committees (ICC, EPI Sub Committee, AEFI) |
| Vaccine Supply and Cold Chain | 1. Review and improve PHCs' performance in all 8 EVMA Criteria<br>2. To expand the cold chain capacity and establish sustainable cold chain maintenance plan |
| Polio Endgame | 1. Operationalisation of the Polio Legacy Plan<br>2. Integrated Disease Surveillance and Response (IDSR) |
| Measles elimination | 1. Integrated Disease Surveillance and Response (IDSR)<br>2. Measles Rubella elimination strategies |
| Data Quality and Evidence Generation | 1. Develop and Implement DQIP<br>2. Implement innovations to improve data quality |
| Communication for Immunisation/ Communication Strategy | 1. Operationalisation of the Communication Strategy<br>2. Strengthening CSO Immunisation Platform Interventions |
| School Immunisation | Strengthen Immunisation in School Health Package |
| Legal Framework | Dissemination of amended immunisation section of the Public Health Act |

## 3.4. Service Delivery

**Maternal & Neonatal Tetanus Elimination:** The country achieved Maternal Neonatal Tetanus Elimination in 2007. A validation exercise using Lot Quality Assurance - Cluster Survey (LQA-CS) methodology was conducted in Sesheke and Kaoma districts. The country passed and was declared having eliminated the disease. Zambia has continued to sustain the MNTE status to date.

**Reaching Every District/Child strategy:** The Reaching Every District (RED/C) strategy adopted as an effective approach to reaching the un-reached children and the missed opportunities. The Zambian guidelines were update in 2015 and will require updating in line with recent WHO regional updates. The scaling up of RED/C approach continues to face a number of challenges including inadequate funding for comprehensive implementation. Once adapted the guidelines will be printed and disseminated to all

levels. Other innovations that are being piloted such as mVacc (a community based reminder innovations for caregiver to bring children for immunisation at set times) and Zambia Electronic Immunisation Registry to enhance identification of defaulters and missed opportunities. The programme has continued to use the Africa Vaccination Week platform to create immunisation demand in the communities.

**Child Health Week (CHWk):**
By 1999, Child Health Week (CHWk) emerged as a key delivery strategy for vitamin A supplementation in Zambia. Overtime the CHWk package expanded to include various high impact interventions: Childhood immunisation, de-worming; health education; promotion of routine immunisation through mass media and community mobilization in districts with low coverage, Promotion of hand washing; and management of childhood illness.

CHWks have since become a sustainable flagship strategy for equitable delivery of high impact interventions twice yearly in all parts of Zambia. Child health week will only be used for missed opportunities and will be the platform for reaching pre-adolescents with health interventions such as HPV vaccination through integration.

**New Vaccine Introductions**
The national Immunisation program has in the last two years introduced and has plans to introduce more vaccines in the future. There are plans to introduce HPV vaccine which is already approved for support through Gavi. The country is also considering the introduction of Hepatitis B vaccine.

## 3.5. Surveillance and Disease Control

**Polio Eradication Initiative:** The country has continued achieving and sustaining certification standards of Acute Flaccid Paralysis (AFP) with core indicators within thresholds over the last few years. The country has also successfully completed phases 1a and 1b of laboratory containment for polioviruses (both wild and sabin) and continues to submit Annual Polio Updates as part of requirements for Polio Certification. Additionally, environmental surveillance for wild polio virus has been established in 8 sites in Lusaka and Copperbelt province as a complement intervention to AFP surveillance. In 2017 the geographical distribution of investigated AFP cases was documented and silent districts identified are indicated in the map below. Zambia introduced IPV vaccine into the Immunisation schedule in June 2018. Zambia continues to be under threat of importation of vaccine preventable diseases such as circulating vaccine derived poliovirus. Zambia needs to work to finalise its Polio Transition Plan and also work in very close collaboration to update and finalise the Polio Outbreak Response plan and strengthen Standards Operating Procedures for processes for capacity building. With a notable passage of time between the Switch from the use of tOPV to bOPV of about three years, there are plans to conduct a catch up campaign of IPV in 2019 targeting children who are susceptible to Type 2 poliovirus in order to reduce the threat of outbreak.

**Accelerated Measles Control:** Measles /rubella case based surveillance is well established with all suspected measles patients have serum samples tested serially for both measles and rubella. There is need to continue to strengthen to Measles case base surveillance as the country has not met the core measles case based indicators. There are also exist plans to constitute a Measles Verification Committee in line with the global measles elimination strategy.

The program has an outdated measles and rubella strategic plan that focused on five core components of achieving and maintain high levels of population immunity by providing high vaccination coverage with two doses of measles- and rubella-containing vaccines; monitoring disease using effective case based, laboratory based measles surveillance, and evaluate programmatic efforts to ensure progress; develop and maintain outbreak preparedness, respond rapidly to outbreaks and manage cases adequately to reduce fatalities; communication for community awareness to increase demand for immunisation; perform the research and development needed to support cost-effective operations and improve vaccination and diagnostic tools which requires updating. As part of the control of measles the country is scheduled to undertake a follow up measles campaign in 2020 in order to reduce the proportion of susceptible population.

**Control of other vaccine preventable diseases:** The program has supported the short to medium term interventions in dealing with disease control interventions in situation of outbreaks of cholera. Such activities will required a coordinated and purposeful planning in order to be effective and successful as part of health emergency response. The program plans to undertake preventive vaccination campaigns as part of the cholera elimination program mounted through the multi-sectoral approach. Zambia is at risk of importation of a number of diseases that may require vaccinations as part of control measure including circulating Vaccine Derived Polio Viruses and EVDs.

## 3.6. Logistics, Communication and Training

**Cold Chain Expansion Strategy**

The country over the last five years implemented a Vaccine cold chain expansion strategy that was informed by the gaps identified in cold chain equipment through Effective vaccine management assessment. The subsequent expansion strategy involved expansion of cold chain at all levels with national and provincial levels getting standardised walk-in-cold rooms while districts either solar or electric powered vaccine fridges. This resulted in more than 2500 vaccine refrigerators were procure through this strategy which was a culmination of strong MOH leadership and partnerships around a common goal with partners such as CIDA, CIDA/UNICEF, MOH, ARK/CIDRZ, WHO, and JICA supporting the strategy. This was accompanied by the refurbishing of the National Cold Chain workshop for maintenance and repair of existing equipment, training of cold chain technicians and the establishment of a dedicated cold chain budget line at MOH. This resulted in significant improvement of cold chain volume at all levels while gaps exists in some facilities XXXX, and those powered by kerosene.

Subsequent to the above efforts, and following the construction of additional health facilities and those which now have equipment that is obsolete/over 10 years old and requiring replacement XXXXXX. The recent Effective vaccine management results indicated that there were gaps in the following areas:

The program intends to mobilise additional resources for the procurement of additional cold chain that will bridge gaps as identified by the updated and verified cold chain inventory. Facilities to benefit from there initiative will include: those without functional cold chain equipment, those with obsolete or equipment older than 10 years and newly constructed health facilities. In addition, the cold chain space required will also take into account planned new vaccine introductions. The development of a robust and sustainable maintenance plan is critical for the longevity of the equipment. There are also plans for a sustainable capacity plan for development of certified and accredited curriculum for training of cold chain technicians through established institutions. These activities will be coordinated by the national logistics and cold chain technical group. In addition the program continue plans to strengthen vaccine management through evaluation and rolling out of the web-based vaccine management tool and remote temperature monitoring at subnational levels.

## 3.7. Health System and Program Management

**Coordination and governance:** The Zambian National Technical Advisory Group was established two years ago and is still in its infancy. The program plans to support strategies that will result in the full Operationalisation of NITAG. In addition, the terms of reference have recently been reviewed in order to strengthening the roles of the coordination committees (ICC, EPI Sub Committee. There are plans strengthen capacities of other relevant committees such as the AEFI in order to improve their performance. In addition, an opportunity for updating the Vaccination chapter has presented itself and the program is engaged in all the processes to ensure the legal framework is finalised and disseminated. Regarding financial sustainability, the program has had challenges in mobilizing adequate resources for optimal program implementation. Taking note of the recent classification of the country by World Bank as middle income country and late reclassification as low income has triggered actions for reviewing the country position and the need for planning for transition. Apart from this it is pertinent that the program positions itself for financing the various new vaccines introduced as well as those planned to ensure that there is continuity of services through local resources. There is need to strengthen advocacy among local stakeholders for increased local financial resources for programming through very strong advocacy strategies.

Data Quality Improvement Initiatives: In the aim to improve the quality of immunization data across the continuum of care, the MoH has planned to embark on a Data Quality Improvement Plan process to document the reasons for poor quality data as well as the process of managing the Zambian immunization data. Efforts to develop a roadmap for the improvement plan while understanding dynamics of the challenges around the system will be embarked on. The country to date has not attained the conditions required to be compliant to data quality requirements. However, a number of steps have been undertaken leading the fulfilling these.

Main Efforts/ Innovations and good practices

At national Level, Zambia EPI recently conducted desk review of immunisation coverage data and field assessment on data quality as part of efforts in understanding the status of quality of immunisation data. Once data analysis is and the report are finalised the findings are intended to inform the next steps towards the development of Immunisation Data improvement plan. Through the strengthening of local capacity for data quality improvement processes including assessments and development of strategic plan for data quality improvement, the program plans to complete this process. Recommendations for stepwise approach to this process will be undertaken with guidance of the local capacities. The country is also undertaking a national demographic and health survey which includes an immunisation chapter; this information will be very useful in comparing the administrative reports through the DHIS2 and bring out any coverage discrepancies between survey data and administrative reports.

At the Health Facility level, efforts to introduce electronic registries to improve data completeness and determination of population denominators in selected Districts in one Province have shown promising results and this innovation has been rolled out to an additional province with view for national roll out. Other efforts of improvement of data as part of immunisation programming are the introduction of Logistimo which provides real time live data on vaccine situation and this is used to triangulate immunisation coverage/ doses administered reports. In addition, the extension of the DHIS2 platform to accommodate e-Surveillance for timely reporting is underway.

# 4. MONITORING AND EVALUATION

Monitoring the progress in the implementation of the comprehensive multi-year and annual plan is important for success. The major milestones along the timeline of this annual plan are shown below. All efforts must be made to ensure that the key timeline and milestones are monitored by program officers at national, provincial and district levels.

**Research and Program Evaluation**

In order to continually improve delivery of services, it is important to generate local evidence that inform decision making. Review of the program including specific subsections of the program. The table below indicated baseline indicators, targets set for specific years and means of verification. The implementation of the plan will be monitored against the set targets in the table below:

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Result | Year | Source | 2017 | 2018 | 2019 | 2020 | 2021 | Means of verification |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births | Under 5 Child Mortality Rate | 75 / 1,000 | 2013/4 | DHS | 63 | | 53 | | 43 | DHS Survey 5 yearly |
| **Objective** | **OUTCOME INDICATORS** | **Baseline** | | | **Targets** | | | | | |
| | | **Result** | **Year** | **Source** | **2017** | **2018** | **2019** | **2020** | **2021** | **Means of verification** |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| To increase Fully Immunised Coverage from 52% (cf:HMIS) to 90% by 2021 | % Fully Immunized Child | 90% | 2015 | HMIS | | | | | | HMIS Data |
| 90% DTP3 coverage in every district by 2021 | % DTP 3 coverage | 92% | 2015 | JRF | | 94% | 96% | 97% | 97% | HMIS Data |
| To reduce MCV1 - MCV2 drop out from 43% to less than 10% | % MCV 1 coverage | 94% | 2015 | JRF | 95% | 96% | 97% | 97% | 97% | HMIS Data |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| by 2021 | % MCV 2 coverage | 51% | 2015 | JRF | 60% | 65% | 70% | 75% | 80% | HMIS Data |
| **Strategies** | **OUTPUT INDICATORS** | **Baseline** | | | **Targets** | | | | | |
| | | **Result** | **Year** | **Source** | **2017** | **2018** | **2019** | **2020** | **2021** | **Means of verification** |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Availability of updated District Microplans in targeted districts | 0% | 2015 | Program Records | 20% | 40% | 60% | 75% | 85% | Districts |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | % MCV 2 Coverage | 51% | 2015 | JRF | 60% | 65% | 70% | 75% | 80% | HMIS Data |
| 1. Operationalisation of full complement of REC Approach 2. Equity Analysis study | Equity analysis study report available | | | | 20% | 40% | 60% | 75% | 85% | Analysis Report |
| Introduction of HPV vaccine through school based programmes into the national schedule by 2020 | % HPV2 Coverage | 72% | 2015 | HMIS | | 50% | 60% | 75% | 85% | HMIS Data |
| Introduction of IPV into the NIP in 2018 | %IPV coverage | 0 | 2018 | HMIS | 0% | 60% | 70% | 80% | 90% | HMIS Data |
| Operationalisation of NITAG | Number of NITAG Recommendations notes made | 0 | 2016 | NITAG Reports | 2 | 4 | 4 | 4 | 4 | NITAG Reports/ Resolutions |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Strengthening the roles of the coordination committees (ICC, EPI Sub Committee, AEFI) | Number of Coordination Committees meetings held per each committee | 4 | | Committee meeting minutes | 4 | 4 | 4 | 4 | 4 | Coordination committee meeting minutes |
| Review and improve PHCs' performance in all 8 EVMA Criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | 0 | 2015 | EVMA Reports | PHCs meet at least 60% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 65% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 70% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 75% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | EVMA Reports |
| Operationalisation of the Polio Legacy Plan | Polio Legacy Plan available | | | | | | | | | |
| Integrated Disease Surveillance and Response (IDSR) | Non Polio AFP Rates | 3.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Integrated Disease Surveillance and Response (IDSR) | Non Measles febrile Rash illness rate | 2.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Develop and Implement DQIP | Number of Operational Research conducted | 0 | 2016 | Research reports | 2 | 2 | 2 | 2 | 2 | Operational research reports |
| 1. Operationalisation of the Communication Strategy<br>2. Strengthening CSO Immunisation Platform Interventions | No of spots aired on routine Immunisation messages | 0 | 2016 | Social Mobilisation Reports | Quarterly | Quarterly | Quarterly | Quarterly | Quarterly | Social Mobilisation Reports |
| Strengthen Immunisation in School Health Package | % HPV2 Coverage | 72% | 2015 | HMIS | | 50% | 60% | 75% | 85% | HMIS Data |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissemination of amended immunisation section of the Public Health Act | Updated Law on Immunisation | 0 | | | | | Updated law | | | Updated public health act on immunization section |

# 5. COSTING AND FINANCING: 2017-2021

The cost of financing the annual plan for the Immunisation programme, 2018, will be supported by government and partners. The government has secure funding for the procurement of traditional vaccine and co-financing for new vaccine; personnel cost for all Health Workers in the establishment; procurement of Under-5 cards and cold chain maintenance and procurement. There are also funds available for programme management. Other secure funding is also available through the PEF funds, Gavi HSS and New Vaccine Support for selected new and underused vaccines as well as the Vaccine Introduction Grant. Additional funding for the programme in areas such as immunisation supply chain, rolling out of innovations, capacity building for immunisation service delivery, communication, finalisation and production of various programme guidelines and tools will be supplemented by partners. The estimated total cost for implementing the 2018 Annual plan is K983, 795, 608.

The table below indicates the financing cost by programme area:

| PROGRAMME AREA | ESTIMATED COST |
|---|---|
| Official Coverage Estimates % DTP3, MCV2 & FIC | K297,601,104 |
| Immunisation Equity | K299,467,252 |
| New Vaccine Introduction | K1,950,000 |
| Financial Sustainability | K320,000 |
| Coordination and Governance | K 301,737,252 |
| Vaccine Supply and Cold Chain | K74,200,000 |
| Polio Endgame & Measles Elimination | K2,590,000 |
| Data Quality and Evidence Generation | K1,200,000 |
| Communication Strategy | K 4,550,000 |
| School Immunisation | K180,000 |
| **GRAND TOTAL** | **K983,795,608** |

The opportunities and challenges to immunisation programme financing are shown in Table 11 below.

**Table 11: Opportunities and Challenges to Immunisation Programme Financial Sustainability**

| Opportunities for financial sustainability | Challenges to financial sustainability |
|---|---|
| At the international level:<br>• Support for the programme evidenced during SIAs support<br>• Support for new vaccine introduction<br>• Vaccines pricing and supply | • Programme donors still too few<br>• Other global initiatives imply competition of resources with other actors |

| | |
|---|---|
| At the country level:<br><br>• Vaccine financing included in the MTEF<br>• SWAp process<br>• SWAp process with common basket<br>• EPI government priority as seen in the manifesto of ruling party | <br><br>• Low financing to the health sector<br>• A weak private sector<br>• High reliance on donors<br>• Devaluation of kwacha when bulk of EPI requirements require forex |
| At the health sector level:<br><br>• Resource flows to the programme commenced<br>• Private sector contribution at SIAs | <br><br>• Financial commitment to the programme is low<br>• Sparsely populated in some areas making access expensive<br>• Hard to reach areas (terrain)<br>• Limited human resources<br>• Integration with other programmes |
| At the community level<br><br>• Decentralization<br>• Better strategies to improve access and use of health services<br>• Services improving in rural areas, such as electricity and radio communication | <br><br>• Limited resource mobilization capacity<br>• Unplanned expansion of infrastructure<br>• Community involvement and participation low<br>• Inadequate social mobilisation activities |

## 5.1. Vaccines for routine EPI programs

## 5.2. Injection supplies

## 5.3. Operational costs

## 5.4. Capital expenditures: cold chain equipment

**5.5. Costs and financing of campaigns**

**5.6. Total cost and financing of delivery of immunization services**

6. FINANCIAL SUSTAINABILITY STRATEGIES

**6.1. Mobilize domestic financial resources**

**6.2. Increase and coordinate donor support for immunization services**

**6.3. Increase fixed site service delivery**

6.4. Increasing program efficiency

# 7. IMPLEMENTATION OF THE ANNUAL PLAN

The implementation of the annual plan draws from the cMYP. Tools and systems that ensure successful implementation of the cMYP are the strategy map, timelines and milestones on progress at national, provincial, district and health facility level.

### Monitoring progress: the timeline and milestones

Monitoring the progress in the implementation of the annual plan is important for success. The major milestones along the timeline of this annual plan are shown below. All efforts must be made to ensure that the key timeline and milestones are monitored by program officers at national, provincial and district levels.

| Strategies | OUTPUT INDICATORS | Baseline | | | Targets | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Result | Year | Source | 2017 | 2018 | 2019 | 2020 | 2021 | Means of verification |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Availability of updated District Microplans | 0 | 2015 | Program Records | 10 | 5 | | | | Programme Supervisory Reports |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | % MCV 2 Coverage | 51% | 2015 | JRF | 60% | 65% | 70% | 75% | 80% | HMIS Data |
| 1. Operationalisation of full complement of REC Approach 2. Equity Analysis study | Equity analysis study report available | | | | | Yes | | | | Analysis Report |
| Introduction of HPV vaccine through school based programmes into the national schedule by 2020 | % HPV2 Coverage | 72% | 2015 | HMIS | | | 60% | 75% | 85% | HMIS Data |
| Introduction of IPV into the NIP in 2018 | %IPV coverage | 0 | 2018 | HMIS | 0% | 60% | 70% | 80% | 90% | HMIS Data |
| Operationalisation of NITAG | Number of NITAG Recommendations notes made | 0 | 2016 | NITAG Reports | 2 | 2 | 4 | 4 | 4 | NITAG Reports |
| Strengthening the roles of the coordination committees (ICC, EPI Sub Committee, AEFI) | Number of Coordination Committees meetings held per each committee | 4 | | Committee meeting minutes | 4 | 4 | 4 | 4 | 4 | Coordination committee meeting minutes |
| Review and improve PHCs' performance in all 8 EVMA Criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | 0 | 2015 | EVMA Reports | PHCs meet at least 60% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 65% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 70% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 75% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | EVMA Reports |
| Integrated Disease Surveillance and Response (IDSR) | Non Polio AFP Rates | 3.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Integrated Disease Surveillance and Response (IDSR) | Non Measles febrile Rash illness rate | 2.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Develop and Implement DQIP | Number of Operational Research conducted | 0 | 2016 | Research reports | 0 | DQIP developed | | | | DQIP |
| 1. Operationalisation of the Communication Strategy 2. Strengthening CSO Immunisation Platform Interventions | No of spots aired on routine Immunisation messages | 0 | 2016 | Social Mobilisation Reports | Quarterly | Quarterly | Quarterly | Quarterly | Quarterly | Social Mobilisation Reports |
| Strengthen Immunisation in School Health Package | % HPV2 Coverage | 72% | 2015 | HMIS | | | 60% | 75% | 85% | HMIS Data |
| Dissemination of amended immunisation section of the Public Health Act | Updated Law on Immunisation | 0 | Public Health Act | | Immunisation Section updated | | | | | Updated public health act on immunization section |

**Table 12: Activity Timelines**

| **Year 2** | | | | | **MONTH** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Immunization Component** | ***Activity*** | ***Start Month*** | ***End Month*** | ***% Compl*** | ***1*** | ***2*** | ***3*** | ***4*** | ***5*** | ***6*** | ***7*** | ***8*** | ***9*** | ***1*** |
| **Immunization Services** | | | | | | | | | | | | | | |
| Official Coverage Estimates % DTP3, MCV2 & FIC | Adaptation, Printing and Dissemination of the revised RED/C guidelines; EPI guidelines and Communication Strategy | April | November | | | | | × | × | × | × | × | × | × |
| | RED/C Training/Mentorship/Orientation | June | December | | | | | | | × | × | × | × | × |
| | Capacity building for mentorship and supportive supervision at province and district levels (Core Teams) on revised guidelines and strategies | June | November | | | | | | | × | | × | | |
| | Support province and district planning meetings in 100% identified high risk districts | April | September | | | | | × | × | × | × | × | × | |
| | Support Integrated Supportive Supervision | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Support integrated Outreach Services to reach all eligible individuals (Transport, Allowances, Monitoring Tools) | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Support Defaulter Tracing Mechanisms and Innovations | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Strengthen engagement and linkage with communities, policy makers and other stakeholders including CSOs, Professional bodies, private sector, academia, | January | December | | × | × | × | × | × | × | × | × | × | × |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | etc | | | | | | | | | | | | | |
| | Support data review meetings identified high risk districts | February | November | | | x | | | x | | | x | | |
| | Commemorate Africa Vaccination Week/Child Health Week/National Health Week | June | November | | | | | | | x | | | | |
| Immunisation Equity | Conduct Equity Analysis Study and formulate costed mitigation plan | April | July | | | | | x | x | x | x | | | |
| | Regular review of unimmunised population, hard to reach populations and those with large drop out rates | March | December | | | | x | | | x | | | x | |
| | Regular Monitoring of immunisation indicators (all antigens coverage and drop out rates) | March | December | | | | x | | | x | | | x | |
| | Support regularly review and update of microplans (district and health facility) | June | December | | | | | | | | x | x | x | x |
| | Support and Increase integrated Outreach sites to reach unimmunised populations (Transport, Tents, Allowances, Monitoring Tools) | January | December | | x | x | x | x | x | x | x | x | x | x |
| | Implementation of Gavi-HSS activities in targeted provinces and districts. | January | December | | x | x | x | x | x | x | x | x | x | x |
| New Vaccine Introduction | Mobilise additional resources to support introduction of new vaccines | April | June | | | | | x | x | x | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Adapt new vaccine guidelines and M&E Tools, develop demand creation strategies, print and disseminate new vaccines introduction materials | April | June | | | | | x | x | x | | | | |
| | Build capacity for immunisation staff at all levels to deliver safe and efficacious vaccines and monitor performance | May | June | | | | | | x | x | | | | |
| | Forecast, quantify and distribute new vaccines to all service delivery points | May | June | | | | | | x | x | | | | |
| | Strengthen AEFI surveillance at all levels | May | June | | | | | | x | x | x | | | |
| | Introduce IPV immunisation in routine program by 2018 | June | June | | | | | | | x | | | | |
| Financial Sustainability | Develop, implement and monitor the resource mobilization frame work | July | December | | | | | | | | x | x | x | x |
| | Support MTEF planning to include financial sustainability advocacy | April | August | | | | | x | x | x | x | x | | |
| | Support implementation of the National Health Accounts | February | March | | x | x | | | | | | | | |
| | Supporting Advocacy meetings with stakeholders including parliamentarians and other government line Ministries | January | December | x | x | x | x | x | x | x | x | x | x | x |
| | Regular update, dissemination and utilization the cMYP to advocate for addition resources | November | December | | | | | | | | | | | |
| Coordination and Governance | Support at least one NITAG meeting per quarter and regular subgroup meeting | March | December | | | x | | | x | | | x | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Support review, finalisation and implementation of ZITAG annual work plan | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Support production of ZITAG Reports | January | December | | | | × | | | × | | × | | × |
| | Print ZITAG Standard Operating Procedures | April | May | | | | | × | × | | | | | |
| | Support regular Coordination Committee ((ICC, EPI Subcommittee, AEFI) meetings where immunisation is discussed | February | December | | | | × | × | × | × | × | × | × | × |
| | Finalisation of SOPs and terms of reference | May | June | | | | | | × | × | | | | |
| Vaccine Supply and Cold Chain | Procurement and distribution of vaccines and dry materials | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Standardise the EPI Supportive Supervision Checklist to incorporate all 8 EVMA criteria | May | May | | | | | | × | | | | | |
| | Conduct Supportive Supervision and Monitoring at service delivery point | March | October | | | | × | | | | × | | | × |
| | Procure, distribute, install and maintain cold chain equipment | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Printing of Standardised Monitoring Tools (such as Stock Control Cards, Temperature Monitoring Charts, Immunisation monitoring Charts) | April | July | | | | | × | × | × | × | | | |
| | Pilot sustainable innovative efficiencies in the immunization supply chain (model data, improved transportation and delivery route, strengthen capacities of logistics staff) to | April | July | | | | | × | × | × | × | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | inform national roll out | | | | | | | | | | | | | |
| | Procure and distribute IT equipment for logistimo and programme management | April | July | | | | | | × | × | × | × | | |
| | Conduct Training in Cold Chain and Vaccine Management | May | September | | | | | | | × | × | | × | × |
| | To utilise two RTM pilot districts to inform and mobilise resources for national roll out | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Roll out of logistimo stock management tool to enable visibility of vaccine and cold chain system status at all levels | April | October | | | | | × | | | × | | | × |
| | Procurement of Containerized vehicles | March | December | | | | × | × | × | × | × | × | × | × |
| | Conduct regular EVMA | October | November | | | | | | | | | | | × |
| | Conduct quarterly monitoring of the EVM Improvement Plan | June | December | | | | | | | × | | | × | |
| | Develop a Resource Mobilisation of Cold Chain Expansion and Maintenance | January | September | | × | × | × | × | × | × | × | × | × | |
| **Polio Endgame & Measles Elimination** | Develop and cost the Polio Legacy Plan | January | May | | × | × | × | × | × | | | | | |
| | 1. Conduct active surveillance activities for AFP & Measles Rubells | January | December | | × | × | × | × | × | × | × | × | × | × |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Orient HCWs and communities in IDSR; Laboratory staff in current diagnostic techniques for VPDs | | | | | | x | | | x | | | x | |
| | Update IDSR materials | | | | x | x | x | x | x | x | | | | |
| | Conduct sensitisation meetings | January | December | | x | x | x | x | x | x | x | x | x | x | x |
| | Transport AFP samples to virology laboratory | January | December | | x | x | x | x | x | x | x | x | x | x | x |
| | 6. Respond to threats of importation and/or VPD outbreaks | January | December | | x | x | x | x | x | x | x | x | x | x | x |
| | OPV supplementation in the high risk districts | June | November | | | | | | | x | | | | | |
| | Conduct cross-border collaborative meetings | February | November | | | x | | | x | | | x | | | |
| | Procurement of laboratory consumables | January | December | | x | x | x | x | x | x | x | x | x | x | x |
| | Conduct external quality control tests on suspected measles specimens | May | November | | | | | | x | | | | | | |
| Data Quality and Evidence Generation | Conduct Annual Desk Reviews | April | May | | | | | x | x | | | | | | |
| | Implement Data Quality Field Assessments | April | May | | | | | x | x | | | | | | |
| | Conduct Annual Data Quality Reviews | April | June | | | | | x | x | x | x | | | | |
| | Develop and Finalise Costed DQIP | June | November | | | | | | | | x | x | x | x | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Roll out innovation to improve data quality and use (ZEIR, mVacc, Logistimo) | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Evaluation of implementation of data quality improvement innovations | April | December | | | | | × | × | × | × | × | × | × |
| | Conduct Surveys, Operational Research, Evaluations and Reviews/Assessment | April | October | | | | | × | × | × | × | × | × | × |
| Communication Strategy | Print and Disseminate the Communication Strategy including Risk Communication | March | December | | | | × | | | × | × | × | × | × |
| | Conduct Trainings at all levels | May | June | | | | | | × | × | | | | |
| | Implement and monitor the Communication Strategy | June | December | | | | | | | × | × | × | × | × |
| | Resource Mobilisation | January | December | | × | × | × | × | × | × | × | × | × | × |
| | Conduct operational research | May | September | | | | | × | × | × | | × | × | |
| School Immunisation | Support advocacy meeting with partners and other government line Ministries | February | November | | | × | | | × | | | × | | |
| | Review School Health Package | September | December | | | | | | | | | | × | × |
| | Implement Immunisation as part of the School Health Package | June | November | | | | | | | × | | | | |
| | Monitor immunisation as part of the School Health Package | June | November | | | | | | | × | | | | |

# 8. Annexes 1

**Table 13: Situational analysis based on previous years' data (2013 – 2016)**

| Disease Control Initiative | Suggested indicators | | | | | |
|---|---|---|---|---|---|---|
| | | 2013 | 2014 | 2015 | 2016 | DATA SOURCE |
| Polio | OPV3 coverage | 79% | 89% | 90% | 95% | JRF |
| | Non-polio AFP rate per 100,000 children under 15 years of age | 3.1 | 3.2 | 3.1 | 3.3 | AFP Database |
| | Number of rounds of national and sub national immunization days | 2 | 2 | 2 | 2 | Child Health Week Report |
| MNT | TT2+ coverage | 70% | 74% | 75% | 75% | HMIS |
| | % target population protected at birth from neonatal tetanus | 68% | 72% | ND | ND | HMIS |
| | Was there an SIA? (Y/N) | N | N | N | Yes | Measles Rubella Campaign |
| | Neonatal tetanus deaths reported and investigated | ND | ND | ND | 0 | |
| Measles & Rubella | Measles vaccination coverage (2 doses) | 14% | 39% | 52% | 59% | JRF/HMIS |
| | Number of lab confirmed measles outbreaks | 0 | 0 | 0 | 0 | SURVEILLANCE REPORTS |
| | Number of lab confirmed rubella outbreaks | 0 | 9 | 2 | 0 | SURVEILLANCE REPORTS |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Geographic extent National Immunization Day | 0 | 0 | 0 | 1 | Measles Rubella catchup Campaign |
| | Age group | 0 | 0 | 0 | 9 Months - 15Years | Measles Rubella Post coverage survey Report |
| | Coverage | 0% | 0% | 0% | 95% | Measles Rubella Post coverage survey Report |
| | Total Measles Cases (Lab/epidemiological) | 0 | 9 | 9 | 13 | SURVEILLANCE REPORTS |
| | Total Rubella Cases(Lab/epidemiological) | 183 | 74 | 94 | 16 | SURVEILLANCE REPORTS |
| Yellow fever | YF cases | 0 | 0 | 0 | 0 | SURVEILLANCE REPORTS |
| | Number and percentage of districts reporting > 1 suspected case | 0 | 0 | 0 | 0 | SURVEILLANCE REPORTS |
| | | 0% | 0% | 0% | 0% | SURVEILLANCE REPORTS |
| | Was a preventive campaign conducted? (Y/N) | N | N | N | N | SURVEILLANCE REPORTS |
| Hepatitis B | | | | | ND | SURVEILLANCE REPORTS |

**Table 14: Situational analysis of routine EPI by system components based on previous years' data (2013-2016)**

| System Components | Suggested indicators | RESULTS | | | |
|---|---|---|---|---|---|
| | | 2013 | 2014 | 2015 | 2016 |
| 1. SERVICE DELIVERY | | | | | |
| Immunization Coverage | Official Coverage Estimates % BCG | 99% | 99% | 99% | 99% |
| | Official Coverage Estimates % DTP3 | 89% | 91% | 96% | 99% |
| | Official Coverage Estimates % Measles | 80% | 85% | 90% | 99% |
| | Official Coverage Estimates % HPV demonstration in selected districts of Lusaka Province | 58% | 59% | 76% | 86% |
| | Most Recent Survey Coverage % DTP3 (ZDHS 2013/2014) | 86% | 86% | 86% | 86% |
| | % Fully Immunized Child | 82% | 81% | 89% | 89% |
| | % of under ones Immunised with MCV 1 | 90% | 99% | 95% | 99% |
| | % of under twos Immunised with MCV 2 | 0% | 43% | 45% | 59% |
| Immunization Demand | % Drop Out DTP1 – DTP3 | 10.00% | 9.96% | 9% | 0% |
| Immunization Equity | % gap in DTP3 between highest and lowest socio economic quintiles (ZDHS | 15% | 15% | 15% | 15% |

| | | | | | |
|---|---|---|---|---|---|
| | 2013/4) | | | | |
| | Number of districts with DTP3 coverage > 80% | 69 | 61 | 79 | 90 |
| | Number of high risk districts identified for accelerated routine immunization programming (for MCV 2 < 50%) | ND | 64 | 52 | 36 |
| Integration | % Services provided at fixed facilities | 90% | 90% | 90% | 90% |
| | Guidelines on Outreach health service package developed | Yes | Yes | Yes | Yes |
| New Vaccines Introduction | No. of new vaccines introduced into the routine schedule in the last plan period | 3 | 0 | 0 | 0 |
| | PCV10 Coverage (Dose 3) | 27% | 81% | 91% | 98% |
| | Rotavirus Coverage (RV2) | 8% | 80% | 86% | 99% |

| System | Suggested indicators | RESULTS |
|---|---|---|

| Components | | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| 2. PROGRAMME MANAGEMENT | | | | | |
| Law & Regulation | What numbers of functions are conducted by the NRA? | 4 | 4 | 4 | 4 |
| | Is there legislation or other administrative order establishing a line item for vaccines? | Yes | Yes | Yes | Yes |
| | Is there legislation identifying sources of public revenue for immunization financing? | No | No | No | No |
| Policy | Has the national immunization policy been updated? | No | No | No | No |
| Planning | Does the country have an annual work plan for immunization funded through Ministry of Health budgeting processes? | Yes | Yes | Yes | Yes |
| | What is the number of districts with an annual micro-plan for immunization? | 74 | 74 | 103 | 103 |
| | What is the percentage of districts with an annual micro-plan for immunization? | 100 | 100 | 100 | 100 |

| | | | | | |
|---|---|---|---|---|---|
| Coordination | What were the Number of ICC (or equivalent) meetings held last year at which routine immunization was discussed? | 4 | 4 | 4 | 3 |
| | What were the Number of NITAG (or equivalent) meetings held last year? | 0 | 0 | 0 | 1 |
| Advocacy | How many presentations on immunization performance, expenditures, were made to parliament? | 1 | 1 | 1 | 1 |

| **System Components** | **Suggested indicators** | **RESULTS** | | | |
|---|---|---|---|---|---|
| | | **2013** | **2014** | **2015** | **2016** |
| 3. HUMAN RESOURCES MANAGEMENT | | | | | |
| HR Numbers | No. of health workers per 10,000 population | 9.3 | 9.3 | 9.3 | 2.5 |
| | | | | | |
| Capacity Building | No. of health workers trained in immunization services through MLM per year; | 0 | 0 | 0 | 0 |
| | % of health workers trained in immunization in the last two years (data | 100% | 44.0% | 44.0% | 60.0% |

| | | | | | |
|---|---|---|---|---|---|
| | from PIE and EPI reviews); | | | | |
| | Curriculum review for pre-service medical and nursing immunization education conducted | Yes | No | Yes | Yes |
| Supervision | Average no. of central and provinicial supervision visits to each District level Per year | 12 | 4 | 4 | 12 |

| **System Components** | **Suggested indicators** | **RESULTS** | | | |
|---|---|---|---|---|---|
| | | **2013** | **2014** | **2015** | **2016** |
| 4. COSTING AND FINANCING | | | | | |
| Financial sustainability | What percentage of total routine vaccine spending was financed using government funds? (including loans and excluding external public financing) | 100% - traditional vaccines<br><br>100% - minimum co-financing portion | 100% - traditional vaccines<br><br>100% - minimum co-financing portion | 100% - traditional vaccines<br><br>100% - minimum co-financing | 100% - traditional vaccines<br><br>100% - minimum co-financing portion |

| | | | | | |
|---|---|---|---|---|---|
| | | | | portion | |
| | Was the line item in the national budget for immunization 100% funded. | Yes | Yes | Yes | Yes |
| | What % of immunization resources are being met by the domestic health budget (as identified in the annual budget plan) | 83% (JRF) | 33.2% (JRF) | 89% (JRF) | 19.2% (JRF) |
| | Government expenditures on routine immunization per surviving infant (JRF 6560) | USD37.8 per child | USD10.1 per child | USD18 per child | USD11.1 per child |
| | Are sub-national immunization budgets and expenditures monitored and reported at national level? | Yes (through MTEF) | Yes (through MTEF) | Yes (through MTEF) | Yes (through MTEF) |
| | | | | | |

| **System Components** | **Suggested indicators** | **RESULTS** | | | |
|---|---|---|---|---|---|
| | | **2013** | **2014** | **2015** | 2016 |
| 5. VACCINE SUPPLY, QUALITY & LOGISTICS | | | | | |
| Transport / Mobility | Percentage of districts with a sufficient number of supervisory/EPI field activity vehicles /motorbikes/bicycles/water transport in working | 50 | 40 | 30 | 50 |

| | | | | | |
|---|---|---|---|---|---|
| | condition | | | | |
| Vaccine supply | Was there a stock-out at national level during the last year? | Yes | No | No | No |
| | If yes, specify duration in months | 3 months | NA | NA | N/A |
| | If yes, specify which antigen(s) | BCG, OPV and penta | | | |
| Cold chain/Logistics | % of districts with adequate numbers of appropriate and functional cold chain equipment | 80% | 90% | 90% | 95% |
| | Last inventory assessment for all cold chain, transport and waste management equipment (or EVM) | Cold Chain Inventory | Cold Chain Inventory | EVM Conducted | Cold Chain Inventory |
| | No. PHC facilities with > 80% score for all indicators on the last EVM assessment | NA | NA | 0 | N/A |
| | Availability of a cold chain replacement plan | Yes | Yes | Yes | Yes |
| Waste disposal | Availability of a waste management policy and plan | Yes | Yes | Yes | Yes |

| System Components | Suggested indicators | RESULTS | | | |
|---|---|---|---|---|---|
| | | 2013 | 2014 | 2015 | 2016 |
| 6. SURVEILLANCE & REPORTING | | | | | |
| Routine surveillance | Percentage of surveillance reports received at national level from districts compared to number of reports expected | 100% | 100% | 100% | 100% |
| | AFP detection rate/100,000 population under 15 year of age | 3.1 | 3.1 | 3.1 | 3.3 |
| | % measles positive cases on samples collected from suspected measles cases | 1% | 3% | 2.3% | 2.3% |
| | Number of neonatal deaths for which a follow up investigation was conducted | 0 | 0 | ND | 0 |
| | Sentinel Surveillance for Rotavirus established | Yes | Yes | YES | YES |
| | Sentinel Surveillance for meningitis (Hib/PCV) established | Yes | Yes | YES | YES |

| | | | | | |
|---|---|---|---|---|---|
| Immunization safety | % of districts that have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations | 100% | 100% | 100% | 100% |
| Adverse Events | National AEFI System is Active with a designated national committee | NO | YES | YES | YES |
| | Number of serious AEFI cases reported and investigated | ND | ND | ND | 1 |

| **System Components** | **Suggested indicators** | **RESULTS** | | | |
|---|---|---|---|---|---|
| | | **2013** | **2014** | **2015** | **2016** |
| 7. DEMAND GENERATION AND COMMUNICATION | | | | | |
| Communication Strategy | Availability of a routine immunization communication plan | Yes | Yes | Yes | Yes |
| Research | was the study on community knowledge, attitudes and practices done in relation to immunization in the reference year | No | No | Yes | No |
| Demand | % of outreach services | ND | 62% (EPI | 65% | 75% |

| | | | | | |
|---|---|---|---|---|---|
| | held as planned | | Review) | | |
| | High risk plan for disadvantaged communities | Yes | Yes | Yes | Yes |

School Immunization Activities

| Age | Antigens provided | Coverage 2013 | Coverage 2014 | Coverage 2015 | Coverage 2016 |
|---|---|---|---|---|---|
| 9 to 13 years | HPV | 58% | 59% | 76% | 86% |

**Table 15: National Objectives and Milestones (2017 – 2021)**

| Immunisation Services | Current Performance (2016) | Objectives | Milestones | Order of priority |
|---|---|---|---|---|
| **Service Delivery -Routine Immunization** | | | | |
| Official Coverage Estimates % DTP3 | 65% of districts with DTP3 ≥ 90% | 90% DTP3 coverage in every district by 2021 | **2017: 68**% of districts achieve DTP3 coverage of >90%<br>**2018:** 72% of districts achieve DTP3 coverage of >90%<br>**2019**: 80% of districts achieve DTP3 coverage of ≥90%<br>**2020**: 90% of districts achieve DTP3 coverage of >90%<br>**2021**: 100% of districts achieve DTP3 coverage of >90% | 1 |
| Official Coverage Estimates % MCV2 | % drop out MCV1 - MCV2 very high (40%), above the recommended range of less than 10% | To reduce MCV1 - MCV2 drop out from 43% to less than 10% by 2021 | **2017:** MCV1 - MCV2 dropout rate reduced to 35%<br>**2018:** MCV1 - MCV2 dropout rate reduced to 28%<br>**2019**: MCV1 - MCV2 dropout rate reduced to 19%<br>**2021:** MCV1 - MCV2 drop out to less than 10% | 1 |

| | | | | |
|---|---|---|---|---|
| Fully immunised | Fully immunised child at 1 year is 89% | To increase Fully Immunised Coverage from 90% (cf:HMIS) to 95% by 2021 | **2017: 92%** national coverage of fully immunised at 1 year **2018**: 93% national coverage of fully immunised at 1 year **2019**: 95% national coverage of fully immunised at 1 year **2020**: 95% national coverage of fully immunised at 1 year **2021**: 95% national coverage of fully immunised at 1 year | 1 |
| Fully immunised | Fully immunised child at 2 years (measles second dose) is 52% | To increase Fully Immunised Coverage from 52% (cf:HMIS) to 90% by 2021 | **2017:** 65% national coverage of fully immunised at 2 years **2019:** 80% national coverage of fully immunised at 2 years | 1 |
| Immunisation Equity | 50 % of the targeted districts are identified as high risk districts for accelerated routine immunisation programming (52 districts) ……..Mr. Matapo | To improve immunisation coverage of targeted districts to at least 80% for all antigens by 2021 | **2017:** 30% of targeted districts reaching at least 80% in all antigens **2018:** 40% of targeted districts reaching at least 80% in all antigens **2019**: 50% of targeted districts reaching at least 80% in all antigens **2020**: 75% of targeted districts reaching at least 80% in all antigens **2021**: 90% of targeted districts reaching at least 80% in all antigens | 1 |

| | | | | |
|---|---|---|---|---|
| New Vaccine Introduction | HPV Demonstration is implemented in the current school health programme in Lusaka district only | To introduce HPV in Routine immunization schedule by 2020 | **2018:** IEC, Monitoring Tools and training materials of the introduction of the HPV adapted<br>**2019:** School readiness assessment for HPV introduction;<br>**2020:** HPV introduced into EPI | 2 |
| | IPV introduction approved in the national immunisation programme | To introduce IPV Vaccination into the NIP in 2018 | **2017:** Secure funding for IPV introduction **2018**: IPV introduced in NIP | 1 |
| | Hepatitis B birth dose | To introduce Hepatitis B birth dose Vaccination into the NIP in 2021 | **2019:** Secure funding for Hepatitis B birth dose Procurement and Introduction<br>**2020:** Preparations for introduction of Hepatitis B Birth dose **2021:** Hepatitis B birth dose introduced | 3 |
| Coordination and Governance | NITAG functional and conducting quaterly meetings | To sustain functioning of NITAG | **2017 - 2021**: Quarterly NITAG meetings<br>2017 - 2021: Establish and sustain NITAG subgroups meetings | 2 |
| | Coordination committees (ICC, AEFI, EPI sub committee) are in place and functional | To strengthen the roles of exisiting coordination committeess by end 2018 | **2018**: Review and update TORs for relevant committees and operationalisation of the different committees<br>**2019:** ICC/Coordinating Meetings | 1 |
| Financial Sustainability | Government funding for routine immunisation services and programming is 19% | To achieve 100% government funding for routine immunisation services and programming by 2021 | **2018:** 50% government funding for routine immunisation services and programming<br>**2019:** 65% government funding for routine immunisation services and programming<br>**2020:** 80% government funding for routine immunisation services and programming<br>**2021:** 100% government funding for routine immunisation services and programming | 1 |

| | | | | |
|---|---|---|---|---|
| | Government funding of vaccine procurement for traditional vaccines and minimum cofinancing obligations for new vaccines (used in routine immunisation) is 100% | To **achieve/sustain** 100% government funding of vaccine procurement for traditional vaccines and minimum cofinancing obligations for new vaccines (used in routine immunisation) by 2021 | **2017 - 2021:** Sustained 100% government funding of vaccine procurement for traditional vaccines and minimum cofinancing obligations for new vaccines (used in routine immunisation) | 1 |
| Vaccine Supply and Cold Chain | None of PHCs met at least 80% in each of the 8 criteria in the 2015 EVMA | To have 80% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria by 2021 | **2017:** To have 20% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria **2018:** To have 40% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria **2019:** To have 60% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria **2020**:To have 70% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria **2021**: To have 80% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | 1 |
| | Absence of Cold Maintenance Plan/ New health facilities without cold chain facilities | To expand the cold chain capacity and establish sustainable cold chain maintenance plan | **2018:** Develop and finalise resource mobilisation proposal (CCEOP)<br>**2019 - 2023**: Operationalisation of the Cold chain expansion and maintenanace strategy | 1 |
| Polio Endgame | Zambia is Polio free. | To sustain polio free status through 2021 and beyond | **2018:** To develop and finalise a polio transition plan 2019 & beyond: Operationalisation of the polio transition plan | 1 |
| | | To sustain non-polio AFP rate of > 2 per 100000 population under 15 years and stool adequacy rate of $\geq$ 80% in every province in 2021 | **2019 - 2021**: national indicator of $\geq$ 2 non-polio AFP rate of 2 and stool adequacy rate of $\geq$ 80% in every province | 1 |
| | | Virus detetion and interruption | **2018:** Sustain Detection and interruption of all poliovirus transmission; Quarterly polio risk assessment, updated and implement emergency polio outbreak response plans | 1 |

| | | | | |
|---|---|---|---|---|
| | | To strengthen RI and withdrawl OPV<br><br>To sustain containment and certification of polio free status<br><br>Legacy planning | **2018-2019:** IPV introduction and withdrawal of OPV<br><br>**2018:** Draft long term containment plans<br>**2018:** Contain Polio virus and certify interruption of transmission<br><br>**2017:** Consultation **2018:** Mainstream Polio functions, infrastructure and learnings | 1<br><br>1<br><br>1 |
| Measles elimination | Non-measles febrile rash like rate of 2 per 100,000 suboptimal in every province | To attain non-measles febrile rash like rate of ≥2 per 100,000 in 80% of district by 2021 | **2017** National indicator of ≥ 2 non-measles febrile rash like rate of ≥2 per 100,000 in 50% of the districts<br>**2018** national indicator of > 2 non-measles febrile rash like rate of >2 per 100,000 in 55% of the districts<br>**2019** national indicator of > 2 non-measles febrile rash like rate of >2 per 100,000 in 60% of the districts<br>**2020** national indicator of > 2 non-measles febrile rash like rate of >2 per 100,000 in 65% of the districts<br>2021 national indicator of > 2 non-measles febrile rash like rate of >2 per 100,000 in 70% of the districts | 2 |
| Data Quality and Evidence Generation | Poor data management at service delivery point. | To improve data quality and use | **2018:** At least two Data Review Meetings at all levels and one DQSA conducted ;<br>**2018**: Development of costed DQIP Plan<br>**2019 - 2021**: Implementation of the DQIP | 1 |
| | Low utilisation of data for decision making | To improve data utilization | **2018 :** At least 20% of targeted districts with poor data quality trained in DQI and use;<br>**2019** : At least 30% of targeted districts with poor data quality trained in DQI and use;<br>**2020** : At least 40% of targeted districts with poor data quality trained in DQI and use<br>**2021** : At least 50% of targeted districts with poor data quality trained in DQI and use | 1 |
| | | | **2018 - 2021:** National roll out of data quality improvement Innovations/ ICTs in selected provinces and districts | 1 |
| Communication Strategy | The current EPI communication only occurs during SIAs and NIDS and not during routine | To implement the 2017-2021 communication strategy | **2017:** Communication Strategy finalised, approved and disseminated<br>**2018 - 2021** Communication Strategy Operationalised | 1 |

| | | | | |
|---|---|---|---|---|
| School Immunisation | HPV Demonstration is implemented in the current school health programme in Lusaka district only | To introduce HPV in Routine immunization schedule by 2020 | **2018:** IEC, Monitoring Tools and training materials of the introduction of the HPV adapted<br>**2019:** School readiness assessment for HPV introduction;<br>**2020:** HPV introduced into EPI | 2 |
| Legal Framework | Outdated immunisation legal framework exists in the public health act CAP 295 | To amend the immunisation section of the Public Health act by 2018 | **2019**: EPI section in the Public Health act amended<br>**2020:** Dissesminate the ammended EPI section in the Public Health Act | 2 |

# 9. Annex 2: Objectives, Strategies and Activities

**Table 16: Service Delivery and Programme Management**

| Immunization Services | Objectives | Strategies | Main Activities |
|---|---|---|---|
| **Service Delivery -Routine Immunization** | | | |
| Official Coverage Estimates % DTP3 | 90% DTP3 coverage in every district by 2021 | Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Adaptation, Printing and Dissemination of the revised RED/C guidelines; EPI guidelines and Communication Strategy |
| | | | RED/C Training/Mentorship/Orientation |
| | | | Capacity building for mentorship and supportive supervision at province and district levels (Core Teams) on revised guidelines and strategies |
| | | | Support province and district planning meetings in 100% identified high risk districts |
| | | | Support Integrated Supportive Supervision |
| | | | Support integrated Outreach Services to reach all eligible individuals (Transport, Allowances, Monitoring Tools) |
| | | | Support Defaulter Tracing Mechanisms and Innovations |
| | | | Strengthen engagement and linkage with communities, policy makers and other stakeholders including CSOs, Professional bodies, private sector, academia, etc |
| | | | Support data review meetings identified high risk districts |
| | | | Commemorate Africa Vaccination Week/Child Health Week/National Health Week |

| | | | |
|---|---|---|---|
| Official Coverage Estimates % MCV2 | To reduce MCV1 - MCV2 drop out from 43% to less than 10% by 2021 | Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Adaptation, Printing and Dissemination of the revised RED/C guidelines; EPI guidelines and Communication Strategy |
| | | | RED/C Training/Mentorship/Orientation |
| | | | Capacity building for mentorship and supportive supervision at province and district levels (Core Teams) on revised guidelines and strategies |
| | | | Support province and district planning meetings in 100% identified high risk districts |
| | | | Support Integrated Supportive Supervision |
| | | | Support integrated Outreach Services to reach all eligible individuals (Transport, Allowances, Monitoring Tools) |
| | | | Support Defaulter Tracing Mechanisms and Innovations |
| | | | Strengthen engagement and linkage with communities, policy makers and other stakeholders including CSOs, Professional bodies, private sector, academia, etc |
| | | | Support data review meetings identified high risk districts |
| | | | Commemorate Africa Vaccination Week/Child Health Week/National Health Week |
| Fully immunised | To increase Fully Immunised Coverage from 52% (cf:HMIS) to 90% by 2021 | Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Adaptation, Printing and Dissemination of the revised RED/C guidelines; EPI guidelines and Communication Strategy |
| | | | RED/C Training/Mentorship/Orientation |

| | | | |
|---|---|---|---|
| Immunisation Equity | 50 % of the districts are identified as high risk districts for accelerated routine immunisation programming (52 districts) | 1. Operationalisation of full complement of REC Approach 2. Equity Analysis study | Capacity building for mentorship and supportive supervision at province and district levels (Core Teams) on revised guidelines and strategies |
| | | | Support province and district planning meetings in 100% identified high risk districts |
| | | | Support Integrated Supportive Supervision |
| | | | Support integrated Outreach Services to reach all eligible individuals (Transport, Allowances, Monitoring Tools) |
| | | | Support Defaulter Tracing Mechanisms and Innovations |
| | | | Strengthen engagement and linkage with communities, policy makers and other stakeholders including CSOs, Professional bodies, private sector, academia, etc |
| | | | Support data review meetings identified high risk districts |
| | | | Commemorate Africa Vaccination Week/Child Health Week/National Health Week |
| | | | Conduct Equity Analysis Study and formulate costed mitigation plan |
| | | | Implement the Equity Mitigation plan |
| | | | Regular review of unimmunised population, hard to reach populations and those with large drop out rates |
| | | | Regular Monitoring of immunisation indicators (all antigens coverage and drop out rates) |
| | | | Support regularly review and update of microplans (district and health facility) |

| | | | |
|---|---|---|---|
| | | | Support and Increase integrated Outreach sites to reach unimmunised populations (Transport, Tents, Allowances, Monitoring Tools) |
| | | | Implementation of Gavi-HSS activities in targeted provinces and districts. |
| New Vaccine Introduction | To introduce HPV in Routine immunization schedule by 2020 | Introduction of HPV vaccine through school based programmes into the national schedule by 2020 | Mobilise additional resources to support introduction of new vaccines |
| | | | Adapt new vaccine guidelines and M&E Tools, develop demand creation strategies, print and disseminate new vaccines introduction materials |
| | | | Build capacity for immunisation staff at all levels to deliver safe and efficacious vaccines and monitor performance |
| | | | Forecast, quantify and distribute new vaccines to all service delivery points |
| | | | Strengthen AEFI surveillance at all levels |
| | | | Introduce HPV immunisation in routine program for all young girls aged 9 -14 years by 2020 |
| | | | Provide HPV vaccine to all girls aged 9 year through the school health programs |
| | | | Conduct a post introduction evaluation |
| New Vaccine Introduction | To introduce IPV Vaccination into the NIP in 2018 | Introduction of IPV into the NIP in 2018 | Mobilise additional resources to support introduction of new vaccines |
| | | | Adapt new vaccine guidelines and M&E Tools, develop demand creation strategies, print and disseminate new vaccines introduction materials |

| | | | |
|---|---|---|---|
| | | | Build capacity for immunisation staff at all levels to deliver safe and efficacious vaccines and monitor performance |
| | | | Forecast, quantify and distribute new vaccines to all service delivery points |
| | | | Strengthen AEFI surveillance at all levels |
| | | | Introduce IPV immunisation in routine program by 2018 |
| | | | Conduct a post introduction evaluation |
| | To introduce Hepatitis B birth dose Vaccination into the NIP in 2021 | Introduction of Hepatitis B birth dose into the NIP in 2021 | Mobilise additional resources to support introduction of new vaccines |
| | | | Adapt new vaccine guidelines and M&E Tools, develop demand creation strategies, print and disseminate new vaccines introduction materials |
| | | | Build capacity for immunisation staff at all levels to deliver safe and efficacious vaccines and monitor performance |
| | | | Forecast, quantify and distribute new vaccines to all service delivery points |
| | | | Strengthen AEFI surveillance at all levels |
| | | | Introduce Hepatitis B immunisation in routine program by 2021 |
| | | | Conduct a post introduction evaluation |
| Financial Sustainability | To achieve 100% government funding for routine immunisation services and programming by 2021 | Advocacy for increased allocation for domestic resources | Develop, implement and monitor the resource mobilization frame work |

| | | | |
|---|---|---|---|
| | To achieve/sustain 100% government funding of vaccine procurement for traditional vaccines and minimum cofinancing obligations for new vaccines (used in routine immunisation) by 2021 | | Support MTEF planning to include financial sustainability advocacy |
| | | | Support implementation of the National Health Accounts |
| | | | Supporting Advocacy meetings with stakeholders including parliamentarians and other government line Ministries |
| | | | Regular update, dissemination and utilization the cMYP to advocate for addition resources |
| Coordination and Governance | To sustain functioning of NITAG | Operationalisation of NITAG | Support at least one NITAG meeting per quarter and regular subgroup meeting |
| | | | Support learning/exchange visit to a functioning NITAG |
| | | | Support review, finalisation and implimentation of ZITAG annual work plan |
| | | | Support production of ZITAG Reports |
| | | | Print ZITAG Standard Operating Procedures |
| | To strengthen the roles of exisiting coordination committeess by end 2018 | Strengthening the roles of the coordination committees (ICC, EPI Sub Committee, AEFI) | Support regular Coordination Committee ((ICC, EPI Subcommittee, AEFI) meetings where immunisation is discussed |
| | | | Finalisation of SOPs and terms of reference |

| | | | |
|---|---|---|---|
| Vaccine Supply and Cold Chain | To have 80% of the PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria by 2021 | Review and improve PHCs' performance in all 8 EVMA Criteria | Procurement and distribution of vaccines and dry materials |
| | | | Standardise the EPI Supportive Supervision Checklist to incorporate all 8 EVMA criteria |
| | | | Conduct Supportive Supervision and Monitoring at service delivery point |
| | | | Procure, distribute, install and maintain cold chain equipment |
| | | | Printing of Standardised Monitoring Tools (such as Stock Control Cards, Temperature Monitoring Charts, Immunisation monitoring Charts) |
| | | | Pilot sustainable innovative efficiencies in the immunization supply chain (model data, improved transportation and delivery route, strengthen capacities of logistics staff) to inform national roll out |
| | | | Procure and distribute IT equipment for logistimo and programme management |
| | | | Conduct Training in Cold Chain and Vaccine Management |
| | | | To utilise two RTM pilot districts to inform and mobilise resources for national roll out |
| | | | Roll out of logistimo stock management tool to enable visibility of vaccine and cold chain system status at all levels |
| | | | Procurement of Containerized vehicles |
| | | | Conduct regular EVMA |
| | | | Conduct quarterly monitoring of the EVM |

| | | | |
|---|---|---|---|
| | | | Improvement Plan |
| | Absence of Cold Maintenance Plan/ New health facilities without cold chain facilities | To expand the cold chain capacity and establish sustainable cold chain maintenance plan | Develop a Resource Mobilisation of Cold Chain Expansion and Maintenance |
| | | | Finalise, print and disseminate Cold Chain maintenance plan |
| Polio Endgame | To sustain polio free status through 2021 and beyond | Operationalisation of the Polio Legacy Plan | Develop and cost the Polio Legacy Plan |
| | | | Implement the Polio Legacy Plan |
| | To sustain non-polio AFP rate of > 2 per 100000 population under 15 years and stool adequacy rate of > 80% in every province in 2021 | Integrated Disease Surveillance and Response (IDSR) | Conduct active surveillance activities for AFP |
| | | | Orient HCWs and communities in IDSR; Laboratory staff in current diagnostic techniques for VPDs |
| | | | Update IDSR materials |
| | | | Conduct sensitisation meetings |
| | | | Transport AFP samples to virology laboratory |
| | | | Respond to threats of importation |

| | | | |
|---|---|---|---|
| | | | OPV supplementation in the high risk districts |
| | | | Conduct cross-border collaborative meetings |
| | | | Procurement of laboratory consumables |
| Measles elimination | To attain non-measles febrile rash like rate of >2 per 100,000 in 80% of district by 2021 | Integrated Disease Surveillance and Response (IDSR) | Conduct active surveillance activities for Measles/Rubella |
| | | | Conduct sensitisation meetings |
| | | | Transport suspected measles samples to virology laboratory |
| | | | Conduct measles/rubella SIAs |
| | | | Conduct external quality control tests on suspected measles specimens |
| | | | Respond to measles outbreaks |
| | | | Procurement of Laboratory Consumables and equipment |
| Data Quality and Evidence | To improve data quality and use | Develop and Implement DQIP | Conduct Annual Desk Reviews |

| | | | |
|---|---|---|---|
| Generation | | | Implement Data Quality Field Assessments |
| | | | Conduct Annual Data Quality Reviews |
| | | | Develop and Finalise Costed DQIP |
| | | | Implement DQIP |
| | | | Roll out innovation to improve data quality and use (ZEIR, mVacc, Logistimo) |
| | | | Evaluation of implementation of data quality improvement innovations |
| | | | Conduct Surveys, Operational Research, Evaluations and Reviews/Assessment |
| Communication Strategy | To implement the 2017-2021 communication strategy | 1. Operationalisation of the Communication Strategy<br>2. Strengthening CSO Immunisation Platform Interventions | Print and Disseminate the Communication Strategy including Risk Communication |
| | | | Conduct Trainings at all levels |
| | | | Implement and monitor the Communication Strategy |
| | | | Resource Mobilisation |
| | | | Conduct operational research |
| School Immunisation | To introduce HPV in Routine immunization schedule by 2020 | Strengthen Immunisation in School Health Package | Support advocacy meeting with partners and other government line Ministries |
| | | | Review School Health Package |
| | | | Implement Immunisation as part of the School Health Package |
| | | | Monitor immunisation as part of the School Health Package |

| | | | |
|---|---|---|---|
| Legal Framework | To amend the immunisation section of the Public Health act by 2018 | Dissemination of amended immunisation section of the Public Health Act | Dissemination of the Public Health Act |
| | | | Implementation of the Public Health Act |

**Table 17: National Immunisation Monitoring and Evaluation Framework**

| Goal | IMPACT INDICATORS | Baseline | | | Targets | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Result | Year | Source | 2017 | 2018 | 2019 | 2020 | 2021 | Means of verification |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births | Under 5 Child Mortality Rate | 75 / 1,000 | 2013/4 | DHS | 63 | | 53 | | 43 | DHS Survey 5 yearly |
| **Objective** | **OUTCOME INDICATORS** | **Baseline** | | | **Targets** | | | | | |
| | | **Result** | **Year** | **Source** | **2017** | **2018** | **2019** | **2020** | **2021** | **Means of verification** |
| **Immunization Component - Immunization Services** | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 90% DTP3 coverage in every district by 2021 | % DTP 3 coverage | 92% | 2015 | JRF | | 94% | 96% | 97% | 97% | HMIS Data |
| To reduce MCV1 - MCV2 drop out from 43% to less than 10% by 2021 | % MCV 1 coverage | 94% | 2015 | JRF | 95% | 96% | 97% | 97% | 97% | HMIS Data |
| | % MCV 2 coverage | 51% | 2015 | JRF | 60% | 65% | 70% | 75% | 80% | HMIS Data |
| **Strategies** | **OUTPUT INDICATORS** | **Baseline** | | | **Targets** | | | | | |
| | | **Result** | **Year** | **Source** | **2017** | **2018** | **2019** | **2020** | **2021** | **Means of verification** |
| **Immunization Component - Immunization Services** | | | | | | | | | | |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every District (RED/C) | Availability of updated District Microplans | 0 | 2015 | Program Records | 10 | 5 | | | | Programme Supervisory Reports |
| Adapt and Implement Comprehensive Reaching Every Community Strategy in every | % MCV 2 Coverage | 51% | 2015 | JRF | 60% | 65% | 70% | 75% | 80% | HMIS Data |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| District (RED/C) | | | | | | | | | | |
| 1. Operationalisation of full complement of REC Approach 2. Equity Analysis study | Equity analysis study report available | | | | | Yes | | | | Analysis Report |
| Introduction of HPV vaccine through school based programmes into the national schedule by 2020 | % HPV2 Coverage | 72% | 2015 | HMIS | | | 60% | 75% | 85% | HMIS Data |
| Introduction of IPV into the NIP in 2018 | %IPV coverage | 0 | 2018 | HMIS | 0% | 60% | 70% | 80% | 90% | HMIS Data |
| Operationalisation of NITAG | Number of NITAG Recommendations notes made | 0 | 2016 | NITAG Reports | 2 | 2 | 4 | 4 | 4 | NITAG Reports |
| Strengthening the roles of the coordination committees (ICC, EPI Sub | Number of Coordination Committees meetings held per each committee | 4 | | Committee meeting minutes | 4 | 4 | 4 | 4 | 4 | Coordination committee meeting minutes |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Committee, AEFI) | | | | | | | | | | |
| Review and improve PHCs' performance in all 8 EVMA Criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | 0 | 2015 | EVMA Reports | PHCs meet at least 60% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 65% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 70% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 75% in at least 6 out of the 8 EVMA criteria | PHCs meet at least 80% in at least 6 out of the 8 EVMA criteria | EVMA Reports |
| Integrated Disease Surveillance and Response (IDSR) | Non Polio AFP Rates | 3.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Integrated Disease Surveillance and Response (IDSR) | Non Measles febrile Rash illness rate | 2.3 | 2016 | MOH Surveillance Reports | 2 | 2 | 2 | 2 | 2 | MOH surveillance reports |
| Develop and Implement DQIP | Number of Operational Research conducted | 0 | 2016 | Research reports | 0 | DQIP developed | | | | DQIP |
| 1. Operationalisation of the Communication Strategy | No of spots aired on routine Immunisation messages | 0 | 2016 | Social Mobilisation Reports | Quarterly | Quarterly | Quarterly | Quarterly | Quarterly | Social Mobilisation Reports |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2. Strengthening CSO Immunisation Platform Interventions | | | | | | | | | | |
| Strengthen Immunisation in School Health Package | % HPV2 Coverage | 72% | 2015 | HMIS | | | 60% | 75% | 85% | HMIS Data |
| Dissemination of amended immunisation section of the Public Health Act | Updated Law on Immunisation | 0 | Public Health Act | | Immunisation Section updated | | | | | Updated public health act on immunization section |