



**MAIN REPORT ON THE COSTING OF
THE ZIMBABWE NATIONAL HEALTH STRATEGY
2016-2020**

Developed by Policy & Planning Directorate

(with Technical Support from the World Bank in collaboration with UNICEF, CHAI and WHO)

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Acknowledgments

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1. Context and objective

Since the formation of the Inclusive Government, Zimbabwe's health sector has been slowly recovering from the 2008 collapse of basic services. In 2009 the Inclusive Government finalized a number of policy documents to guide national health sector recovery, placing emphasis on primary care. The National Health Strategy (NHS) 2009-2015 focused on strengthening equity and access to quality health services by the poor and the Health Sector Investment Case 2012-2013 prioritized high impact interventions to accelerate the country's progress towards health-related Millennium Development Goals (MDGs).

The World Bank's support to Zimbabwe's health sector is grounded in a history of collaboration and dialogue with the Ministry of Health and Child Care (MOHCC), donors and other local implementing agencies. After extensive and complex project design discussions with the Government of Zimbabwe (GOZ), the Health, Nutrition and Population (HNP) Task Team finalized a US\$35 million grant for the Health Sector Development Support (HSDS) Project, commonly known as the Results Based Financing (RBF) Project, with the goal of increasing coverage of key maternal and child health (MCH) interventions in targeted rural districts.

Broadly, the Bank's current program in Zimbabwe works to strengthen health systems and implementation of high impact interventions that can contribute to the improvement of health outcomes (emphasizing MCH) in rural districts. With a prioritized focus on re-building the primary and secondary levels of care, the Bank supports: Health Systems Strengthening; Maternal, Neonatal and Child Health; Human Resources for Health; and Research and Policy Dialogue.

After developing the new NHS (2016-2020), with technical support from the World Bank and other stakeholders the MOHCC carried out a costing analysis to most accurately estimate the resources needed to implement this five-year plan. This report details the costing analysis. Subsequent sections of this report summarize the methodology, scenarios development, assumptions and key findings (costs and impact).

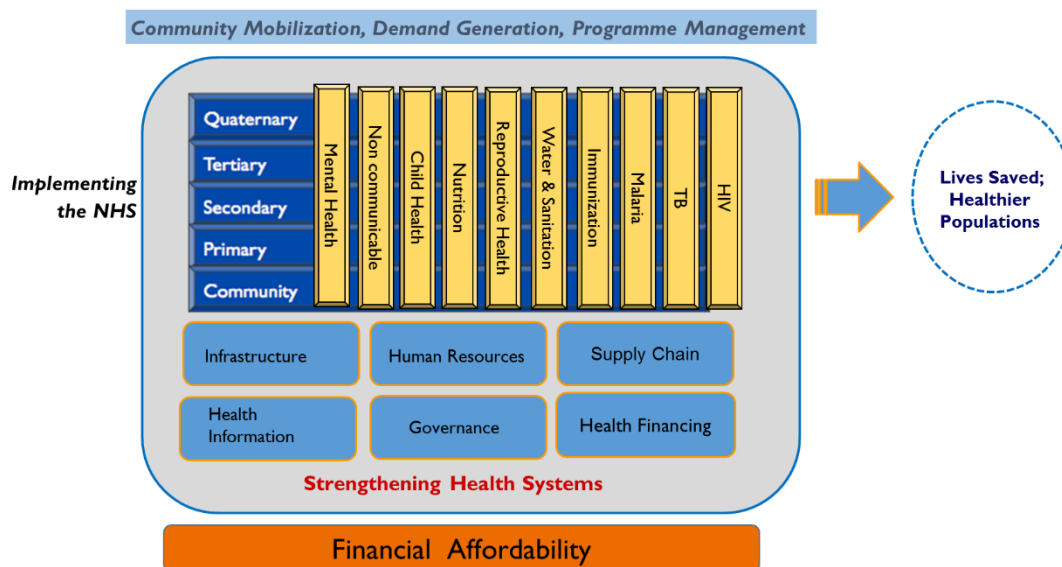
2. Methodology

2.1. Costing tool

The costing team used the **OneHealth Tool (OHT)** to carrying out the costing of the NHS. The OHT is an interagency-developed template that estimates health service and system input costs required to achieve desired health outcomes and impacts. The Interagency Working Group on Costing (WHO, WB, UNICEF, UNFPA, UNNAIDS), together with Futures Institute in the USA, developed the tool in 2012 in response to a request made by countries at the World Health Assembly. The tool provides an efficient joint platform for costing of all disease program and health system requirements. The OHT design allows for ongoing interaction between planning and costing. It is also able to provide estimates of the likely return on investment in the health system in terms of improvements in maternal and infant mortality rates, deaths averted and the gain in life years.

The OHT has two main interfaces: a *costing interface* and an *impact module*. See Figure 1 below.

Figure 1: OHT Models cost and impact of the NHS (2016-20) with a health systems approach



The OHT's costing interface includes a *health services module* and a *health system module*. The health services module can be configured to determine costs within each program. The program module includes eight default programs, but can be modified to include other programs. It can also be configured to determine costs by delivery channel. The costing approach used the ingredients approach, identifying inputs necessary for an activity or service. Once inputs are identified, quantities of the inputs are determined. Unit costs for each input are imputed to the inputs and a total cost for the input is determined according to the equation:

$$\text{cost of services} = \text{number of service} * \text{unit cost of the service}$$

where the number of services required in the tool is determined using the formula:

$$\text{number of services} = \text{target population} * \text{population in need} * \text{coverage}$$

The tool transfers the baseline and target coverage rates for all services in the costing interface into the impact modules. Using the formula for the number of services consumed in each year, the tool is able to adjust the services consumed with the rate of effectiveness to determine the impact of the interventions.

The MOHCC used the costing tool to estimate likely gains from the investment in scaling up the current package of health care services. For example, the model was used to estimate the impact of antiretroviral therapy (ART) on deaths due to HIV/AIDS and its impact on infant, child and maternal mortality rates.

2.2. Costing process

The NHS 2016-2020 costing process had five phases: a) orientation for MOHCC leadership, technical staff and relevant stakeholders; b) calibration of the OHT model; c) workshops and meetings for data collection; d) data cleaning and validation; and e) costing and scenarios development.

Orientation process

The World Bank technical team used a cooperative approach of building MOHCC capacity for better understanding of the tool and process and to inform future in-house use of the tool in costing and planning. This approach ensured MOHCC ownership of the process and the work outputs.

Main objectives of the orientation were to:

- a) Conduct training on the OHT for selected members of the NHS planning team and partners supporting the process;
- b) Support the planning team by building capacity to generate strategic scenarios for scaling up health services and strengthening the health system in correspondence with targets and activities proposed in the NHS;
- c) Build capacity around production and presentation of OHT results, such as budget mapping and health impacts; and
- d) Reach consensus on a clear road map for completing the costing of the NHS plan using the OHT.

The workshop included technical presentations, demonstrations and 13 hands-on exercises on the different health services and system modules. The HIV program served as the illustrative module for entire the training, which allowed for effective supervision of the participant progress. In the second half of the fourth day, stakeholders reviewed the existing draft NHS to identify data elements required by the tool for costing the plan. In addition, members of the costing team were assigned roles with timelines to update all required health services, program and system data as an immediate step toward completing the process.

Calibration process

The OneHealth costing approach requires calibration and configuration for use in the context of Zimbabwe. The following sections were calibrated in the OHT:

- a) Health Services: priority disease programs, sub-programs and delivery channels; intervention calibration for all programs; drugs and supplies (including unit cost, wastage, buffer and volumes and weights); and
- b) Health systems: infrastructure (including buildings, room loading, vehicles, equipment and furniture for all health facilities and administration services); logistics (including procurement, warehousing and distributions); human resources (current, scale-up plan, salaries and benefits, training costs); leadership and governance (policy and planning, human resources, finance and administration); monitoring and evaluation (M&E), Quality Assurance/Quality Improvement; and laboratories, and hospitals.

Data collection workshops and meetings

The data collection workshop was preceded by a review of specific disease and institutional performance reports strategic plans, costing information and expenditure reports. This exercise resulted in standardization of pricing for: commodities, training/meeting/workshop units, support and supervision, salaries, vehicle purchase, fuel and maintenance and technical assistance. These were standardized prior the workshop to harmonize the unit costs across all programs and units. However, any deviation from these by any program was allowable, if justified by the program.

The exercise resulted in three main data collection tools:

- I. The *intervention costing tool* entailed validation of the list of services for each disease program and subsequently selection of target population, population in need, baseline and target coverage. The same tool required data collection for the treatment inputs (staff time and supplies) for each service.
- II. The *program activity costing tool* required aligning the support activities such as training, M&E, transport, support and supervision, advocacy and communication activities, and program

coordination meetings such as quarterly review meetings, technical working group (TWG) meetings, etc.

- III. The *health systems costing tool* was customized to inform each section of the health systems strengthening module (e.g. one for each of the following: human resources, infrastructure and equipment, logistics management and health information systems).

The data collection workshop and subsequent structured meetings aimed at collecting all information (using the above tools) to develop costs for the NHS 2016-20.

Data cleaning and validation

Following data collection, stakeholders conducted an iterative process of data cleaning and validation. This informed the final data used in costing and impact modeling for the NHS.

Scenario development

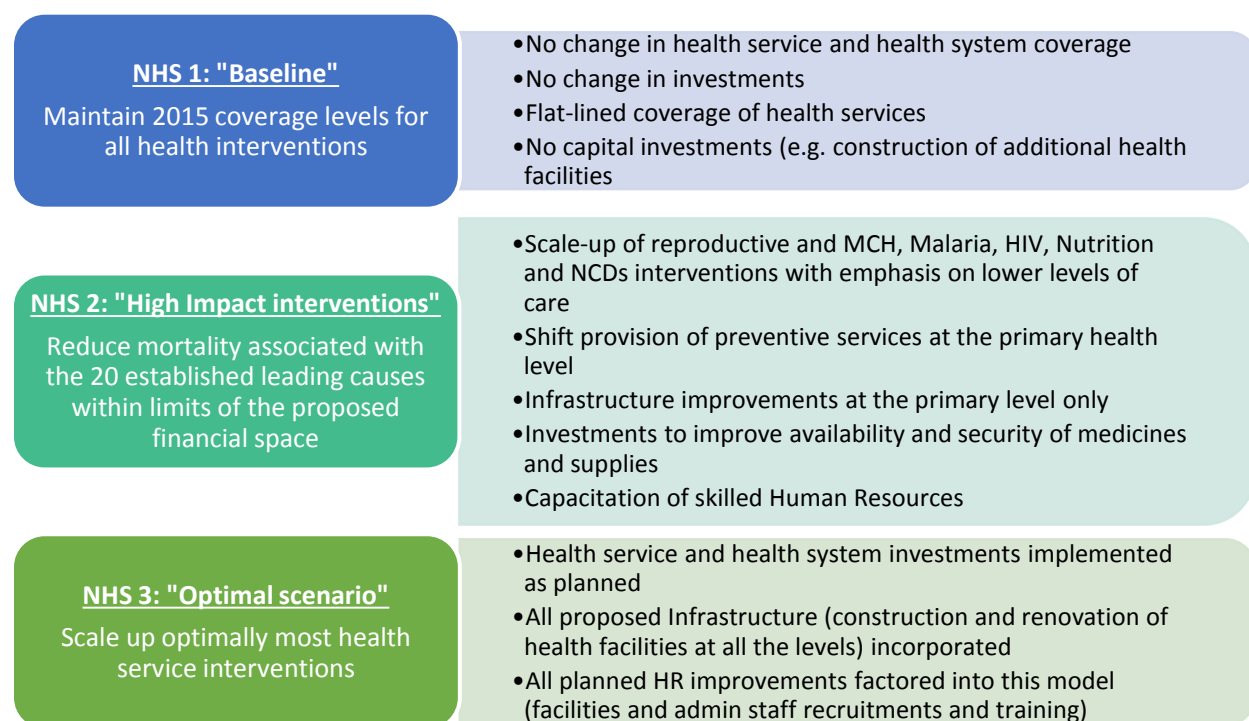
Initial observation revealed a rapid and ambitious draft NHS and programs that could not be sustained by current or anticipated financial resources. Therefore, it was important to conduct a prioritization exercise to develop a robust, concise yet feasible NHS within reasonable anticipated resource envelope. The policy direction informing the prioritization centered on addressing obstacles identified through the bottleneck analysis conducted during the NHS development. Most importantly, the thrust was to embrace the primary health care approach (though equally addressing the referral bottlenecks), with a focus of harnessing the principal gains envisaged in preventative programming. Below we summarize broader assumptions for the scenarios developed.

3. Costing scenarios and key assumptions

3.1. Defining three scenarios

The MOHCC defined three scenarios to assess how cost and impact differ for varying packages, targets and activities. Examining alternative scenarios allows for more informed decision-making, enabling stakeholders to select the most feasible and efficient policy option scenario and targets to incorporate for final estimation of activities and budgets. The draft NHS plan could not be sustained by current or anticipated financial resources. This ambitious plan corresponds to the **NHS3 costing scenario** or “Optimal” scenario, and is focused on scaling up current interventions and increasing both human resources for health and infrastructure improvements. The prioritization exercise enabled development of a robust, concise yet feasible NHS within a reasonable anticipated resource envelope: this is the **NHS2 costing scenario**, or “High Impact Interventions” scenario. The policy direction of the NHS2 scenario centers on: addressing bottlenecks identified through an analysis conducted during NHS development; and prioritizing primary health care (though equally addressing the referral bottlenecks) with a focus on preventative programming. Finally, the **NHS1 costing scenario** reflects what it would cost to maintain current coverage level for health interventions; this is the “Baseline” scenario. See Figure 2.

Figure 2: Objectives and keys assumptions for the three costing scenarios



3.2. Preferred scenario: NHS2

NHS2 scenario focuses primarily on high impact interventions which are scaled up to the same level as NHS3. Target levels for each services are provided in Appendix 1. Table 1 also provides a summary of interventions prioritized by main program.

Table 1: Interventions prioritized in NHS2 scenario

Program	Interventions prioritized in NHS2 "High impact interventions" scenario
Reproductive health, maternal and newborn health	Most interventions are included and scaled up to the level of NHS3, except basic ANC, pre-referral management of labor complications, treatment of local infections, feeding counselling and support for low-birth-weight infants, treatment of pelvic inflammatory diseases, treatment of urinary tract infection and cervical cancer screening.
Child health	The high impact services include ORS, Zinc for diarrhea treatment, antibiotics for treatment of dysentery, pneumonia treatment, malaria treatment, and vitamin A for measles treatment.
Immunization	As the coverage of various vaccine is high, there is no major differences among the three scenarios in terms of coverage targets.
Malaria services	The high impact services include insecticide treatment materials, IPT for pregnant women, and treatment of malaria for pregnant women.
TB services	The emphasis is given to susceptibility test for first line drugs.
HIV/AIDS services	All HIV/AIDS services are prioritized, including prevention, treatment, and care.

Program	Interventions prioritized in NHS2 “High impact interventions” scenario
Nutrition service	Priority is given to child nutrition interventions, including breastfeeding counselling, vitamin A supplementation, and management of moderate acute malnutrition and severe malnutrition among children.
Environmental health and WASH	All services are prioritized, including use of improved water sources, use of water connection, improved excreta disposal, hand washing with soap, and hygienic disposal of children’s stools.
Non-communicable diseases	Priority is given go cardiovascular diseases and diabetes (e.g. treatment of acute myocardial infarction with aspirin, and standard Glycemic control), respiratory diseases (treatment of COPD and asthma), as well as mental health issues (e.g., management of anxiety disorders, depression, and so on).

4. Costing findings

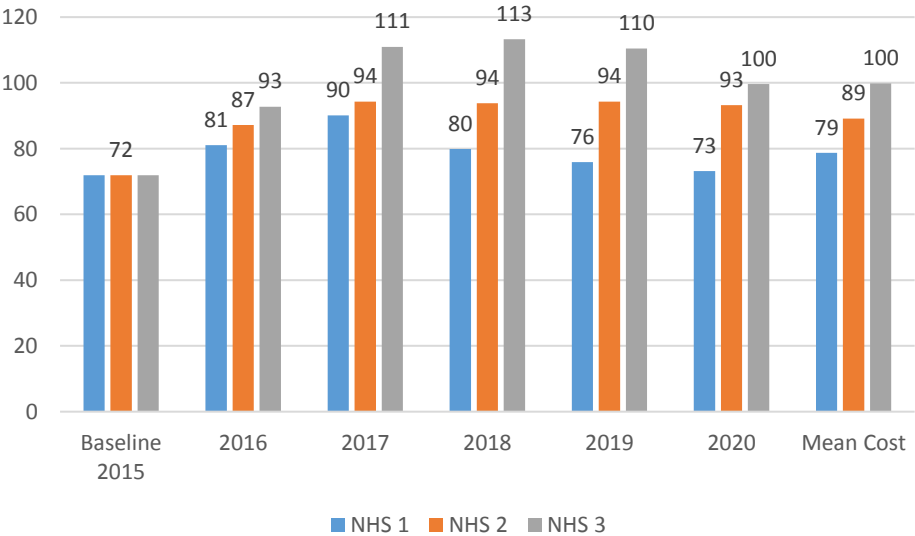
4.1. Total cost for the three scenarios

The entire plan would cost \$6.9bn, \$7.6bn and \$8.5bn for NHS scenarios 1, 2 and 3 respectively (Table 2). At the end of the period, the per capita cost would be \$73, \$93 and \$100 for NHS scenarios 1, 2 and 3 respectively (Figure 3).

Table 2: Total cost for the three scenarios (Million USD)

Scenarios	2015	2016	2017	2018	2019	2020	Total
NHS 1	\$955.3	\$1,179.1	\$1,306.5	\$1,187.0	\$1,159.9	\$1,149.1	\$6,936.9
NHS 2	\$955.3	\$1,193.9	\$1,325.1	\$1,349.7	\$1,387.1	\$1,397.7	\$7,608.8
NHS 3	\$955.3	\$1,269.7	\$1,559.4	\$1,630.6	\$1,624.1	\$1,494.1	\$8,533.2

Figure 3: Total cost for the three scenarios (USD per capita)



4.2. Cost per health program

In terms of health programs, the main cost drivers are reproductive, maternal, neonatal and child health (RMNCH) and HIV/AIDS. Table 3 presents costs per program for NHS 2; NHS2 is the preferred scenario

because it enables significant gains in health outcomes within a reasonable yet still ambitious envelope. By 2020, the cost of RMNCH would each year reach \$274 million and the cost of HIV/AIDS \$481 million. The cost associated to NCDs would rise from \$207 million to \$322 million by 2020.

Table 3: Summary costs by program area for the NHS 2 scenario (Million USD)

	2015	2016	2017	2018	2019	2020	Total
RMNCH	273.39	350.82	336.09	331.07	327.65	274.15	1893.16
Immunization	14.92	19.25	18.10	16.46	15.25	14.44	98.41
Malaria	11.21	23.27	26.14	21.61	25.65	16.96	124.84
TB	38.73	48.75	48.40	40.46	36.70	36.45	249.50
HIV/AIDS	337.27	450.80	530.73	508.71	480.01	481.31	2788.82
Nutrition	18.46	22.58	27.87	32.39	37.64	42.17	181.10
Environmental Health and WASH	18.99	23.85	25.14	28.55	32.22	35.90	164.64
Non-communicable diseases	207.86	216.15	242.76	267.22	293.85	322.15	1549.98
Mental Health	30.19	33.88	65.10	98.45	133.21	169.20	530.04
Other communicable diseases	4.35	4.54	4.72	4.79	4.88	4.97	28.26
Total	955.37	1193.90	1325.05	1349.69	1387.06	1397.69	7608.76

4.3. Cost per major inputs

Medicines and human resources are major items driving the costs. The trend over time exhibited in the costs reflects the need to: allow growth of the health system strengthening investments and address inefficiencies before scaling services; and adopt preventative measures with a focus on sustaining the steady progress observed in the primary health care approach (Table 4).

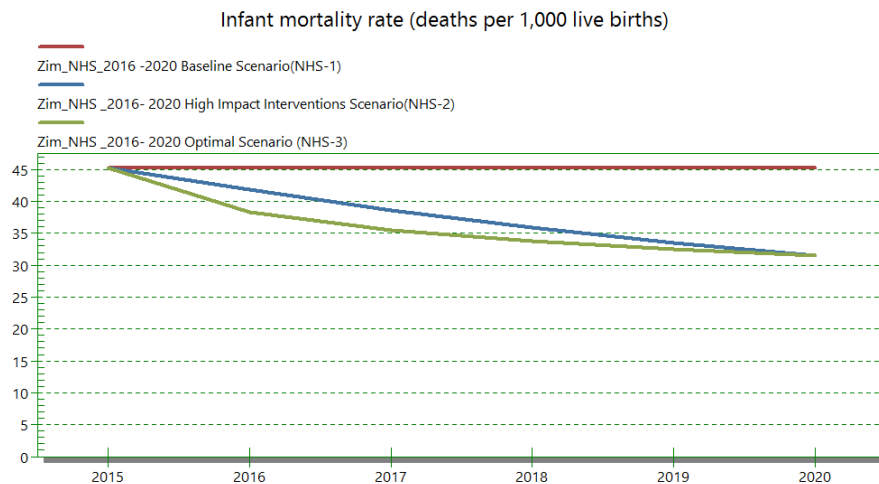
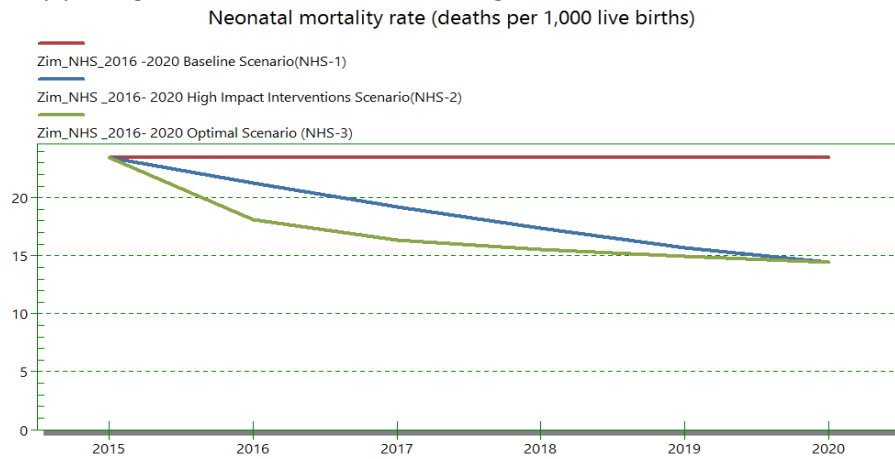
Table 4: Cost per major inputs (Million USD)

	2015	2016	2017	2018	2019	2020	Total
Program Management	142.81	219.12	321.75	287.27	257.13	260.11	1488.19
Human Resources	297.04	301.72	328.83	352.68	375.66	398.64	2054.56
Infrastructure	82.40	171.17	161.22	164.13	164.60	123.10	866.62
Logistics	14.34	46.53	24.28	18.28	18.28	18.28	140.00
Medicines, commodities, and supplies	401.59	437.74	471.12	509.95	554.07	581.80	2956.28
Governance	17.19	17.62	17.84	17.39	17.31	15.76	103.11
Total	955.37	1193.90	1325.05	1349.69	1387.06	1397.69	7608.76

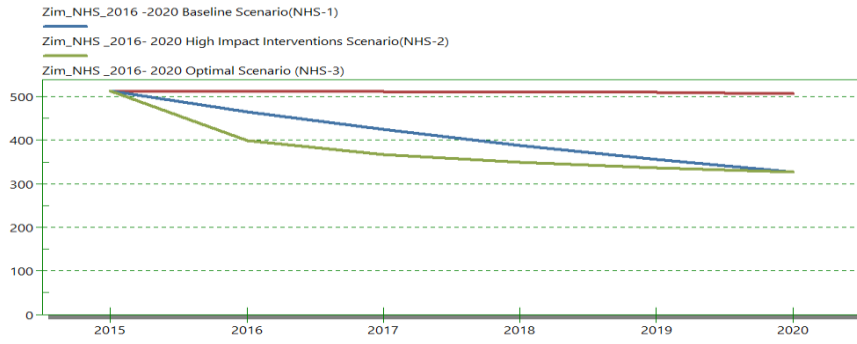
5. Impact findings

The figures below measure the impact of the three scenarios on mortality, life expectancy and deaths averted. The preferred scenario, NHS2, is expected to have a mean cost of \$89 per capita over the entire period and would have the following impact by 2020:

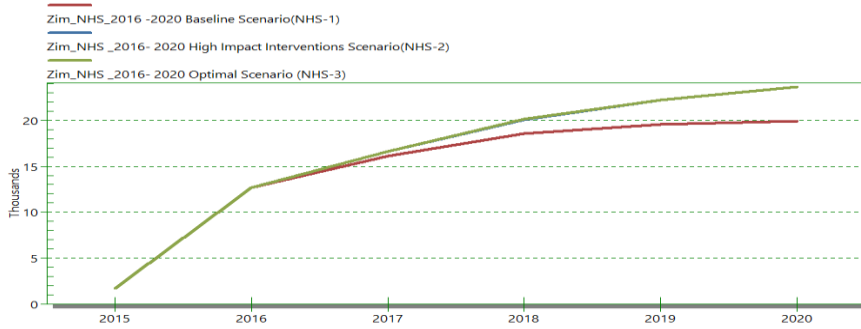
- Decline in infant mortality from 45 per 1000 (2015) to 31 per 1000 live births;
- Decline in child mortality from 70 per 1000 (2015) to 55 per 1000 live births;
- Decline in the maternal mortality ratio from 514 (2015) to 327 per 100,000 live births;
- 101,645 life years gained by antiretroviral therapy (ART) and prevention of mother to child transmission (PMTCT) interventions; and
- 14,446 healthy years gained as a result of addressing cardiovascular diseases.



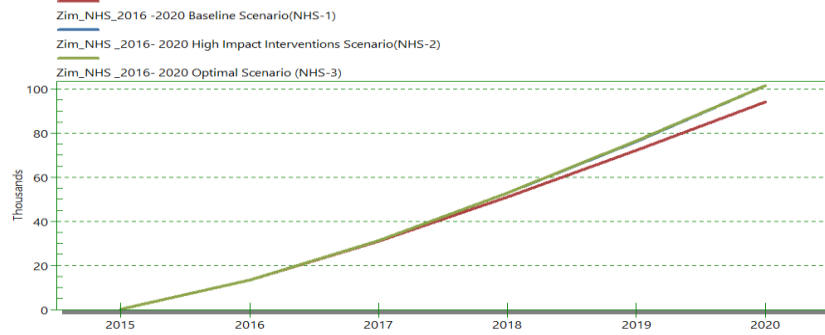
Maternal Mortality Ratio (maternal deaths per 100,000 live births)



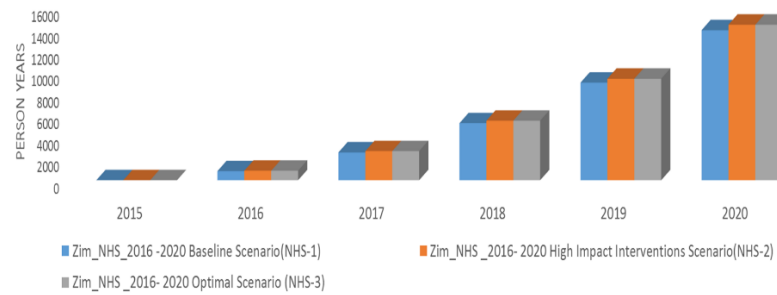
Deaths averted by ART



Life years gained by ART and PMTCT



Healthy years lived-Cardio vascular disease,Both sexes,All states



6. Policy implications

The current and potential future distribution of health system costs, as well as returns from investments, have clear policy implications. The study suggests that:

- RMNCH, HIV/AIDS and NCDs consume the largest share of health-related costs in Zimbabwe. HIV/AIDS consumes more costs than any other disease category. NCD costs are catching up because of increased prevalence, requiring careful balance of the increased demand for health services and the limited budget available.
- Prioritizing and investing in maternal and child health services will continue yielding substantial gains in health. Both infant and maternal mortality rates drop substantially under the two investment scenarios.
- Medication, supplies and commodities consume about 50% of NHS costs. When developing a pre-payment mechanism or other health initiative to reduce out of pocket spending, it is important to take this cost component into consideration, such as including medication in the benefit package of future health insurance schemes.
- Full implementation of the NHS requires resources beyond what Zimbabwe can afford. The MOHCC faces tough decisions in prioritizing different services included in the NHS, and must carefully plan and generate more domestic resources as well as improve overall health system efficiency.

7. Recommendations and final remarks

It is important to note the assumptions that need to be assessed for feasibility during implementation of the NHS 2016-20. If these assumptions vary, there is potential for changes in the cost and impact thereof. We offer the recommendations below following this costing exercise:

- The observed variation between the preferred scenario and the available fiscal space points to a need to develop an efficiency agenda for each aspect of the program delivery going forward.
- Performance based resource allocation needs to be strengthened to maximize the impact of available resources. We recommended that each program develop value for money indicators guided by an overall value for money framework to guide efficient and effective delivery.
- In addition, we recommended the MOHCC and MOFED streamline resource mobilization efforts to ensure increased and sustained health sector funding to close the financing gap and to address the changing needs of the population.
- One output of this work stream was a comprehensive list of interventions per program with baseline and targets to be tracked and monitored during the entire NHS period. We recommend that the MOHCC continuously update this list.

8. Limitations

It should be noted that the results from this costing exercise are indicative due to several inherent limitations:

- Some data were not available and the model had to rely on experts' opinions or use missing values or 0s for the modeling. For example, there was no data from interventions on breast cancer. The coverage of these interventions was set as 0, which may underestimate the costs of NCDs.
- The cost of some interventions is not clearly defined and is mixed with public and private costs. For targets that are set at the national level, such as coverage of prenatal care and institutional delivery, associated costs clearly include costs incurred at both public and private facilities.

However, some costs, such as the cost on human resources, are solely public sector costs. This has created challenges in comparing estimated costs with government budgets and data from national health accounts.

- The OHT is primarily used to assess MCH services. Although there is a module related to the impact of NCDs, it has not been widely applied and the results on return of the investment in NCDs need to be used with caution.

9. Appendix: Health service coverage targets for the three scenarios in 2020

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1: Baseline	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Reproductive Health, Maternal and Newborn				
Family planning				
CPR	MICS 2014,	67%	77%	77%
Safe abortion				
Safe abortion	DHIS2	3.3%	25%	25%
Management of abortion complications				
Post-abortion case management	DHIS2	20.4%	50%	50%
Management of ectopic pregnancy care				
Ectopic case management	DHIS2	3.4%	25%	25%
Pregnancy care - ANC				
Tetanus toxoid (pregnant women)	MICS 2014,	63.5%	80%	80%
Syphilis detection and treatment (pregnant women)	MICS 2014,	35.05%	80%	80%
Basic ANC	MICS 2014,	70%	70%	80%
Pregnancy care - Treatment of pregnancy complications				
Hypertensive disorder case management	DHIS2, Expert Review	3.51%	25%	25%
Management of pre-eclampsia (Magnesium sulphate)	DHIS2, Expert Review	3.51%	25%	25%
Childbirth care - Facility births				
Labor and delivery management	DHIS2, Expert Review	79.6%	80%	80%

Active management of the 3rd stage of labour	DHIS2, Expert Review	3%	25%	25%
Pre-referral management of labor complications	DHIS2, Expert Review	20.9%	20.9%	50%
Management of eclampsia (Magnesium sulphate)	DHIS2, Expert Review	3%	25%	25%
Neonatal resuscitation (institutional)	DHIS2, Expert Review	90%	90%	90%
Management of obstructed labor	DHIS2, Expert Review	85%	85%	85%
Treatment of local infections (Newborn)	DHIS2, Expert Review	58.6%	58.6%	80%
Kangaroo mother care	DHIS2, Expert Review	3%	25%	25%
Feeding counselling and support for low-birth-weight infants	DHIS2, Expert Review	1.2%	1.2%	25%
Childbirth care - Home births				
Clean practices and immediate essential newborn care (home)	DHIS2, Expert Review	95%	95%	95%
Childbirth care - Other				
Antenatal corticosteroids for preterm labor		0%	20%	20%
Antibiotics for pPRoM		0%	20%	20%
Induction of labor (beyond 41 weeks)	DHIS2, Expert Review	3%	25%	25%
Postpartum care - Treatment of sepsis				
Maternal Sepsis case management	DHIS2	1%	25%	25%
Postpartum care - Treatment of newborn sepsis				
Newborn sepsis - Full supportive care	DHIS2, Expert Review	3%	25%	25%

Newborn sepsis - Injectable antibiotics	DHIS2, Expert Review	3%	25%	25%
Postpartum care - Other				
Clean postnatal practices	DHIS2, Expert Review	11.81%	50%	50%
Treatment of postpartum hemorrhage	DHIS2, Expert Review	87%	87%	87%
Chlorhexidine	DHIS2, Expert Review	84%	84%	84%
Other sexual and reproductive health				
Treatment of syphilis	DHIS2, Expert Review	48%	80%	80%
Treatment of PID (Pelvic Inflammatory Disease)	DHIS2, Expert Review	0.4%	0.4%	25%
Treatment of urinary tract infection (UTI)	DHIS2, Expert Review	0.02%	0.02%	25%
Cervical cancer screening	DHIS2, Expert Review	1.8%	1.8%	25%
Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Child Health				
Deworming (children)	DHIS2, Expert Review	67.5%	67.5%	80%
ORS	MICS 2014	43%	80%	80%
Zinc (diarrhea treatment)	MICS 2014	17%	50%	50%
Antibiotics for treatment of dysentery	MICS 2014	8%	25%	25%
Treatment of severe diarrhea	DHIS2, Expert Review	36.2%	36.2%	80%
Pneumonia treatment (children)	MICS 2014	58.6%	80%	80%
Malaria treatment (children)	MICS 2014	78%	80%	80%

Treatment of severe malaria (children)	DHIS2, Expert Review	37.2%	37.2%	80%
Vitamin A for measles treatment (children)	MICS 2014	34%	80%	80%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2:	Target_2020 for NHS Scenario 3
Immunization				
Rotavirus vaccine	MICS 2014, Expert Opinion	87%	87%	87%
Measles vaccine	MICS 2014, Expert Opinion	86%	86%	86%
DPT vaccination	MICS 2014, Expert Opinion	74%	80%	80%
Hep B vaccine to prevent liver cancer	MICS 2014, Expert Opinion	95%	95%	95%
Polio vaccine	MICS 2014, Expert Opinion	88%	88%	88%
BCG vaccine	MICS 2014, Expert Opinion	95%	95%	95%
Pneumococcal vaccine	MICS 2014, Expert Opinion	87%	87%	87%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2:	Target_2020 for NHS Scenario 3
Malaria				
Insecticide treated materials	MICS,Expert Review	42.2%	80%	80%
IPT (pregnant women)	Expert Review	38.6%	80%	80%
Malaria treatment (adults)	Expert Review	47.6%	47.6%	80%
Treatment of malaria (pregnant women)	Expert Review	7.8%	25%	25%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2:	Target_2020 for NHS Scenario 3:
TB				
TB diagnosis: Microscopy				
Diagnosis microscopy: Passive TB case finding	DHIS2	44%	44%	80%
Diagnosis microscopy: Household contact tracing	DHIS2	42%	42%	80%
Monitoring microscopy: Test to monitor first-line drug treatment, new bacteriologically confirmed cases	DHIS2	47.59%	47.59%	80%
Monitoring microscopy: Test to monitor first-line drug treatment, previously treated cases		0%	0%	20%
Monitoring microscopy: Test to monitor second-line treatment for RR-/MDR TB		0%	0%	20%
TB diagnosis: Culture				
Monitoring culture: Test to monitor second-line treatment for RR-/MDR-TB		0%	0%	20%
TB diagnosis: Culture and DST				
Drugs susceptibility testing for first-line drugs: Previously treated TB cases	DHIS2	30.04%	80%	80%
Drugs susceptibility testing for second line TB drugs	DHIS2	40%	40%	80%
TB diagnosis: Xpert (molecular)				
Initial diagnosis Xpert: Presumptive TB cases	DHIS2	21%	21%	50%
Initial diagnosis Xpert: Household contact tracing	DHIS2	29%	29%	50%
Initial diagnosis Xpert: HIV+ cases	DHIS2	100%	100%	100%
Initial diagnosis Xpert: Child cases	DHIS2	40%	40%	80%
Initial diagnosis Xpert: Extra pulmonary	DHIS2	40%	40%	80%
RR-Diagnosis Xpert: Resistance testing for previously treated	DHIS2	100%	100%	100%
TB diagnosis: LPA (molecular)				
Resistance testing LPA: For first-line drugs, culture positive	DHIS2	100%	100%	100%
Resistance testing LPA: For first-line drugs, previously treated TB cases	DHIS2	100%	100%	100%
TB x-rays				
Screening X-rays: Passive TB case finding	DHIS2	15%	15%	50%
Screening X-rays: Active TB case finding		0%	0%	20%

Screening X-rays: Household contact tracing		0%	0%	20%
Screening X-rays: Smear negative		0%	0%	20%
Diagnosis X-rays: HIV+		0%	0%	20%
Diagnosis X-rays: Children		0%	0%	20%
First-line TB treatment				
First-line TB treatment: Initial treatment	DHIS2	99%	99%	99%
First-line TB treatment: Initial treatment for children	DHIS2	100%	100%	100%
First-line TB treatment: Previously treated	DHIS2	31%	31%	80%
First-line TB treatment: Previously treated for children	DHIS2	3%	3%	25%
MDR and XDR TB				
Second-line treatment	DHIS2	43%	43%	80%
XDR treatment	DHIS2	29%	29%	50%
Ancillary drugs for adverse events treatment	DHIS2	3%	3%	25%
TB patient support				
Patient support for MDR and XDR cases		0%	0%	20%
Collaborative TB and HIV/AIDS interventions				
HIV testing and counseling for TB patients	DHIS2	99.45%	99.45%	99.45%
Isoniazid preventive therapy for adults and children with HIV and on ART without TB	DHIS2	4.7%	4.7%	25%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS
HIV/AIDS				
Prevention - Other				
Interventions focused on female sex workers	DHIS,Expert Reviews	59%	80%	80%
Youth focused interventions - Out-of-school	DHIS,Expert Reviews	3%	25%	25%
Voluntary counseling and testing	DHIS,Expert Reviews	27%	50%	50%
Condoms	DHIS,Expert Reviews	46%	80%	80%
PMTCT	DHIS,Expert Reviews	99.74%	99.74%	99.74%

Post-exposure prophylaxis	DHIS,Expert Reviews	46%	80%	80%
Care and treatment				
Proportion of adults on ART using Second-Line ART	DHIS,Expert Reviews	5%	5%	5%
ART for men	DHIS,Expert Reviews	72.97%	80%	80%
ART for women	DHIS,Expert Reviews	83.12%	83.12%	83.12%
Cotrimoxazole for children	DHIS,Expert Reviews	84.8%	84.8%	84.8%
Pediatric ART	DHIS,Expert Reviews	86.64%	86.64%	86.64%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Nutrition				
Pregnant and lactating women				
Daily iron and folic acid supplementation (pregnant women)	MICS 2014	64%	80%	80%
Intermittent iron and folic acid supplementation (non-anemic pregnant women)	DHIS2,Expert Opinion	75%	75%	80%
Nutritional care and support (HIV+ pregnant and lactating women)		75%	75%	80%
Nutritional care and support for pregnant and lactating women in emergencies	DHIS2,Expert Opinion	70%	80%	80%
Daily FAF, postpartum, anemic women	DHIS2,Expert Opinion	70%	70%	80%
Intermittent FAF, postpartum, non-anemic pregnant women	DHIS2,Expert Opinion	70%	70%	80%
Children				
Breastfeeding counselling and support	DHIS2,Expert Opinion	20%	50%	50%
Complementary feeding counselling and support	DHIS2,Expert Opinion	9.5%	25%	25%
Vitamin A supplementation in infants and children 6-59 months	DHIS2,Expert Opinion	60%	80%	80%
Management of severe malnutrition (children)	DHIS2,Expert Opinion	75%	80%	80%

Management of moderate acute malnutrition (children)	DHIS2,Expert Opinion	5%	25%	25%
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Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Environmental Health and WASH				
Use of improved water source within 30 minutes	Expert Opinion	79.9%	80%	80%
Use of water connection in the home	Expert Opinion	34.1%	80%	80%
Improved excreta disposal (latrine/toilet)	Expert Opinion	39.9%	80%	80%
Hand washing with soap	Expert Opinion	17%	50%	50%
Hygienic disposal of children's stools	Expert Opinion	57.8%	80%	80%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Non-communicable diseases				
CVD & diabetes				
Screening for risk of CVD/diabetes	DHIS2, Expert Opinion	0.65%	0.65%	25%
Treatment of new cases of acute myocardial infarction (AMI) with aspirin	DHIS2, Expert Opinion	5%	25%	25%
Treatment of cases with established ischemic heart disease (IHD) and post MI	DHIS2, Expert Opinion	5%	25%	25%
Treatment for those with established cerebrovascular disease and post stroke	DHIS2, Expert Opinion	5%	25%	25%
Treatment of cases with rheumatic heart disease (with benzathine penicillin)		0.13%	0.13%	25%
Standard Glycemic control		0%	20%	20%
Intensive glycemic control		0%	20%	20%

Retinopathy screening and photocoagulation	DHIS2, Expert Opinion	10%	25%	25%
Neuropathy screening and preventive foot care	DHIS2, Expert Opinion	10%	25%	25%
Breast cancer				
Basic breast cancer awareness		0%	0%	20%
Clinical breast examination	DHIS2, Expert Opinion	0.04%	0.04%	25%
Mammography		0%	0%	20%
Breast cancer treatment: Stage 1		0%	0%	20%
Breast cancer treatment: Stage 2		0%	0%	20%
Breast cancer treatment: Stage 3		0%	0%	20%
Breast cancer treatment: Stage 4		0%	0%	20%
Basic palliative care for breast cancer		0%	0%	20%
Extended palliative care for breast cancer		0%	0%	20%
Post-treatment surveillance for breast cancer patients		0%	0%	20%
Cervical cancer				
Cervical cancer treatment	DHIS2, Expert Opinion	17.92%	17.92%	50%
Oral care and cancer				
Dental cleaning and preventive care		0%	0%	20%
Oral cancer treatment		0%	0%	20%
Respiratory disease				
Asthma: Inhaled short acting beta agonist for intermittent asthma	DHIS2, Expert Opinion	3%	25%	25%
Asthma: Low dose inhaled beclometasone + SABA	DHIS2, Expert Opinion	3%	25%	25%
Asthma: High dose inhaled beclometasone + SABA	DHIS2, Expert Opinion	3%	25%	25%

Asthma: Theophylline + High dose inhaled beclometasone + SABA	DHIS2, Expert Opinion	3%	25%	25%
Asthma: Oral Prednisolone + Theophylline + High dose inhaled beclometasone + SABA	DHIS2, Expert Opinion	3%	25%	25%
COPD: Smoking cessation	Expert Opinion	15%	50%	50%
COPD: Inhaled salbutamol	Expert Opinion	11%	50%	50%
COPD: Low-dose oral theophylline	Expert Opinion	9.5%	25%	25%
COPD: Ipratropium inhaler	Expert Opinion	3.5%	25%	25%
COPD: Exacerbation treatment with antibiotics	Expert Opinion	5%	25%	25%
COPD: Exacerbation treatment with oral prednisolone	Expert Opinion	5%	25%	25%
COPD: Exacerbation treatment with oxygen	Expert Opinion	5%	25%	25%

Program and Services	Baseline Data Source	Target_2020 for NHS Scenario 1	Target_2020 for NHS Scenario 2	Target_2020 for NHS Scenario 3
Mental Health				
Anxiety disorders				
Basic psychosocial treatment for anxiety disorders (mild cases)	DHIS2, Expert Opinion	5%	25%	25%
Basic psychosocial treatment and anti-depressant medication for anxiety disorders (moderate-severe cases)	DHIS2, Expert Opinion	10%	25%	25%
Intensive psychosocial treatment and anti-depressant medication for anxiety disorders (moderate-severe cases)	DHIS2, Expert Opinion	5%	25%	25%
Depression				
Basic psychosocial treatment for mild depression	DHIS2, Expert Opinion	5%	25%	25%
Basic psychosocial treatment and anti-depressant medication of first episode moderate-severe cases	DHIS2, Expert Opinion	10%	25%	25%

Intensive psychosocial treatment and anti-depressant medication of first episode moderate-severe cases	DHIS2, Expert Opinion	5%	25%	25%
Intensive psychosocial treatment and anti-depressant medication of recurrent moderate-severe cases on an episodic basis	DHIS2, Expert Opinion	5%	25%	25%
Intensive psychosocial treatment and anti-depressant medication of recurrent moderate-severe cases on a maintenance basis	DHIS2, Expert Opinion	1%	25%	25%
Psychosocial care for peri-natal depression	DHIS2, Expert Opinion	10%	25%	25%
Psychosis				
Basic psychosocial support and anti-psychotic medication	DHIS2, Expert Opinion	20%	50%	50%
Intensive psychosocial support and anti-psychotic medication	DHIS2, Expert Opinion	5%	25%	25%
Bipolar disorder				
Basic psychosocial treatment, advice, and follow-up for bipolar disorder, plus mood-stabilizing medication	DHIS2, Expert Opinion	20%	20%	50%
Intensive psychosocial intervention for bipolar disorder, plus mood-stabilizing medication	DHIS2, Expert Opinion	5%	5%	25%
Epilepsy				
Basic psychosocial support, advice, and follow-up, plus anti-epileptic medication	DHIS2, Expert Opinion	40%	40%	80%
Developmental disorders				
Basic psychosocial treatment, advice, and follow-up for developmental disorders	DHIS2, Expert Opinion	7%	25%	25%
Intensive psychosocial intervention for developmental disorders	DHIS2, Expert Opinion	7%	7%	25%
Conduct disorders				
Basic psychosocial treatment, advice, and follow-up for behavioral disorders	DHIS2, Expert Opinion	0.12%	0.12%	25%

Intensive psychosocial intervention for behavioral disorders	DHIS2, Expert Opinion	0.12%	0.12%	25%
Family psychoeducation (ADHD)	DHIS2, Expert Opinion	5%	25%	25%
Family psychoeducation (conduct disorder)	DHIS2, Expert Opinion	5%	25%	25%
Attention disorders		0%	0%	0%
Methylphenidate medication	DHIS2, Expert Opinion	5%	25%	25%
Dementia				
Assessment, diagnosis, advice, and follow-up for dementia	DHIS2, Expert Opinion	6%	25%	25%
Pharmacological treatment of dementia	DHIS2, Expert Opinion	6%	25%	25%
Alcohol use/dependence		0%	0%	0%
Identification and assessment of new cases of alcohol use/dependence	DHIS2, Expert Opinion	0.1%	25%	25%
Brief interventions and follow-up for alcohol use/dependence		0.1%	25%	25%
Management of alcohol withdrawal	DHIS2, Expert Opinion	5%	25%	25%
Relapse prevention medication for alcohol use/dependence	DHIS2, Expert Opinion	5%	25%	25%
Drug use/dependence				
Identification and assessment of new cases of drug use/dependence	DHIS2, Expert Opinion	21%	21%	50%
Brief interventions and follow-up for drug use/dependence	DHIS2, Expert Opinion	21%	21%	50%
Management of opioid withdrawal	DHIS2, Expert Opinion	21%	21%	50%

Management of non-opioid/other drug withdrawal	DHIS2, Expert Opinion	21%	21%	50%
Self-harm/suicide				
Assess and care for person with self-harm	DHIS2, Expert Opinion	27%	27%	50%
Basic psychosocial treatment, advice, and follow-up for self-harm/suicide	DHIS2, Expert Opinion	27%	27%	50%
Pesticide intoxication management	DHIS2, Expert Opinion	27%	27%	50%

**services that were excluded from being prioritized services in scenario 2 are highlighted in yellow.*