Endline review of the Investment Case for Reproductive, Maternal, Newborn, Child and Adolescent Health Sharpened Plan in Uganda, 2015/16 - 2019/20

Ministry of Health, Uganda & the World Bank

In collaboration with

The Maternal Newborn and Child Centre of Excellency

Department of Health Policy Planning and Management

School of Public Health, Makerere University, Uganda

Countdown to 2030 for Women's, Children's and Adolescents' Health

London School of Tropical Medicine & Hygiene Sick Kids, Canada

University of Manitoba, Canada

Analytical Review

December 2020

Authors

Peter Waiswa[1*], Rornald Muhumuza Kananura[1], Gloria Seruwagi[1], Federica Margini[2], Emily Keats[3], Jimmy Ogwal[4], Ties Boerma[5].

Affiliations

1. *Center for Maternal, Newborn and Child Health,*
    Makerere University School of Public Health, Kampala Uganda
2. *London School of Hygiene and Tropical Medicine, London, UK*
3. *Sick Kids, Canada*
4. *Ministry of Health, Kampala, Uganda*
5. *University of Manitoba, Canada*

*   *Contact to the authors of the report*

    Tel. 256772405357
    Email: pwaiswa@musph.ac.ug

Table of Contents

List of tables

List of figures

Acronyms

AIDS	Acquired Immuno Deficiency Syndrome
ADHO	Assistant district heath officer
ANC	Antenatal Care
ART	Anti-Retroviral Treatment
AYFs	Adolescent youth friendly services
BDR	Birth and death registration
CRVS	Civil Registration and Vital Statistics
CSOs	Civil Society Organisations
DHIS	District health information system
DHO	District health officer
EmNOC	Emergency Obstetric and Neonatal Care
HC	Health Centre
HMIS	Health management information system
IC	Investment Case
ICCM	Integrated Community Case Management
IMR	Infant mortality rate
IPs	Implementing partners
IPT	Intermittent Presumptive Treatment
ITN	Insecticide Treated Nets
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MIS	Malaria Indicator Survey
MMR	Maternal Mortality Ratio
MoH	Ministry of health
MPDR	Maternal and Perinatal Death Reviews
MVRS	Mobile Vital Records System
NIRA	National Identification and Registration Authority
ORS	Oral Rehydration Salt
PMA	Performance Monitoring and accountability
PMTCT	Prevention of Mother to Child Transmission
PNC	Post Natal Care
RMNCAH	Reproductive, Maternal, Neonatal Child and Adolescent Health
SP	Sharpened Plan
SRH	Sexual Reproductive Health
UDHS	Uganda Demographic Health Survey
UPHIA	Uganda Population HIV Impact Assessment
VHT	Village Health Team
WHO	World Health Organization

Executive Summary

This End-line review report highlights the overall implementation, progress attained, lessons learned, and challenges experienced during the implementation of the Investment Case (IC) for the Sharpened Plan. It also makes recommendations for the development of the next Sharpened Plan and Investment Case (IC). The review was undertaken by the Maternal Newborn and Child Health Centre of Excellence, School of Public Health, Makerere University, Uganda, in collaboration with the Countdown to 2030 for Women's, Children's, and Adolescents Health, the Uganda Ministry of Health, and the World Bank. The report is based on analysis and synthesis of existing data, especially the routine HMIS/DHIS2 data which was used to assess progress on key RMNCAH indicators, focusing on trends from 2015 to 2019. All health-related surveys conducted in 2015 or later were considered (PMA, MIS, and UDHS). The UDHS 2016 helps strengthen the baseline but cannot be used to provide information on the Sharpened Plan's performance as it does not cover the implementation period. Data on the health system were obtained from the Ministry of Health, World Bank, and development partners. A desk review was done, and primary data collection among key informant interviews was conducted at the national level and in 15 districts during the period July-August 2020.

Impact assessment

The Investment Case (IC) has five impact indicators: maternal mortality rate, stillbirths' rate, infant mortality rate, under-five mortality rate, and teenage pregnancy. Whereas the institutional maternal mortality rate is falling and was below 100 per 100,000 health facility deliveries in 2019 according to DHIS2 data, the data on maternal death audits showed higher mortality. The institutional stillbirth (both macerated and fresh) rate reduced from 21.8 per 1000 birth in 2016 to 17.4 per 1,000 births in 2019, representing a 5 per 1000 birth shortfall of the 2020 Sharpened Plan target. The high burden group of districts have higher mortality than the lower/ intermediate burden group of districts, though, as noted, this gap reduced in 2019. Fresh stillbirth rates as the measure of the quality of care constitute about half of all stillbirths in Uganda and gradually declined from 11.0 to 8.7 per 1,000 births between 2016 and 2019.

Progress for each of the strategic shift

To accelerate progress for the five IC strategic outcomes, the IC outlines 5 major shifts: emphasizing evidence-based high impact solutions, focus on high burden districts, geographic focusing, addressing the broader context, and ensuring mutual accountability. The shift to high impact solutions performed relatively better, while one of the multisectoral approaches was the weakest link. Progress on adolescent health is meagre, explained mainly by its multisectoral nature and Uganda's fragile policy landscape for ASRH. The IC's "shift" approach presents multiple overlaps for RMNCAH which were not optimally leveraged. The focus on high burden districts (mainly those with larger populations) could only be assessed in terms of institutional mortality declines (maternal deaths and stillbirths), which was about equally strong in high priority and low/ intermediate priority districts. Data on increased resources and processes for high priority districts were not available. The coverage of high impact interventions is gradually expanding though too slow as by 2019, most were still a long way off the 2020 targets of the Sharpened Plan. Data on the supply side (human resources etc.) were not available to show the investments' size.

Pre-pregnancy indicators

Progress in pre-pregnancy indicators is below the set target. There is increased use of modern contraceptives among women of reproductive age, but short of targets for unmet need and teenage pregnancy remains high, with little change over time. Based on the PMA-2020 surveys,

adolescent fertility did not decline during 2014-2018, remaining at 29% of girls 15-19 who had begun childbearing or were pregnant, which is one of the highest in sub-Saharan Africa.

Pregnancy and birth indicators

Most indicators for monitoring pregnancy and birth progress fall short of the target. Maternal and newborn institutional utilization indicators (ANC, delivery, and postnatal care) are falling short of the ambitious 2020 targets of the Sharpened Plan except for postnatal care, which is reported as having reached the target. However, there could be data issues related to quality, availability, and completeness. There was stagnation in ITN use by pregnant women, which was unexpected given many recent ITN distribution campaigns. Also, data from the national panel survey show steep increases in childhood anaemias and anaemia among women of childbearing age, especially in the East and the Northern regions.

Neonatal and child health

The neonatal and child health intervention coverage indicators could not be measured, except early initiation of breastfeeding, which was high and met the set target. Full immunization coverage increased but remained far from the 80% target, and only 1 in 5 districts met this target. The target of reducing malaria parasite prevalence in children under 5 years was met; however, coverage of ITN among children and treatment of fever did not improve and remained far from the national targets in the UMIS 2018/19. Nutritional data shows some improvements in stunting, especially in eastern Uganda, but stunting has persistently remained high in the Western region. The main identified explanatory factors contributing to a decrease in national stunting rates are households with a mosquito bed net and better maternal nutrition and education. Other contributing factors are low dietary diversity, meal frequency and minimum acceptable diet in children and women of reproductive age, and a high dependency on staple foods.

For both the high and low burden districts, the comparison of progress in coverage indicators by district implementation phase suggests a possible acceleration in the earliest implementation group of districts in 2019. However, it is too early to assess whether the investments have an impact. The differences between high and low/intermediate priority district groups were minor, and no differences could be observed in the trend. However, the low/intermediate priority district group have a much lower C-section rate and somewhat higher stillbirth rates, suggesting more inadequate access and quality of delivery care in these districts. Furthermore, the Sharpened Plan's indicators provide little insight into multisectoral interventions' progress with one exception – improved sanitation. Significant progress was observed in the percent of households with improved sanitation (from 19% to 44% during 2016 – 2018/19). The data on collective action and mutual accountability were not yet available. Also, the NIRA data on birth registration and notification CRVS component show some progress in 2020 compared to 2019.

Financial commitment

External financing represents a large share of total health expenditure. However, most donor funding is intervention-based, thus creating challenges for donor funding harmonisation leading to high transaction costs. The largest share of the external contributions to RMNCH is provided by the USA, Global Fund, and GAVI. Noteworthy, the increase in external financing to RMNCH services in Uganda has not met the population growth rate and increased health needs. The lack of recent country-level data on expenditure for RMNCH and sub-national external financing poses significant challenges to programming, monitoring, and evaluation.

IC implementation facilitators and barriers

This review has considered various facilitator's implementations and barriers, in consultation with implementation stakeholders and review of records.

First, the Investment Case (IC) was a new way of "doing business". This adaptive learning process, steered by the leadership at the Ministry of Health, unified national-level stakeholders. It not only fostered cohesion but also provided clarity on priorities and resource allocation among partners. The implementation was mainstreamed in routine RMNCAH activities without much thought to bottom-up causality and strategic input – especially limited district involvement. This was exacerbated by the lack of a clear, standardized implementation framework and multiple partners with diverse contributions, approaches, and constraints.

Second, the IC visibility and conceptualisation were minimal at the sub-national level; knowledge about the IC/SP was 15% among Assistant District Health Officers (ADHOs) despite their key RMNCAH stewardship role. Additionally, there was limited understanding of critical stakeholders at the sub-national level, which affected IC/SP adaptation and operationalization.

Last, there were efforts to increase funding, and the government and partners have made significant RMNCAH investments. There is evident progress across some of the strategic shifts; however, resources remain insufficient, and current progress is below the intended targets. Much of the observed progress relates to process issues, contributing more to quality improvement than directly to outcomes. Health system bottlenecks and constraints continue to undermine registered or potential progress significantly. The disproportionate focus has been on the supply side, with glaring gaps in demand-side initiatives and intersecting points. This disharmony and a one-way social accountability approach reinforced by weak community health systems were key limitations and explanatory factors for the slow progress.

Conclusion

The country made steady progress during the investment case's implementation period on several key indicators of the RMNCAH continuum of care. However, most did not reach the set targets. The progress is too slow to reach the Sharpened Plan's ambitious targets and the investment case. By 2019, there was no evidence that the targeting of high population districts accelerated the trends in those districts, which would be expected on districts' implementation timing. The main cause for this was limited implementation despite the availability of additional resources from the GFF. Challenges hindered implementation arrangements at the centre (vertical approach) with limited subnational coordination and management mechanisms. Overall, we consider the IC implementation period of 2016/17-2019/20 as a learning and foundational phase, whose lessons should be used to inform the next phase. Systems have been put in place, partnerships explored, gaps or bottlenecks identified, and some progress registered. In light of the review findings on the progress and implementation facilitators and barriers, several recommendations were drawn for the subsequent implementation phase. We categorise the recommendations in terms of M&E and program implementation.

Recommendations

1. Priority policies that need to be developed:

The Ministry of Health with support from partners should develop/finalise and operationalise the following interlinked key policies a) A National RMNCAH/N policy and strategic plan; b) A national Adolescent Sexual and Reproductive Health Policy and Strategy; c) An Urban Health Policy and Strategy; and d) the Community Health Systems (CHS) policy and strategy. These policies should form the basis for national programming and financing and should be aligned to the current program-based budgeting and implementation approach (multi-sectoral coordination, planning, and implementation) that the government of Uganda has adapted. The Covid-19 pandemic has radically distorted health systems, thus making the need for these reforms to be even more critical and urgent.

i.   **The MoH in collaboration with other sectors and partners should develop a national RMNCAH/N Policy and Strategic Plan:** Uganda is currently operating without a comprehensive RMNCAH policy and strategy. The last such policy was the "Road Map for Accelerating the Reduction of Maternal and Neonatal Mortality and Morbidity in Uganda" which expired in 2015. The development of this policy will facilitate an intentional, forward-looking multi-sectoral coordination, planning, resource mobilisation, and implementation within a complex context.

ii.   **The MoH in collaboration with other sectors and partners should urgently finalise the national Adolescent Sexual and Reproductive Health Policy and Strategy.** Adolescent pregnancy and related issues remain one of Uganda's critical determinants of reproductive health and other outcomes, including the much-desired optimal human development capital that is needed to transform society. The review found that adolescent pregnancy has stagnated.

iii.   **The MoH in collaboration with other sectors and partners should urgently finalise the Community Health Systems (CHS) Policy and Strategy.** This policy was under development but was never launched due to challenging economic conditions. However, the review found that uptake of many evidence-based interventions was below the set targets, mainly because current interventions are majorly supply-side focused or have a weak demand-side component. The widespread disruptions of services during the COVID-19 pandemic have worsened its situation. Uganda should, therefore, urgently finalise and operationalize its CHS policy and strategy. Such a strategy should be grounded in strong community involvement, mobilisation of community-owned resources, enhancing community accountability, and linkage to facility care. It should be noted that CHS goes beyond CHWs as they include all resources in the community that can be mobilised to co-produce health. Opportunities remain many, including the recently elected Local Council 1 and 2 (LC 1 and 2), and harnessing the new Parish Development Model that the government is rolling out.

iv.   **The MoH in collaboration with other sectors and partners should urgently develop and finalise an Urban Health Policy and Strategy.** Uganda is rapidly urbanising, and many independent urban authorities have been created recently, yet the health delivery issues have not been adequately addressed. As a result, many indicators in urban areas have worsened. A critical challenge is that many urban centres lack a comprehensive PHC system and a mechanism to provide health care to the poor or to ensure high coverage, quality, and equity despite a vibrant mixed health system. The

policy development should consider the complexity of urban settings and should also be extended to the emerging townships as they essentially have the same characteristics as the bigger towns.

2. Improve partnership's coordination and alignment, and build implementation and management capacity at all levels: national, regional, urban authorities, and district levels.

i.   **Enhance mechanisms for partner coordination, management, and accountability:** The MoH and partners should strengthen national and subnational RMNCAH/N networks to accelerate joint action capacity. In order to do so, there must be a transparent framework for partner coordination, participation, contribution, and accountability. More functional partner networks will generate organizational commitments to shared network goals and accelerate the capacity for strong, equity-based RMNCAH/N programming in the country.

ii.   **Use an enhanced Regional Approach to coordination, planning, and implementation to improve efficiency in the health system:** The review found a lot of missed opportunities for improved performance in the health sector. For instance, many evidence-based interventions that are already policy, programme, and routine did not achieve the set targets (e.g immunisation). Challenges included limited financing, human resources, and support supervision to districts and lower-level facilities and communities because of expansion of the number of districts, cities, and municipalities.

3. Strengthen RMNCAH/N financing mechanisms:

In line with the spirit of the GFF supported investment case, financing for RMNCAH/N needs to be streamlined as follows:
- Funding from partners should align with the government's planning and budgeting cycles and priorities. These partners also need to be accountable and regularly reporting to the MoH. To facilitate this, the MoH should create a mechanism to do so, including the provision of tools and guidance for resource tracking including partners reporting to enhance accountability.
- Improve the timely availability of granular data on RMNCAH/N expenditure, with a focus on district and hospital-level expenditures.
- Track off-budgeting financing, analysing trends by area, channel and its volatility.
- Conduct rigorous evaluations of major donor-funded projects.
- Regularly assess the impact of the resource allocation formula on horizontal equity and revise it as needed.
- Track domestic resources allocated to RMNCAH.

4. Optimise the delivery of high impact interventions and improve program efficiency in both preventive and clinical services.

i.   **To advance the UHC and SDG national agenda, Uganda must strengthen access, coverage and quality of clinical services, including basic and emergency maternal, newborn, child and obstetric services.** The current low under-five mortality yet high maternal and neonatal deaths call for a stronger integrated high quality clinical and referral system with a linked comprehensive PHC system. Options here include decongesting hospitals by strengthening lower level health units and the community

level implementation of preventive services so that hospitals deal mainly with acute and referred cases. On the demand side, high impact interventions such as the use of ITNs, FP coverage, immunization, and maternal and child nutrition and anaemia prevention need to be enhanced so that they are universal.

ii.   **Prioritise health system strengthening (HSS) to consolidate gains from other health sector boosts.** Ensure resources, time and action alignment for broader coverage and higher impact. Addressing long-standing and well-known health system bottlenecks will go a long way in supporting this, for example, through addressing delays in financing or space issues at health facilities. Ensure that HSS initiatives such as infrastructural developments align with quality improvement drivers such as RBF to consolidate any registered gains.

5. There is a need for a new M&E framework that includes both the survive and thrive indicators.

i.   **A new IC theory of change with a clear M&E framework that shows the survival pathways by including the "thrive" and "transform" child health (0 – 19 years) indicators should be considered.** While the IC indicators in the M&E framework seem to exhaust all measures of different pathways with over 100 indicators, the IC theory of change is unclear. The impact indicators are limited to "survival". Except for adolescent fertility, the survival and thrive pathway or mechanism is not well addressed.

ii.   **Mechanisms need to be put in place to develop and operationalize routine collection of measurable health systems indicators.** Some of the data highlighted in the frameworks for monitoring the progress were not available, and the system for accessing the other information such as human resource is bureaucratic.

iii.   Given the complexity of health care and the need for rapid scale-up, the government and partners should ensure that program implementation is informed by evidence, including *implementation research* (IR) as its iterative nature will help develop successful models for wider district, regional, and national-level scale-up. *The need for IR is even more urgent now during this COVID-19 pandemic and beyond as new models of service delivery to ensure service continuity are needed. It could also lead to improved dialogue and action between academic, policy, and budgetary realms that capitalize on Uganda's existing expertise.*

iv.   **A comprehensive endline evaluation should be part of the inclusive review of program performance.** The review found a lot of missed opportunities for improved performance in the health sector. For instance, many evidence-based interventions tat are already policy, programme, and routine did not achieve the set targets (e.g. immunisation). Regular inclusive review of progress and performance, informed by analytical reports, was not held as planned and should become a critical instrument to improve implementation and maximize all stakeholders' engagement.

6. Disseminate the Investment Case/(IC/SP) among the implementers, frontline health workers, CSOs and the public at all national levels.

i.   **Popularise the Investment Case/Sharpened Plan (IC/SP) among implementers at all levels:** The review found that there was limited understanding of the IC/SP at the district level, including among Assistant DHOs in charge of RMCAH/N. The next IC/SP should be developed and implemented with broad participation of

implementers and beneficiaries, and after that, it should be extensively disseminated.

ii. **Develop and widely disseminate a standardized implementation framework for the next Sharpened Plan.** The framework needs to be very clear on the scope of work and the roles of different parties.

iii. **Build the capacity of implementers in the new way of doing business ("the strategic shifts") that is the building block of the IC/SP.** Besides not being well informed about the IC/SP, many district staff other than the DHO lack adequate management skills to implement the IC/SP. Therefore, like it was done with DHOs and MOs who manage Health Sub-Districts, efforts should be made to build the planning and management capacity of Assistant DHOs in charge of RMCAH/N as they are the pillars for implementation.

Background

1.1. Introduction

Despite commendable progress made in improving survival and overall quality of life of women, children, and adolescents in Uganda, poor Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) indicators persist. Uganda's 2016 demographic and health survey estimated maternal mortality at 336/100,000; under-five mortality at 64/1,000; infant mortality at 43/1,000; and, neonatal mortality at 27/1,000 live births. Additionally, one in four adolescents had begun childbearing. To address this and in line with the sustainable development goals agenda, Uganda revised its 2013 RMNCAH Sharpened Plan into the Investment Case (IC) for RMNCAH Sharpened Plan for Uganda 2016/17-2019/20 (herein IC).

The IC aimed to redirect efforts towards accelerating universal coverage progress to end preventable maternal, newborn, child, and adolescent deaths in Uganda and promote general well-being and function. The IC's main thrust was to address major health system bottlenecks to enable the scale-up of high-impact interventions. The IC focused on five strategic shifts and the delivery of a priority intervention package at all health system levels. The shifts included:

a) Emphasizing evidence-based high impact solutions;
b) Increasing access for high burden populations;
c) Geographical focusing/sequencing;
d) Addressing the broader multi-sectoral context; and,
e) Ensuring mutual accountability for RMNCAH outcomes.

In addition, the IC specified key resources and other commitments that were necessary for implementation success.

On behalf of Uganda's Ministry of Health (MoH) and the World Bank/Global Fund Financing country secretariat, an end-line review of the IC's progress and performance was conducted by the Countdown to 2030 for Women's, Children's and Adolescents' Health. This is a collaboration involving the School of Public Health at Makerere University and the University of Manitoba, supported by Sick Kids-Canada and the London School of Hygiene and Tropical Medicine. This performance report highlights progress attained, lessons, and challenges experienced during the implementation of the IC. The review's findings and recommendations should inform the development of the next RMNCAH Sharpened Plan (2020/21-2024/25) and the related investment case.

1.2. Objectives and structure of the review report

The end-line review's objective was to provide a statistical review and qualitative analysis of the status and results of the implementation of the Investment Case for RMNCAH Sharpened Plan (2016/17-2019/20). Specifically, the review aimed to:

1. Assess progress in the implementation of the five strategic shifts.
2. Assess the extent of financing (and other resources) of the IC and strength of contribution by key stakeholders provided for in the design of the IC.
3. Assess the suitability of the implementation arrangements (structures, management, and coordination).
4. Identify and describe factors that enabled or hindered the realization of the objectives of the IC and implementation of key interventions.
5. Identify and describe key lessons learned beyond the enabling and hindering factors.
6. Generate recommendations to inform the design of a follow-on IC/RMNCAH strategic plan.

In addition to the introduction (Section 1), methods (Section 2), conclusion (Section 5) and recommendations (Section 6), this report consists of 4 results sections (Section 3.1-3.4). In the first set of results which we report in Section 3.1, we highlight the monitoring and evaluation plan for the IC by reporting the extent to which its main features of the M&E system have been implemented including processes, targeting strategies, and use of indicators. In section 3.2, we report the progress on achieving key outcomes: maternal mortality, under-five mortality, stillbirth, and teenage pregnancy. In Section 3.3, we report on the IC's progress for each of the strategic shifts incorporating corresponding indicators of the M&E framework such as those for the continuum of care for coverage of high-impact interventions. In sections 3.4-3.5, we report on the IC financial commitment to both external and internal sources of funds. Finally, in section 4, we present the facilitators and barriers for the implementation of IC.

Methods

The end-line review was completed through three complementary approaches – desk review, secondary data analysis, and primary qualitative data collection. We discuss these approaches in the following subsections.

2.1. Desk review

A review of various documents related to RMNCAH was conducted to summarize existing evidence on the IC's implementation, identify emerging issues, and inform the primary data collection phases based on gaps identified. The primary sources of information were grey literature from the MoH and partners involved in implementing the IC. Documents reviewed were those presenting work done during the IC implementation period (2016/17-2019/20), specifically detailing the IC's implementation aspects. Key documents included in the review are the MoH annual progress report, Annual Health Sector Performance Reports, IC supervision reports, Newborn steering committee meeting minutes, and MCH cluster meeting. Reports from implementing partners such as AMREF, UNICEF, USAID, PSI, JSI, Save the children, GAVI, DFID, and Islamic Development Bank were also reviewed.

2.2. Secondary data analysis

Implementation progress

This included analysis of raw or summarized data specifically from DHIS-2, PMA 2020, and MVRS. We could not use the national surveys (DHS and MIS) because there were no available post-2016 surveys that we could use to evaluate the changes in the IC implementation indicators. The DHIS2 data was used to analyse institutional maternal mortality and stillbirths, facility utilization indicators, and other child health indicators except for mortality. The PMA-2020 was used to assess teenage pregnancy changes while MVRS was used for birth and death registration indicators. We assessed the RMNCH coverage trend through an index comparing districts that had been prioritized in the investment case (53 districts including Kampala and Wakiso) with districts that had not been prioritized (81 districts).

Financing

The analysis of health financing trends for Reproductive Maternal New-born and Child Health (RMNCH) includes an assessment of trends in total levels of financing, external financing and the performance of major donor-funded projects aiming to improve RMNCH, and an analysis of the trends in domestic financing to the health sector at the district level and equity of these allocations. The lack of recent data on financing for RMNCH, including no National Health Accounts (NHA) since 2015/16, is an impediment to programming and monitoring efforts. Therefore, it is critical

to conduct an NHA with RMNCH sub-accounts, support the efforts of the Ministry of Health to institutionalise tracking of off-budget financing, incentivise the provision of funding on a budget or through basket funds to increase aid effectiveness and regularly monitor the impact of the resource allocation formula in horizontal equity. The assessment of the RMNCH financing trends at national and subnational levels in the Uganda Sharpened Plan 2016/17-2019/20 requires recent data. However, in several instances, recent data were not available. The lack of sub-national data on external financing and out of pocket expenditures did not allow for an in-depth sub-national analysis of overall health expenditure patterns. In several instances, the data sources include a mix of budget and expenditure data. Thus, the analysis draws upon a combination of quantitative data analysis collected from various national and international sources and the secondary review of qualitative evidence, for the most recent years available, even if such data predated the Sharpened Plan.

The data on financing relies on the following data sources and methods:

1. Data on overall health expenditure and RMNCH expenditure was extracted from the National Health Accounts (NHA) reports from FY 2010/11 to FY 2015/16. The data were analysed by the source of funds and expenditure categories.

2. Data on immunization financing was extracted from the Resources Tracking for Immunization in Uganda report for 2014/15 and 2015/16 and analysed for the major sources of funds.

3. Data on family planning expenditure was extracted from the 2018 Resource Flows Survey on Family Planning and analysed in terms of the source of funds.

4. Data on overall external financing was extracted using the Organisation for Economic Cooperation and Development (OECD)'s Creditor Reporting System data. The Muskoka2 algorithm was utilised to estimate RMNCH disbursements and enabled the trends analysis over a longer period and greater granularity than the NHA. The analysis examined trends by the donor, spending area, channel of disbursement and volatility.

5. The Uganda Reproductive Health Voucher Project (URHVP) evaluation report and the 2019/20 annual performance report of the Uganda Reproductive, Maternal and Child Health Project (URMCHIP) were reviewed to identify the main achievements and challenges with the implementation of these major RMNCH projects in Uganda.

6. Data on domestic expenditure in the health sector was extracted from the Annual Health Sector Performance Reports between FY 2015/16 and FY 2018/19 and analysed by grant type, while data on district-level allocations were extracted from the Health Sector Grant and Budget Guidelines to Local Governments from FY 2016/17 and 2020/21 and analysed in per capita terms referring to the FY 2016/17 districts. Further analysis was undertaken to understand differences in the allocations across sub-regions, as defined in the 2016 Uganda Demographic and Health Survey (UDHS), and Global Financing Facility (GFF) priority districts.

7. Lorenz and Concentration curves were estimated using district-level per capital allocation data and 2016 estimates of district-level income per capita. In the absence of more recent income data, 2020 values of district-level income per capita were estimated inflating the 2016 estimates, based on the difference

between 2016 and 2020 national GDP per capita.

8. All UGX figures were converted into constant 2018 UGX based on World Bank domestic inflation rates for each year. Figures were then converted to USD using the exchange rate for 2018 reported by the World Bank.

2.3. Primary qualitative data collection

The qualitative assessment was done at national, sub-national, facility, and community levels. In addition to IC implementation fidelity and progress across the five strategic shifts, the suitability of implementation arrangements was also assessed, and enabling factors, hindrances and bottlenecks were determined. From these findings, we draw lessons and propose recommendations. Figure 1 indicates the key questions for different dimensions.

Figure 1: Key dimensions and questions.

The Investement Case

How was it conceptualised, designed and introduced to stakeholders?
What were the expected mechanisms of impact?
How was the IC expected to deliver change?

Key Stakeholdres

Who, aspirations, commitment, resources, coverage, accountability mechanisms?

Policy, Governance and Institutional Arrangements

To what extent is/was the policy environment enabling for IC/SP implementation?
What management, coordination and monitoring mechanisms in place; how did they affect implementation?

Implementation

What was implemented and how?
Progress across the IC's five strategic shifts?

Context

How did context affect IC implementation and outcomes?

Sustainability

What critical elements exist for sustainability in the 2016/17-2019/20 investment Case?

The qualitative review was cross-sectional, mixed-method, and multi-level by design. The methods used were in-depth interviews (IDI), key informant interviews (KII) and focus group discussions (FGD). Cursory document review at the sub-national level was undertaken as was observed at the facility and community level. A total of 18 districts were visited representing diversity across the

level of RMNCAH burden, implementation wave, performance, geopolitical context, and other unique features such as refugee-hosting districts. The overall participant sample size is 396. All interviews were audio-recorded, and data management included transcribing and double-coding before analysis using Nvivo 12 and guided by endline review objectives. The analysis of qualitative findings was also guided by a hybrid fusion of useful frameworks including thematic analysis (Braun & Clarke, 2006; 2013), policy analysis triangle (Walt & Gilson,1994), and critical realism (Pawson & Tilley, 2003).

Figure 2: Qualitative analysis framework.

Health policy triangle
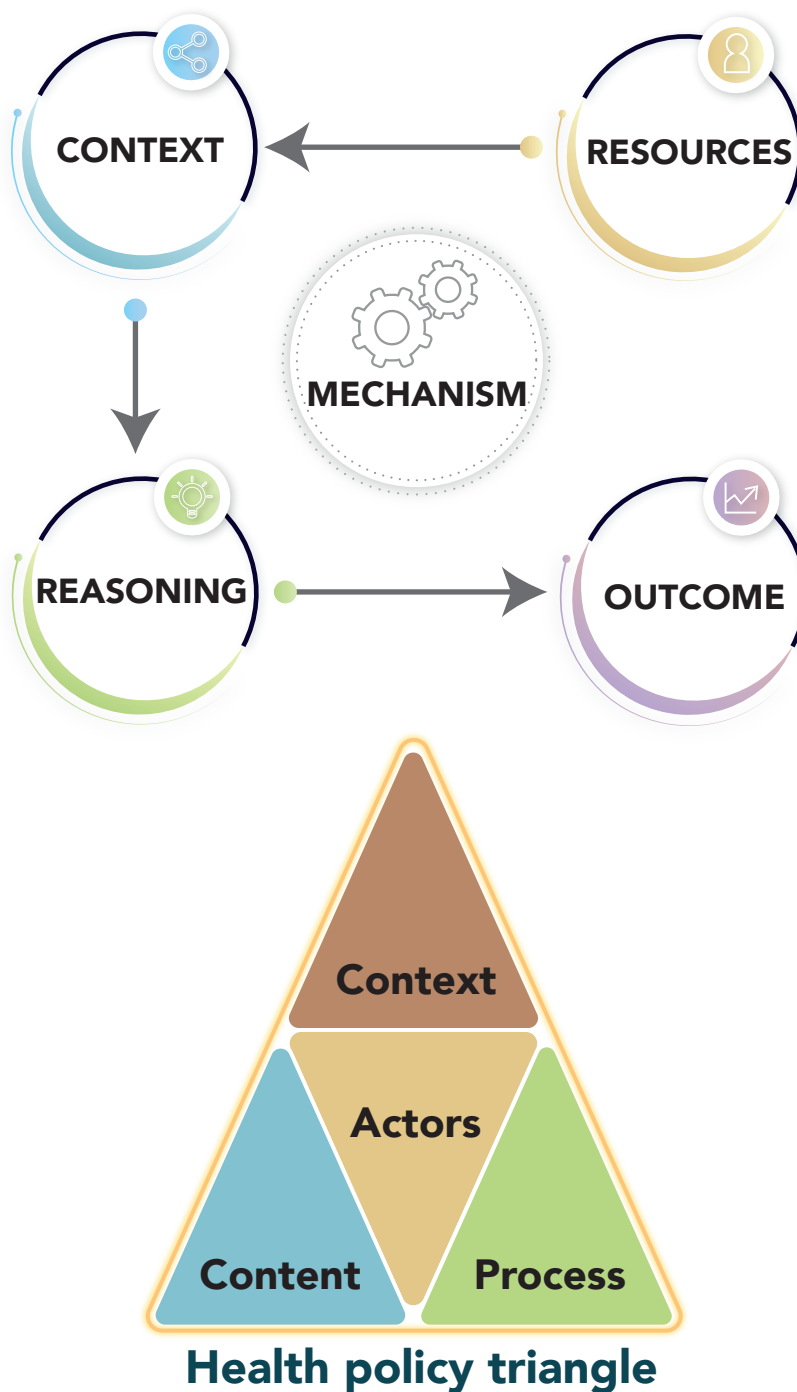
Context - Mechanism - Outcome (C-M-O) What works, for whom, when and why?
Health Policy Triangle: Which actors are affecting what, how and in what context(s)?

(Pawson & Tilley, 2000; Walt & Gilson, 1994)

3. Findings

This section presents key findings from the review tailored to the log frame of the Sharpened Plan. These findings are on the reviews of the IC M & E system, implementation performance, and implementation facilitators. In chronological order, we report on monitoring and evaluations (Section 3.1) and progress for each of the strategic shifts (Section 3.2)

3.1. Monitoring and Evaluation context for the IC

The monitoring component of the Sharpened Plan has multiple dimensions which were considered in the end-line review.

3.1.1. Impact

The Sharpened Plan's overall goal was: "to end preventable maternal, newborn, child and adolescent deaths and improve the health and quality of life of women, adolescents and children in Uganda". Five impact indicators with 2020 targets were selected, including four indicators on maternal and child mortality and one on teenage pregnancy. Since Uganda entirely depends on surveys (Demographic and Health Surveys) for its mortality measurement and the next survey is planned for 2020/2021, there was no representative data to assess the impact indicators.

> • *Many indicators of the log frame do not appear in the M&E framework set of indicators and the log frame and M&E framework are not well linked. There are far too many indicators, especially on the health system, (about 100 if we combine the two approaches) and many could not be measured.*

3.1.2. Outputs

The log-frame for the Sharpened Plan includes four outputs with 29 indicators and set targets. These four outputs are linked to the main strategic shifts of the Plan. Within each strategic shift, the processes for achieving the designed impact are articulated. These outputs in form of the strategic shifts are explained below.

Greater coverage in high-burden districts and populations
The high burden districts were selected based on four indicators (unmet need for FP, neonatal mortality, teenage pregnancy, and child mortality). The burden was measured as numbers of the target population affected (not rates), based on the DHS 2011 and the 2014 census population projections. The top 40 districts were selected as high burden. The high burden group consisted mainly of the most populous districts of Uganda. The five indicators in the log frame for this output are largely operational (e.g. increased budget for high mortality districts, reduced gaps in midwives staffing, presence of functional Health Centre (HC) III in sub-counties) or quality of care (institutional mortality). It should be noted that the analyses at the time were based on 112 districts which are now up to 135 districts due to the creation of new districts. The DHIS2 staff kept up with these changes and therefore, 53 high burden districts that originated from the original 40 districts were included in the review. The average population of the high burden districts was 462,000 in 2019, compared to 193,000 in the low or intermediate burden districts. The approach used to select priority districts was crude: the 44 districts with the highest population were selected, plus nine others.

Expanded coverage of high impact interventions
The seven indicators for this output are a mix of coverage indicators (unmet need for contraception, treatment of children with diarrhoea with ORS and zinc, and newborns receiving treatment for sepsis) and service access indicators (e.g. no stock-outs of life-saving commodities, comprehensive

EmONC in HC IV, health workforce trained in youth-friendly services). Several indicators were difficult to measure and also the criteria of what constitutes a high-impact intervention seems to have been interpreted loosely (e.g. youth-friendly information and services).

Non-health sector interventions
The 6 indicators for this output are similar to the cross-cutting indicators in the M&E framework.

Collective action and mutual accountability
There were 10 indicators selected of which three were related to resource allocation (derived from NHA and joint RMNCH program reviews), six indicators related to the development of a CRVS system, and one on maternal and perinatal death reviews.

3.1.3. M&E framework indicators

The log frame indicators (impact and the four outputs) are complemented by an M & E framework that described a much larger range of indicators with baselines, targets, and data sources. The M&E framework includes the life course phases of the continuum of care (pre-pregnancy, pregnancy, birth, postnatal, neonatal and childhood), cross-cutting issues and health systems strengthening. There are 81 indicators, including 41 of them classified as health systems strengthening (HSS). The list of indicators in the M&E framework includes most indicators in the summary log frame but not all. The endline review aimed to include all relevant indicators to assess progress and performance, but no data were available for many. Many log frame indicators do not appear in the M & E framework set of indicators and the log frame and M & E framework are not well linked. There are far too many indicators, especially on the health system, (about 100 if we combine the two approaches) and many could not be measured.

3.1.4. M&E Practices

Uganda has a sound overall M&E system of the annual health sector reviews, which is well documented with annual performance reports, including district league tables and standardized performance assessment of hospitals and large health centres. In fact, Uganda's monitoring system is one of the strongest government health sector monitoring systems in Africa. RMNCAH is a critical component of that health sector performance monitoring system with over half of the indicators and targets. The effort to intensify the M&E of the Sharpened Plan only partially materialized. The health sector stakeholders agreed to compile annual progress reports, midterm review and endline evaluation reports on the implementation of the Investment Case for RMNCAH Sharpened Plan, which would be presented and discussed in the RMNCAH Assemblies, held every year. No annual progress reports in relation to the Sharpened Plan were available in the public domain.

The M&E component of the Sharpened Plan demands good quality and frequent data. However, for various reasons, the monitoring and evaluation is limited to available and accessible data sources that may not have all the indicators. First, comprehensive household surveys with a large RMNCAH-N component, the Uganda DHS, are conducted once every five years and leave an important data gap for many indicators. This is only partially offset by disease- or program-specific surveys such as malaria indicator surveys (conducted 2015 and 2018/19),

> • There is a need to strengthen data sources if the M&E system is to function well. This could include one mini-survey of key RMNCAH indicators in-between the two DHS surveys, greater investment in DHIS2 data quality, development of analytical capacity through MOH – academic institutional collaborations, and regular health facility surveys.

population HIV impact assessment (PHIA) surveys (UPHIA in the year, but frequency unclear), and family planning surveys (PMA 2020, annual since 2015, last one 2018). Second, while the Uganda

HMIS, based on the DHIS2 platform, is working relatively well with high reporting rates by facilities and districts, there are challenges in terms of the quality of data and the target populations needed to compute the population-level coverage of interventions, especially at the local level when the "noise" in the data increases compared to the national level where errors may cancel each other. Facility level data quality assessments in 2018 and 2019 have shown substantial differences between recorded (registers) and reported numbers of events for selected indicators. A regular system of facility surveys to assess service readiness and verify key indicator reporting (such as availability of essential medicines) is not in place. The last health facility survey was conducted in 2014. Last, even though the Ministry of Health is responsive in providing requested data from the DHIS2 for specific purposes, the system of greater access to the data to for instance collaborating academic institutions is not yet in place. Such access would enhance the use of data and could lead to improvements in data quality and analysis.

Furthermore, Uganda has had a district league table system in place since 2003. It is an admirable effort that has been maintained consistently throughout the years, even though data quality and communication (explaining the rankings) are persistent challenges. This system can be improved with further attention to data quality in DHIS2, use of survey data and engagement of analysts of in-country public health institutions in the ministry of health-led analyses. Communication of results can benefit from a targeted presentation by grouping results (e.g. by socioeconomic status or targeting status such as done in the Sharpened Plan). It is an opportunity for the RMNCAH investment case / Sharpened Plan to link its district focused monitoring to or benefit from the District League table experiences.

3.2. Progress towards achievement of the IC goal - Impact

The Sharpened Plan selected five indicators for measuring progress towards the goal of ending preventable deaths among women, children, and adolescents. These are maternal, under-5, infant and neonatal mortality, as well as teenage pregnancy rate. Progress towards reducing the four mortality indicators was not assessed due to a lack of relevant data. The last UDHS was conducted in 2016 and the next is planned for 2021. The 2018/19 Malaria Indicator Survey includes retrospective data on under-five, infant and neonatal mortality (for the five years prior to the survey) but these data have not yet been analyzed. The most recent predictions (estimates) from the UN agencies show a continued decline in maternal and child mortality. However, these results cannot be used to assess the Sharpened Plan's impact, as no post-2016 data have been used. Nonetheless, we rely on the health facility data that is collected through DHIS-2 for the assessment of institutional maternal and newborn (stillbirths) mortalities. For teenage pregnancy, we use PMA2020 data. We show the changes in these outcome indicators with their respective data sources and challenges in the subsequent sub-sections.

> • *Progress towards reducing the four mortality indicators was not assessed due to lack of relevant data. The last UDHS was conducted in 2016 and the next is planned in 2021. The 2018/19 Malaria Indicator Survey includes retrospective data on under-five, infant and neonatal mortality (for the five-year period prior to the survey) but these data have not yet been analyzed.*
>
> • *We rely on the health facility data that is collected through DHIS-2 for the assessment of institutional maternal and newborn (stillbirths) mortalities. For teenage pregnancy, we use the PMA2020 data.*

1.2.1. Maternal mortality and stillbirth

Institutional mortality was assessed with maternal mortality and stillbirth rates (Figure 3). Both experienced declines, especially maternal mortality. However, these data need to be validated by in-depth studies of maternity/birth registers as underreporting tends to be a common problem.

The number of reported maternal deaths in the DHIS2 was 1092 in 2019, down from 1337 in 2017 and 1169 in 2018. However, the number of audited maternal deaths reported for the same years were 1065, 885 and 1480 for 2017-2019. In 2019 the number of audited deaths was well above the reported maternal deaths.

Further assessment showed that often in districts the number of reported audited maternal deaths exceeded the number of maternal deaths reported. It is not clear if those non-reported deaths refer to community deaths that are audited or other factors influencing this discrepancy. If we use the maximum value for each district year (either reported or audited number) maternal mortality has not changed since 2017 (except a dip in 2018) and was 146 per 100,000 live births.

> • The discrepancy between DHIS reported deaths and audited deaths needs to be clarified to provide more reliable estimates of maternal mortality.

Based on the DHIS2 reported maternal deaths only the institutional maternal mortality ratio has been declining from 126 in 2016 to 103 in 2018 and 91 per 100,000 deliveries in 2019. In 2015/16 maternal mortality appears to have been considerably higher (181 in 2016). The decline was observed in both the high and low/intermediate priority district groups. Figure 3 also shows that maternal mortality is much higher in the high priority/burden districts than in the other districts. This is likely due to the presence of referral hospitals in the larger population districts which tend to report larger maternal deaths.

The overall stillbirth rate was 17.4 per 1,000 births in health facilities in 2019 (Figure 3). This presented a decline since 2016 when 21.8 per 1,000 were either macerated or fresh stillbirth. The target of the Sharpened Plan for 2020 was 12 per 1,000. The high burden group of districts have higher mortality than the lower/ intermediate burden group of districts, but in 2019 the gap was reduced. Fresh stillbirth rates are used as an indicator of the quality of care at the delivery time and constitute about half of all stillbirths in Uganda. The fresh stillbirth rate also declined gradually from 11.0 to 8.7 per 1,000 births between 2016 and 2019.

Figure 3: Institutional maternal mortality and Stillbirth per 100,000 and 1,000 live births in health facilities respectively, by low/intermediate and high district priority group, based on reported maternal deaths, HMIS 2015-2019.
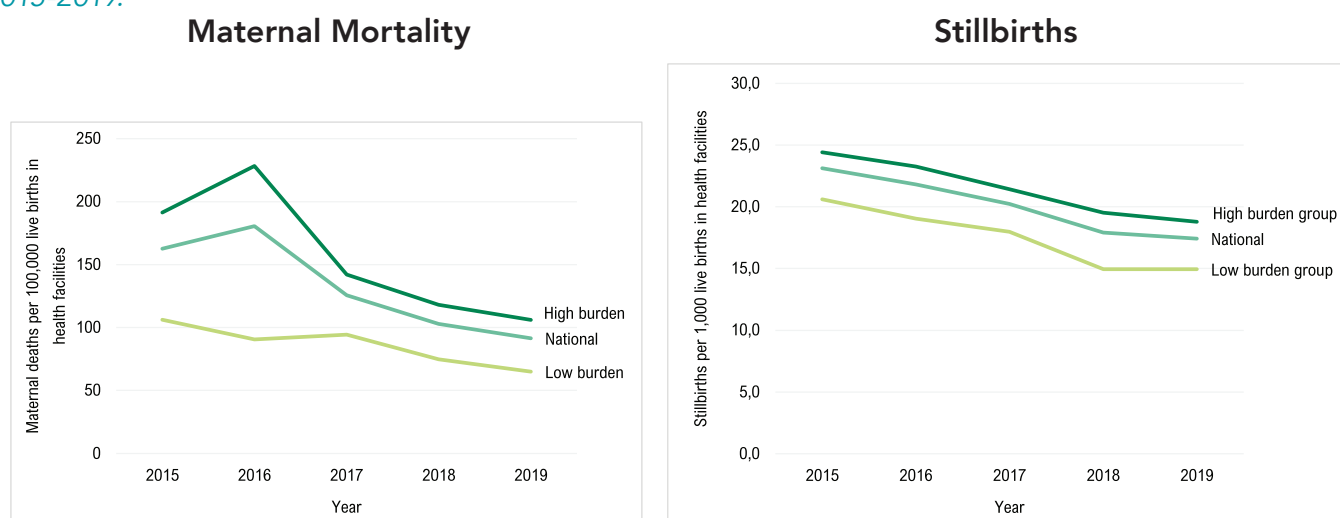
The stillbirth and maternal mortality figures must be interpreted with great caution. For instance, underreporting of maternal deaths is common, e.g. for abortion, and especially the quality of care is substandard. The percentage of maternal deaths reported through the HMIS that were notified was 57% in 2018/19 and the percentage that was reviewed (audited) was 51% in 2018/19. These proportions are increasing but still far from the universal coverage.

1.2.1. Child health

As alluded to earlier, data on under-five, infant and neonatal mortality to measure the changes in these outcome indicators beyond 2016 is not available. Nevertheless, the DHIS2 data continue to show the predominance of maternal, newborn and child health with outpatient and admission data. In 2018/19 nearly 10 million visits of children under five years were reported for outpatient care, corresponding with more than 1 visit per child per year. Malaria and upper respiratory infections were by far the most common causes (>50% of all visits), followed by diarrhoea, pneumonia, and skin diseases. Children under 5 comprised 44% of all hospital admission in 2018/19, with malaria, pneumonia, and diarrheal diseases as leading diagnoses. The leading causes of death among under-fives in hospitals were malaria, other neonatal conditions, prematurity, pneumonia, and anaemia in 2017/18 and 2019/20.

1.2.2. Teenage pregnancy

The fifth impact indicator is teenage pregnancy with a targeted reduction from 24% to 14% during the Sharpened Plan period. The annual PMA 2020 surveys provide insights into the trend post-2016. The indicator used is the percent of girls aged 15-19 years who were pregnant at the time of the survey or have given birth. Uganda has a high level of adolescent pregnancy and there was no major decline. In the 2018 PMA survey round, 28.8% of adolescents were pregnant or had ever given birth, compared to 27.0% in 2017 and 31.1% in 2016 (Figure 4).

Figure 4: Percent of girls 15-19 years who have given birth or are pregnant, PMA and DHS surveys.
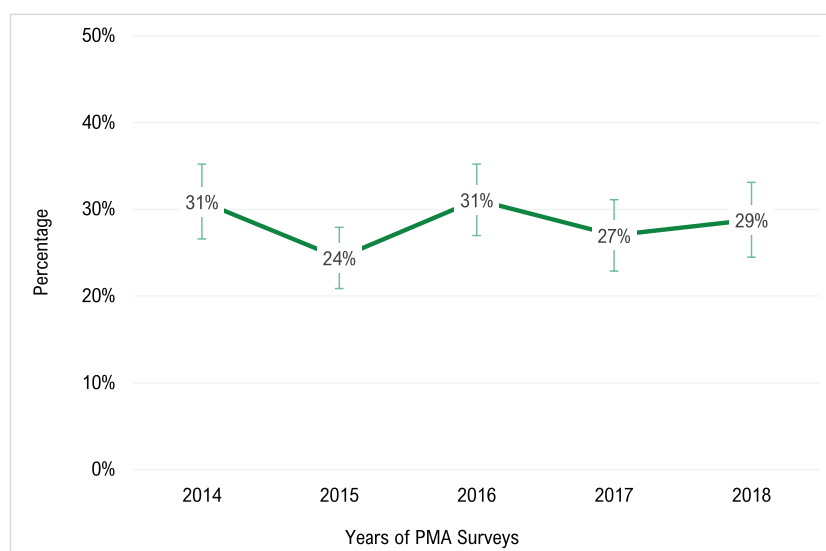
To achieve progress in reducing maternal mortality, child mortality and teenage pregnancy, the investment plan had five strategic shifts with enormous processes and inputs. However, in this review, it was heeded that there was no standard implementation model to guide the multiple partners. Thus, it may be difficult to determine implementation fidelity and adaptations made to the IC's implementation. Nonetheless, a plethora of RMNCAH+N interventions have been implemented across the five shifts, different geographical areas, and implementation waves. In addition, both district leaders and Implementing partners (IPs) are mindful of national priorities and integration into routine activities was found to be high albeit the existence of contextual variations.

I can't tell you that we had a parallel Plan but we looked at the components of that plan and integrated them into the health system

(DHO 7)

As much as we all had intended to support the investment case and implement alongside it, it was quite difficult because still, everyone was pursuing their priorities at the end of the day. So for us what we did was to see, then respond to what the district needs were. Knowing what the gaps were, knowing that whatever we are doing … would contribute overall to the reduction in maternal, newborn health and child deaths

(National level participant, #8)

What we are implementing is still in line with RMNCAH though for us we are more on MCH. We added only contraceptives

(District IP, 12)

While all key population categories across the RMNCAH continuum of care still need attention, adolescent health is perhaps the most outstanding. Adolescent Sexual and Reproductive Health (ASRH) had notably poor performance and many explanatory factors exist for this, including the following:

1) ASRH is complex, requiring a multi-sectoral and holistic approach for success to be realized.

2) The policy framework for ASRH is very fragile and polarized in approach – there is a conflicting moralist versus science view on which interventions to prioritize or even authorize, but leaning more towards the former.

3) The fragile policy landscape, including delayed policy conclusions and conflicting leadership positions on related issues such as availing contraception or condoms for HIV/STI prevention, limits donor investment in ASRH.

4) The few existing partners offer a limited specialized, lean menu of services e.g. HIV/AIDS, focusing on pregnant adolescents or even categorizing contraception as Family Planning does not resonate with most adolescents.

5) While some attempt has been made to offer AYFS, the spread is very thin and with variation in scope and generally the existing health system infrastructure, human resources and supplies cannot adequately and effectively address ASRH issues. Yet adolescents continue to be largely disengaged and have low knowledge of SRH matters, engage in risky behaviour and face teenage pregnancies, early marriages, rape alongside other forms of SRH challenges. Moreover, the tracking indicators for adolescent health were reported as not very clear in the concluded implementation phase.

3.3. The progress in the implementation of each of the strategic shift

3.3.1. Expanded coverage of high impact interventions.

The identified top 4 impact interventions for reducing maternal mortality ratio from 360 in 2015 to 219/100,000 live births are: 1) Skilled Birth Attendance with quality labour and delivery management, 2) post-abortion case management, 3) use of Magnesium sulphate for pre/eclampsia, and 4) Maternal sepsis case management. Additionally, the identified 6 top interventions that would reduce newborn deaths from 23 in 2015 to 15 deaths per 1,000 live births in 2020 are 1) Labour and delivery management, 2) Kangaroo mother care, 3) Neonatal resuscitation, 4) Clean postnatal practices, 5) use of Chlorhexidine, (6) IPTp 2+, and 7) Antenatal Corticosteroids for prematurity.

Finally, adolescent health interventions and modern contraceptive use among sexually active women and men were identified to rapidly achieve and sustain impact.

From the review and interaction with the implementation's stakeholders, as earlier alluded to, the implementation of interventions varied in nature, was not standardized, and IPs were not implementing a comprehensive package in their different operational sites. Therefore, a gap remained in the coverage, depth, and coordination. Moreover, the targets for related indicators were ambitious for prescribed timelines and there was also some concern around sectoral capacity to effectively implement some interventions:

> *The health component itself is not yet really there and so we still needed to focus on the core health aspects that needed to be aligned together… For example, training on IMMCI. We last trained more than 15 years ago and that is the countrywide training… so just going back to say that "where are the current standard guidelines and training curricula that are up to date so that we can first spread those within the health sector?"*
>
> (National Level Participant, 19)

Overall, small improvements have been made in several areas of the continuum of care such as antenatal and delivery care, and child immunization but not in malaria intervention coverage, even though it remains the leading cause of childhood deaths in Uganda. Most improvements fall short of the ambitious targets for 2020. This is supported by qualitative findings which found comparatively better performance for this output, being implemented across all geographies. Multiple high-impact interventions, mostly skewed towards the supply side, have been implemented and progress is evident across the continuum of care. For example, immunization coverage has increased, child mortality has declined, and generally, there is improved quality of care. There is also increased ANC and hospital deliveries, utilization and client satisfaction, improved health worker skills for example in newborn care, partograph use, and evidence-based decision-making. Also, successfully implementing some interventions such as postnatal care is still low – partly because of space (infrastructure and broader health system constraints). Performance on neonatal care is also not positive especially related to stillbirth and pre-term births.

Pre-pregnancy and adolescent indicators
There are five indicators in the M & E plan, two of which are hard to report because of data limitations. Additionally, their utility is questionable in this context, partly because of the subjectivity of the data (e.g. unclear definitions, variation in the need for care). The unmet need for modern contraceptive methods declined among currently married women.

Table 1: Pre-pregnancy and adolescence indicators.

Indicator	Baseline	Result	Progress	Target	Comment
Pre-pregnancy and adolescence					
Unmet need for modern contraception (married women)	28% (UDHS 2016) 31% (PMA 2016	26% (PMA 2018)	🟩	29.3%	Surpassed target which was however set as an increase in unmet need (in error)
Modern contraception (reproductive age)	35% (UDHS 2016) 30% (PMA 2016)	36.3% (PMA 2018)	🟨	42.1%	Increase greater between PMA surveys (30% to 36%) than between DHS and PMA surveys
% Teenage pregnancy	25%(UDHS 2016) 28% (PMA 2016)	26% (PMA 2018)	🟥	15%	Little progress and far from target
% health professionals trained and providing youth-friendly information and health services	??	??	🟥	50%	??
% women with problems in accessing health care	65% (Source unknown)	??	🟥	30%	??
Note: *?? – data was not available*					

The PMA surveys reported slightly higher unmet needs (35% in 2015 and 31% in 2016), which declined to 30% in 2017 and 26% in 2018. This is better than the Sharpened Plan's target, which mysteriously stood at 29%, an increase of unmet need compared to the baseline. The national data from the annual PMA 2020 surveys shows that modern contraceptive use among women 15-49 years increased between 2015 and 2018 from 30% to 36%. This however fell well short of the target of 42% (Figure 5). Subnational data are not available. There was a significant shift in the methods mix. In PMA 2016, injectable methods were the lead method among married contraceptive users (64%) but in the PMA 2018, this proportion had declined to 46%. Implants, a long-acting method, increased from 16% to 27% of users.

Teenage childbearing remains common in Uganda with more than a quarter of girls 15-19 years who have given birth or are pregnant at the time of the survey (Figure 6). The baseline was 26% in the UDHS 2016 (28% according to the PMA 2016 survey) and the 2017 and 2018 PMA surveys no change was observed: still 26%.

Figure 5: Modern use of modern contraception among current married and all women 15-49 years (source: annual PMA surveys).
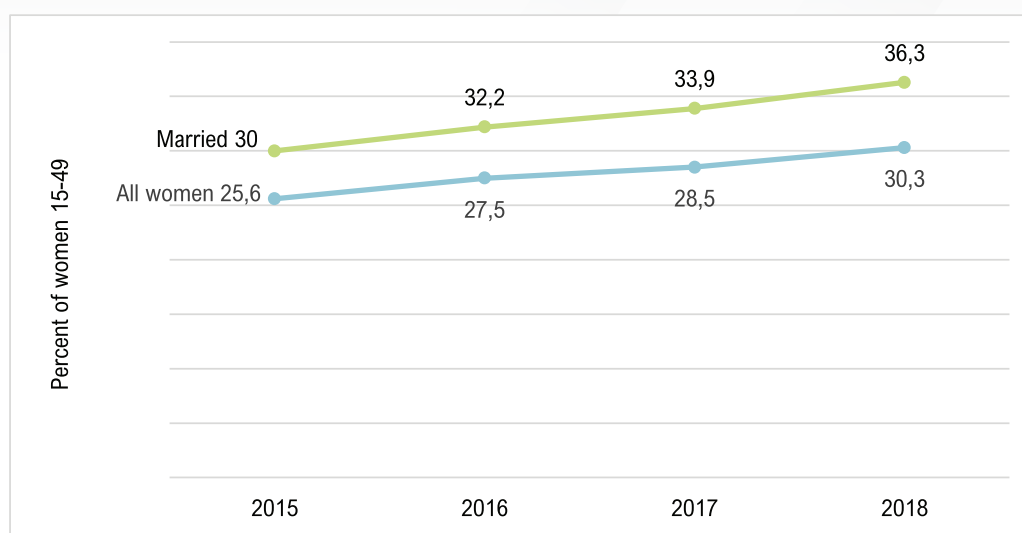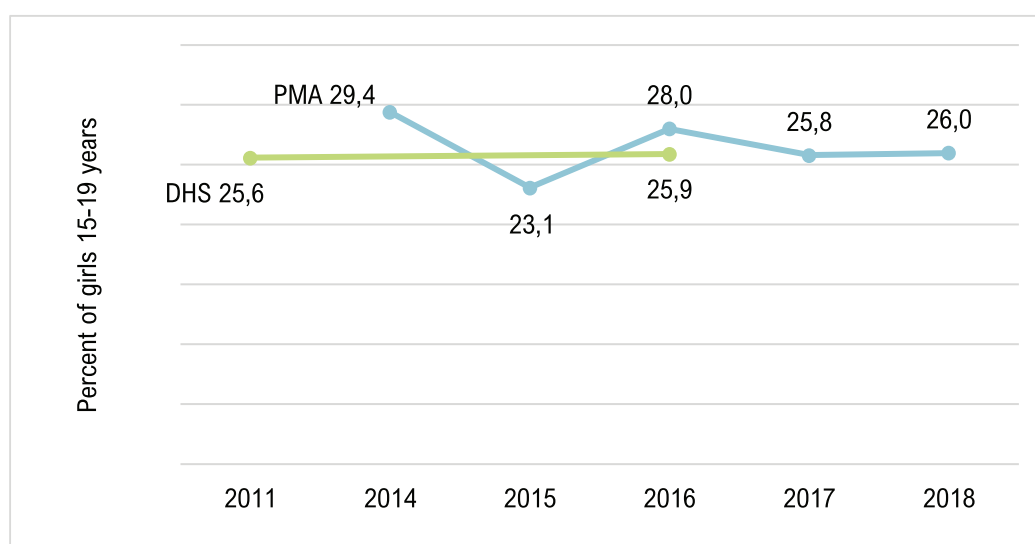

Figure 6: Teenage childbearing: girls 15-19 who are pregnant or have given birth, PMA and UDHS surveys (age-adjusted for comparative purposes).

Pregnancy and birth

Most indicators had baselines from the UDHS 2016 in the M&E plan, but annual DHIS2 coverage estimates are used to assess progress. Several indicators could not be assessed because of lack of reliable data (Table 2).

Table 2: Pregnancy and birth indicators.

Indicator	Baseline	Result	Progress	Target	Comment
Pregnancy					
% First ANC visit in 1st trimester	29% (UDHS 2016) 19% (HMIS 2016)	32% (UMIS 2018/9) 21.6% (HMIS 2019)	🟥	50%	A small increase in 2019 but far from the target
% Women attending 4+ ANC visits (anytime during pregnancy)	60% (UDHS 2016) 38% (HMIS 2016)	57% (UMIS 2018/9) 45.6% (HMIS 2019)	🟥	69%	HMIS increase in 2019, but overall too slow for target
% Pregnant women taking 2+ doses IPT	46% (UDHS 2016) 54% (HMIS 2016/7)	72.1% (UMIS 2018/9) 66% (HMIS 2018/9)	🟨	93%	Large increase but not sufficient for the target
% pregnant women accessing antiretrovirals for PMTCT	88% (HMIS 2016)	83%(HMIS 2019) 91% (HMIS 2018/9)	🟨	95%	High coverage but still about 1 in 9 women do not get ARVs
% Pregnant women sleeping under ITNs	64% (UDHS 2016) 75% (UMIS 2014/5)	65.4% (UMIS 2018/9)	🟥	90%	No increase, and lower than in 2014/15
Birth					
% Institutional deliveries	73% (UDHS 2016) 60% (HMIS 2016)	67% (HMIS 2019)	🟨	89%	Steady increase, but well below target; HMIS lower than UDHS
Stillbirth rate per 1,000 births	21.8 (HMIS 2016, revised)	17.4 (HMIS 2019)	🟨	12	Fresh stillbirths declined from 11 to 8.7 per 1,000
Post-natal					
% Postnatal care for Mothers within 48 hours (6 hours)	61% (HMIS 2016)	94% (HMIS 2019)	🟩	70%	HMIS indicators, not the same but major increase
% Postnatal care for newborns within 48 hours (6days)	13% (HMIS 2016)	30% (HMIS 2019)	🟥	85%	As above
% eligible HIV+ mothers that access ARVs	95% (UPHIA 2016)	100% (HMIS year)	🟥	95%	HMIS data
% post-abortion care clients who left the facility with a contraceptive method	??	??	🟥	??	??
% pregnant women told about pregnancy danger signs	??	??	🟥	??	??
increased coverage of active management of 3rd stage	??	??	🟥	??	??
Note: ?? – data was not available					

Antenatal care

Virtually all women in Uganda attend ANC at least once. In the UDHS 2016, 97.3% made at least one ANC visit with little variation between the regions and the median month of pregnancy for the first visit was 4.7 months: 29.1% attended before 4 months[1]. In the UMIS 2018/19 a small increase was observed (31.7%). The DHIS2 data for 2016-2019 (2015 had poor data and was excluded) show lower coverage at 18-19% during 2016-2018, but a small increase to 21.6% in 2019. The difference between the survey and the facility HMIS data may partly be related to different cut-offs (4 months of pregnancy, 12-16 weeks in HMIS) and misreporting of pregnancy duration by the women or the health worker.

Figure 7: Early ANC and ANC 4 or more visits coverage, Uganda, 2015-2019, based on HMIS data.
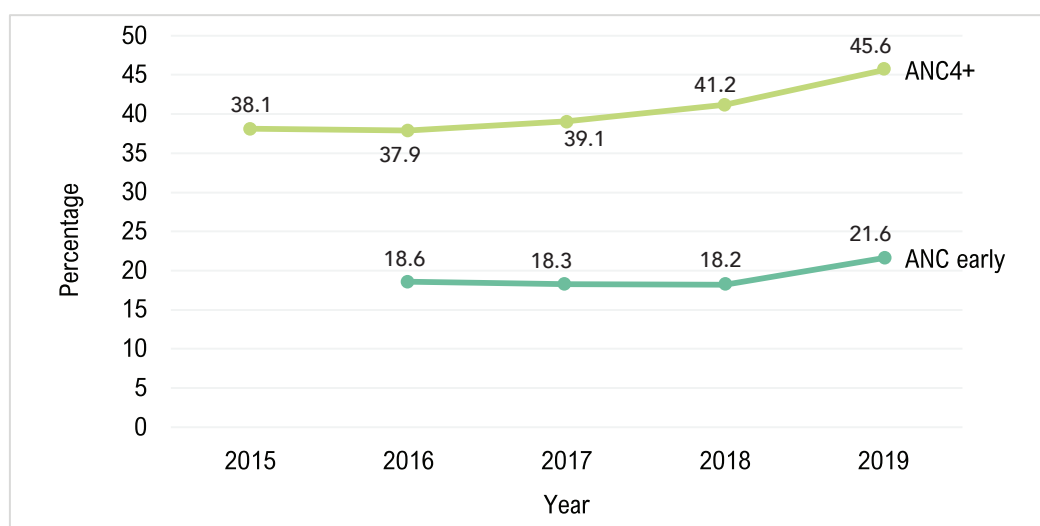
In the UMIS 2018/19, 57% of women reported 4 or more ANC visits than 60% of women in the UDHS 2016. The HMIS data show lower coverage with 38% in 2015 and 2016 and then a gradual increase to 46% in 2019 (Figure 7). It is possible that the HMIS data are more accurate than the survey, where women may over report the number of visits during pregnancy, which has been observed in several countries. For the two ANC indicators, there are no differences between the two groups of districts. Disaggregating district grouping results, both groups show a gradual positive trend and the increases are most pronounced in 2019 (Figure 8).

---

1   The survey data refer to the 5-year period before each survey for the ANC indicators

Figure 8: Selected indicators (ANC early attendance, ANC 4 or more visits, institutional delivery (per 100 deliveries), C-section rates (per 1,000 deliveries) and stillbirths (per 1,000 births) by low/intermediate and high district priority group, HMIS data, 20115-1019.
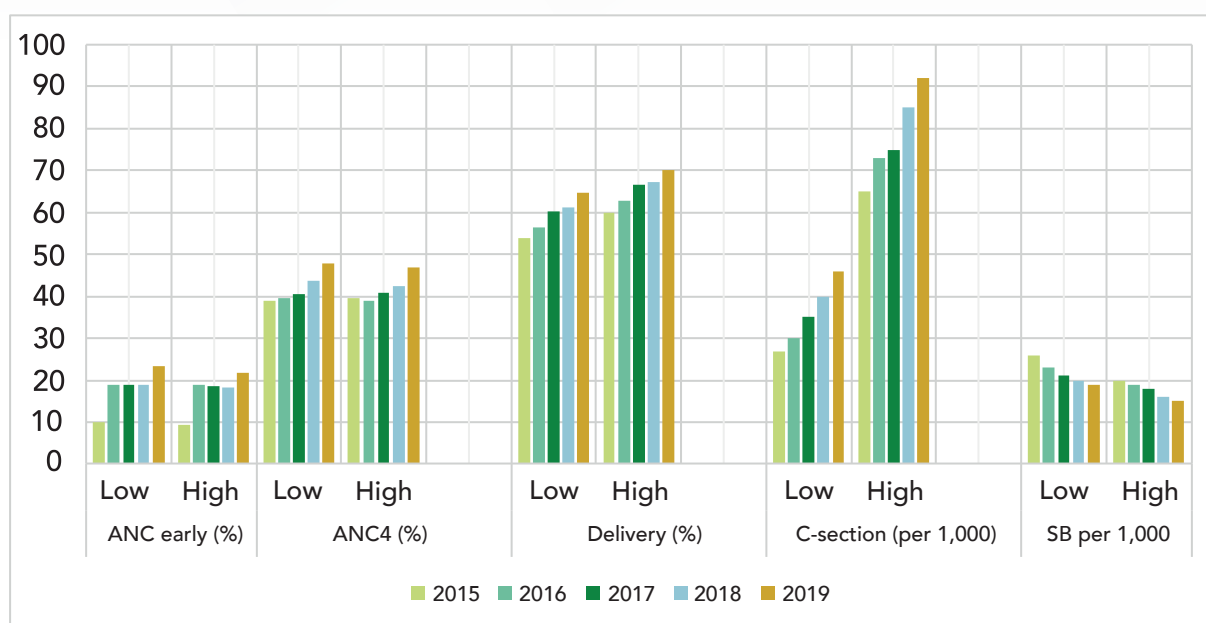
The coverage of intermittent preventive therapy (IPT) with 2 doses of SP for malaria prevention increased considerably in the most recent survey, from 49% in UMIS 2014/15, 46% in the UDHS 2016 to 72% in the UMIS 2018/19 (all figures for the two years preceding the survey). Also, IPT3 increased strongly to 41% in 2018/19 from 17% in 2016. This increase is also observed in the HMIS data from 54% to 66% during 2016-2019 (Figure 9).

Figure 9: IPT2 coverage among pregnant women, DHS and MIS surveys, and HMIS data, 2014-2019.
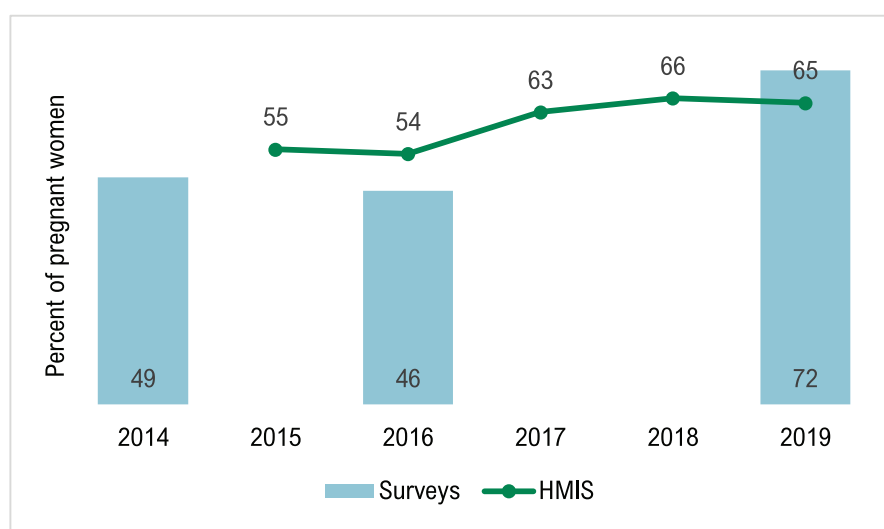
HIV positive pregnant women not on ART should receive ARVs for the elimination of mother to child transmissions and their treatment. In the Uganda PHIA survey in 2016, among HIV-positive mothers who gave birth in the 12 months before the survey, 72.9% were already on ART before pregnancy. Among all HIV-positive women who gave birth in the 12 months preceding the survey, 95.3% reported the use of ART during pregnancy, which indicated high coverage of ART provision for PMTCT. The HMIS data showed that 88% of pregnant women newly received ART during pregnancy, delivery or postpartum in 2016. This did not increase in 2018/19 (91% in annual health systems performance report; 83% in 2019 HMIS), falling short of the 95% target.

Delivery care

The percent of deliveries in health facilities increased steadily over time according to the HMIS data. In 2016 57.5% of deliveries occurred in health facilities and in 2019 this was 66.9%. The most commonplace of delivery was HC III (39% of deliveries in health facilities), followed by general hospitals (19%), HC IV (17%) and HC II (13%) – which per MoH policy is not recommended. About one in 11 deliveries took place in regional or national referral hospitals.

C-section is not part of the M&E framework of the Sharpened Plan. It is however a very useful indicator of emergency obstetric care. The percent of deliveries by C-section is increasing in Uganda, with a clear rise in 2018 and 2019. In 2016 6.2% of deliveries were by C-section compared to 8.0% in 2019. The health system section of the M&E plan includes further indicators of emergency obstetric and newborn care. These data show an increase in the percent of HC IV offering C-section from 70% in 2016/17 and 78% in 2017/18 to 81% in 2018/19 (Figure 10).

Figure 10: Percent of deliveries in health facilities and percent by C-section among all deliveries, Uganda, HMIS 2015-2019.
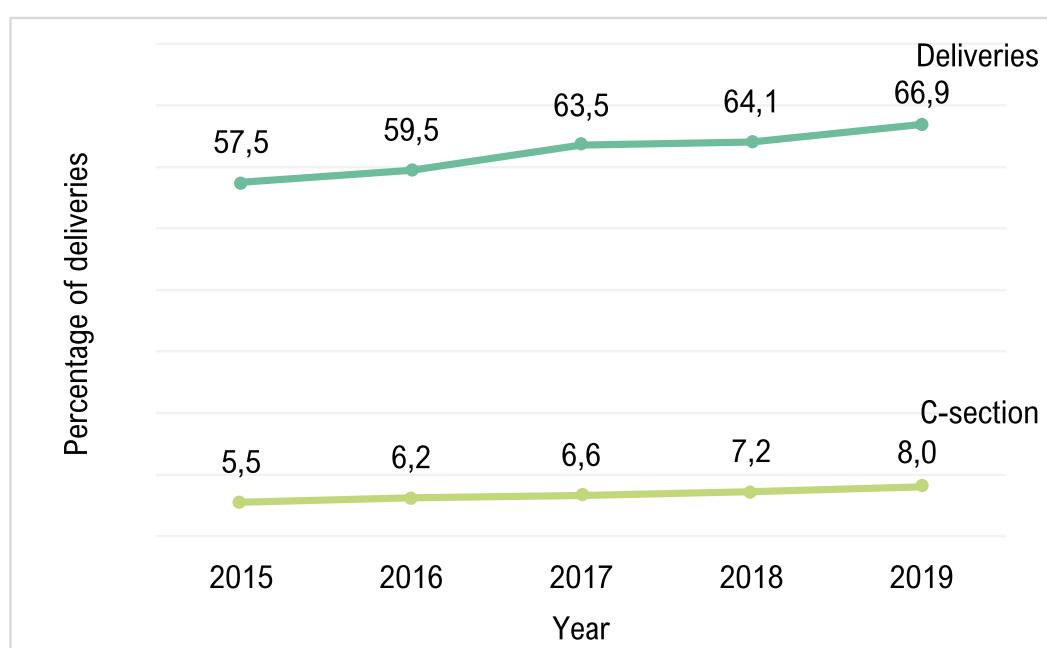
Disaggregating the results by district grouping (figure 8), institutional delivery care in the two groups increased at a parallel linear pace over time. The only difference is that coverage was about 5% higher in the high priority group of districts than the low/intermediate priority group. There are however major differences in the C-section rates. While the C-section rates increased rapidly in both groups, the high priority group of districts had a C-section rate twice as high as in the low/intermediate priority group. This may partly be due to a greater urbanisation level in the high priority group where most districts with larger populations are represented. Finally, stillbirth rates among health facility births are higher in the low/intermediate priority group: about 4 per 1,000 higher in 2016 and also in 2019. Both groups however show a decline over time.

Postnatal care

The Sharpened Plan's two indicators (postnatal care for mothers within 48 hours and newborns within 48 hours) do not have an exact equivalent in the HMIS system. The indicators are postnatal care within 6 hours and within 6 days. The percent receiving postnatal care with 6 hours is very high and exceeding the target. In 2016 it was 61%, increasing to 78% in 2017, 84% in 2018 and 94% in 2019. Most of these women will still be in the health facilities where they deliver, but it appears a significant number of women go to a health facility within 6 hours after a home delivery if these HMIS data are correct. The percentage of visiting health facilities after 6 days is increasing but still low at 30% in 2019, up from 13% in 2016.

Almost all mothers who were HIV positive received ARVs. According to the UPHIA 95% of women used ARVs during the last pregnancy in the last 12 months. The HMIS data suggested that all eligible women accessed ARVs.

Quality of care

For three of the eight indicators under output 2, data were available from surveys, HMIS or the Ministry of Health annual performance report 2018/2019. The proportion of HC IV with comprehensive EmNOC was only 47% due to the lower availability of blood transfusions. C-sections were available in 81% of HC IV. The other two indicators, availability of essential commodities and unmet need for contraception did not meet their targets.

Table 3: Indicators related to the quality of care for expanded coverage of high impact interventions.

Indicator	Target	Achievement
Proportion of facilities with no stock outs of lifesaving commodities	Raised to 80%	41% - Availability of a basket of commodities (% of facilities that had over 95%)
Percentage of sub-counties with functional HC IIIs	Target 100% by 2020	??
Proportion of nurses, midwives, VHTs providing lifesaving interventions**	Increased to >60%	??
Unmet need for contraception	Reduced from 34.4% to 10%	26% unmet need in 2018 (PMA 2020 survey); slow decline; target in M&E section was 29% (baseline 28%)
Percentage of HC IVs with comprehensive EmONC	Over 80%	47% offer C-section and blood transfusion; 81% C-section only
Health professionals trained and providing youth-friendly information and health services	Not target	??
Percentage children treated for diarrhoea with zinc and ORS	Not target	??
Percentage newborn receiving treatment for sepsis 0-28 days	Not target	??
Note: *?? – data was not available*		
** *No data available yet; definition indicator not clear*		

We also assessed the coverage and quality trends for 11 interventions using a summary measure (Figure 11). An index can provide a general overview of the differences between regions and the overall trend. Using the Countdown example of the RMNCH composite coverage index, a combined index was computed, including 11 maternal and child health indicators and stipulates the regional situation.

The DHIS2-based MNCH coverage index combines the following indicators, all derived from DHIS2: ANC visit before 12 weeks, ANC 4 visits, IPT2, institutional delivery, C-section (with 15% as the maximum, equaling 100% coverage), stillbirth rate as a proxy for the quality of intrapartum care (with 30 or higher per 1000 births as 0% coverage and 0 per 1000 as 100%), early initiation of breastfeeding (within 24 hours), postnatal care within 6 hours, penta3 vaccination, measles and PCV3 vaccination (unweighted), all based on the DHIS data for 2016–2019. All indicators were given equal weight in the index.

In 2019, the prioritized districts covered 61% of all women, children, and adolescents currently not reached by the essential interventions, including 10% living in Wakiso and Kampala districts. The 51 priority districts have an estimated 50.5% of all live births, showing that districts' prioritisation indeed targets a larger proportion of non-reached women and children than no prioritization. The proportion of live births in Wakiso and Kampala is 10.7%, which corresponds with the 10% in need (no targeting).

Figure 11: RMNCH index based on 11 indicators by low/intermediate (81 districts), high district priority group (51 districts) and Kampala/Wakiso priority districts, HMIS data, 2017-19.
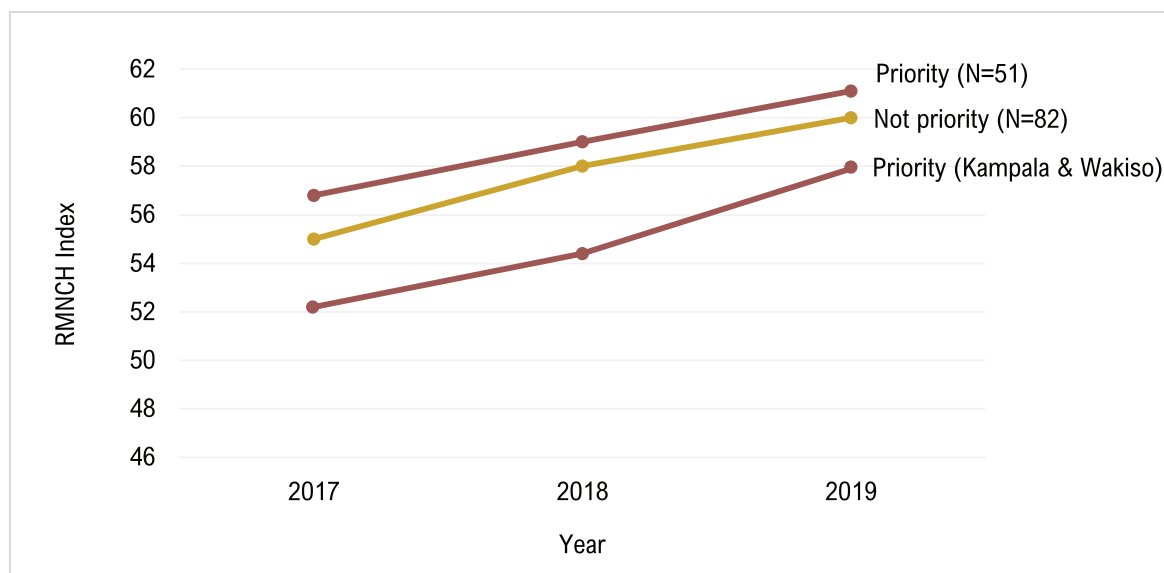
Neonatal and child health care

There are three newborn and twelve child health indicators in the Sharpened Plan. Three indicators could not be measured (% cases of severe neonatal infection managed; % of districts implementing district-wide kangaroo mother care for low birthweight babies; and % of facilities with IMCI trained clinicians) as they need better definitions or had no facility data. In addition, two indicators of care-seeking behaviour for sick children are derived from household surveys and no new data are available: % children with ARI treated with antibiotics and % children under-5 that take ORT/Fluids for diarrhoea. That leaves 10 indicators on neonatal and child health for this review.

Table 4: Child health and care indicators

Indicator	Baseline	Result	Progress	Target	Comment
Neonatal					
% of mothers initiating breastfeeding within 1 hour	66% (UDHS 2016) 79%(HMIS 2016)	91% (HMIS 2019)	🟩	80%	Target met for facility births.
Child					
% Districts with >80% full immunisation coverage	15% (HMIS 2016)	20.0% (HMIS 2016)	🟥	90%	Small increase but far from target
% children fully immunized	55% (UDHS 2016) 59% (HMIS 2016)	64.1% (HMIS 2019)	🟨	80%	Modest increase according to HMIS data
Prevalence of malaria in U5s	19% (UMIS 2014/5)	9.1% (UMIS 2018/9)	🟩	<25%	Prevalence based on microscopy
% Under-5 children that slept under LLINs	62% (UMIS 2014/5)	60.3% (UMIS 2018/9)	🟥	90%	No improvement
% children with fever treated with ACTs	67% (UMIS 2014/5) 63% (UDHS 2016)	55% (UMIS 2018/19)	🟨	85%	Derived from UMIS & UDHS published data; indicator should be confirmed malaria cases
% children with fever treated within 24 hours	48.1% (UDHS 2016)	56.9% (UMIS 2018/9)	🟨	80%	Progress but target much higher
% HIV+ children accessing ARVs	52% (source)	54% (UPHIA 2016/7)	🟥	90%	No data after 2017
% Under-5 that receive vitamin A supplementation	54%			80%	Still to be analysed
% cases of severe neonatal infection managed	??	??	??	??	??
% of districts implementing district-wide kangaroo mother care for low birthweight babies	??	??	??	??	??
% of facilities with IMCI trained clinicians	??	??	??	??	??
Note: *?? – information and data was not available*					

Reports reviewed elucidated several activities that have been implemented for neonatal care. For example, under the URMCHIP project, rapid assessment of neonatal care in health facilities is being conducted and training of essential staff and continuous mentorship and supervision of health workers. The Ministry is scheduled to start placing health workers in centres of excellence in neonatal care for mentorship. Identified areas of focus include provision of essential equipment (baby warmers, incubators, chairs for kangaroo mother care and oxygen concentrators for newborn care); space for the provision of neonatal care services, essential drugs for management of newborn conditions; and knowledge and skills on the management of neonatal conditions among others.

In addition, it's reported that 71 districts are implementing ICCM through VHTs in collaboration with public health facilities, towards the reduction of child morbidity and mortality due to malaria, pneumonia and diarrhoea supported by different partners. [The URMCHIP project has supported ICCM supervision in 24 districts in FY 2019/20, although noting low levels of reporting on ICCM indicators in DHIS2, attributed to; lack of remuneration and transport for the VHTs specifically bi-cycles, stock out of key commodities/drugs, lack of registers for accurate reporting, lack of other logistics which includes torches to facilitate their work when called at night, lack of adequate human resource to supervise VHTs, and attrition of VHTs due to death, relocation, old age, and loss of morale (URMCHIP Progress Report2020). A case study on child health successes and failures (2020) reports that limited progress has been observed in child health.

Breastfeeding initiation

Initiating breastfeeding with the first hour of life was reported by 66% of mothers in the UDHS 2016. The HMIS provides data on breastfeeding initiation which presumably refers to all babies born in health facilities. In 2016, 79% were breastfed within 1 hour. This increased to 85% in 2017, 89% in 2018 and 91% in 2019. Surprisingly, the HMIS data are considerably higher than the population rates from the DHS as one would expect that early breastfeeding in community births are higher than in facilities. This may need further investigation to make sure the HMIS is not over-reporting.

Immunization

The HMIS data on immunization show little change over time. The percent of children who received all vaccinations increased modestly from 59% in 2016 to 64% in 2019. There was no increase in the coverage of the third dose of the pentavalent vaccine (89% in 2016 and 88% in 2019), but measles coverage increased from 76% to 81% [2]. The UDHS 2016 showed lower coverage rates for penta3 than the HMIS 2016 (2015 data were not usable) (79%). In 2016, 20 of the 135 districts had full immunization coverage among infants above 80%. This increased to 21 in 2017 and 28 in 2018. In 2019, 27 districts had full coverage above 80% (20% of districts), which was below the target of 90% of districts.

Figure 12: Full immunization coverage and coverage with pentavalent 3rd dose, measles and BCG vaccinations in the first year of life, HMIS, 2016-2019.

---
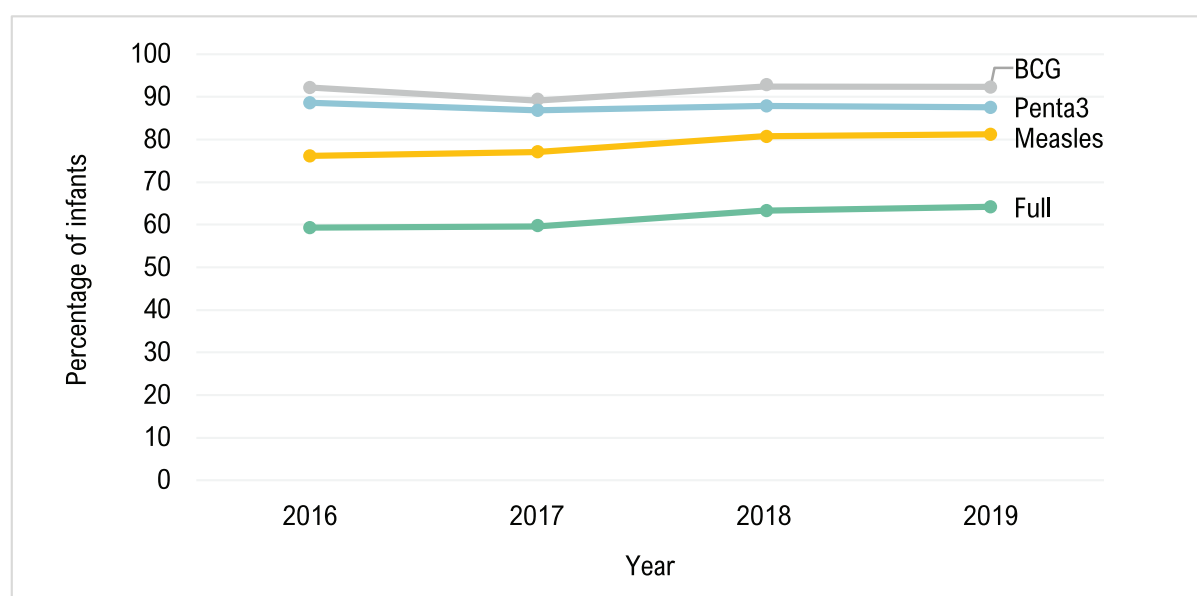
2   For the immunization coverage rates we used the reported number penta1 vaccinations as denominator, with an adjustment for unvaccinated children. See appendix for methodological details.

Comparing the district performance by priority group for full immunization coverage and coverage with three doses of pentavalent vaccination, slightly higher coverage in the low/intermediate priority group of districts was observed (Figure 13). There was a small increase in full immunization coverage in 2018 in both groups and only in the low/intermediate priority group in the subsequent year.

Figure 13: Full immunization and pentavalent third dose coverage among infants by low/intermediate and high district priority group, HMIS data, 2016-19.
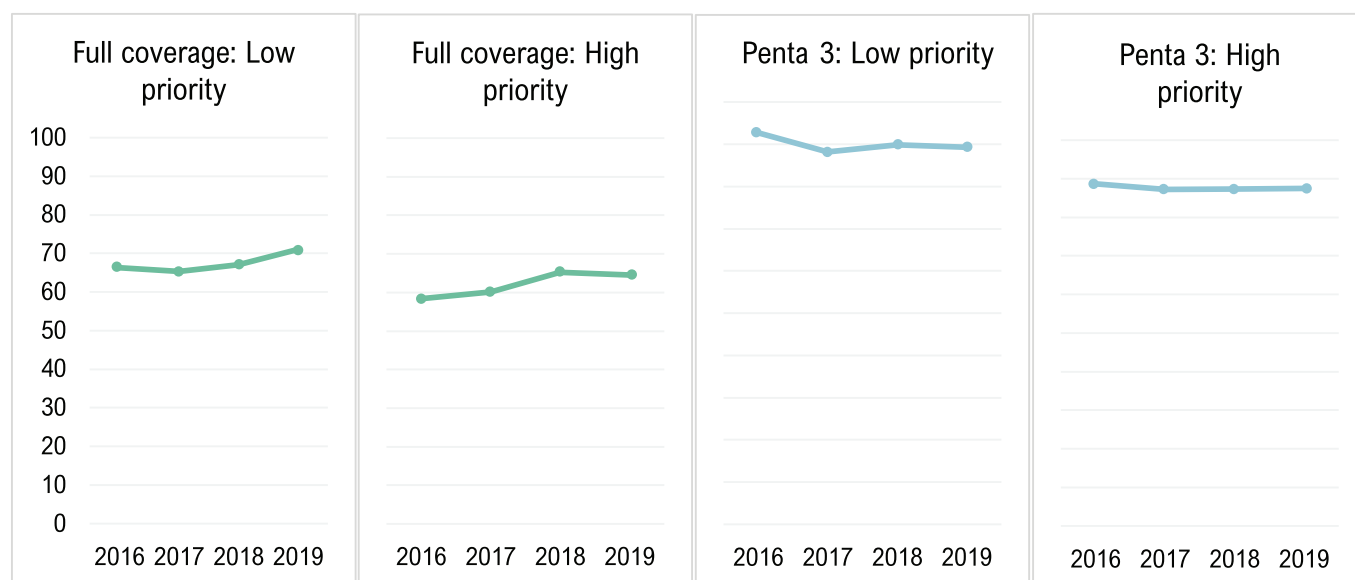
Malaria

The MIS 2018/19 showed a major decline in the percent of children 0-59 months with parasitemia since the previous MIS 2014/15; from 19% to 9%. There were major differences between the regions of Uganda. Karamoja, West Nile, and Busoga all had parasitemia above 20%, Lango and Acholi between 10% and 20% and less than 10% in all others. These results are according to blood slide with microscopy. The rapid diagnostic test was positive for 16.9% of children in 2018/19, compared to 29.9% in MIS 2014/15. The use of ITN remained at 60% of children under 5 according to the MIS 2018/9. There was no increase since 2014/15 and it was lower than a decade earlier (74% in the MIS 2009).

The percent of children with fever in the last 2 weeks was 26% in UMIS 2018/19, down from 33% in UDHS 2016 and 31% in UMIS 2014/15. Most children with fever were taken to a health facility (87%), as in previous surveys. The percent of children who were taken for diagnosis and treatment the same day or the next was 57% in the UDHS 2018/19, up from 48% in the UDHS 2016. Of the under-fives with fever, 62% received antimalarials and ACT was the most common treatment (88%) as in 2016 and 2014/15. The overall percent of children with fever who received ACT declined from 63% in the UDHS 2016 to 55% in the UMIS 2018/19, which was below the indicator target of 85%. The indicator however is not precise enough. Only confirmed cases should be treated with ACT and a decline in confirmed cases among children with fever would translate into a decline in the percent of children with fever who are treated with ACT. Therefore, this indicator's data cannot be interpreted as a decline in ACT use for malaria in children.

Figure 14: Treatment patterns for malaria among children under 5 years with fever in the last two weeks as reported by the mother, UMIS 2014/15, UDHS 2016, UMIS 2018/19.
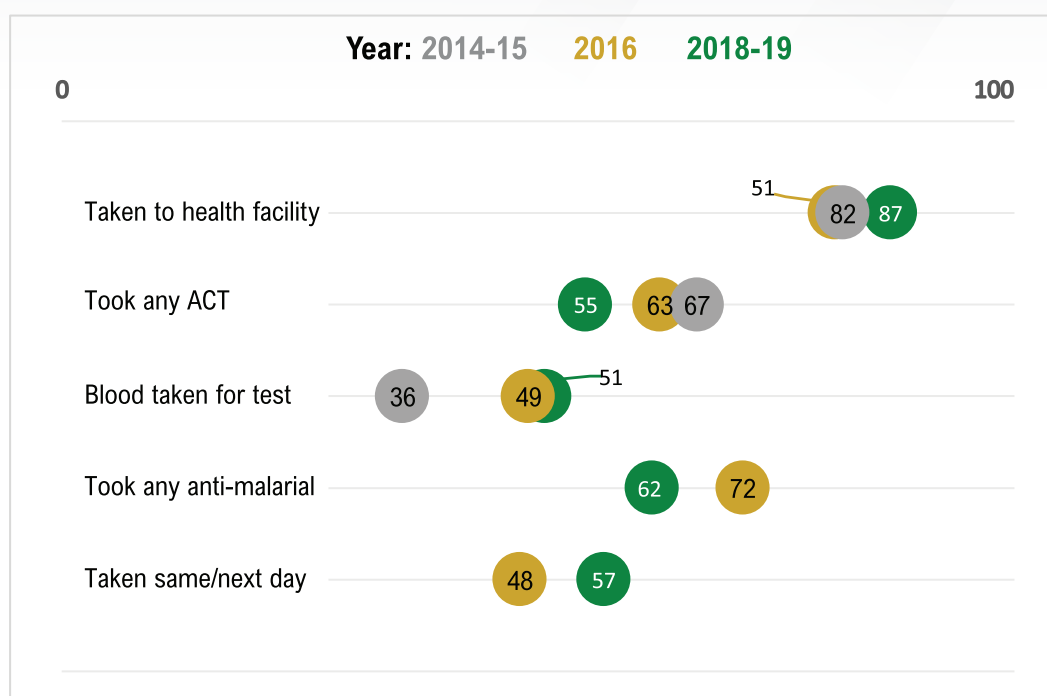
HIV

Less than one percent (0.5%) of Ugandan children (ages 0-14 years) were living with HIV in the UPHIA 2016/17. Based on parents' reports, adjusted for ARVs detected in children's blood, only 56.3% of children diagnosed with HIV in UPHIA had been previously diagnosed and more than half of children (54.3%) living with HIV were not on ART. The lowest viral load suppression level (39.3%) found in any subpopulation (by age group) examined in UPHIA 2016-2017 was found among children.

3.3.2. Geographic focus/sequencing and greater coverage in high-burden districts/populations

The comparison focuses on progress in the 53 high priority districts and the 82 intermediate/low priority group. Since numbers rather than rates drove the prioritization, the larger population districts tend to be overrepresented in the high priority group. Focusing on a large number of districts may help accelerate national progress and can increase inequalities in coverage between high and low coverage districts. Furthermore, the District implementation was done through the Uganda Reproductive Maternal and Child Health Services Improvement Project (URMCHIP) with funding from GFF/World Bank and Sida in three phases. Phase 1 – started in January 2019 and covered 27 districts; Phase 2 – started in July 2019 and covered 51 districts; while Phase 3 – started in March 2020 and covered 53 districts. USAID funded implementation in the remaining 4 districts. The Results-based funding program was implemented as one of the three components of the URMCHIP project. Of the 53 high burden districts, 20 were in Phase 1; 9 in Phase 2; 23 in Phase 3, and only one was USAID funded.

Table 5: Roll out of RBF Schemes by the project in Uganda

Implementation phase	High burden	Low/ Medium burden	Total
Phase 1 (Jan. 2019)	20	7	27
Phase 2 (Jul. 2019)	9	42	51
Phase 3 (Mar.2020)	23	30	53
USAID funded	1	3	4
Total	53	82	135

The drivers and facilitators for relatively better performance on this output include: diverse partnerships; increased funding; active coordination platform at the central level through the TWG, being led by the data; the incentivized clampdown on TBAs and transitioning many into VHTs; and, CSO working environment – the planning, designing, measuring, reporting, rewarding and timelines of most CSOs, position them to take on mostly time-bound interventions that are easy to measure, quick to report on, with quick results and easy for health sector agencies. The downside to this is that it is costly and potentially drowns out investment in other "intangible" shifts and processes like advocacy. It also limits the meaningful involvement of key stakeholders and other sectors.

Implementation of high impact solutions also highlighted gaps across the continuum of health professionals' regulation (including training, licensing accreditation, supervision and support) which have a bearing on key issues like patient safety and quality of care.

Finally, the demand side's notable challenges in the shift on high impact interventions can be explained by socio-behavioural factors and fragile community health systems. Longstanding sociocultural norms and alternative services – including an "underground" TBA network continue to impede progress in RMNCAH outcomes.

The log frame proposed five indicators for Output 1. The first output indicator

• *The involvement of professional bodies like UPA and AOGU was integral to the success of this strategic shift on high impact solutions. Arrangements to sustain their engagement should be prioritized. In addition to professional bodies, regulatory bodies and training institutions for health professionals needs to also be progressively engaged and curricula revisited as necessary.*

• *Social accountability has availed the voice, various tools and spaces for service users to exert pressure and demand for better services. However, it has taken on a predominantly deficit approach which is largely unilateral, contributing to disharmony between providers and service users. Rethinking the delivery of services in the context of social accountability is now necessary; and without strong community health systems it is unlikely that IC/SP targets will be achieved. To achieve further progress it will be necessary to strengthen community health systems with emphasis on not only community rights but also responsibilities. It will require fresh conceptualisation and repackaging as a continuum of care that begins from individuals in the household within a community that is mutually supportive of the healthcare system and not one that vilifies it. This model of community-facility partnership, with a key focus on prevention, should have clear rewards and sanctions for both sides. Investing in prevention is necessary as it presents multiple benefits and will help consolidate the gains achieved under this shift of high impact solutions.*

- institutional mortality – was assessed with maternal mortality (Figure 1) and stillbirth rates (Figure 9). Both experienced declines, especially maternal mortality. However, these data need to be validated by in-depth studies of maternity/birth registers as underreporting tends to be a common problem.

The RMNCH coverage assessment through an index comparing districts revealed little difference between the three groups of districts, while the coverage index increased considerably in all three groups during 2017-2019 (Figure 11). In 2019, the prioritized districts covered 61% of all women, children and adolescents in need of interventions, including 10% living in Wakiso and Kampala districts.

Table 6: A summary of indicators related to coverage in high-burden districts and populations

Indicator	Target	Result
Proportion of regions, districts or sub-districts with previously highest mortality registering an institutional mortality reduction	50% reduction in institutional mortality by 2020	20% decline in maternal mortality 2017-2019 from 126 to 91 per 100,000 but some data quality issues; modest decline in stillbirth rate. The decline was equally strong in high and low/ intermediate burden districts
Proportion of regions, districts or sub-districts with previously highest mortality with increased budget allocations to high impact interventions by 2020	Target 90%	Data needs: Budget information by district 2019/2020 and an earlier year for comparison
Percentage narrowing in midwives staffing differences between regions, districts or sub-districts with previously highest mortality rates compared to those with the lowest mortality	20% by 2020	Data needs: midwives by district or sub district, 2016 and 2019/20
Percentage of sub-counties with functional HC IIIs	??	Data needs: health facility information by sub-county
Plans and decisions made based on equity, gender and rights sensitive data available (resource allocations, staff positions created, the involvement of beneficiaries)	??	Qualitative assessment
Note: *?? – data was not available*		

Monthly data analysis

We selected three indicators for monthly analysis: ANC4, institutional delivery, and DPT3/penta-valent third dose. We focused on absolute numbers reported to avoid any potential biases with denominators and analysed the monthly data from January 2017 to March 2020. We would expect that the early implementation phases (phase 1 especially) result in greater positive changes than the later starter districts (phase 3).

Figure 15 shows the monthly trends for the three indicators and the absolute difference between the two priority district groups by quarter. An increase in the difference would mean faster changes in the high priority district group. There is little evidence of this occurring.

Figure 15: monthly trends for the three indicators and absolute difference between the two priority district groups by quarter.
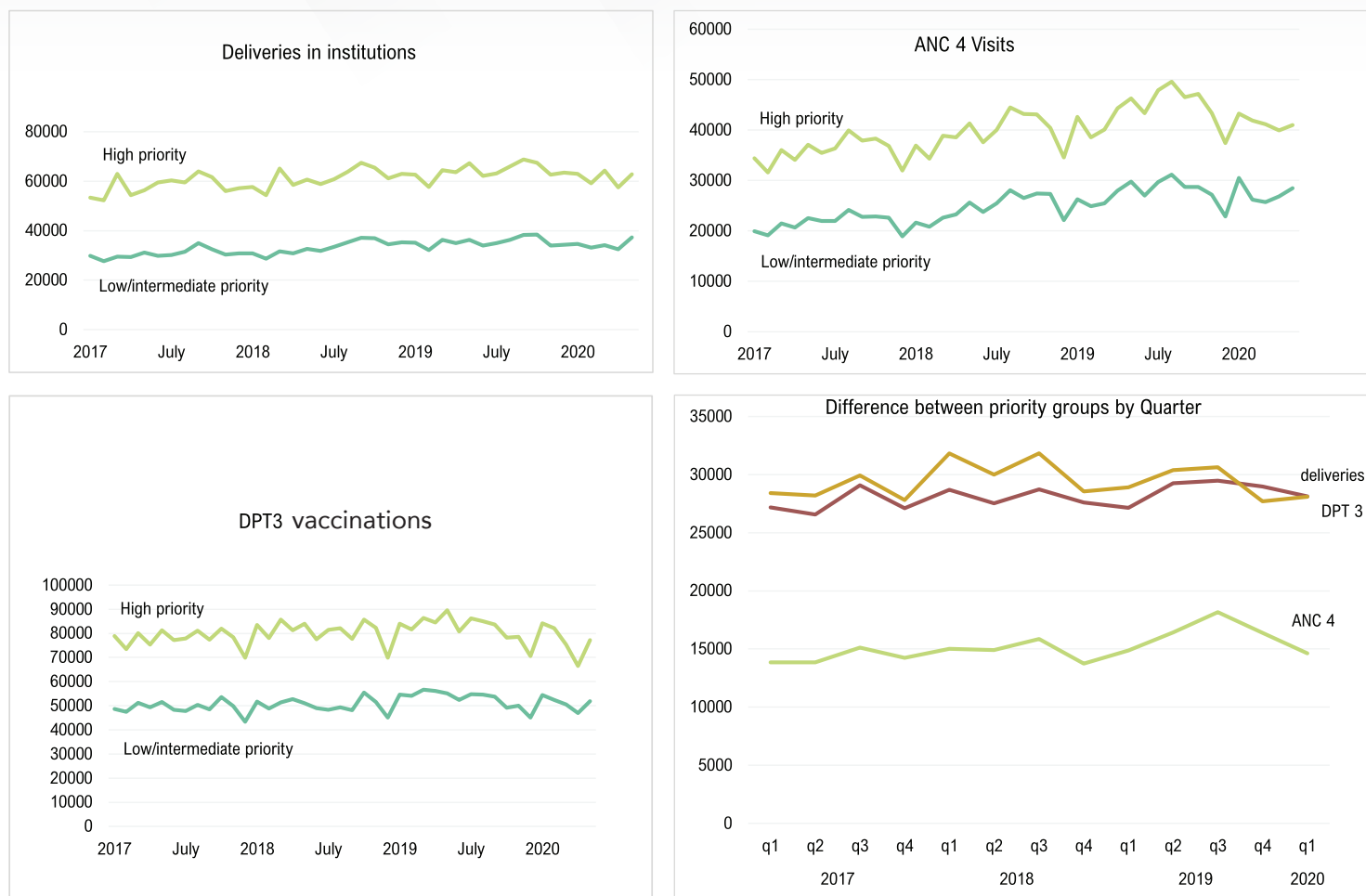
Figure 16 presents the trend in institutional deliveries in the three district groups according to the implementation phase. Comparing the trends between early and late implementation groups and between mid and late implementation groups shows no major differences over time. The lower panel shows the absolute differences between the groups which we expect to go down after implementation. This happened after Q3 2019 for the early implementation group of districts, and to a lesser extent a little later for the mid implementation group. The main cause of the reduction of the difference was not a more rapid increase in the early or mid-implementation groups but a decline of more than 10,000 deliveries in the late implementation group.

A similar trend was observed for ANC4, reducing the gap with late implementation districts, mainly due to a greater decline in the late implementation districts (Figure 117). The gaps between the groups however remained the same In Q4/2019 and Q1/2020.

Number of deliveries in health facilities by quarter and IC implementation group

late (Mar 2020)

early (Jan 2019)

mid (Jul 2019)

Difference in number of health facility deliveries by quarter by implementation timing

Mid to Late

Early to Late

start implementation

For DPT3 vaccinations to infants, the gap between the late implementation and early and mid-implementation groups increased during Q1 2020 (Figure 18). All groups experienced a strong decline in Q4 2019, greater than in previous years, which may partly be due to supply issues. The recovery from this dip in numbers was somewhat greater in the districts that had not yet started implementing the investment case interventions than in those who had started.

Number of DPT3 by quarter and IC implementation group

late (Mar 2020)

early (Jan 2019)

mid (Jul 2019)

	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2	q3	q4	q1
		2017				2018				2019			2020

Difference in DPT3 visits by quarter by implementation timing

July 2019 to Mar 2020

Jan 2019 to Mar 2020

start implementation

	q1	q2	q3	q4	q1	q2	q3	q4	q1	q2	q3	q4	q1
		2017				2018				2019			

Assessment of district performance by implementation start

The districts were also grouped according to the initiation phase. The three groups used here were initiated in January 2019, July 2019 and March 2020 respectively. Four districts supported by USAID are not included in this analysis as the number of districts is too small to form a group. We considered ANC4 and delivery coverage for the three groups according to the phase of initiation. Ideally, one would expect greater effects in the group that started to implement first – January 2019. However, the most recent HMIS data derived coverage refers to the year 2019 as a whole (mid-point would be 6 months of implementation of phase 1 districts), affecting our ability to show results.

Figures 19 shows the trends in ANC4 and delivery coverage 2015-2019 in the three implementation phase groups. The third group districts have higher levels of coverage for both indicators than the two earlier implementation groups. The difference between phase 1 and phase2 groups is negligible, and both show an accelerated increase of ANC4 and deliveries in 2019. There is no evidence that Phase 1 districts have made greater progress.

The USAID-supported districts (group 4) have a higher immunisation coverage level throughout 2016-2019 without much change over time. There is no evidence of an early impact of the implementation of the project in 2019. Full coverage increased in the phase 1 group of districts, but phase 3 districts experienced a much larger increase. For the pentavalent third dose, there was little change over time in any of the groups.
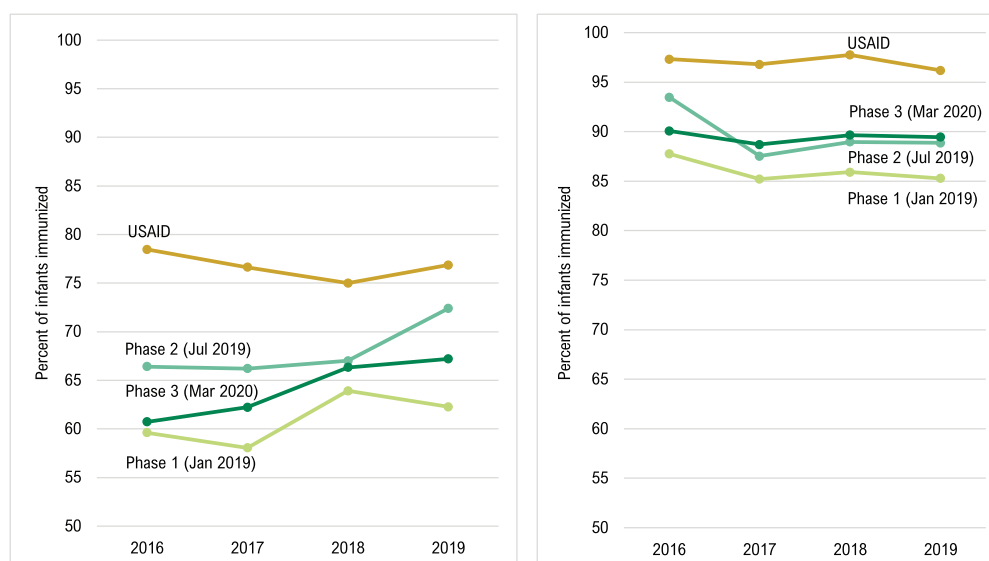
Figure 20: Percent of infants who are fully immunized (left panel) or have received pentavalent vaccination (three doses) (right panel), according to the GFF investment case implementation start, HMIS, 2015-2019.

3.3.3. Non-health sector interventions that impact on maternal, newborn and child vulnerability and deaths harnessed

The multisectoral link and broader non-health sector interventions have a direct and significant impact on RMNCAH outcomes. In implementing the investment case, the effect on non-health sector interventions has been both positive and detrimental to IC targets' achievement. The non-health sectoral issues continue to contribute to the burden; for example, progress was registered where non-health actors addressed ma-

• *Recognizing and addressing gaps in previous categorization and/or selection criteria, as well as securing stakeholder understanding and buy-in, will be critical for the next phase.*

laria, nutrition, and WASH. Most interventions were skewed to reactive and focused on addressing problems instead of balancing them out with investing in the potentially impactful prevention processes on the demand side. Generally, rational measures (e.g. UDHS data) and processes (e.g. pilots, implementation waves under RBF) were used, which is commendable. However, this strategic shift did not perform well. In terms of implementation experiences and reported RMNCAH outcomes, little difference was observed across districts in the different implementation wave phases. In addition, some key stakeholders did not fully understand the categorization criteria under this strategic shift, reporting it to be unclear or even not the sole determinant.

The key explanatory factor for this observation was resource related. Funding delays impacted implementation timing and outcome, as seen in the excerpt below:

> *If you don't have inputs, what do you expect? It renders the whole process almost null and void. Even when you eventually get the funds and begin implementing, you would have lost a precious resource of time, so catching up is not easy. You basically spent the first two years trying to get off the ground and before you know it the time is up. That is what happened with the investment case.*

(National level participant #2)

The M&E framework also includes several so-called "Cross-cutting areas" indicators which partly overlap with the indicators of log-frame, including girl marriage, anaemia in women (in pregnancy), stunting prevalence, and improved sanitation (output 3). Two additional indicators that fit under output 4 are the percentage of DHOs with the capacity to analyse data, plan and implement RMNCAH programs with a target of 95% and percentage of facilities holding MPDSR. The latter indicator was evaluated in the 2018/19 annual performance report of the Ministry of Health using HMIS data. About half (51%) of maternal deaths and just 3.8% of perinatal deaths were estimated to have been reviewed in 2018/19.

Teenage pregnancy, as described under impact indicators, has generally shown little improvement over time. Similarly, girl child marriage rates remained high. In the UDHS 2016, 43% of girls were married by the age of 18. The median age at first marriage being 19.4 years. In the PMA2020 survey of 2018, the median at first marriage for rural girls was 19.0 years and for urban girls 20.6 years.

Anaemia testing for adult women was not included in the UMIS 2018/19, so no new data were available since the UDHS 2016 (32% of women anaemic).

The percentage of households with improved sanitation facilities increased dramatically between 2016 (UDHS) and 2018/19 from 19% to 44%. This remarkable increase is still far from the ambitious target of over 80% of the sharpened plan but it does represent major progress.

Table 7: Other non-health sector indicators

Indicator	Target	Result
Teenage pregnancy and motherhood	Reduced from 24% to <15%	No major decline (29% in 2018)
Girls married by age 18	Reduced from 46% to <10%	No major change
Stunting among children under 5 years	Reduced from 33% to <25%	Inputs from SickKids, but no new data since 2016
Anaemia in non-pregnant women	Reduced to <20%	??
Households with access to improved sanitation	Increased from 16% to >80%	44% used improved facilities in MIS 2018/19, compared to 19% in UDHS 2016
Out-of-pocket expenditures for the poor	Reduced to < 15%	??

In addition to ASRH under high burden population shifts, the multisectoral partnership component in RMNCAH also performed poorly. It is also inextricably linked and partly explains the poor performance of ASRH as shown earlier. Engaging multi-sectoral stakeholders was difficult mainly due to different priorities, viewpoints, capacity, timelines, systems, and structures, from those predominant in the health sector. An attempt was made to bring multiple stakeholders from different sectors and constituencies in the development of the IC/SP; however, this engagement was not sustained throughout the process – especially at the implementation phase, and neither was the contribution of these key stakeholders sufficiently leveraged for improved RMNCAH.

> • *Implementation of the multisectoral piece will need to be intentional whereby clear modalities are worked out and assessment undertaken on related critical aspects including stakeholder capacity, interest and power. Any existing silo mindsets in health service delivery, especially on complex issues like ASRH, will need to continually be acknowledged and renounced as counterproductive in pursuit of integrated and holistic RMNCAH services. Meaningful and continuous engagement of all stakeholders, including civil society and the community, should be pursued. This is a complex process which is likely to require better practices in sharing - spaces and resources including information and power across the diverse stakeholder categories. Undertaken resolutely it is likely to redefine boundaries or feel uncomfortable at times, and so should not be taken lightly.*

There is [Ministry of] education, gender, and for child health, the agriculture team is really important, local government as the main implementation stewards at the district level is important and Ministry of Finance. I think the Ministry of Finance has participated more than all the other sectors although their attendance was not really frequent. The intention was to have a broad representation of stakeholders at those cluster technical working group and the Ministry of Health really reached out to all the stakeholders… for example the religious bodies… although we started with them, somewhere along the way they dropped out. They came initially but when they found that they were not benefiting much and that there was no room to contribute to specific components within the implementation when there was no mention of progress reports and all these other challenges, I think interests from these players also dropped and they started dropping out in attendance.

(National level participant #3)

If you look at all those things around adolescent health the conversation between the different ministries – Ministry of Education, Ministry of Health, is not good. But also other linkages around ECD, of course, they are bits of it under Ministry of Gender … so when it comes to intersectoral linkages there were key things that were missing. I know that when we designed the SP, for example, cultural leaders and the private sector were very instrumental but over the years I think we didn't tap into the passion of the cultural leaders so most of them went silent or just left. Then also the private sector, we looked at them more from the service provision point of view that is the facilities PNFPs or PHPs but we didn't look at the other bit of the sector for example what do the other bit of the sector like for example how could the telecommunications have contributed, the big taxpayers of in the private sector how could they contribute to the agenda, we really didn't tap into that.

(National level participant #14)

However, the broader macro policy landscape is getting better and enabling linkage, integration, and multisectoral partnership, such as the current NDP approach, OPM intersectoral meeting, and the new Community Health Strategy. These are significant windows of opportunity that should be fully utilized as they present.

Gender and equity

The IC tried to integrate gender and equity in its design, mostly through some of its shifts – for example, the shift that targeted high burden populations. Gender and equity overlaps were also noted with adolescent health. Overall, however, as outlined in the different shifts' performance, this has also not registered so much success. By default, RMNCAH services are mostly utilized by females. There is a limited engagement of men and boys in most of the interventions which are also skewed to the supply side. This limited male engagement could partly explain issues around the level of unmet need for contraception, access to and utilisation of RMNCAH services. Generally, Gender/equity is as elusive as social accountability, and both can partly be explained by disproportionate focus on the supply side with limited community-facing and preventive interventions.

The national strategy to end child marriage and teenage pregnancy 2014/15-2019/2020 is being implemented. Additionally, the national integrated early childhood development policy action plan 2016-2021 has been developed. The Ministry is currently reviewing ADH in other policies and is to develop a national implementation plan. Training of 879 health workers on AFHS and SGBV, and mentorships for 56 health facilities in 22 districts (Karamoja and refugee-hosting districts) has been undertaken. 16 districts have been supported to establish coordination platforms with support from Danida and UK AID through UNFPA.

With URMCHIP support, building health provider capacity for 1000 health workers and 400 health facilities HCIIIs and HCIVs responsiveness to ADH needs and challenges is planned for 40 high burdened districts. Under the Project, a training of 90 trainers (ToTs) for health workers was completed. Subsequently, 1200 community resource persons including VHTS and 1200 young peer mobilizers and 60 university health providers were to be trained in March 2020. This was put on hold due to the COVID-19 pandemic.

The Ministry has also adapted the Information Education and Communication (IEC) guidelines and pretested ADH materials in selected districts. However, dissemination of the pre-tested materials has been delayed by the COVID-19 lockdown. Other critical activities that have been prioritized include community parents, teachers, and health provider dialogues, engagement of cultural and religious leaders, school outreaches during Bazaars especially in universities that have reported high risk, and unhealthy practices. In February and March 2020, the Ministry had dialogue meetings with the kingdoms of Busoga, and Arua with over 300 people in each of the meetings. University bazaars were covered during which young people were mobilized and provided with appropriate reproductive health information. ADH, Maternal and Reproductive materials were reviewed and are due for printing. The engagement of media houses was submitted to procurement and is awaiting approval. Once contracted, the media houses will improve information dissemination.

Nutrition status of children and women

Population-level data on nutrition and anaemia status in the country is not available as the last DHS was done in 2016. Therefore, to report on the nutrition and anaemia status, we used the Living Standards Measurement Reports by UBOS. Overall, every 1 in 10 children in Uganda is born with low birth weight (Figure 21). The National low birth weight increased from 4.4% in 2018/2019 to 8.5% 2019/2020, with rural areas having the highest percentage from 5.5% in 2018/2019 to 8.9% in 2019/ 2020 and the urban percentage increased from 2.6% in 2018/2019 to 7.9 in 2019/2020. Regionally the central region has the highest standing at 10.8% from 4.0% in 2018/2019 followed by the northern region from 4.9% to 9.7%, the eastern region increased from 3.7% to 8.1 and the western region having the least children born with low birth weight at 5.4% from 4.8% (Figure 21).

Trends in the distribution of low birth weight by place of residence

	2018/19	2019/20
Rural	5,5	8,9
Urban	2,6	7,4
National	4,4	8,5
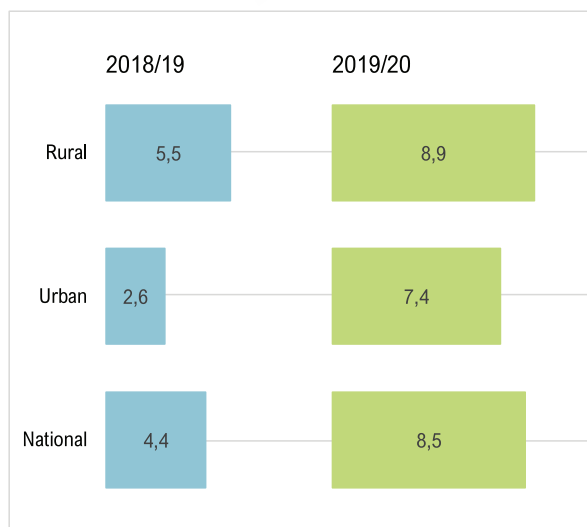
Trends in the distribution of low birth weight by region

	2018/19	2019/20
Central	4	10,8
Eastern	3,7	8,1
Nothern	4,9	9,7
Western	4,8	5,4
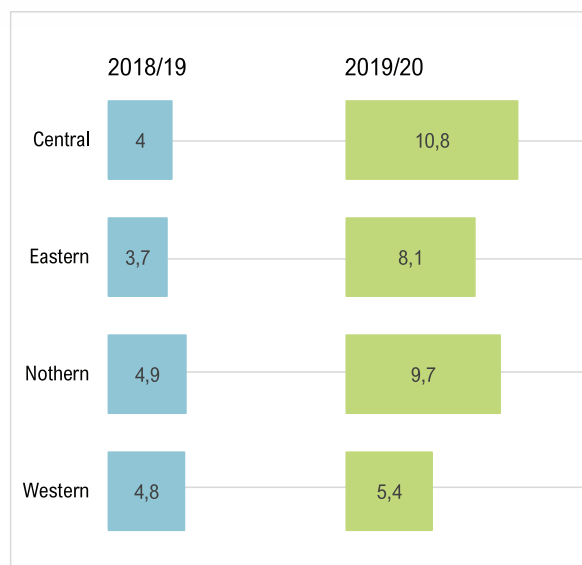
Source: Living Standards Measures panel data UBOS presentation.
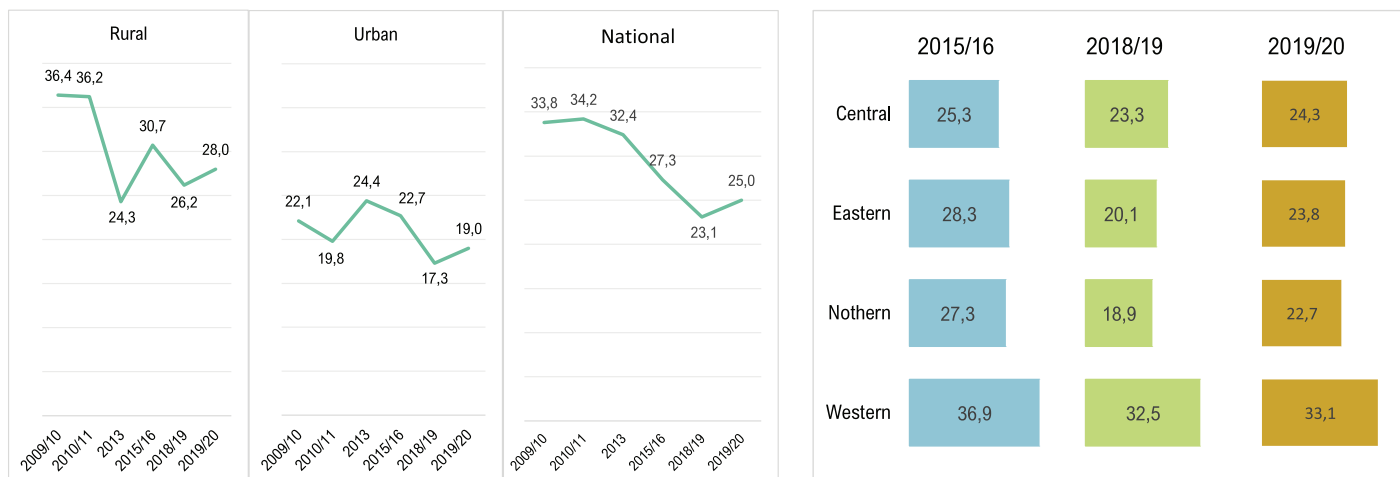
Reduction of stunting in the country

Stunting rates reduced nationally from 33.8% to 25%, 2009/10 to 2019/2020 respectively. Regionally, the west had the highest stunting rates standing at 33.1% and the north had the lowest standing at 22.7%, while east and central had 23.8% and 24.3% respectively (Figure 22).

Figure 22: Stunting among children 6 to 59 months in Uganda.

Distribution of stunting by place of residence and region

	2015/16	2018/19	2019/20
Central	25,3	23,3	24,3
Eastern	28,3	20,1	23,8
Nothern	27,3	18,9	22,7
Western	36,9	32,5	33,1

Source: Living Standards Measures panel data UBOS presentation.

Comparative analysis of stunting using DHS 2016

Under-five stunting prevalence affected 29% of Ugandan children in 2016. A 2016 district-level map (Figure 23) demonstrates the large sub-national variation in stunting and underscores the higher burden of chronic malnutrition in the Northern and Western regions. Prevalence ranges from 4.5% in Kween to 84.6% in Bududa (Figure 23), with 44/112 districts having a higher stunting prevalence than the national average. Inequalities in stunting have improved over time, but there is room for progress. In 2016, under-5 stunting was 14% points lower among children from the richest

households when compared to the poorest; 18% points lower among children of mothers with secondary or higher education when compared to mothers with no education; 7% points lower among children living in urban versus rural areas; and 4% points lower among girls when compared to boys.

Figure 23: Distribution of stunting prevalence by district using 2016 Uganda demographic health survey data.
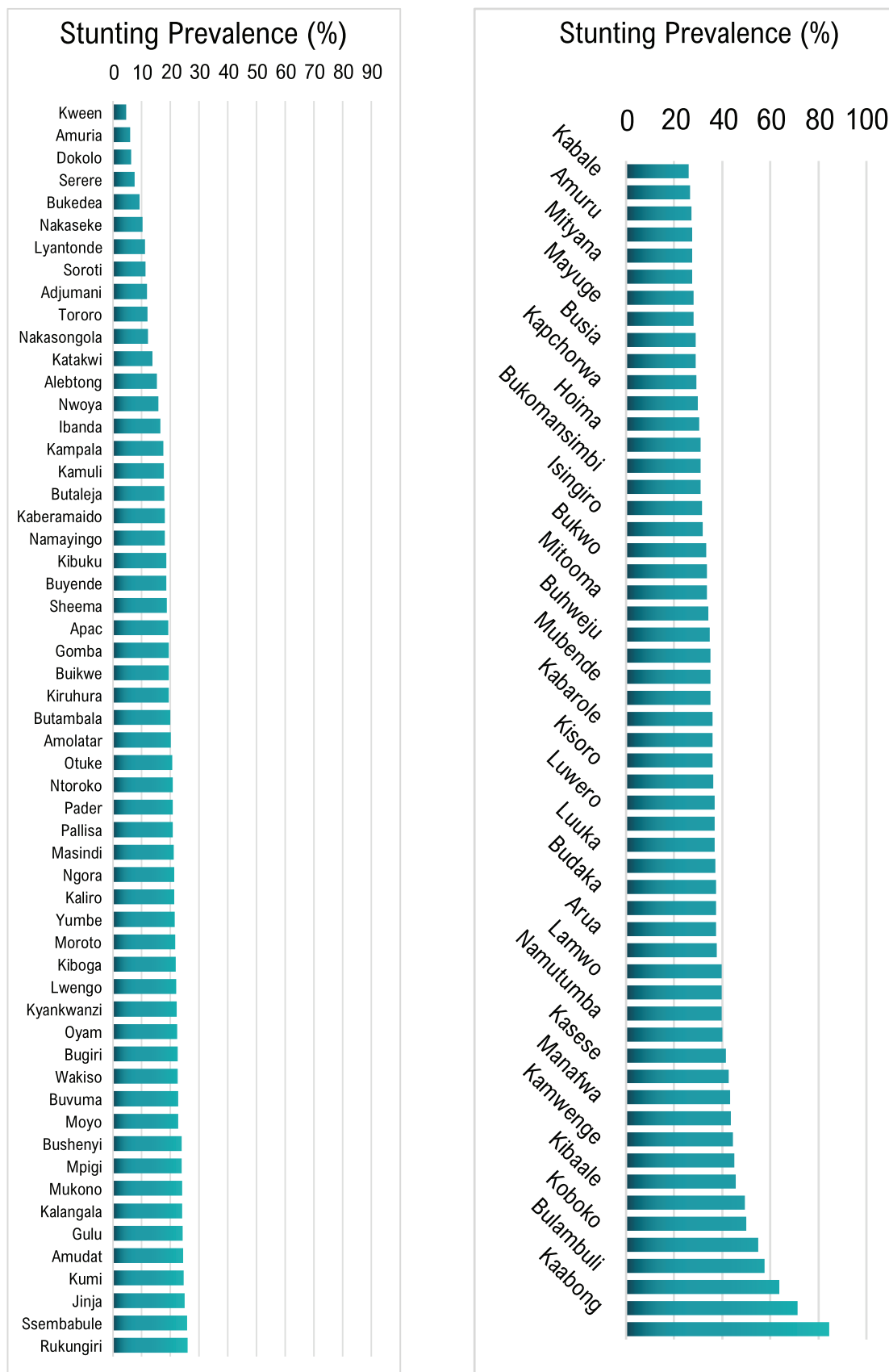
Decomposition analysis was conducted to determine and rank the predictors of change in height-for-age z-score (HAZ) from 2000 to 2016 (Figure 24). The main explanatory factor was belonging to a household that had a mosquito bed net. Improvements in bed net coverage represented 36% of the total HAZ change explained. Better maternal nutrition accounted for 17% of the total HAZ change explained, followed by improved maternal education (14%), maternal and newborn health-care (11%), and paternal education (5%). Greater access to piped water and higher household wealth each accounted for 4% of the total change in HAZ. This was followed by improved open defecation, inter-pregnancy intervals, women's empowerment around health care decisions, and maternal anaemia, where each represented 2% of the total HAZ change. Reductions in adolescent births (<1%) and diarrhoea (<1%) were important but contributed less when compared to the other factors. Overall, 82% of the total HAZ change was explained. Therefore, Uganda's decline in stunting over time was the result of multi-sectoral actions and interventions from both within and outside of the health sector.

Figure 24: Decomposing predicted change in HAZ (% contribution of determinants) from 2000 to 2016.
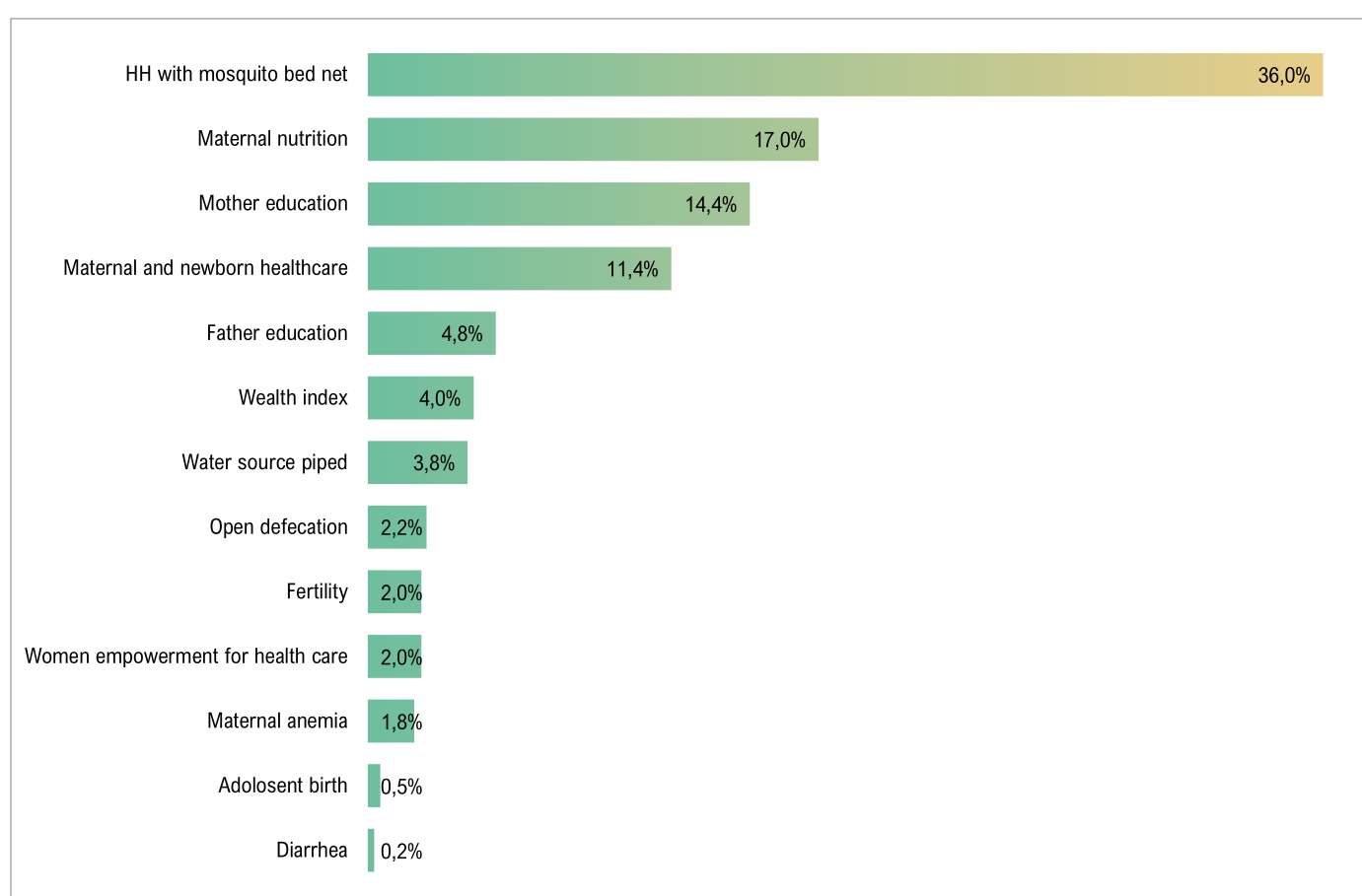
Anaemia in children and women of reproductive age group

Nationally, childhood anaemia increased from 30.4% to 44.3% among children under five years. Thus every 4 in 10 children 6-59 months are anaemic, with the eastern (57.5%) and northern regions (51%) having the highest rates in the country (25a.). Nationwide, anaemia in women of reproductive age is worsening, increasing from 15.4% in 2018/19 to 25.8% in 2019/20. Thus 3 in every 10 women of reproductive age are anaemic with rural regions having more anaemic women at 25.8% than urban areas (24.9%). Regionally it is highest in the East at 33.6% and lowest in the North at 19.2% (Figure 25b.).

a.   Anaemia among children 6 to 59 months in Uganda

	2018/19	2019/20
Rural	30,2	46,6
Urban	30,9	36,7
National	30,4	44,3

	2018/19	2019/20
Central	25,9	29,5
Eastern	35,5	57,5
Nothern	27,2	51,0
Western	33,0	37,2
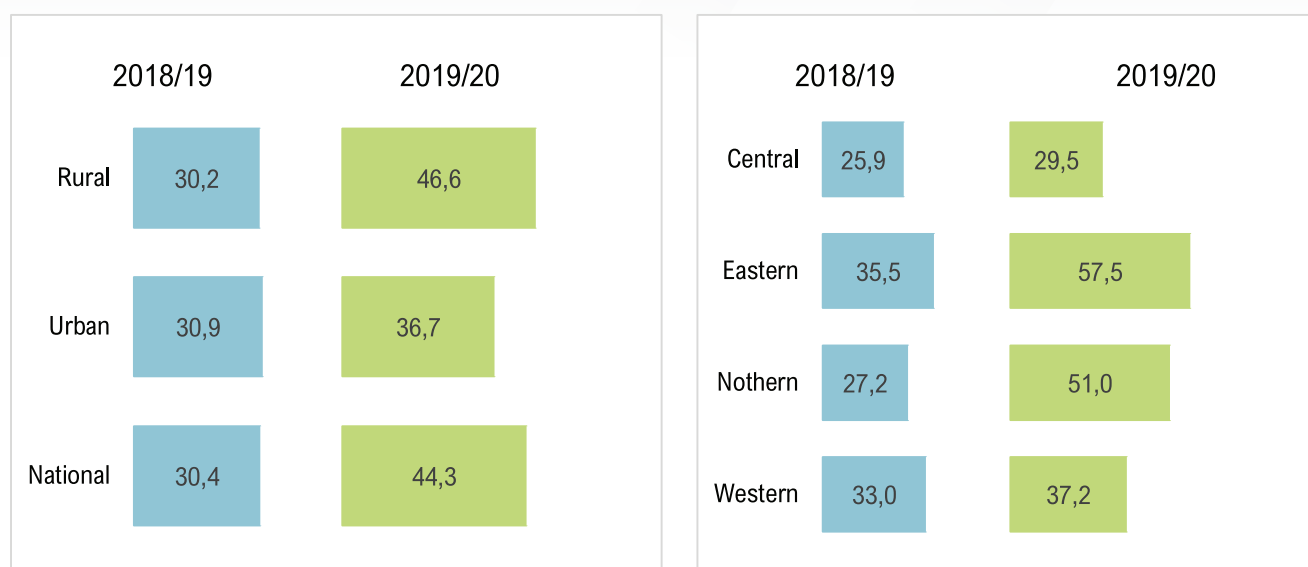
b.   Anaemia among women of 15 to 49 years in Uganda

	2018/19	2019/20
Rural	14,4	25,8
Urban	17,5	24,9
National	17,5	25,6

	2018/19	2019/20
Central	12,2	20,6
Eastern	21,0	33,6
Nothern	15,5	19,2
Western	16,5	28,2
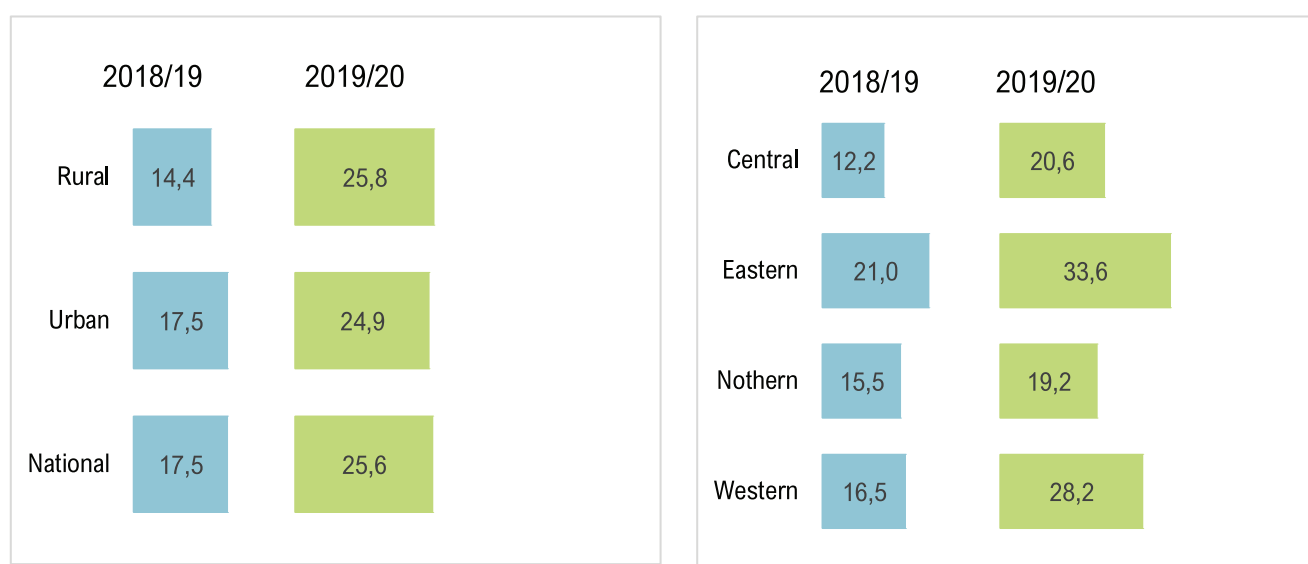
Source: Living Standards Measures panel data UBOS presentation

3.3.4. Collective action and mutual accountability

The fourth output includes 10 indicators that aim to capture collective action and mutual accountability. At present, data availability on the collective action and mutual accountability is limited, including the performance reporting and transparency, commitments by partners and disbursement. According to a WEMOS/CEHURD report the project's disbursement remained low after three years of implementation (23% by June 2019).

Civil Registration and Vital Statistics systems (CRVS)
Birth Registration is part of the Civil Registration and Vital Statistics systems that provides children with the right to legal identity and official recognition by the State. However, the review findings indicate that universal birth registration remains a challenge. The implementation of the CVRS is under the mandate of the National Identification Registration Authority (NIRA). There is a strong

legal and regulatory framework for the introduction of compulsory civil registration in Uganda. The development and strengthening of the CVRS component have already registered some progress, for example, in scaling up B&D registration, improving M & E and also integrating these systems with the Ministry of Health. Like any other institution at inception, NIRA's start was bumpy. However, its systems are getting more robust and their coverage wide enough to support the national development agenda, including improving health outcomes. Investment in this Strategic Shift can partly explain the relative success of Shift 1 on high impact solutions.

> • Systems have taken baby steps and are midpoint in robustness but are promising. While NIRA's contribution was not largely felt by the other IC/SP stakeholders through progress reports, its positioning is much better now and recent inter-institutional developments including signing of an MOU with MoH, national scaleup and active involvement in DHT platforms, recruitment and system strengthening are likely to significantly contribute to improved RMNCAH outcomes. The explanatory factors for performance of this shift is human resources, developing systems, time and supportive partnership and funding - especially through the URMCHIP project.

> *Increasingly we have evidence that there is better documentation. Within this period, we have had one round of review of HMIS and a lot of the changes that have happened there have been informed by the needs of the implementation on the ground. We have enhanced documentation around surveillance including mortality data and periodically sometimes as often as weekly get these reports coming through. We have had documentation related to mortality … we consistently, every year, have a report highlighting where the improvements happened, where the gaps are, what needs to be focused on as a country and these form important tools to guide implementation especially for new partners that are coming on board*

> (National Level participant, #11)

The Ministry of Health through the URMCHIP project has started the process of strengthening capacity to scale-up delivery of births and deaths registration services by supporting the principle CRVS institutions at central and sub-national levels to carry out their mandate to provide BDR services and to scale-up BDR services. Planned interventions include developing and disseminating a national CRVS policy and communication strategy; development of the birth and death registration (BDR) protocols and manuals; and scaling up births and deaths registration across the country, including procurement and securing of appropriate infrastructure, materials and systems for BDR. NIRA has prioritized registering the backlog of notifications in the Mobile Vital Records System (MVRS) which was developed with support from UNICEF. The system has been upgraded to include modules on the registration of births and deaths. The procurement of ICT equipment for all HCIVs to increase coverage of the MVRS is in the advanced stages. NIRA approved a draft report for the Communication Strategy for NIRA but the stakeholders' workshop to review the strategy has been delayed by the COVID-19 lockdown and other options for finalizing this assignment are being explored including e-consultations. Birth and death notification and registration modules are operational and have been rolled out to all NIRA District offices.

The reported figures on birth registration based on MVRS indicate an increase in birth registration observed between 2016-2018 (a 13%-point increase) but later reducing by the 13% point in 2019. As of 2019, 1 out 10 of the reported births were registered at the national level. Figure 26 shows the national level trends in the percentage of birth notifications and registrations.
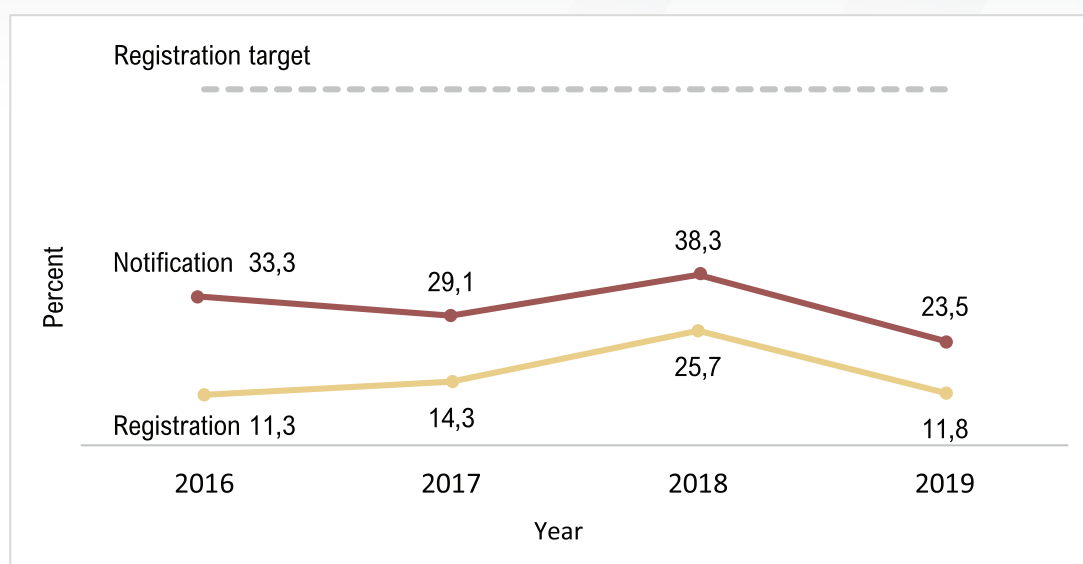
Source: www.mobilevrs.co.ug

The target was to increase access, coverage, and quality of Birth Registration services from the current 60% to 90% by 2020. This target seems ambitious given the current estimates. Furthermore, although the birth registration was estimated at 60% at baseline, the current definitions and process birth registration are different from those used for the baseline estimation, which may affect the endline estimates. The Birth and Death Registration has three steps. Step one is Notification – this is done by the Health facility for events of birth/ death that occur in health centres and hospitals. The hospital administrator notifies the area registration officer known as a district registration officer of all these events that occur in their respective facilities. Step two is Registration – this is done by the registration officer who has the event registered at our respective NIRA office. Step three is Certification – the registration officer also does the certification after payment of the prerequisite fees and a receipt issued to the officer as proof of payment. A certificate will then be produced, signed and issued to the client as proof of birth/ death registration.

Comparing the regions, a steady increase in birth registration is observed in 2016 and 2018 in both regions but thereafter plummeting in the Eastern and Northern regions. In the Eastern region, birth registration increased by 30% point (from 13% in 2016 to 43% in 2018) but later reduced by almost the same percentage point. In Northern Uganda, birth registration increased by 15% but later reduced by 28%. Figure 27 shows the regional trends in the percentage of birth notifications and registrations.

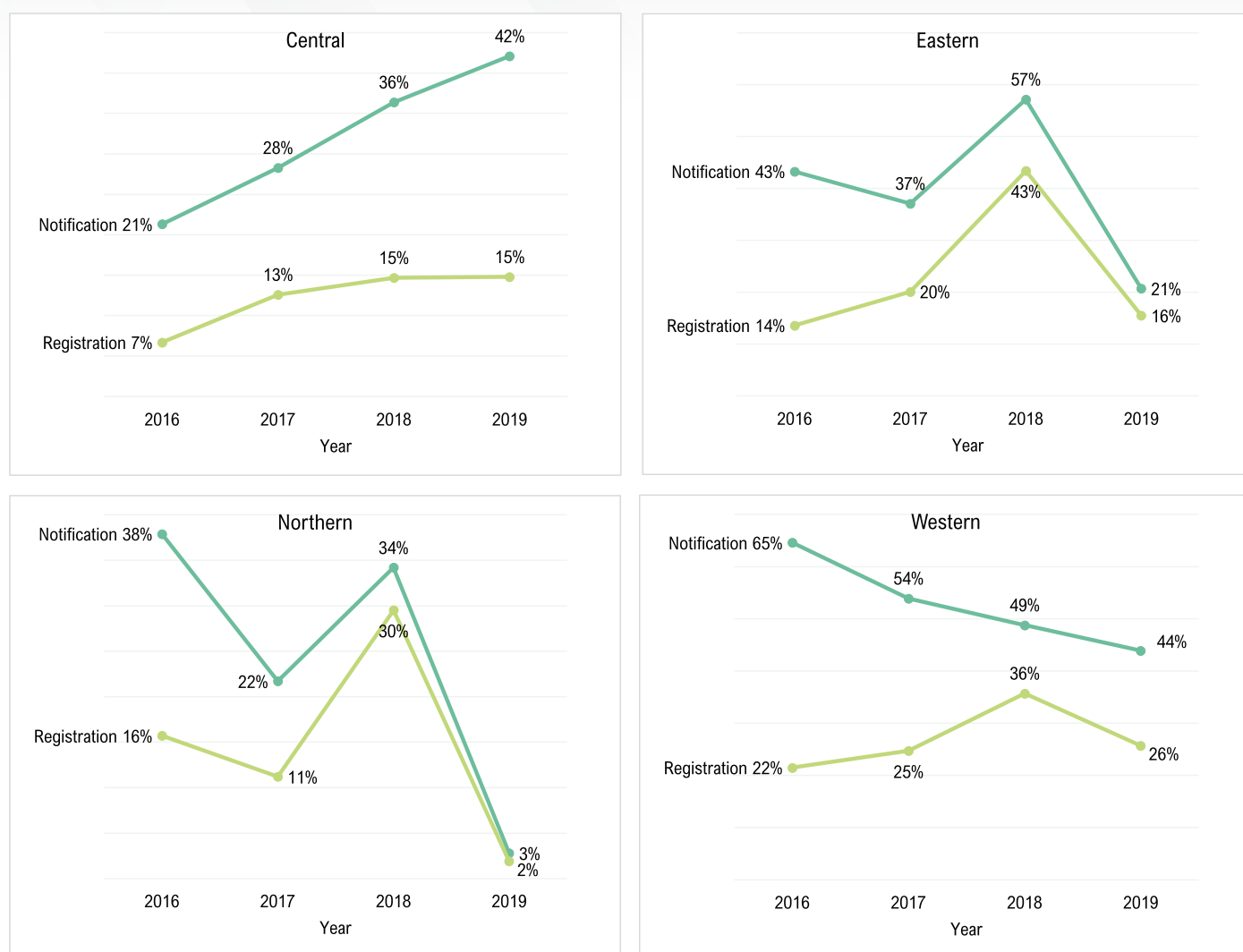*Figure 27: Regional trends in the percentage of birth notifications and registrations.*

Source: www.mobilevrs.co.ug

The system for death registration and autopsies is not available, however, the consultancy contract for the development of the communication strategy has been signed. The process for work on the Birth, Death and Adoption Order Registration solution started in March 2020. A draft contract has been submitted to the Solicitor General for review and approval. The contract for procurement of equipment to connect NIRA headquarters and District offices was signed on 15th November 2019 and delivery was done in Feb 2020. Installations in the five divisions of Kampala commenced in March 2020 but the process stalled by the COVID-19 pandemic.

BDR equipment were procured including computers, printers, LANs, server racks, servers and UPSs among others. Delivery and installation of 234 Desktops, 117 printers, 121 servers, 121 server racks, 121 displays, and 121 UPS in 117 Districts was completed and migration of data from the old to the new servers has been completed in 44 out of the 117 beneficiary districts. Training on notification of birth and death using MVRs and equipping all the duty bearers in the 6 regions on the revised MVRS system started in July 2019 with the Central region. Outreaches (mobile birth and death registration) have been held in Kanungu, Bukwo, and Amudat (Feb, 2020).

Intelligent Integrated computer systems for EMRS where the ICD11 will be hosted has been piloted in 7 RRHs and will be rolled out countrywide once the equipment is made available. MCCoD module & ICD 11 coding tool have been integrated into DHIS2 and IICS and Off-site testing completed. Fine tuning and handover were expected end May 2020. Harmonization of death-related

data tools and development of CRVS data management plan and SoPs between NIRA, MoH and UBOS was completed in February 2020. Technical Assistance will be required to integrate ICD11 into DHIS2; a request was sent to the WHO.

MPDSR

MPDSR guidelines were launched in 2017, which was followed by capacity building of health workers, district leaders and stakeholders on the guidelines. According to the MPDSR 2018/19 report, while maternal and perinatal death notifications are high (97.8%) in 131/134 districts, only 76(58%) districts conduct death reviews/audits. There are gaps in the linkage between facilities, district leadership, and functionality of district committees.

There was an increase in the number of maternal death reviews, but still below target. In 2016/17, 1,118 maternal deaths were reported through the HMIS of which, 24% (267) were reviewed/audited. In 2017/18, 1,111 maternal deaths were reported of which, 50% (555) were notified and reviewed/audited. In 2018/19 a total of 1,083 maternal deaths were reported of which, 57% (616) were notified and 51% (553) were reviewed/audited. This is below the HSDP target of 65%.

It should be noted that there are variations in the figures reported in the documents informing this section (AHSPR 2017/18, AHSPR 2018/19, MPDSR report 2018/19). Nonetheless, there has been a general decrease in total maternal deaths reported through HMIS. There was an increase in the proportion of deaths notified by 33.5% (2016/17) to 57% (2018/19), as well as the proportion of deaths reviewed from 24% (2016/17) to 51% (2018/19).

Reports show improvement in perinatal death notification from 11.7% in 2016/17 to 19.6% in 2018/19, as well as perinatal death reviews from 1.5% to 3.6% in the same period [a total of 29,179 perinatal deaths were reported, of which 19.4% (6,672) were notified and only 5.9% (1,732) were reviewed]. According to the MPDSR 2018/19 report, most perinatal reviews done were early neonatal deaths at 32.3% (340/1054) and fresh stillbirths at 30.5% (321/1054).

MPDSR response: Guidelines were rolled out with subsequent training/orientation. The event tracer tool is piloted to address low notification rates; feedback and mentorship, parliamentary meetings, data spot checks conducted, and revision of the MPDSR tool to align with HMIS monthly updates submitted to MCH TWG. A national PDSR ToT (65 trainees) was conducted to improve perinatal death reviews.

Challenges in the implementation of MPDSR

Weak district leadership, inadequate engagement of political leadership, lack of feedback to referring facilities, inadequate support for MPDSR activities from supervising RRHs and poor linkage of MPDSR activities to quality improvement were cited as key challenges in the implementation of MPDSR. Other issues identified include delayed patient referral from lower to higher facilities, poor reporting and documentation that arises from inadequate materials like MPDSR tools and referral forms, limited support to MPDSR committees by health facility leadership, and district MPDSR committees in owning recommendations and taking action.

3.4. Resource commitments – financing for RMNCAH/N

3.4.1. Summary of the findings

- *External financing represents a large share of total health expenditure. Most of the funding is intervention-based, thus creating challenges for donor funding harmonisation and to ensure the Ministry of Health can adequately exercise stewardship power. Additionally, channelling funding off budget undermines the government public financial management systems and leads to high transaction costs.*

- *Over 75% of the external contributions to RMNCH is provided by the Global Fund, the USA and GAVI. The high dependency on these donors creates potential financial sustainability challenges and limits the stewardship role of the Ministry of Health. Recently, a donor transition plan has been developed to ensure a smooth transition between donor and government financing.*

- *The amount external financing channelled into the Uganda health sector over the past decade has not met the population growth rate. In fact, between 2014 and 2018, per capita aid for RMNCH has remained roughly constant. Additionally, some donor-funded projects have failed to achieve the stated objectives. For example, the World Bank funded URVHP was not able to adequately reach poor women, who were the initial target of the initiative, due to programme design weaknesses and other implementation issues.*

- *Since FY 2018/19 there has been a substantial increase in domestic allocations to the health sector and a needs-based resource allocation formula was introduced to determine the size of district level NWR PHC allocations and ultimately improve equity of resources allocation. However, NWR represents only moderate share of the overall district level allocation, whereas most of funding is allocated through the wages grant.*

3.4.2. Total health expenditure trends

Between FY 2010/11 and 2015/16, the overall expenditure on reproductive health as defined by the NHA (including family planning, maternal and neonatal conditions) reduced in real terms, declining from UGX 937,414 to 862,654 million (USD 251.5 and 231.2 million) (Figure 28). However, expenditure on reproductive health as a percentage of total health expenditure (THE) increased from 12% to 15%. Between FY 2010/11 and 2015/16, government expenditure as a share of total reproductive health expenditure increased from 13.1% to 20.3%, whereas private expenditure on reproductive health has been constant at around 63%. Private expenditure (in the form of out-of-pocket payments or insurance contributions) is greatest for maternal and perinatal conditions, accounting respectively for 81 and 87% in FY 2010/11 and 63% and 71% in FY 2015/16.

Expenditure on maternal and perinatal conditions increased by 6.8% and 13.3% between 2010/2011 and 2015/2016, whereas expenditure on family planning and other maternal conditions (e.g. general child health and nutritional deficiencies) decreased by 56.3% and 64.2% over the same timeframe (Figure 29)

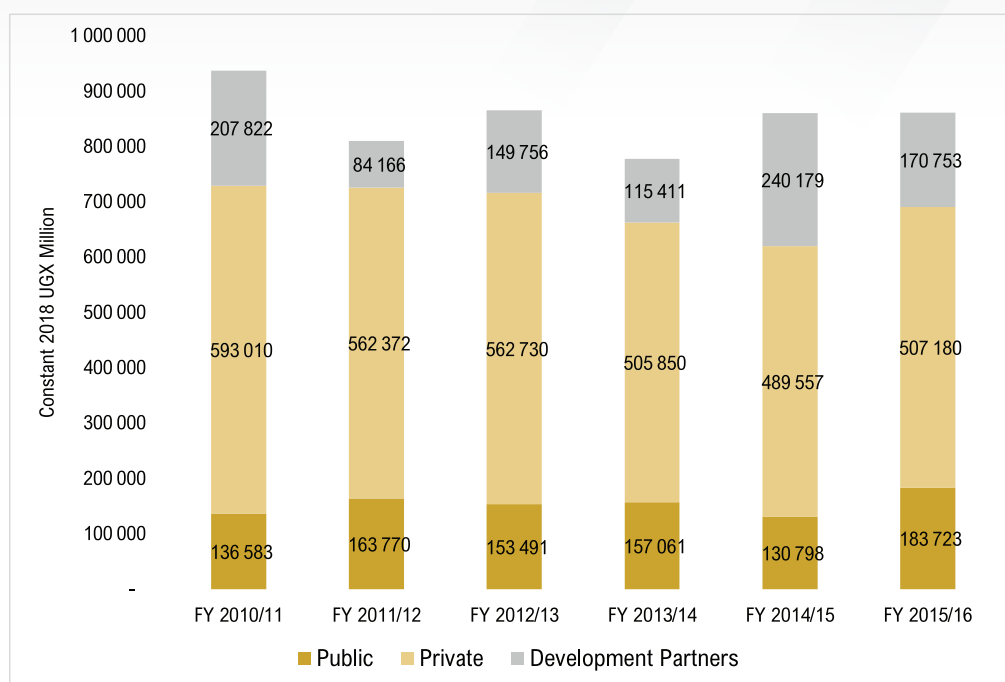*Figure 28: Total Health Expenditure allocation to Reproductive Health.*[3]

Figure 29: Total Health Expenditure allocation to Reproductive Health by category.
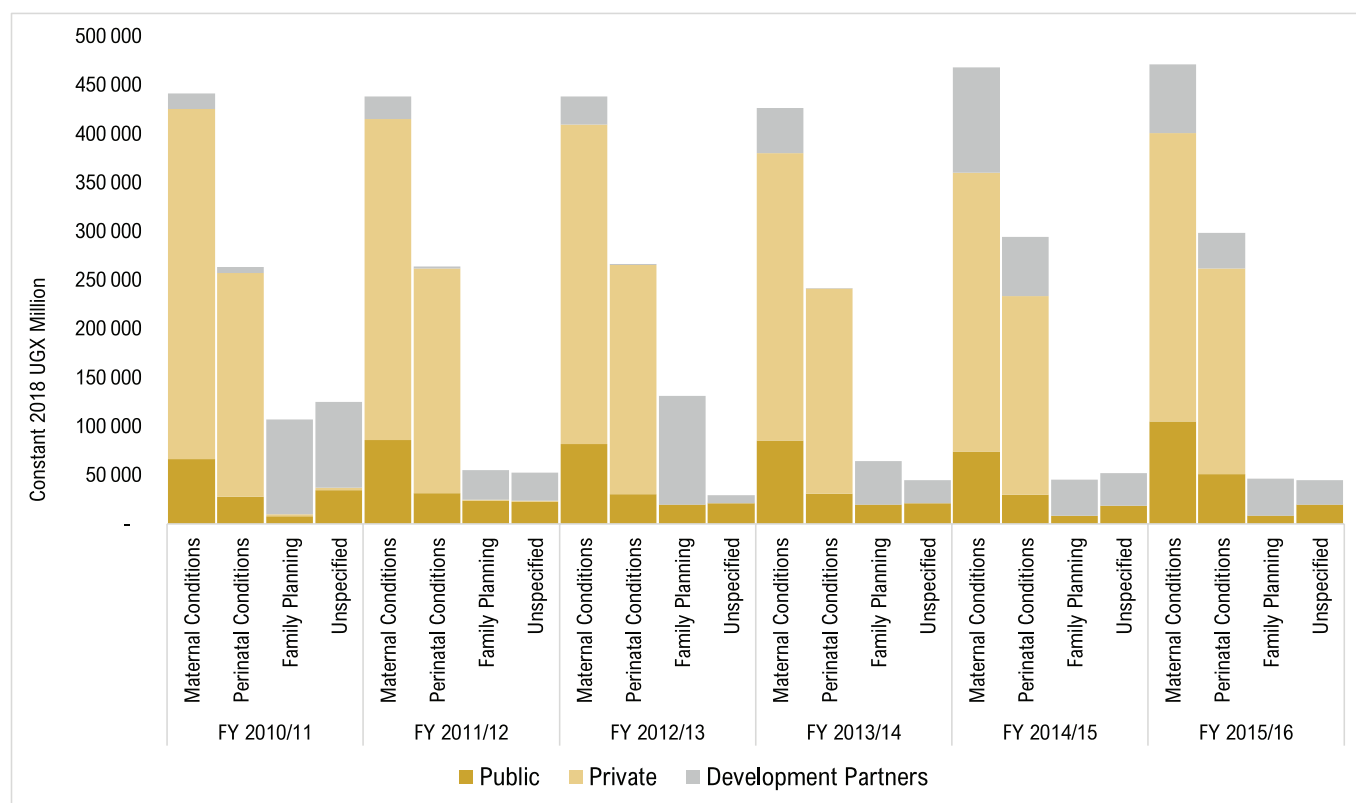
Source: Authors' calculations from NHA FY 2010/11 to 2015/16[4]

3   Expenditure are classified as follows: "Public": from the Government of Uganda, "Private": from individuals, "Development Partners": from third party donors.

4   Sources: 1) The Republic of Uganda Ministry of Health. National Health Acccount Report FY 2010/11 and 2011/12. 2010; 2) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2012/13 and 2013/14. 2015; and 3) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2014/15 and 2015/16. 2017.

Figure 30: Immunization financing trends.
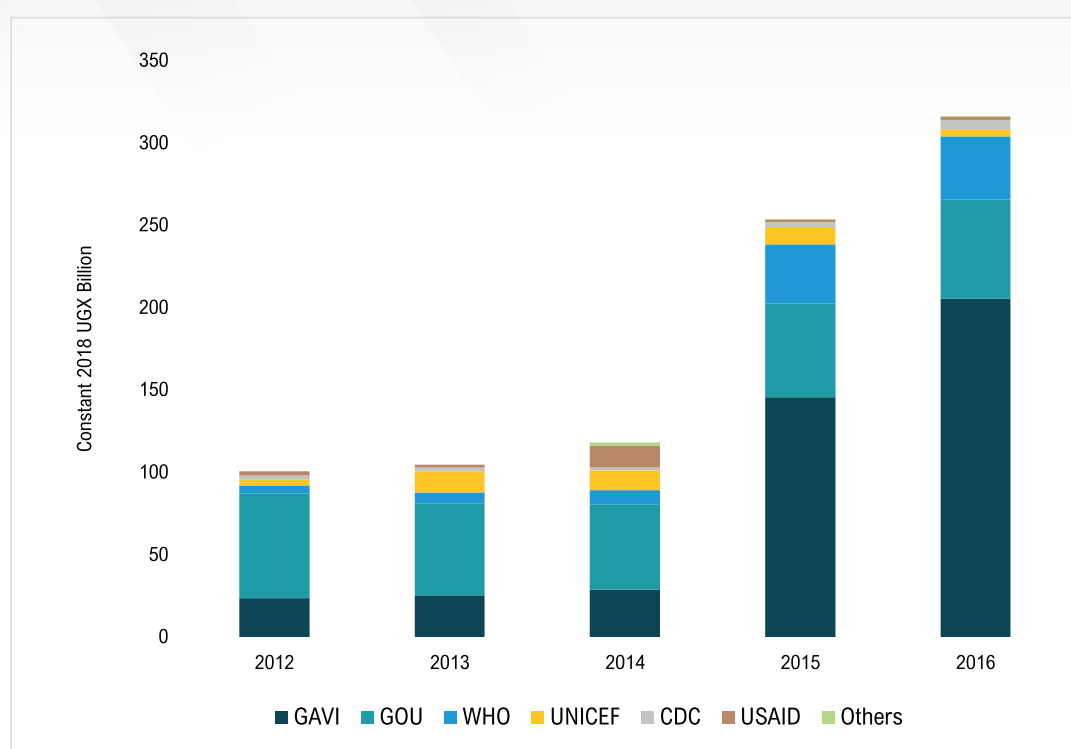
Source: Author's calculations[5]

The family planning 2018 Resources flows survey on family planning in Uganda revealed that between 2016 and 2017, the total resources envelope for Family Planning increased from UGX 88,001 million (USD 22.4 million) to UGX 111,979 million (USD 30 million). However, international organizations still account for 73% of the overall resources. Among Government, Ministries, Departments and Agencies (MDAs), 93% of the funds were utilised to purchase and distribute family planning commodities[6] .

3.4.2. External Financing

Since FY 2010/2011, development partners' contributions to THE estimated in the NHA has been above 40%, reaching UGX 2,402,766 million (USD 644.8 million) in FY 2015/16. However, between FY 2010/11 and 2015/16, the overall expenditure decreased in real terms. Specifically, external expenditure on reproductive health decreased from UGX 207,821 million (USD 55.8 million) to UGX 170,752 million (USD 45.8 million) between FY 2010/11 and FY 2015/16 (Figure 31)[7] .

The analysis of OECD's Creditor Reporting System data with the Muskoka2 algorithm estimates that total RMNCH (which includes those health areas reflected in the NHA but also child health, HIV and sexual health funding, and a share of funding from other areas that would benefit RMNCH such as health system strengthening, water and sanitation and humanitarian aid) disbursements amounted to USD 285 million in 2011 increasing to USD 461 million in 2016, and then declined by 3%, reaching USD 446 million in 2018. This was a reduction primarily driven by the reduction in funds from GAVI, the Global Fund and the United Kingdom, which respectively diminished by 45%, 22% and 45%.

---

5   Source: Zikusooka CM, Abewe C, Lagony S, Kamya C, Kanoowe S, Nabukalu BJ, et al. Resource Tracking for Immunization in Uganda GAVI Evaluation. 2017.
6   Source: The Republic of Uganda Ministry of Health. 2018 Resources flows survey on family planning in Uganda. 2019.
Available from: www.ubos.org.
7   Sources: 1) The Republic of Uganda Ministry of Health. National Health Account Report FY 2010/11 and 2011/12. 2010; 2) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2012/13 and 2013/14. 2015; and 3) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2014/15 and 2015/16. 2017.

Over the full period 2009 and 2018, the United States (USA), the Global Fund and GAVI represented the biggest donors, however, the funding pattern has varied over time. Funds from the USA grew from 52% to 57% over this period and those from the global health initiatives increased from 11% to 27% (Figure 31). In 2018 alone, they respectively provided 2018 USD 256 million (US), 86 million (Global Fund) and 36 million (GAVI), corresponding to 57%, 19% and 8% of the overall external financing. The World Bank GFF does not report to the OECD's CRS, so we cannot report on funding allocations to Uganda. However, the World Bank (IDA and IDRB) project funding is reported on the Ministry of Health Budget Framework Paper (BFP).

Figure 31: Aid for RMNCH by the donor.
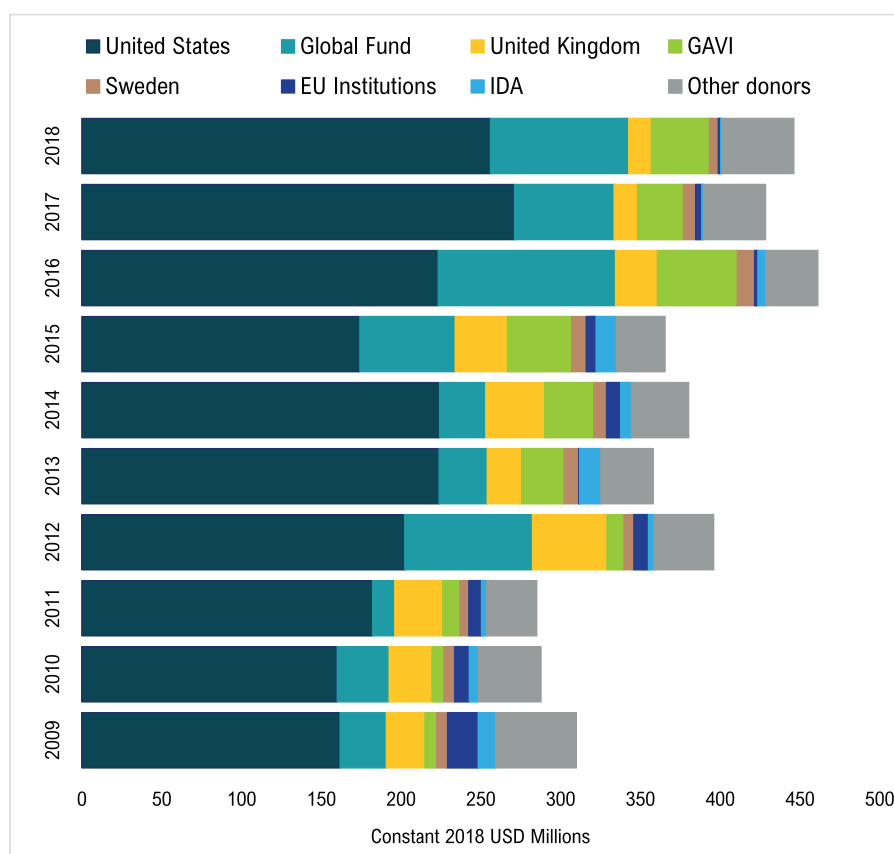
Source: Author's calculations[8]

In proportional terms, funding remained roughly stable across child, maternal and new-born, reproductive health and other categories. The largest increase in proportional terms between 2009 and 2018 was observed for maternal and new-born health, as external financing increased by 90%, from USD 26 million to USD 53 million. However, this represents only on average 9% of total RMNCH funding over the period considered. Between 2016 and 2018, a decline in external financing for RMNCH from USD 575 to 545 million was observed (Figure 32). Whilst external financing for child health and maternal and neonatal health decreased by 16% and 15% during this period, aid for reproductive health increased by 9% (Figure 32).

8   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3):e374–86. h
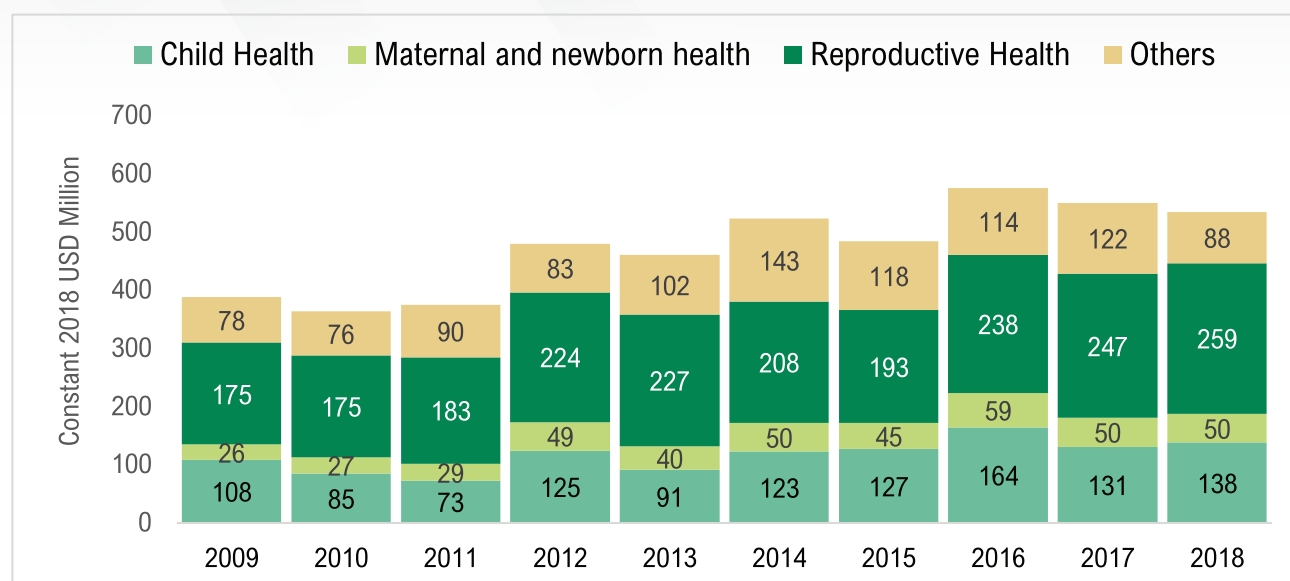
Source: Author's calculations from resources tracking for immunization expenditure[9]

Over the period 2009-2018, funding for maternal and neonatal health per birth was far lower than per capita funding reproductive health per woman in reproductive age and for child health per child, roughly 30% and 25% of the annual funding respectively (Figure 22) [10] . Specifically, external financing for reproductive health (defined here as family planning, sexual health, and sexually transmitted infections, including HIV) has stagnated at USD 25 per woman aged 15-49, aid for maternal and new-born health increased in 2012 and subsequently stagnated at around USD 6, and donor assistance for child health has generally remained at around USD 18 per child under five since 2014 (Figure 33).

Figure 33: Trends in aid for reproductive and child health.

Source: Author's calculations 10

9   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3): e374–86.
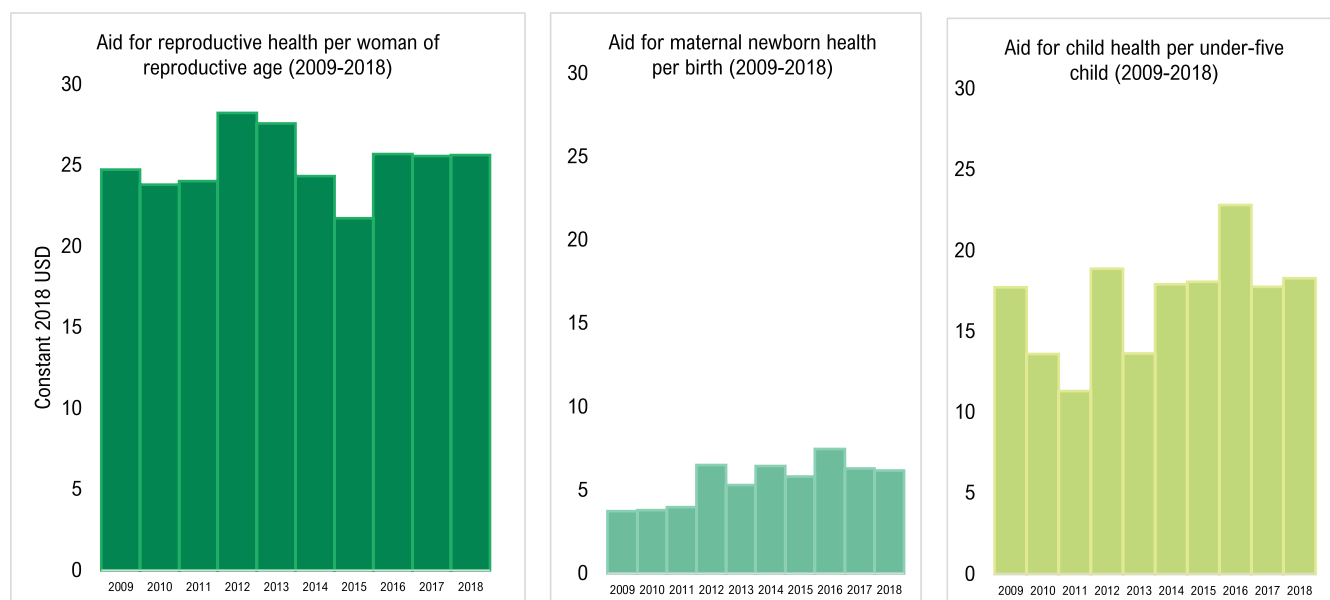10   Sources: 1) The Republic of Uganda Ministry of Health. National Health Account Report FY 2010/11 and 2011/12. 2010; 2) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2012/13 and 2013/14. 2015; and 3) The Republic of Uganda Ministry of Health. National Health Accounts Report FY 2014/15 and 2015/16. 2017

External financing can be delivered as project grants or through government in the form of general budget support or basket funding, with the latter pooled funding modalities being preferred from an aid effectiveness perspective as it gives greater government control over funds and reduces transaction costs. External funding delivered as general budget support has decreased over time, declining from 6.9% to 0%. This can be explained in relation to the progressive reduction of the budget support, and the progressive minor reliance on the Poverty Action Fund (PAF), an initiative introduced in 1998 to channel resources for priority programs with direct poverty benefits. Instead, most donor funding was delivered as project grants, which represented 78% of funding modality on average over the period 2009-2018. As of 2018, 85 % of the funding was disbursed as project funding, 8% for specific purpose programmes and funds and 2% in the form of technical assistance.

From an aid effectiveness perspective, funding channelled through the government is preferable as it gives greater control over resources and reduces the risk of duplication/fragmentation of funding. Between 2009 and 2018, the amount of funding channelled through the central government has decreased from 60% to 44%. Instead, funding has been channelled increasingly through donors, international organisations, and NGOs increasing from 15% to 30%. Specifically, throughout the period, virtually no funding was channelled through local governments and as of 2010 the proportion of funding channelled through public sector institutions dropped from 57% to 15% and subsequently to 0% in 2013 (data not shown). Since 2014, the proportion of funding channelled through the central government increased progressively and ultimately reached 42% in 2018. As of 2016, funding has also been channelled through the private sector.

Figure 34: Aid for RMNCH by channel.
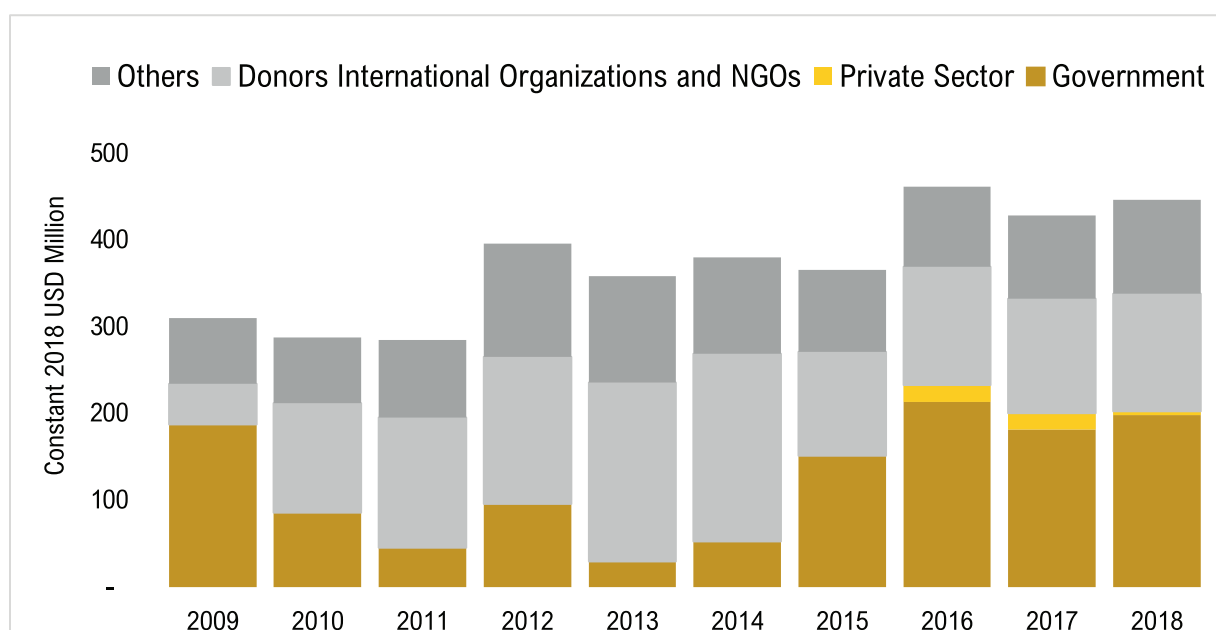
Source: Author's calculations[11]

While total external financing of RMNCH has not significantly fluctuated overall, volatility has been high within specific RMNCH priorities (Figure 34). Funding to malaria from the Global Fund demonstrates funding highs and lows every two years, which may correspond to bed net campaigns. US and UK funding is also quite variable over time (Figure 35). In the case of HIV funding (Figure 32), a big drop in US funding was observed in 2015 (a reduction of USD 56 million), though this was partially offset by an increase in Global Fund financing (an increase of USD 27 million).

---

11   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3): e374–86.

Figure 35: Volatility in external financing of RMNCH for the leading donors.
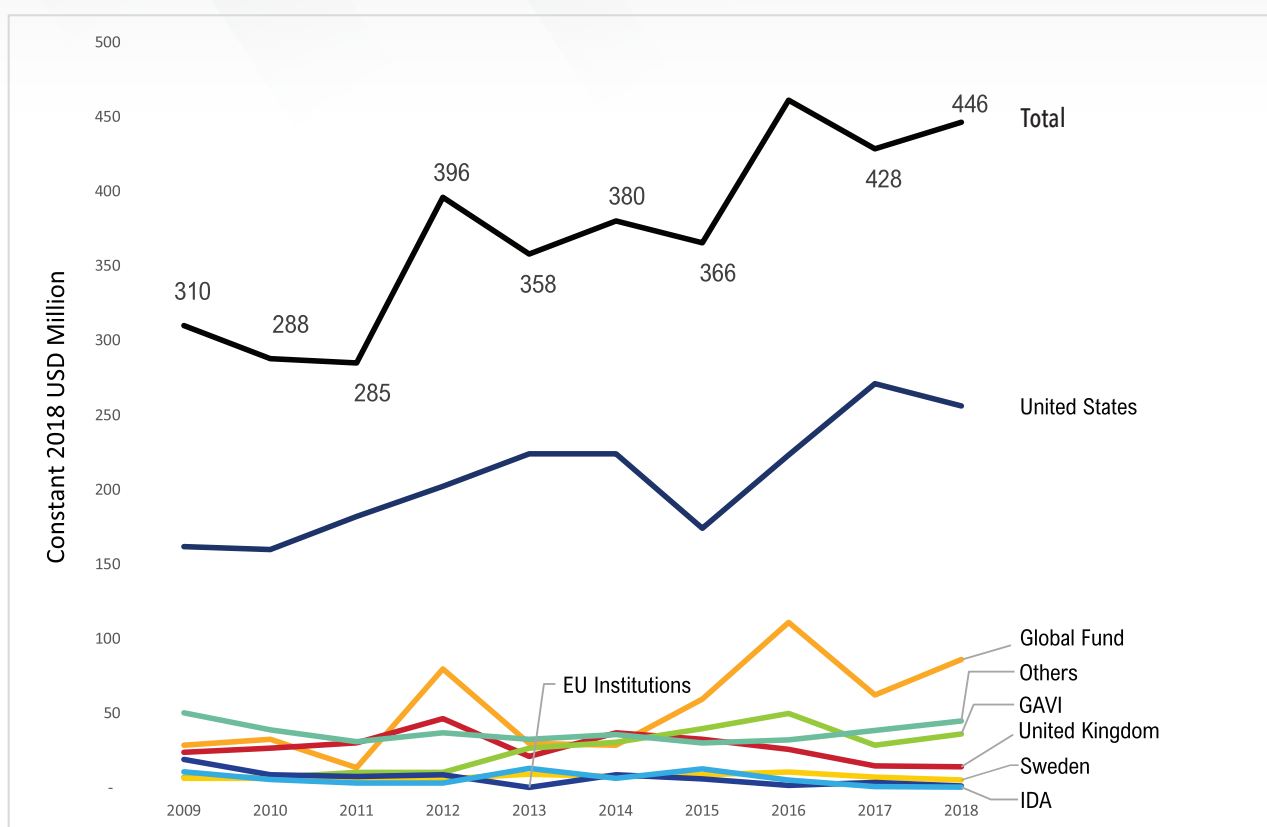
Source: Author's calculations[12]

Figure 36: Volatility in external financing for Malaria for the leading donors.
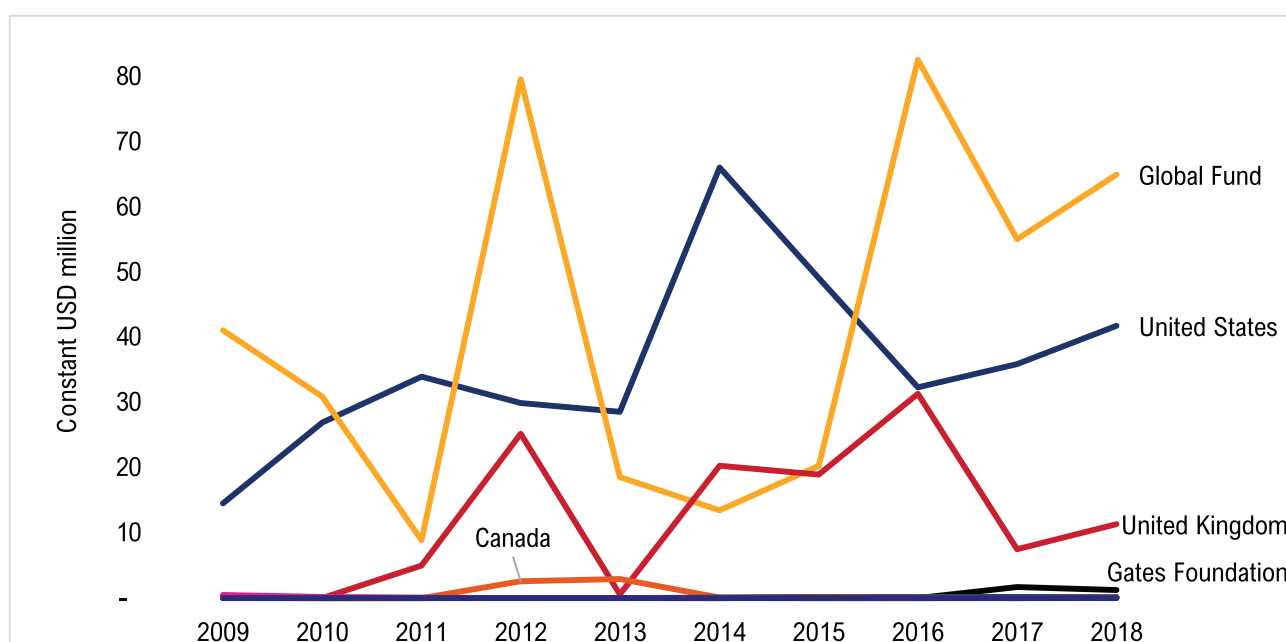
Source: Author's calculations[13]

12   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3): e374–86.

13   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3):e374–86.
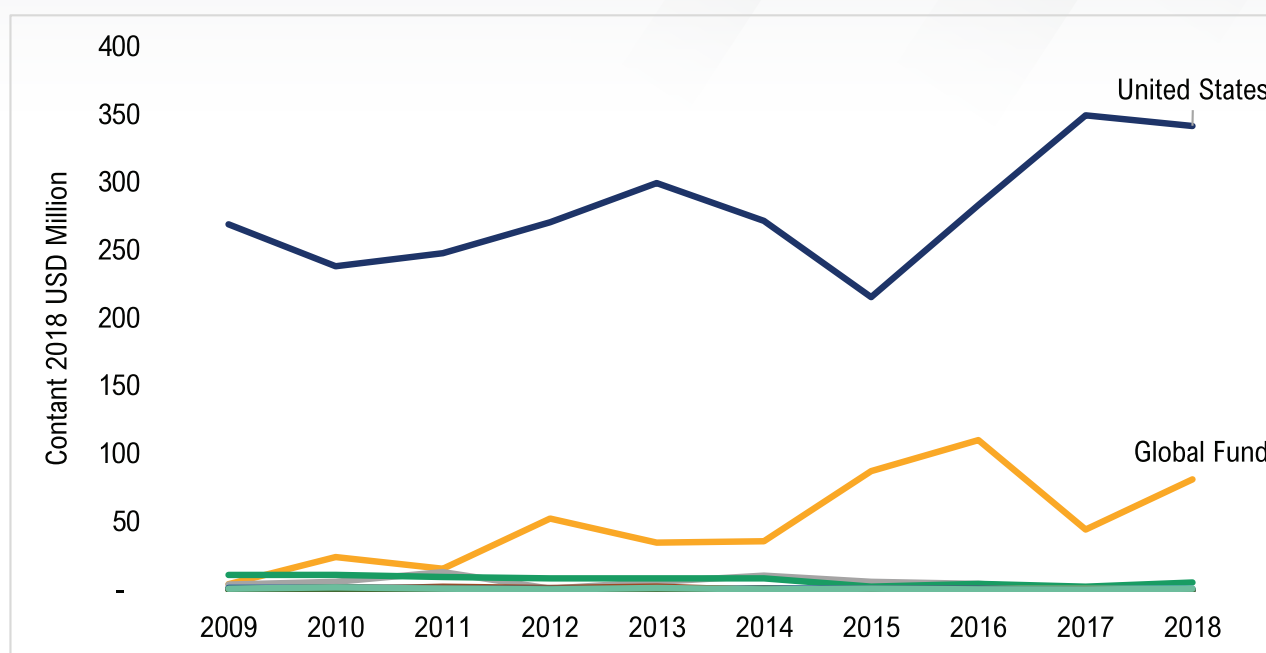
Figure 37: Volatility in external financing for HIV/AIDS for the leading donors.

Source: Author's calculations[14]

As part of the efforts to improve RMNCH related health outcomes, the Uganda Reproductive Health Voucher Project (URHVP) was introduced in 2015[15] . A total of USD 17.3 million were made available for the project, disbursed in the form of a USD 13.3 million grant from the World Bank and SIDA, USD 3 million from the Ministry of Health, and additions from UNFPA. The initiative aimed at giving 132,400 pregnant women access to a defined package for safe delivery services from contracted providers and build national capacity to mainstream and scale-up implementation of safe delivery voucher schemes. Beneficiaries were identified using a Poverty Grading Tool which gathered information on access to health services, water, land, shelter, livestock, sanitation, and nutritional intake and home utensils. Districts in the Southwest region were selected to follow on a pilot project, whereas those in the Eastern region were selected based on maternal mortality outcomes, poverty rates and facility-based delivery levels. Vouchers were produced and distributed using a patient-level database. Although 71% of the vouchers were distributed and redeemed during the project duration, only 32% of the mothers were classified as poor. This is due to a combination of design weaknesses and implementation failures, due to the poor geographic targeting approach taken and poor or delayed payments which significantly affected quality.

In 2017 the Ministry of Health signed with the World Bank the Uganda Reproductive Maternal and Child Health Services Improvement Project (URMCHIP)[16] . A recent analysis of the results-based financing (RBF) outputs indicates performance has improved across most of the incentivised indicators based on routine data.

---

14   Source: Dingle A, Schäferhoff M, Borghi J, Lewis Sabin M, Arregoces L, Martinez-Alvarez M, et al. Estimates of aid for reproductive, maternal, newborn, and child health: findings from application of the Muskoka2 method, 2002–17. The Lancet Global Health. 2020 Mar 1 [cited 2020 Aug 26];8(3):e374–86. h

15   The initiative is a form of Public Private Partnership (PPP) targeting poor women failing to access sexual and reproductive health services. The project was implemented between October 2014 and December 2019 in the Southwest and Eastern regions of the country.

16   **The project is structured in three components:**
1. Results based financing which has been currently rolled out in 131 districts;
2. Strengthening Health Systems to Deliver RMNCAH Services which comprises of a set of interventions aimed at improving human resource management, improving availability of essential drugs and supplies, improving availability and functionality of medical equipment in health facilities, improving health infrastructure of PHC health facilities and improving quality of care and supervision;
3. Strengthening Civil Registration and Vital Statistics which ultimately aims to develop a Birth Death and Adoption Order Registration (BDAR) solution.

For example, DHIS2 data indicate that between FY 2015/16 and 2019/20 the percentage of pregnant women receiving the 1st Antenatal care within the first trimester increased from 19.1% to 26.1%, and the percentage of women receiving pregnant women receiving IPT2 rose from 53% to 81%. However, DHIS data cannot be reliably used to measure the effect of RBF, as there can be an incentive for providers to over-report to maximise RBF payments. Despite these achievements, an increase in maternal deaths was registered, especially between March and June 2020, corresponding to the COVID-19 lockdown, which significantly restricted movements. This finding is consistent with the analysis by Bell et al. who found that maternal mortality between January and March 2020 increased by 87% compared to the 12-months 2019 average.

3.4.4. Domestic Financing

The Ugandan Government budget formulation does not allow for identifying the amount of resources channelled to RMNCH, although the provision of RMNCH commodities is one of the outputs under the National Medical Store (NMS). Therefore, this section of the report will analyse broader health care expenditure including budgets to local governments under the primary healthcare grant, which provides the resources to district health offices, health centres II, III and IV, and district hospitals.

In 2018/19, a needs-based resource allocation formula was introduced to determine the size of the non-wage recurrent grant (NWR) and conditional development transfers to districts. The indicators and relative weight of the indicators in the formula have been revised multiple times. In FY 2020/21, the allocation criteria for the NWR component of the district level grant consisted of population (60%), poverty headcount (20%), infant mortality rate (10%) and population in hard to reach and stay areas (10%). The same indicators were used for the hospital NWR allocation based on the geographic areas covered. Instead, conditional development transfers are determined by looking at the number of existing public HC II, III, IV, and hospitals (50%) population per public or private-not for-profit HC III, IV, and hospitals (50%).

Between FY 2015/16 and 2018/19 there has been an increase in overall domestic financing for health in real terms from UGX 903, 560 million (USD 242.4 million) to 1,159,900 million (USD 311.2 million), corresponding to a per capita increase from UGX 25,451 (USD 6.83) to UGX 30,394 (USD 8.15)[17] . The largest proportional increase was made in the development grant, which augmented by 126%, rising from UGX 82,654 million (USD 21.6 million) to UGX 187,248 million (USD 50.2 million). (Figure 33)

---

17   The budget is structured in votes. These include the Ministry of Health, the Uganda AIDS Commission, the Uganda Cancer Instituted, the National Medical Stores, Kampala Capital City Authority, the Health Services Commission, the Uganda Blood Transfusion Services, Mulago Hospital Complex, Butabika Hospital, Arua Referral Hospital, Fort Portal Referral Hospital, Gulu Referral Hospital, Hoima Referral Hospital, Jinja Referral Hospital, Kabale Referral Hospital, Masaka Referral Hospital, Mbale Referral Hospital, Soroti Referral Hospital, Lira Referral Estimates, Mbarara Referral Hospital, Mubende Referral Hospital, Moroto Referral Hospital, Naguru Referral Hospital, the Uganda Virus Research Institute and Local Governments. Budget allocations are made through three grants: the development grant to aimed maintaining infrastructure and upgrading health facilities, the non-wage recurrent grant to the operating expenditures of health centres, district hospitals and district health offices, and finally the wage grant for staff salaries.

Figure 38: Budget outturns by vote.
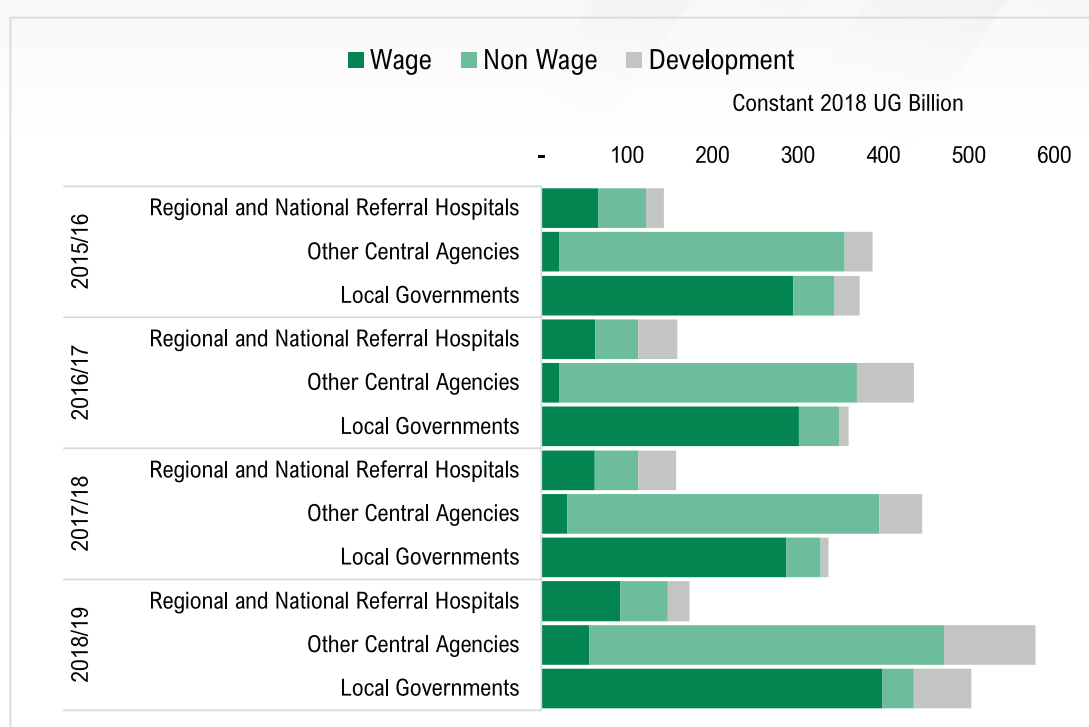
Source: Author's calculations[18]

The local government grant accounts for the largest share of the expenditures in the health sector, reaching 79.18% in FY 2018/19.

The analysis of local governments indicative planning figures (IPFs) for between FY 2016/17 and 2020/21 indicates that a sharp budget increase was registered in FY 2018/19. This was associated with the start of the World Bank-funded Uganda Intergovernmental Fiscal Transfer (UgIFT) project, an initiative to improve the adequacy and equity of fiscal transfers to the districts for health and education services.

The sub-regional analysis indicates the largest per capita amount was allocated to the Bugisu sub-region since FY 2017/18, and this was over twice as large as the per capita allocation to South Buganda (allocated the smallest amount). In absolute terms, between FY 2016/17 and 2020/21 North and South Buganda sub-regions were budgeted the largest amounts whereas Karamoja had the smallest allocation (Figure 39).

*Figure 39: Sub-regional per capita allocations FY 2020/21.*
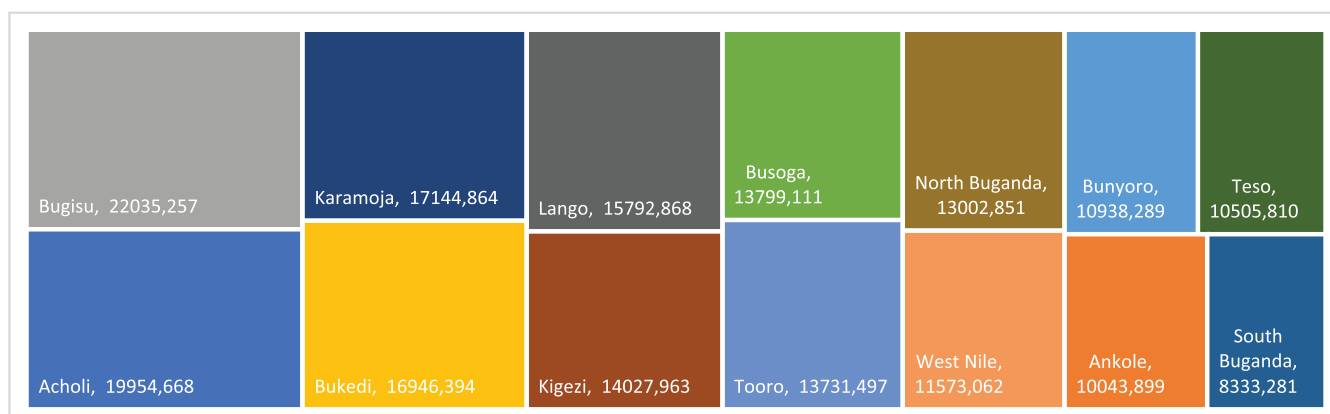
Source: Author's calculations

18   Source: The Republic of Uganda Ministry of Finance Planning and Economic Development. Annual Budget Performance Report FY 2018/19. 2018.

When considering domestic financing levels at the district level by GFF phase, we can see an increase in overall and per capita allocations for districts across all phases over time. In phases 1-3, districts had the sharpest increase in overall and per capita allocations between 2016-2018, with the rate of increase dropping in the last 2 years (Figure 40). Whilst in absolute terms GFF phase 4 districts received the smallest domestic budget between FY 2016/17 and 2020/21, and those in phase 3 the largest, GFF Phase 1 districts received the smallest per-capita domestic allocations throughout analysis. GFF Phase 2 districts received the highest domestic per capita budget until FY 2018/19 when GFF Phase 4 started to receive the highest per capita budget.

Figure 40: Trends in GFF allocation by implementation phases.
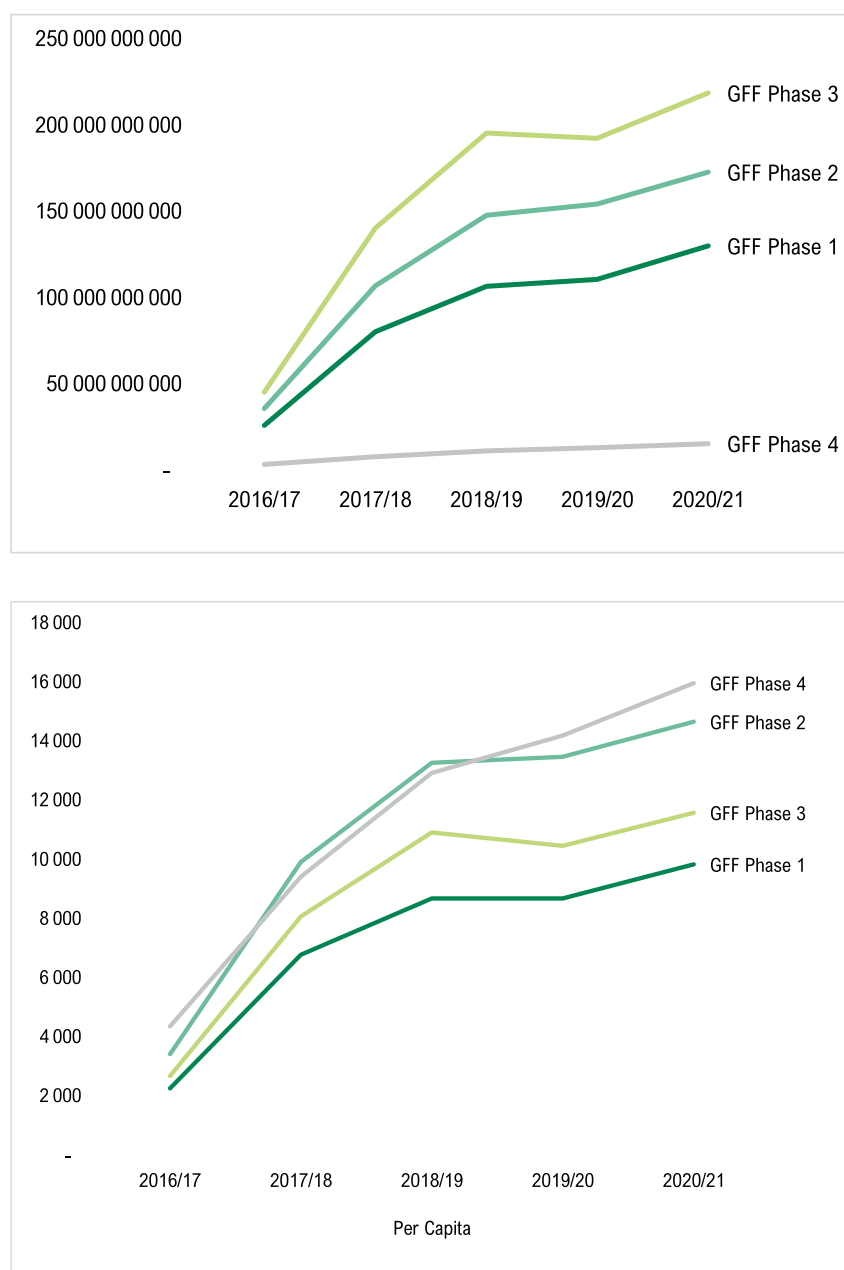
Source: Author's calculations

When examining the domestic financing allocations by district according to measures of district wealth (GDP), the allocations are found to be fairly equal across districts and only marginally pro-poor overall (concentration index = -0.05; concentration curve is very close to the 45-degree line), with little variation over time (Figure 41). The concentration index is not statistically significantly different from 0 (or an equal distribution). When considering the different types of expenditure, non-wage expenditure became more pro-poor in 2020/2021 compared to 2016/2017 (with

CI changing from -0.01 to -0.05 and being significantly pro-poor in 2020) (Figure 41). There was no change in wage and development spending over time, and these were generally equally distributed across districts.

Figure 41: Lorenz and Concentration curves for health expenditure per capita 2016/17 and 2020/21.

Lorenz and Concentration curves for health expenditure per capita 2016/17.

Lorenz and Concentration curves for health expenditure per capita 2020/21.
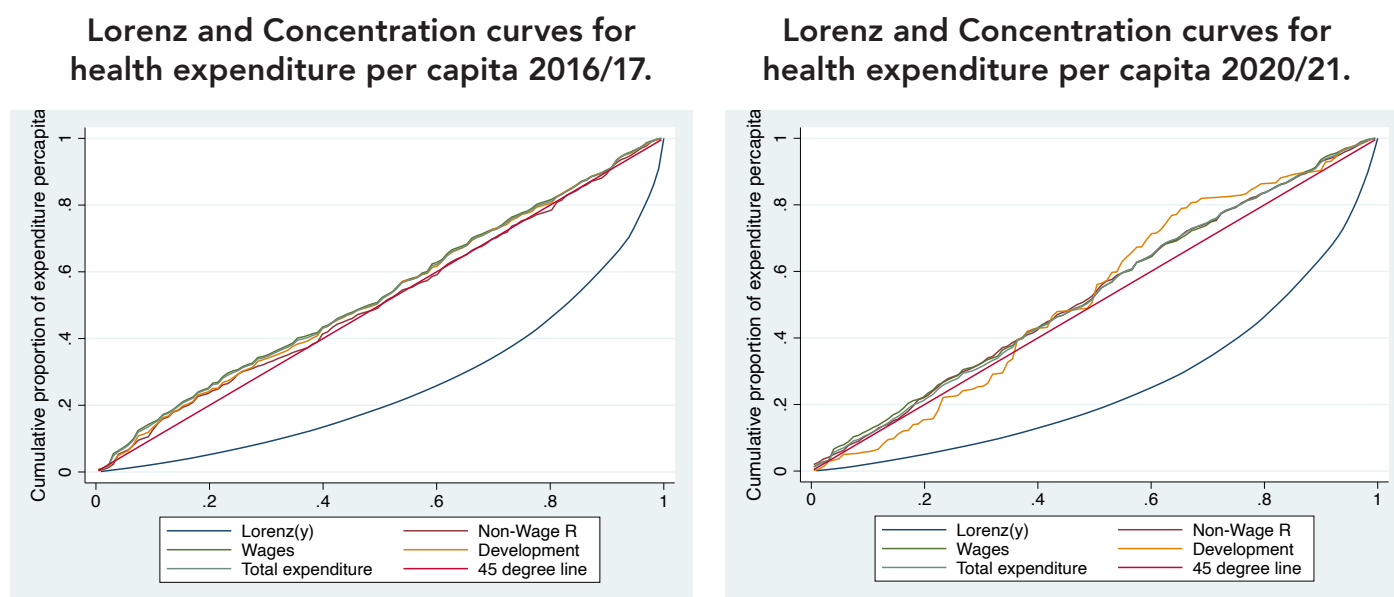
Source: Author's calculations

3.5. Stakeholder commitments and institutional arrangements

Several stakeholders committed to the implementation of the IC. A narrative of progress on stakeholders' commitments for the year 2018/19 showed that development partners, Civil society & IPs, professional bodies and media were generally on track, whereas limited or no progress had been made by district local governments, young people, the private sector and interreligious council of Uganda (Strategic shift 5).

With regard to young people, there's increasing disaggregation of data for adolescents; peer-to-peer approach for advocacy and stakeholder engagement in advancing needs of youths and adolescents have been scaled-up. On the other hand, use of innovations and technologies for awareness creation on RMNCAH like social media, inclusion of all vulnerable and marginalized adolescents and youths like PWDs (equality), youth servicing and youth-led organizations partnerships, and availability/ access to comprehensive youth-friendly services are in need of accelerated performance. Also, of concern are areas where progress is stagnant, including approval of selected "youth-related" policies, review of 2016 adolescent health roadmap, and research capacity building for adolescents and youths.

> • *While MoH has capable MCH and HMIS teams, it is spread thin in terms of human resource capacity; and this constraint is also reflected at the sub-national level. So, there are limits to what can be accomplished within the constraints of that operational space. Documenting and reporting gaps, as well as limited analytical rigour in M&E systems have been noted and also reported by the participants of this endline review – basic data analysis is normally undertaken (e.g. in determining priority areas), and this is what is used to make decisions of a national magnitude. Leadership information sharing challenges were also major themes coming out of the data. Domestic resource investment in this and other shifts will also need to be more evident in the next phase.*

Existing mechanisms and coordinating platforms were active with strong partner membership on related committees at the national and sub-national level.

I think the MCH Technical Working Group is the most active platform in the whole ministry [of health]. I can't even tell you how many meetings it holds, but they are many, they are consistent and they discuss critical issues. Partners are represented and many of them form sub-groups on other committees.

<div align="right">

(National level participant #9)

</div>

In the period of this plan we have seen a very good attempt at doing coordination, in fact, I think more than ever we have different coordination platforms at the national level in the form of technical working groups and committees that try to ensure that all partners, starting with the ones that are represented nationally are servicing this same agenda. I think it has worked very well in MCH technical working group which is the mother group that looks at the entire continuum.

<div align="right">

(National level participant #11)

</div>

Annual assemblies have been held at the national level consistently but still weak at regional and district levels. Supporting these was the scorecard to boost data analysis capacity at district levels which were monitored by the RMNCAH M&E desk to boost quarterly reviews given the results presented in the performance evaluation report for 2017/18.

The third annual national assembly on RMNCAH was held in August 2019 to strengthen coordination and accountability for effective and efficient implementation of RMNCAH policies and program interventions at the national, regional, district and community levels. Areas of action arising included establishing adolescent responsive services at both facility and community level in liaison with other relevant players such as Civil Society Organizations (CSOs) and schools, as well as strengthening male involvement programs for RMNCAH, HIV and gender-based violence.

In addition, a call for increased and optimized use of health-sector financing was made, with a focus on government funding, national health insurance scheme, and RBF. In the same spirit, the government and donors were also implored to increase domestic resources for RMNCAH interventions and use the nationally agreed mechanisms for accountability and tracking of the investment case results for RMNCAH.

In the early phases of the IC, a CSO enhanced engagement strategy was developed to facilitate the meaningful participation of CSOs in the various stages of the IC implementation. The strategy defines roles and outlines processes and principles for engagement. Several CSO meetings (both national and international/regional) have been held during the IC's implementation period, broadly discussing engagement, IC status, clarifying roles and responsibilities among other emerging issues. Some of the issues arising from these meetings include lack of access to information which hampers CSO performance and meaningful engagement; and the need for private sector engagement to enhance implementation (GFF CSO meeting report).

The RMNCAH CSO Platform report on tracking integration of GFF funds into the health budget framework included a component on CSOs participation in the implementation of RMNCAH (Ojulong and Senfuka, 2019). According to this report, CSOs notably participated in the IC's conceptualisation, with some making financial commitments. The report describes several existing platforms for CSOs engagement but notes low awareness of CSOs about such platforms, especially at the district-level. This, coupled with a lack of evidence and independent accountability monitoring from CSOs, has undermined the platforms' effectiveness. The report further highlights limited access to relevant information and weak information exchange among CSOs, which affect meaningful participation. Other challenges include weak capacity in advocacy and systematic accountability/monitoring for RMNCAH services, weak coordination and low levels of ownership of the coalition, and lack of an operational plan for the national engagement strategy.

The 2018 report on CSO accountability scorecard by RMNCAH CSO Platform found 65% participation rate of CSOs in RMNCAH services at the national level. Good participation was reported in decision making (through various TWGs), programming and implementation, and capacity building in the community. Participation was particularly poor in the area of monitoring, evaluation and accountability (33%), as well as resource tracking (44%). According to the report, through CSO advocacy, the budget for RH items under vote 116 increased to UGX 16bn in 2018/19 from UGX 8bn in 2017/18. There was good (75%) participation in forums for routine data and report sharing among RMNCAH stakeholders but low involvement in capacity building of community groups, health systems strengthening and post-abortion and sepsis management. There were disparities in participation across the three districts studied at the local level whereby, CSO participation was particularly low in Mityana at 55% and high in Hoima at 78%.

This shift on mutual accountability and strengthening data systems for improved RMNCAH currently has endless opportunities to draw from like the multisectoral approach. Within MoH and her partners, there is a strong and consistent move towards implementation being led by data. Some progress has been registered in the first IC/SP implementation phase, although it has been largely foundational.

Table 8: Birth and civil registration indicators.

Indicator	Target	Achievements
All planned quality RMNCAH performance reports produced, debated and used to strengthen RMNCAH resources allocation	All	Data sources not clear
Proportion of commitments met on schedule by each partner (includes private sector and civil society)	Increase to >75%	??
Proportion of resources allocated and spent based on previously made commitments and goals	Increase to >75%	??
Children under 5 years are registered and issued Birth Certificates by 2020	90%	76.4% according to NIRA / NBS
Births registered within 30 days of occurrence by 2020	80%	12%
Deaths in a given year are continuously reported, registered and certified with key characteristics by 2020	50%	??
Maternal and perinatal deaths in hospitals and HC IVs notified, assigned cause of death, ICD Code and registered by 2020	100%	??
Deaths in hospitals have causes of death reliably determined, ICD coded and registered by 2020	100%	??
Deaths in communities have probable cause of death determined, coded and registered by 2020	50%	??
Percentage of health facilities conducting maternal and perinatal deaths reviews and response	??	51% is conducting maternal death reviews; 4% perinatal death reviews.
Note: *?? – data was not available*		

4. Facilitators and barriers for the Sharpened Plan implementation

Overall, the RBF program was critical to implementing the IC/SP as it provided the resources, also putting in place motivation and mechanisms for improved performance.

- Significant quality improvement and improving access to RMNCAH services was reported as a direct result of RBF. In the 2016/17-2019-20 implementation period, RBF strongly leaned towards scaling up training and skills development while other investments supported by functionalising maternity units. Significant and instant RMNCAH progress was registered where these two initiatives intersected, unlike in places where RBF operated without corresponding effort on the Health System Strengthening (HSS) side. This proven success is one which needs to be consolidated and rolled over into the next phase.

- The critical role of ADHOs as RMNCAH stewards and champions cannot be overemphasized. Existing governance arrangements to have nurse/midwives as ADHOs is a significant step in the right direction; however, it has not been optimally leveraged to improve RMNCAH strategy, processes, activities and outcomes. Nearly all ADHOs also reported skill deficiencies in strategic planning and management, as well as meaningful engagement with policy. They, therefore, continue to operate with a frontline service delivery mentality. This design flaw can be corrected in the next implementation phase and ADHOs, alongside other RMNCAH champions who can be empowered to effectively perform their roles. However, addressing this gap will need to go beyond training or capacity building to meaningful engagement and opening up of restricted power centers or professional-structural spaces. It will also call for resource alignment and addressing prevailing health system constraints.

- The approach to policy dialogues, sensitization and visibility will need to be revisited. This is even more important now with the findings with this end-line review also showing the need to bridge the demand-supply side continuum of healthcare. More neutral and including demand side actors will need to be held accountable as they are also supported to promote social accountability that is supportive of initiatives on the supply side. For example, instead of exclusively contracting an implementing partner, health consumer agencies could be supported to publicize the next IC/SP while also promoting the message of health-supportive social accountability. Rigorous continuous IC monitoring and engagement is necessary.

- Variations in district capacity have provided room for some civil society actors to "positively exploit" this leadership vacuum and implement activities but without much measurable success or clear contribution to government priorities. This is against the backdrop of worsened fragile monitoring and support systems at the centre. District capacity needs to be strengthened to lead multiple RMNCAH stakeholders. Integration and linking, partner resource and activity tracking are critical in assessing progress.

RBF was a real gamechanger. It is kind of rewarding service providers for their services… the facilities became innovative in terms of how to attract clients for services and improvement in respectful maternity care was there.... in some of the facilities they were offering hot water for mothers to bathe, giving soap to a mother and also receiving sheets for the babies, they were also places were they had TVs in the waiting room. Then also the money that the facilities were receiving … if staff are motivated definitely they are going to improve in terms of attitudes and things like slapping women in maternity wards will reduce.

(National Level participant #18)

At the national level, the IC was critical to determining RMNCAH priorities and the alignment of partners. It was truly a participatory national-led initiative that created a sense of unity and secured stakeholder commitment to improving RMNCAH outcomes.

Investment areas were prioritized and everyone knew where Uganda was headed on RMNCAH issues…Each partner just had to think of how they can contribute to those priorities, and it was a good thing…everyone was on the same page.

(Development Partner #1)

However, this collective understanding and agreement on the IC at the centre were not found at the sub-national level, especially at the Second-Tier level of health leadership. While Districts Health Officers (DHOs) were knowledgeable, involved and supportive of the IC/SP linkages; their assistants, the ADHOs, were found to be grossly lacking in understanding and appreciation because of limited or no direct interface with the IC.

I have never heard of that word [Investment Case]. What is it? However, as a midwife, I will just have to talk about some of the services we offer.

(ADHO #7)

I do not have much information about the Investment Case. However, I acknowledge that it must have been implemented at the district and extended to the facility as part of RMNCAH activities. What I know for sure is that we have witnessed new changes in how things are done in the area of maternal and child health.

(MS, District Hospital #2)

The work of dissemination [of the Investment Case] was contracted out to one of the partners. Reports show that they [contracted partner] visited all districts.

(National level participant #8)

While there was understanding and support for the Investment Case among national-level actors, their diversity in capacity, commitment, and focus areas needed a robust system for tracking and coordination. In addition, the lack of a standardised framework for the implementation of the IC was a key barrier to achieving this.

They [MoH] tried to do a very good job of getting everyone on board with formulating the Investment Case and costing the [Sharpened] Plan. The only thing that was lacking was identifying the more practical steps … what could have been in the implementation guidelines to really identify the critical practical things that we were supposed to do on the ground… It [IC] was not really clear, it was very good in terms of the strategic planning and thinking but in terms of practical guidance on what we were going to do during the next 3-5 years to move things forward was missing. So every IP has just been doing their own things and reporting when it ties in with what they want.

(National level participant #15)

The guidance is clear and I think that the requirement that is part of the implementation of a standardized approach across the country so that we have strengthened coordination.

(National level participant #6]

Coordination and reporting structures for the various implementing partners were reported as a key bottleneck. For example, some districts reported the difficulty in providing oversight to IPs with already established partnerships at the central level:

Before MOH engages in partnerships with NGOs, there is a need to find out and harmonise the actual problems faced by the service providers and users as well as the district administration so that the right programmes are rolled out. This will help in easy coordination.

(District level participant, 9)

This includes refugee-hosting districts that do not have direct oversight over interventions in settlements. However, there was a variation in district oversight for implementation in their areas, which was reported to be grounded in lack of leadership at sub-national or supervision from the national level:

The things the districts say that "those NGOs come here with their own agenda", where they are accused of having their own bulldozing agenda but it is because in districts where the DHT is strong, they will plan or demand with NGOs on where to invest in maternal and child health. But where you find them [districts] not having any plan you also implement your activities – at least the local communities will benefit. CSOs might be there operating without so much restriction but the government also has to wake up; you can't talk of government priorities without government oversight.

(District level participant # 14)

However, overall coordination remains a gap that is already acknowledged. It needs to be improved where gaps are identified and consolidated where strengths exist as seen in the excerpts below:

I think that at times coordination at the national level has been good. It involved a lot of learning… initially, the MCH technical working group was a large group with a lot of walk-in partners who are not regular, who come in once in a while to present something they might have done and we realized that it became a fairly un-strategic group because if every time you are talking about new things or not necessarily having a clear agenda and tracking specific issues that are important for us to monitor service delivery. Then the group was becoming fairly ineffective and so the Ministry of Health had agreed that this group would become an invitation-only focusing on the key partners. But then would have the sub-committees … and partners supporting these areas could join any of the sub-committee… and contributions could move upwards to the MCHTWG. If you have attended it [MCHTWG] lately, you will see the kind of structure now - with a clear agenda and with the updates and key issues arising from different sub-committees.

(National level participant #4)

I think there has been an attempt. I can't say it [coordinating partners better] has not worked, I can say that it is working in progress, it is an area that needs to be strengthened what happens in the district level coordination. And more importantly how does information from the district level coordination platforms get escalated for the issues that need to be escalated including the issue of partner mapping

(District level participant #46)

5. Conclusions

Uganda made steady progress during the investment case's implementation period on several key indicators of the RMNCAH continuum of care, but most did not reach the set targets. Further, the progress is too slow to reach the Sharpened Plan's ambitious targets and the investment case. The main contributor to this slow progress was the delayed and limited implementation of the Sharpened Plan and the investment case, which was occasioned by challenges of managing the "shifts" model in the public sector. By 2019, there was no evidence that the targeting of high population districts accelerated the trends in those districts, which would be expected on districts' timing of implementation. The main cause for this was limited implementation despite the availability of additional resources from the GFF framework and government. Challenges hindered implementation in sorting out implementation arrangements at the centre (vertical approach) with limited subnational coordination and management mechanisms. Overall, we consider the IC implementation period of 2016/17-2019/20 was a learning and foundational phase, whose lessons should be used to inform the next phase. Systems have been put in place, partnerships explored, gaps or bottlenecks identified, and some progress registered. Amongst many priorities to be addressed, we highlight the following as critical going forward: 1) Strengthening management at all levels including partnership coordination at all levels to ensure system efficiency; 2) Managing a multisectoral approach to implementation; 3) Improving community health systems; 4) Addressing adolescent sexual and RH, and fertility in general; 5) Improving the quality of care with a special focus on basic and emergency MNCH care; 6) A special focus on malaria and malnutrition as they are critical determinants of most outcomes; 7) strengthening the capacity of districts to plan, manage and implement perhaps through a regionalised approach; 8) in view of COVID-19 pandemic, innovative mechanisms for implementation to ensure continuity of services; and 9) strengthening accountability mechanisms, use of data and evidence.

6. Recommendations

1). **Priority policies that need to be developed:** The Ministry of Health with support from partners should develop/finalise and operationalise the following interlinked key policies a) **a national RMNCAH/N policy and strategic plan;** b) **A national Adolescent Sexual and Reproductive Health Policy and Strategy;** c) An Urban Health Policy and Strategy; and d) **the Community Health Systems (CHS) policy and strategy**. These policies should form the basis for national programming and financing and should be aligned to the current program based budgeting and implementation approach (multi-sectoral coordination, planning, and implementation) that the government of Uganda has adapted. The Covid-19 pandemic has radically distorted health systems, thus making the need for these reforms to be even more critical and urgent.

    i. **The MoH in collaboration with other sectors and partners should develop a national RMNCAH/N policy and strategic plan:** Uganda is currently operating without a comprehensive RMNCAH policy and strategy. The last such policy was the "Road Map for Accelerating the Reduction of Maternal and Neonatal Mortality and Morbidity in Uganda" which expired in 2015. The development of this policy will facilitate an intentional, forward-looking multi-sectoral coordination, planning, resource mobilisation, and implementation within a complex context.

    ii. **The MoH in collaboration with other sectors and partners should urgently finalise the national Adolescent Sexual and Reproductive Health Policy and Strategy**. Adolescent pregnancy and related issues remain one of Uganda's critical determinants of reproductive health and other outcomes, including the much-desired optimal human development capital that is needed to transform society.

The review found that adolescent pregnancy has stagnated or is increasing (one in five pregnant women).

iii. **The MoH in collaboration with other sectors and partners should urgently finalise the Community Health Systems (CHS) policy and strategy**. This policy was under development but was never launched due to challenging economic situations. However, the review found that uptake of many evidence-based interventions was below the set targets, mainly because current interventions are majorly supply-side or have a weak demand-side component. The widespread disruptions of services during the COVID-19 pandemic has even made this worse. Uganda should, therefore, urgently finalise and operationalize its CHS policy and strategy. Such a strategy should be grounded in strong community involvement, mobilisation of community-owned resources, enhancing community accountability, and linkage to facility care. It should be noted that CHS does go beyond CHWs as they include all resources in the community that can be mobilised to co-produce health. Opportunities remain many, including the recently elected Local Council 1 and 2 (LC 1 and 2), and harnessing the new Parish Development Model that the government is rolling out.

iv. **The MoH in collaboration with other sectors and partners should urgently an Urban Health Policy and Strategy**. Uganda is rapidly urbanising, and many independent urban authorities have been created recently, yet the health delivery issues have not been adequately addressed. As a result, many indicators in urban areas have worsened. A critical challenge is that many urban centres lack a comprehensive PHC system and a mechanism to provide health care to the poor or to ensure high coverage, quality, and equity despite a vibrant mixed health system. The policy development should consider the complexity of urban settings and should also be extended to the emerging townships as they essentially have the same characteristics as the bigger ones.

2). **Improve partnership's coordination and alignment, and build implementation and management capacity at all levels: national, regional, urban authorities, and district levels.**

i. **Enhance mechanisms for partner coordination, management, and accountability**. The MoH and partners should strengthen national and subnational RMNCAH/N networks to accelerate joint action capacity. In order to do so, there must be a transparent framework for partner coordination, participation, contribution, and accountability. More functional partner networks will generate organizational commitments to shared network goals and accelerate the capacity for strong, equity-based RMNCAH/N programming in the country.

ii. **Use an enhanced Regional Approach to coordination, planning, and implementation to improve efficiency in the health system**. The review found a lot of missed opportunities for improved performance in the health sector. For instance, many evidence-based interventions that are already policy, programme, and routine did not achieve the set targets (e.g immunisation). Challenges included limited financing, human resources and support supervision to districts and lower-level facilities and communities because of expansion of the number of districts, cities and municipalities.

3). **Strengthen RMNCAH/N financing mechanisms: In line with the spirit of the GFF supported investment case, financing for RMNCAH/N needs to be streamlined as follows:**

i.   Funding from partners should align with the government's planning and budgeting cycles and priorities. These partners also need to be accountable and regularly reporting to the MoH. To facilitate this, the MoH should create a mechanism to do so, including the provision of tools and guidance for resource tracking including partners reporting to enhance accountability.

ii.   Improve the timely availability of granular data on RMNCAH/N expenditure, with a focus on district and hospital-level expenditures.

iii.   Track off-budgeting financing, analysing trends by area, channel and its volatility.

iv.   Conduct rigorous evaluations of major donor-funded projects.

v.   Regularly assess the impact of the resources allocation formula on horizontal equity and revise it as needed.

vi.   Track domestic resources allocated to RMNCAH.

4).   **Optimise the delivery of high impact interventions and improve program efficiency in both preventive and clinical services.**

i.   **To advance the UHC and SDG national agenda, Uganda must strengthen access, coverage, and quality of clinical services, including basic and emergency maternal, newborn, child and obstetric services.** The current low under-five mortality yet high maternal and neonatal deaths call for a stronger integrated high quality clinical and referral system with a linked comprehensive PHC system with an. Options here include decongesting hospitals by strengthening lower level health units and the community level implementation of preventive services so that hospitals deal mainly with acute and referred cases. On the demand side, high impact interventions such as the use of ITNs, FP coverage, immunization, and maternal and child nutrition and anaemia prevention need to be enhanced so that they are universal.

ii.   **Prioritise health system strengthening (HSS) to consolidate gains from other health sector boosts.** Ensure resources, time, and action alignment for broader coverage and higher impact. Addressing long-standing and well-known health system bottlenecks will go a long way in supporting this, for example, through addressing delays in financing or space issues at health facilities. Ensure that HSS initiatives such as infrastructural developments align with quality improvement drivers such as RBF to consolidate any registered gains.

5).   **There is a need for a new M&E framework that includes both the survive and thrive indicators.**

i.   **A new IC theory of change with a clear M&E framework that shows the survival pathways by including the "thrive" and "transform" child health (0 – 19 years) indicators should be considered.** While the IC indicators in the M&E framework seem to exhaust all measures of different pathways with over 100 indicators, the IC theory of change is unclear. The impact indicators are limited to "survival". Except for adolescent fertility, the survival and thrive pathway or mechanism is not well addressed.

ii.   **Mechanisms need to be put in place to develop and operationalize routine collection of measurable health systems indicators.** Some of the data highlighted in the frameworks for monitoring the progress were not available, and the system for accessing the other information such as human resource is too bureaucratic.

iii.   Given the complexity of health care and the need for rapid scale-up, the government and partners should ensure that program implementation is informed by evidence, including *implementation research (IR)* as its iterative nature will help develop successful models for wider district, regional and national-level scale-up. The need for IR is even more urgent now during this COVID-19 pandemic and beyond as new models of service delivery to ensure service continuity are needed. It could also lead to improved dialogue and action between academic, policy, and budgetary realms that capitalize on Uganda's existing expertise.

iv.   **A comprehensive endline evaluation should be part of the inclusive review of program performance.** The review found a lot of missed opportunities for improved performance in the health sector. For instance, many evidence-based interventions that are already policy, programme, and routine did not achieve the set targets (e.g immunisation). Regular inclusive review of progress and performance, informed by analytical reports, was not held as planned and should become a critical instrument to improve implementation and maximize all stakeholders' engagement.

6).   **Disseminate the Investment Case/Sharpened Plan (IC/SP) among the implementers, frontline health workers, CSOs and the public at all national levels.**

i.   **Popularise the Investment Case/Sharpened Plan (IC/SP) among implementers at all levels.** The review found that there was limited understanding of the IC/SP at the district level, including among Assistant DHOs in charge of RMCAH/N. The next IC/SP should be developed and implemented with broad participation of implementers and beneficiaries, and after that, it should be extensively disseminated.

ii.   **Develop and widely disseminate a standardized implementation framework for the next Sharpened Plan.** The framework needs to be very clear on the scope of work and the roles of different parties.

iii.   **Build the capacity of implementers in the new way of doing business ("the strategic shifts") that is the building block of the IC/SP.** Besides not being well informed about the IC/SP, many district staff other than the DHO lack adequate management skills to implement the IC/SP. Therefore, like it was done with DHOs and MOs who manage Health Sub-Districts, efforts should be made to build the planning and management capacity of Assistant DHOs in charge of RMCAH/N as they are the pillars for implementation.

Acknowledgement