Phase 1 and 2 Deliverables

Supporting Implementation, Learning and Dissemination

URC DHAPP Program CHS

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About this Booklet

At the beginning of August 2019 University Research Council (URC) put out a call for proposals (RFP) to support implementation learning, data analytics, scientific writing and dissemination. URC staff to be supported were program staff for the Department of Defence HIV/AIDS Prevention Program (DHAPP) with Uganda Peoples Defence Forces (UPDF) partners.

A multidisciplinary team of consultants responded to URC's call and was contracted to undertake this assignment. The approach to effective delivery of this assignment was phased - with four critical stages, each with clear deliverables.
The four phases are:

- Phase 1: Orientation and Training in scientific writing and dissemination;
- Phase 2: Mentorship Support for manuscript development, including abstracts and identifying data needs
- Phase 3: Field Visits for data collection and data mining
- Phase 4: Scientific Writing for Publication, including post-submission support

This booklet presents the assignment's process and trajectory – with focus on Phase 1 and Phase 2. The timeline for these first two phases is August to September 2019. The last two phases (3 and 4) are expected to build on from the content presented in this booklet.

The sections presented in this booklet are **Draft Abstracts** developed with the team in Phase 1 and 2.

Abstracts

"Command Driven": Improving HIV service delivery using a military approach

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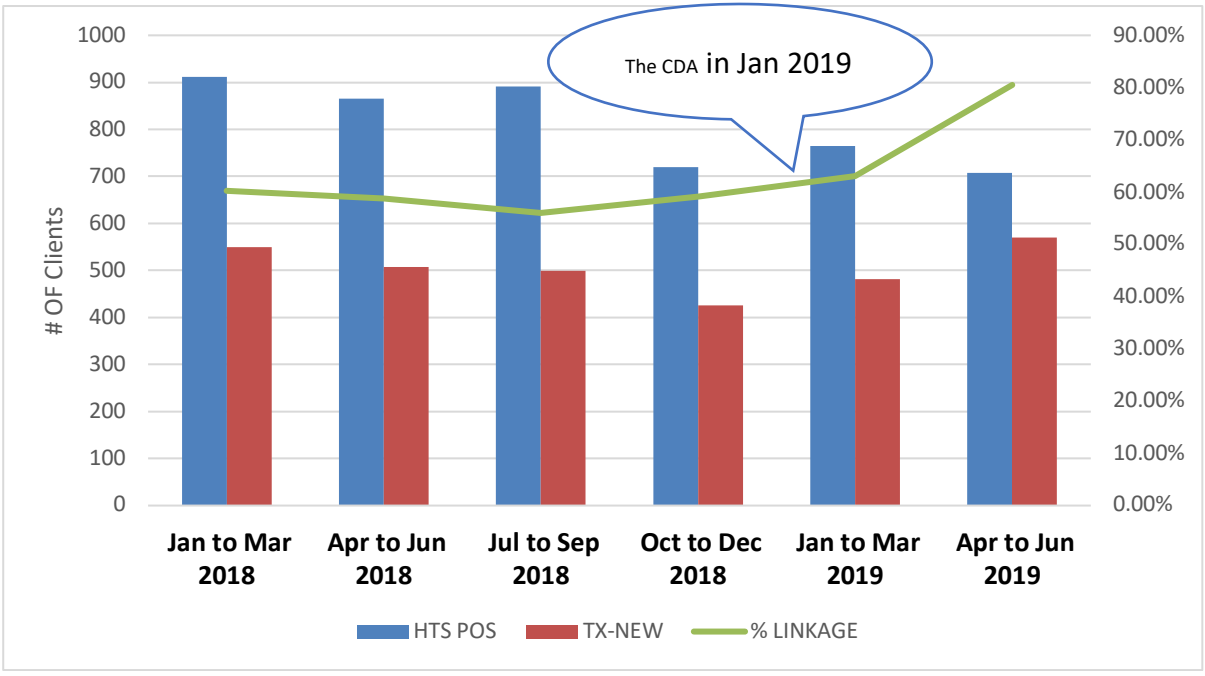
Background: Military personnel are 2-5 times at a higher risk of acquiring sexually transmitted infections (STIs), including HIV. Existing interventions within civilian populations have not been effective in the military given their mobility and priority population nature. The Ugandan military adopted a novel "Command Driven" approach (CDA), to improve HIV prevention, care and treatment (PTC) outcomes. We describe a URC-Department of Defense HIV/AIDS Prevention Program CDA and demonstrate its effect on HIV PCT outcomes.

Description: A hybrid authoritarian-participatory leadership model was applied through the HIV/AIDS prevention, care and treatment cascade at the 28 supported military health facilities. The CDA closely mirrored information flow and action driven by the military's hierarchy. The approach was evaluated through mixed methods. Narratives were used to describe the CDA, while focus group discussions and key informant interviews explored client and service providers experience and perceptions. Program data from District Health Information System (DHIS2) was analyzed quantitively.

Lessons learnt: Military leadership can effectively and efficiently enhance PCT outcomes within priority populations. Military leaders were not only engaged but also led by example motivating all troops under their command. Mass sensitization, use of media; bespoke training, combined with CDA tremendously improved linkage to care and treatment outcomes. The CDA can leverage other military command-driven requirements like mandatory screening during deployment for missions and strict adherence to monitoring for even better outcomes. Linkage in care improved from 60.2% to 80.5% and suppression rates from 87% to 90% within one year.

Conclusion: The CDA is a promising intervention warranting incorporation within military health policies and practice. Some aspects of this hybrid leadership model could yield positive results in HIV PCT within civilian settings.



A graph showing HTS and Linkage trends in the Military Health Facilities

Adapting "MOVE" to accelerate VMMC coverage for HIV prevention in priority populations: Implementation experiences from Uganda's military

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Background: Voluntary male medical circumcision (VMMC) is a proven biomedical preventive measure to prevent transmission of HIV. However, there is a paucity of data regarding conventional VMMC service delivery models among mobile priority populations such as the military. The URC-Department of Defense HIV/AIDS Prevention Program (DHAPP) adapted the MOVE model to rapidly scale up VMMC coverage in a Ugandan military setting.

Description: The MOVE model was implemented within the context of VMMC mobile services. The adaptation aimed at rapidly scaling up VMMC uptake within priority populations and civilian communities served by Uganda's 28 military health facilities. Program Impact Pathways (PIP) were used to provide a visual chain of events and outcomes linking program outputs to VMMC coverage.

Lessons learnt: Deploying the military-driven MOVE model geared towards demand creation, including invoking and leveraging the military leadership, and adopting a lean model characterized by task-shifting to gain efficiency is cost effective. The flexibility adopted through utilization of mobile theatres to address the military mobility combined with robust documentation, reflection and learning; and prompt management of adverse events resulted in increased VMMC coverage and uptake. This community networked mapping and integrated approach led to an exponential increase in VMMC coverage and uptake from 3% (against 25% Q1 target) to 137% within 9 months by end of Q4.

Conclusion: Adaptation of the MOVE model within the military setting cognizant of contextual specificities is highly effective. This military-driven modified MOVE model in mobile VMMC potentially provides an opportunity to scale up national VMMC coverage to achieve global and national 2020 VMMC targets.

Where are the TB patients? Reflections from low yield of Tuberculosis contact tracing and investigation in a Ugandan military health setting

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Background: Tuberculosis (TB) affects up to 8.8 million people each year, most of whom live in low-and middle-income countries. One of 'WHO 2035 End TB strategies' is TB contact tracing and investigation used to increase TB cases. Little has been reported on the success of this strategy, especially in military health facilities. We describe the process, outcomes and implications of a TB contact tracing program in Uganda military health facilities supported by the URC - Department of Defense HIV/AIDS prevention program (DHAPP).

Description: TB contact tracing was implemented within 28 military health facilities for a period of 4 months. TB patients' charts were reviewed for locator information and contacts traced by community linkage teams. Family members were screened for TB with those suspected to have TB fully investigated according to standard procedures. Data from the TB contact tracing exercise was analyzed and used to improve program performance.

Lessons learnt: A total of 199 (103 males, 96 females) TB patients were enlisted, of these 87 (F: 62, 71%; M: 25, 29%) were identified for contact tracing. From them 221 contacts were traced, 33 (15%) of whom were children less than 5years, 124 (56%) were females. Only 17 of those evaluated were bacteriologically diagnosed with TB, a prevalence of 7.7% among contacts. The extent of resources invested in this mobile military population resulted in a less than optimal yield of infected contacts.

Conclusion: The prevalence of TB as identified by investigations among contacts remains low. Explanatory factors and effectiveness of contact tracing warrant further investigation within the military setting.

Implementation of Early Infant Diagnosis for HIV: Experiences from the Ugandan military PMTCT program

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Background: Early Infant Diagnosis (EID) for HIV exposed infants (HEI) is a priority intervention in the global HIV epidemic control effort. While there is a large body of evidence on EID in the general population, little is documented about it in military setting a high-risk population. The URC-Department of Defense HIV/AIDS Prevention Program strengthens EID implementation within the Ugandan military health facilities.
Description: The program provides routine technical assistance to strengthen mother-baby care points within the Maternal and Child health services to increase uptake, coverage and quality of EID services. We conducted a retrospective evaluation of EID services in 10 military health facilities. Data extracted from EID records on first Polymerase chain reaction (PCR) at 6 weeks and rapid test at 18 months in the last 24 months was analyzed. Descriptive statistics were applied to determine the extent of EID implementation.

Lessons learnt: A total of 890 HEI from 10 military health facilities were included in this assessment. Of these 70.4% had a documented 1st PCR results and only 42.4% a final rapid test results, 7 infants tested positive. 64.3% of the infants did not complete the EID cascade largely due to homestead migration associated with soldier husbands' mobility.

Conclusion: Although strengthening mother-baby care points within the military improves uptake and quality EID services, it does not guarantee completion of the EID cascade. Interventions that factor in high migration of soldiers' homesteads ought to be sought to ensure completion of the EID cascade in military PMTCT programs.

Dynamics of medicine stock management in highly mobile populations: Lessons from 28 military health facilities in Uganda

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Background: Effective management of medicines to meet needs of highly mobile populations remains a challenge, particularly for specialized medicines like ARVs and anti TB. While evidence exists on medicines management in the general population, little is known about high-risk mobile populations, including the military a priority population. The URC-Department of Defense HIV/AIDS Prevention Program in Uganda appraised the medicines management cycle in 28 Ugandan military health facilities.

Description: The program technical assistance focused on improving HIV commodities' storage, prescription, dispensing, and logistics records management. We conducted a mixed methods cross-sectional assessment of this process. We reviewed stock data and key documents, conducted; in-depth interviews (IDI), key informant interviews (KII) and focus group discussions (FGDs). Embedded in this assessment was a policy analysis strand.

Lessons learnt: 112 IDIs, 5 KIIs, 28 FGDs were done. There was a relatively high availability of ARVs, and TB drugs confirmed by the users. This achievement was directly ascribed to the modified medicines management cycle (MMC) that was used in the Ugandan military reinforced by an appropriate management support, a legal and policy framework. The MMC factored in the uniqueness rooted within the military processes and actors at the commodity distribution and utilization stages.

Conclusion: Innovative modification of MMC addresses stock management bottlenecks, ensuring high availability of HIV commodities for the military population. This modified MMC would be potentially beneficial in other high-risk mobile populations.

Accelerated scale up of VMMC within military health services in Uganda: The race towards 2020 HIV epidemic control

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Background: Scaling up Voluntary Medical Male Circumcision (VMMC) is a critical ingredient in achieving HIV epidemic control by 2020. However, documentation of programmatic interventions to improve VMMC uptake among military populations, an HIV high-risk population is lacking. URC-Department of Defense HIV/AIDS Prevention Program implemented a novel approach to accelerate VMMC uptake in the Ugandan military. We describe trends in VMMC uptake following the intervention contrasted between military and civilian facilities.

Description: We implemented monthly mobile VMMC services throughout the country targeting soldiers, their families and surrounding communities. Records gathered during implementation were used to describe the intervention. Quantitative methods were applied to compare VMMC rates post interventions with set targets, and to compare monthly trends in VMMC uptake country-wide between military and civilian facilities over a five months period.

Lessons learnt: Command-driven mobilization, multiple stakeholder engagement, use of mobile VMMC teams and data-driven planning increased demand for and uptake of VMMC services among the military. By the first month of intervention, VMMC performance among the military had improved from 31% to 62% of the monthly target of 1,474, increasing to 199% (2,931 males circumcised) in excess of set target sixth month. While a positive trend in VMMC uptake was observed in the military facilities, there was no similar trend observed in civilian facilities over the same period.

Conclusion: It is feasible to rapidly scale -up circumcision coverage in military population by leveraging existing military structures. Involvement of the military leadership is critical in demand creation while targeted mobile service delivery is critical in addressing the mobile nature of the military.

Differentiated care to reach the last troop: The Ugandan military experience

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Background: Uganda adopted 'Test and Treat' policy for HIV treatment in 2016. However, mobile populations like the military present challenges in its implementation. While Differentiated Service Delivery Models (DSDM) have been shown to reduce losses to follow up (LFTU) and improve adherence, little is documented about differentiating care for the military population. URC-Department of Defense HIV/AIDS Prevention Program supported the Ugandan military to implement a DSDM tailored to the military.

Description: We designed and implemented a DSDM model tailored to the military deployed in hard to reach areas. This involved engaging the military leadership to foster buy-in, obtain permission and guide mobile service delivery to deployed troops. Troops on ART were mapped in 60 hard to reach locations. This ensured timely 3-months drug re-fills and delivery of other drugs incorporated into the delivery cycle of other military supplies to these locations. Mobile clinics were conducted to ensure patients were clinically monitored at least once every 6 months. We assessed this model's contribution to coverage and quality of antiretroviral treatment (ART) services.

Lessons learnt: Implementation of DSDM tailored to the military was highly appreciated by both the commanders and soldiers on ART because it improved access to timely care. A total of 2,229 soldiers were reached between February to November 2019. Viral load coverage improved from 10% to 62%, with suppression rate of 85%. TLD transition coverage increased to 55% while IPT uptake increased from 10% to 38% with improved retention. Challenges experienced included difficult terrain and weather conditions that hampered movement to these locations.

Conclusion: Differentiating care is critical towards improving coverage and quality of HIV services for the military. A tailored DSDM for the military results in improved retention and viral load coverage.

Implementing a "Low Dose High Frequency" capacity building approach for HIV service delivery in Uganda's military health facilities

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Background: Evolving evidence indicates that Continuous capacity building (CB) is critical for improving health workers' knowledge and is used to inform HIV care guidelines. The lack of standard appropriately tailored CB content and delivery mechanisms contributes to non-adherence to evidence-based practices with less than optimal HIV care service delivery. The Low Dose High Frequency (LDHF) CB approach has been shown to be comparatively effective and impactful. We describe the URC-Department of Defense HIV/AIDS Prevention Program LDHF approach and its effect on HIV services within the Uganda military health services.

Description: We implemented a LDHF approach that entailed; initial startup training of health workers followed by bi-monthly on-site mentorship, coaching and feedback session at 28 military health facilities over a 6 months period. Using mixed methods, we assessed health workers' response to the approach and adherence to HIV guidelines. Data was abstracted from 541 client records with 12 health workers interviewed.

Lessons learnt: Overall, health workers were positive to the LDHF approach which resulted into improvement in quality of care. Prescriptions for recommended first line ART regimen improved from 82% to 95%; timely due viral load test ordering increased from 45% to 80%; timely initiation of adherence counseling for non- suppressed clients increased from 32% to 55%; and appropriate switching of patients on failing regimes improved from 23% to 51%. Key barriers to adherence to guidelines raised by the health workers were; burdensome reporting requirements, work overload, complex guidelines, lack of capacity in pediatric guidelines, inability to timely follow up of some patients and frequent changes in existing guidelines.

Conclusion: The LDHF CB model was acceptable to health workers and results in adherence to HIV guidelines. However, comprehensive adherence to the guidelines requires addressing other health system and patient-related factors that cannot be resolved by the LDHF approach alone.

Using the "granular" approach in programming to improve linkage to care among newly diagnosed PLHIV in Ugandan military health facilities

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Background: The second 90 in the 90:90:90 UNAIDS strategy aims to have 90% of all people with diagnosed HIV infection receiving sustained antiretroviral therapy (ART). Little is documented about linkage to care for military populations. The URC-Department of Defence HIV/AIDS Prevention Program implemented a targeted approach to improve linkage among newly identified PLHIV in Ugandan military health facilities.

Description: We implemented the granular approach articulated in PEPFAR 3.0. This entailed daily collection of detailed patient level data/information from all 28 supported health facilities. The information was routinely reviewed, analysed and used to guide timely program implementation, including informing linkage interventions.

Lessons learnt: Granular programming enhanced in-depth understanding of site-specific implementation gaps that directed targeted support. Linkage to care improved from 65% in Q1 to 94% in Q4. Linkage among men improved from 56% to 77% during the same period and overall the project achieved 103% the project target for new HIV positive clients initiating ART by the end of quarter 4. ART starter packs are critical in improving early initiation of treatment at non-ART accredited sites that provide HIV testing service.

Conclusion: Use of daily patient level data for real-time programming improves understanding of site-specific processes and dynamics that affect performance. This is critical for improving linkage to care at military health facilities.

Implementation experience from improving OVC health outcomes in communities served by military health facilities in Uganda

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Background: There are approximately 1.8million orphaned children below 18 years in Uganda. Of these 45.6% are due to HIV/AIDS; with 105,000 HIV positive children. OVC vulnerability in military settings is heightened by community exclusion, high risk exposure and high mobility. URC-Department of Defense HIV/AIDS Prevention Program supports a multi-pronged OVC program in 12 military bases.

Description: We conducted children vulnerability assessment resident in 12 military bases. Identified vulnerable children and households were supported with a package of OVC interventions, including HIV testing, enrollment into care for identified OVC positives and child protection interventions. 492 caregivers and 672 adolescents were trained. We used program data to assess the resulting health outcomes.

Lessons learnt: There were 2,827(71%) OVCs served (1,140, Male; 1,571 Female) within 1 year of the intervention. There was a significant increase in key health indicators including HIV testing to 94%, all identified HIV positive OVC were linked to ART. However, viral suppression rates remained low at 68%. No cases of GBV were reported. The standard vulnerability assessment tool is not well suited for the military setting.

Conclusion: OVC interventions are effective in improving some health outcomes of vulnerable children in military bases. However, vulnerability assessment requires a military tailored tool. Additional interventions are required to address the low viral suppression among HIV positive OVC.

Improving uptake of Isoniazid Preventive Therapy among PLHIV in communities served by military health facilities in Uganda

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Background: Globally, TB remains the leading cause of death among People Living with HIV (PLHIV). In Uganda, approximately 40% of TB patients are HIV co-infected, representing a TB incidence of 80/100,000. Although Isoniazid preventive therapy (IPT) is effective in preventing active TB in PLHIV, its uptake remains low. URC-Department of Defense HIV/AIDS Prevention Program implements interventions to improve IPT uptake in Uganda's military setting. We describe strategies and processes used to improve INH uptake in a military setting.

Description: We implemented interventions that included training, onsite mentorship of health workers, provided job aids, strengthened stock management, obtained daily and weekly reporting of INH initiation, supervised all 28 supported military health facilities and implemented differentiated INH service delivery. Data on INH initiation from IPT registers in 28 military health facilities between October 2018 to August 2019 was analyzed.

Lessons learnt: In less than a year we registered 86.5% increase in the numbers of clients initiating INH from 178 in October 2019 to 7,068 in August 2019. IPT uptake improvement requires; dedicated personnel responsible for tracking patients initiated, not started, and those completed treatment. In addition, monitoring stock availability, setting facility level targets, data utilization to improve quality of services and kitting available INH into 6 months courses enhances quality of services offered. The main barrier to INH uptake was commodity stock out.

Conclusion: This multi-pronged strategy demonstrated an exponential increase in uptake of INH in a military setting. Differentiating IPT delivery is essential in improving uptake among deployed troops. Interventions to address INH supply chain are vital for sustained IPT coverage.

Data strengthening to tracking retention of mobile populations in HIV care: Experiences from military health facilities in Uganda

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Background: Few studies document how HIV infected military individuals engage in care, or how they can be successfully retained on ART. The Ugandan Ministry of Health recommends various strategies to strengthen retention of patients in care and treatment, but these are not specific to military populations. To achieve the 90-90-90 targets and contribute to the AIDS epidemic control, retaining key populations like military PLHIV in care remains critical. Retention in care was about 76% in 2018 for Uganda. Low retention has been attributed to poor data quality and reporting. URC-Department of Defense HIV/AIDS Prevention Program implemented interventions geared towards retaining PLHIV in military health facilities from January 2019.

Description: We conducted a data quality assessment, reviewed 24,574 client files at 28 military health facilities to account for every patient. A patient record review was used to extract information on status of patients in care – whether they were active and retained in care, lost to follow up, transferred out or died. Active in care was ascertained using a 4-weeks consecutive visit constancy method based on their last visit to the health facility.

Lessons learnt: Quality of data is critical in accurately determining retention rates in military health facilities. Military PLHIV reported as lost to follow up mainly resulted from gaps in data processing. Targeted validation of retention data resulted in improved data quality with only 2% variation of reported and verified after a period of 6 months. 80% (19,651) were found to be active and retained in care, relatively higher than the national average of 76%, while 12% were lost-to-follow up and 7% had transferred out. Common cause of poor data quality was un-updated routine medical records, presence of duplicate files, use of wrong data sources to report retention and undocumented self-transfers.

Conclusion: Gaps in good data quality contribute to low retention rates reported in military health facilities. Targeted interventions to address data quality are critical for accurate determination of retention rates.

Differences in VMMC-related adverse events between military and civilian health facilities in Uganda

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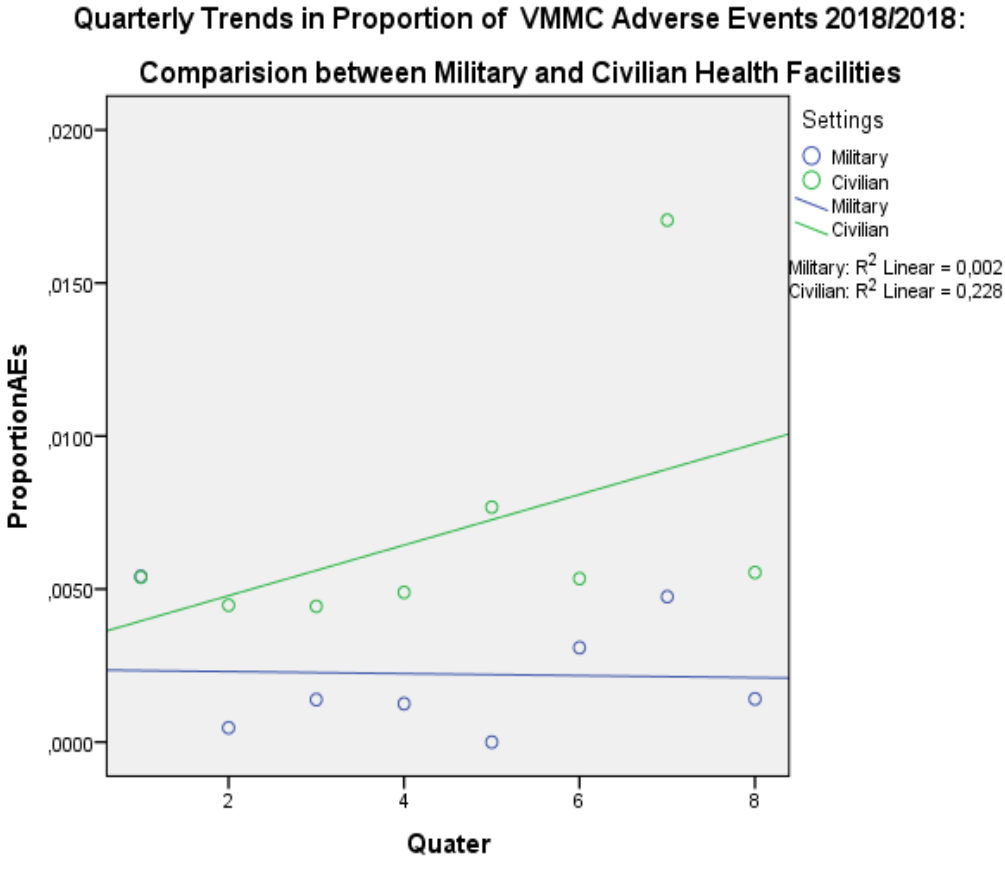
Background: Occurrence of Adverse Events (AEs) in Voluntary Medical Male Circumcision (VMMC) is a critical measure of the quality of VMMC services. While much has been reported about national VMMC programs, there is hardly any documentation of AEs within communities served by military health facilities. URC-Department of Defense HIV/AIDS Prevention Program supports military health facilities to implement VMMC, promptly identify and manage AEs. We compared the occurrence of AEs in Ugandan public health facilities managed by civilians and military health facilities managed by the military.

Description: The capacity of the Military Directorate of HIV/AIDS care has been strengthened to independently implement mobile VMMC within military settings. Using the military and local government reporting systems, AEs are identified, and locally managed at military health facilities even after the circumcision camps close. The military leadership applies a robust follow up mechanisms at all administrative levels. National VMMC data (DHIS2) from 14 military health facilities were compared with similar data from civilian health facilities over the period October 2018 to Sept 2019. Linear Regression Modelling was applied to contrast trends in VMMC AEs over time in the two groups.

Lessons learnt: The rates of AEs rates in VMMC increased overtime in civilian facilities but remained constantly low in military facilities. The civilian health facility AE rate in VMMC was 1.1% compared to 0.34% in military health facilities. The VMMC AEs rates varied remarkably over time between civilian and military health facilities ($f(2,13) = 4.57$; $p<0.05$), with civilian health facilities reporting incremental rates over time ($R^2 = 0.228$), while rates for military facilities remained constant ($R^2 = 0.002$). This may be an indication of better quality of VMMC services in military managed health services.

Conclusion: Engagement of the military leadership and strengthening capacity of health facilities is critical for early identification and proper management of AEs within the military. Further investigation of the mode of care provided in both settings is required to inform best practice for VMMC at national level



Linear Regressions Analysis indicated that variations in national Adverse Events (AEs) following VMMC could largely be explained by settings (i.e. Civilian vs. Military), accounting for 32% of the total variations in AEs ($F(2,13) = 4.57$; $p<0.05$). As indicated by the graph, a linear incremental trend was observed in AEs following VMMC during the period 2018/2019 for Civilian health facilities. In stark contrast, trends for AEs following VMMC remained constant for Military health facilities over the same period.

Strengthening Laboratory Management Towards Accreditation (SLMTA): Implementation experience from the Uganda military laboratories

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Background: While the Ministry of Health and Central Public Health Laboratories (MOH/CPHL) adopted the Strengthening Laboratory Management toward Accreditation (SLMTA) program in 2010 with the goal of attaining ISO 15189 accreditation, none of the 28 military health facilities have been supported. The SLMTA process enables laboratories to develop and document their ability to detect, identify and promptly report all diseases of public health significance that may be present in clinical specimens. The URC-Department of Defense HIV/AIDS Prevention Program is supporting five (5) military health facilities to implement the SLMTA and improve the quality of services.

Description: An initial audit using the WHO-recommended SLMTA checklist was deployed to collected data from 5 military health facilities. Laboratory staff at these health facilities were trained to strengthen their technical capacity, followed by mentorship, coaching and feedback sessions. Data collected was analyzed and compared against standard WHO site accreditation scores. Health facility specific action plans were developed to address identified gaps.

Lessons learnt: The military health facilities have never been supported to implement the SLMA program. The highest score was 49.4%, lowest score was 15.1% averaging 28.4% at the baseline audit**.** Appropriate commodity inventory forecasting, purchase and management recorded the highest score of 47% while the least score was 3% for management reviews. Laboratory staff and military leadership engagement has enabled health facility laboratories to setup SLMTA appropriate structures, processes, specifically ensuring that all Standard Operating Procedures are developed, improve data management and internal audits routinely conducted.

Next steps: Continued on-site support involving all relevant stakeholders and organizing internal audits are planned to ensure military health facility laboratories meet minimum accreditation requirements by the next assessment phase.

Tracking VMMC-related Adverse Events in Ugandan military health facilities

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Background: Rapid scale up of Voluntary Medical Male Circumcision (VMMC) has topped the global agenda of HIV management in the past decade. Nonetheless, the extent and management of VMMC Adverse Events (AEs) is limited in scientific literature with a paucity of VMMC AEs data. URC-Department of Defense HIV/AIDS Prevention Program supported military health facilities to rapidly scale up VMMC services. We assessed the extent of AEs related to VMMC and describe an innovative intervention to manage AEs in VMNC.

Description: We implemented the military modified "MOVE" model through mobile outreaches to reach the underserved populations with VMMC services. Follow up of circumcised clients was supported through scheduled telephone call reminders, commander-led reminders within the barracks and assigning each health worker a lot of clients to follow up within 7 days as an outreach service. Data from AE medical records in District Health Information Systems (DHIS2) was statistically analyzed over a period of one year, comparing pre and post rapid scale up of VMMC.

Lessons learnt: Integrating client follow up during the outreach period is an effective strategy to improve client follow up and prevention of AEs. Strengthening the capacity of the military VMMC mobile on-site teams in AE management provides an opportunity for timely identification of AEs and their management. 17,000 circumcisions were conducted through military VMMC services between October 2017-September 2018 with 0.16% minor AEs reported. The following year, 24,038 circumcisions were conducted with minor AEs increase of up to 0.34%. Healthcare providers attributed this increase to patient's poor wound care, increased proportion of circumcised men, late reporting and lack of a streamlined follow up system.

Conclusion: Accelerated VMMC in the military setting contributed to an increase in the proportion of clients experiencing minor adverse events. The observed increase in AEs rates requires further investigation to determine whether it is an indication of better detection or compromise to quality of VMMC services.

Compliance with infection control procedures in military health facilities in Uganda

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Background: Compliance with infection control (IC) measures is a critical component of HIV care. In general, evidence on levels of compliance by health workers to IC standards is lacking in the Ugandan military health facilities. The URC-Department of Defense HIV/AID Prevention Program implements provide technical assistance and material support for IC in military health facilities in Uganda. We assessed compliance to IC standards at 28 military ART sites in Uganda.

Methods: A validated structured questionnaire and observational checklist were used to assess availability of IC items and compliance with IC measures. Key informant interviews were used to provide context. Descriptive statistics, chi-square test and logistic regression were used to analyze quantitative data. Qualitative data were analyzed using template and thematic analysis.

Results: A total of 84 laboratory staff (7% female) were observed and interviewed. Slightly more than half (53%) of the respondents had a certificate of Medical laboratory technology, 35% had a diploma and only 12% had a bachelor's degree. 52% of the study participants exhibited good knowledge on infection control standard precautions. While 70% of infection control items were available at the health facilities, only 45% of interviewed staff were compliant with recommended IC measures. Factors significantly associated with compliance to infection control procedures were; higher level of education (AOR =3.22, 95%CI= 1.31-2.24), years of experience (AOR= 2, 95%CI=2.92-4.63), high military rank (AOR= 4, 95%CI= 1.15-3.10) and good knowledge (AOR=3.30, 95%CI=3.22-4.21).

Barriers to adherence to standard IC procedure were; lack of regular bio-safety training, lack of equipment and infrastructure, low commander involvement; inadequate prioritization of IC and human resource gaps.

Conclusion: Modifiable challenges to infection control within the military ART sites were identified. Interventions such as close supervision, targeted stakeholder engagement, particularly the commanders on importance of IC in public health, specifically in HIV care. Targeted training on IC procedures for lower cadres is needed to achieve universal IC standards.

Tetanus Adverse Event after VMMC for HIV prevention in a pre-circumcision tetanus immunized male from Uganda: A Case Report

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Background: Although tetanus is a life-threatening disease, its occurrence is rare in the post-vaccination era especially in developed countries. The US President's Emergency Plan for AIDS Relief (PEPFAR) has supported scale up of Voluntary Medical Male Circumcision (VMCC) to reduce female-to-male HIV transmission in countries with a high prevalence of HIV. VMMC is generally safe, with less than 2% of clients experiencing moderate to severe adverse events. However, in most sub-Saharan countries with a high HIV prevalence and low male circumcision coverage, tetanus vaccination coverage among infants especially male remains suboptimal.
Description: The URC Department of Defense HIV/AIDS Prevention Program implemented monthly mobile VMMC services to rapidly scale up VMMC throughout the country targeting soldiers, their families and surrounding communities.
Lessons learned: We present a case report of a 45-year-old male who received a standard pre-circumcision tetanus immunization but reported 14 days later at a local health facility with a history of difficulty in swallowing, difficulty in breathing, loss of speech and was ultimately diagnosed with tetanus. The patient was immediately admitted in intensive care unit, treated, improved and eventually discharged.

Conclusions: This report highlights the importance of prompt tetanus diagnosis, treatment, and need for institution of aggressive quality improvement and pre-circumcision tetanus vaccination procedures. A thorough evaluation and review of existing national immunization medical practice and policy is also warranted.