The Sustainable Volunteering Project

SVP Policy Report

Improving Referral Systems to Reduce Congestion and Maternal Delays in Uganda

Prepared by:
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Introduction

The work reported on in this Report is the result of extensive and quite complex team work. The ‘Sustainable Volunteering Project’ (SVP) is a project funded by the Tropical Heath Education Trust (THET) under its Health Partnership ‘Long Term Volunteering’ Program.

SVP is itself ‘hosted’ and managed through the Liverpool-Mulago-Project (LMP) which is a registered Charity in the Uk. LMP is one of a number of ‘Health Partnerships’ linking organisations in Uganda with partner organisations in the UK with a focus on Maternal and New born Health. They are loosely connected through an informal consortium, known as the Ugandan Maternal and Newborn Hub. Further details of all of these organisations and SVP activities can be found on the LMP website (www.lmpcharity.org).

Professor Ackers acts as coordinator of the SVP and the HUB and is a Trustee of the LMP. She also holds a Chair at the University of Salford.
The National Policy Context

The Ministry of Health Uganda Health Sector Strategic Plan III 2010/11-2014/15 suggests that little progress has been made in Uganda in terms of improvements in Maternal Health (Millennium Development Goal 5) and, more specifically in reducing maternal mortality (p.43). Section 3.2 (Maternal and Child Health) specifically identifies the lack of facilities providing emergency obstetric care as a key challenge. This problem is linked specifically in the report to the ‘weakness of referral systems’ (p.36).

The objective of the previous Strategy (HSSPII) was to ‘ensure a network of functional, efficient and sustainable health infrastructure for effective health service delivery closer to the population’ (p.19). This included the construction and refurbishment of operating theatres and maternity wards etc. However the Annual Health Sector Performance report suggests that ‘most facilities and equipment are in a state of disrepair’ (p.19).

The report calls for ‘Government to mobilise resources for the upgrading of existing HC IVs to general hospitals’ (p.31) and identifies a number of Targets. The following targets are of specific relevance to the SVP (p.48):

- Increase the functionality of HC IVs from 5% to 50%
- Create a fully functional national referral system

The Ugandan Maternal and Newborn Hub (the HUB) identified this as a focus for intervention at the commencement of the Sustainable Volunteering Project (SVP).

Over the past 3 years, with the support of the Liverpool-Mulago-Partnership, the SVP has specifically focused on supporting the operationalisation of Health Centre IV facilities in the Kampala Region.
The Role of Health Centre IV Facilities in the Ugandan Health Care System

Health Centre IV facilities (HCIVs) lie at the heart of maternal and new-born services in the Ugandan Health care system. The ‘Guidelines for Designation, Establishment and upgrad-ing of Health Units’ (Ministry of Health, Health Infrastructure Working Group, 2011) describe the role that HCIV facilities play in Health Service Delivery to include ‘Preventive, promote, outpatient, curative, maternity, inpatient health services, emergency surgery and blood transfusion and laboratory services’ with each HCIV covering a population of around 100,000 people.

The National Referral Hospital, on the other hand, should be providing ‘comprehensive specialist services’. In the overwhelming majority of cases, obstetric services should be provided at lower level, in the Health Centres with emergency obstetric cases referred to HCIVs and only those requiring specialist services moving on to the National Referral Hospital (Mulago).¹

Maternal Admission at Mulago Hospital

The decision, by LMP, to focus on improving facilities in HCIVS reflected three (linked) concerns:

1. A specific request by the then Director of Mulago Hospital to relieve severe congestion in Mulago NRH
2. Evidence of serious (Phase 2) delays in identifying and reaching appropriate medical facilities with adverse outcomes for mothers and babies (Thorsen et al 2012)²
3. The level of congestion in Mulago NRH makes it a very difficult and high risk location for SVP Professional Volunteers.³

¹ Outside of Kampala cases should be referred to Regional Referral Hospitals.
² Thorsen, V.C., Sundby, J. and Malata, A. (2012) Piecing together the maternal death puzzle through narrative: the three delays model revisited, PLOS ONE 7(12)
³ See Policy Report 3 ‘Identifying and Mitigating Risks in Professional Voluntarism: Lone Working, Competency and Risk’
One of the factors increasing congestion and patient management problems in Mulago concerns the high proportion of unbooked patients and self-referrals. Figures 2 and 3 show the very high volume of unbooked patients (76.7%) admitted to the main labour ward in Mulago Hospital in 2013/2014:

Many of these patients arrive without medical records and present an ‘unknown quantity’ posing serious challenges to admissions staff particularly in emergency situations. Figure 4 presents an analysis of available data on maternal mortality cases (between April 2006 and November 2009) suggesting an indicative self-referral rate of about 31.5%. It is interesting to note here that NO maternal deaths have been recorded in any of the Health Centre IV Facilities discussed below.
On the face of it, this suggests that mothers are receiving a high quality of care in these facilities. However, the reality is more likely to be that mothers are either referred directly on to Mulago from such facilities if staff have any concerns at all or that mothers by-pass the facilities altogether. In many cases arrival of already moribund mothers at Mulago Hospital marks the end of a long and complex journey on the ‘road to death’ (Filippi et al, 2005).

Improving referral systems through improvements in the referral health centres should both reduce admissions and promote improvements in patient management ensuring the right cases arrive in Mulago with appropriate records.

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The remainder of this Policy Report describes the interventions that the Liverpool-Mulago-Partnership have been involved with since the commencement of the SVP. It outlines some of the challenges and successes of work to achieve a key SVP objective (Health System Strengthening).
1. Functionalising Kawempe Health Centre IV

The LMP working within the HUB took a lead in 2011/12 in restoring the functionality of HCIV facilities in the Kampala catchment area. This initiative has been focused on reducing, especially unbooked referrals to Mulago and the delays in treatment caused by sub-optimal referral systems and transportation.

The first intervention took place at Kawempe HCIV.

Kawempe HCIV served one of the most densely populated and poorest districts of Kampala, with a population of almost 300,000 people. Kawempe HCIV, as the crow flies, is only 3 km from Mulago. However, the lack of ambulance provision coupled with dense traffic can mean a journey of up to and over one hour.

As part of a comprehensive benchmarking exercise in conjunction with the Department of Obstetrics and Gynaecology at Mulago Hospital, data was collected to identify the geography of admissions to Mulago (10,000 cases were analysed). This identified Kawempe as one of the most proximate areas to Mulago responsible for a high level of admissions including both referrals and unbooked self-referrals (Figure 4):

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6 City Council of Kampala, Kawempe Division District Development Plan (2012-2013)

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At the time of the initial intervention, Kawempe HCIV was delivering about 600 babies per month and referring 50/60 patients a month to Mulago for operative care. Further analysis of facility referrals from Kawempe HCIV indicated the main reasons for referral to include: poor progress in labour, suspected big baby and obstructed labour. Many of these problems could be correctly managed by having permanent medical presence and a functioning operating theatre. It was for this reason that the LMP prioritised improving the functionality of Kawempe HCIV.

In August 2011, a British volunteer obstetrician began working to improve the functionality of Kawempe Health Centre. The initial assessment of Kawempe HCIV in November 2011 identified the following as the key issues:

- Non-functioning operating theatre
- Absence of a junior medical officer
- Lack of blood transfusion facilities
- No ambulance service
- Broken generator
- Lack of consumables

The volunteer focussed on working with the staff at Kawempe to get the theatre functional. With some financial support from LMP the theatre reopened in January 2012. It is important to point out here that the theatre itself was in excellent condition when LMP began the intervention. In practice restoration was focused on ‘snagging’ issues like theatre lights, repairing the generator cable, repairing a washing machine and installing washing lines. The theatre building itself and equipment had been provided by an International NGO (Plan Canada) but had failed to be put to use. In many cases very small and easily remediable infrastructural problems result in a loss of functionality. The cost of refurbishing Kawempe Theatre was no more than £500.

“After all of the hard work getting the operating theatre up and running at Kawempe health centre we finally did the first caesarean section in 18 months! This is a massive step forward. The theatre was tested to the max, firstly the theatre light broke so we had to turn the operating table towards the window so we could see what we were doing, then the power went! The midwife on duty didn’t know how to turn the generator on, but she finally worked it out 30 minutes later, if this had been at night we really would have been in trouble. The mother and baby did really well and were discharged 2 days later!”

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7 Blood remains a significant systems problem limiting functionality of HCIVs in Uganda.
8 Transport is a major factor contributing to Type 2 maternal delays in Uganda. The SVP has recently undertaken in-depth research on this which will be reported shortly in a forthcoming Policy Report.
The operationalisation of emergency obstetric services in most HCIV facilities is not dependent on major infrastructural investment but in human resource. The local medical officer returned to work at Kawempe full time once the theatre was functional having moved to work elsewhere when it was closed.

The UK Volunteer was then available to provide support (and motivation) and began carrying out emergency and elective caesarean sections. Figure 7 shows the immediate impact in terms of caesarean sections:

![Figure 7 Number of C-sections performed at Kawempe theatre. (Feb-Nov. 2012)](image)

However, activity declined as quickly as it had improved once the medical officer recommenced compulsory training in Mulago Hospital in September. Each HCIV is allocated an ‘in-charge’ more senior doctor supported by 1 or more less experienced medical officers (and in some cases clinical officers). In the overwhelming majority of cases the ‘in-charge’ does not get involved in any clinical work within the public sector. They will typically assume a managerial role (although there is often little activity to actually manage effectively) and spend a significant amount of their time in private practice. In practice this means that most surgery is undertaken by junior doctors with little specialist support.

When the medical officer left Kawempe emergency obstetric services in Mulago came to a halt. At the present time all SHO training must take place in Mulago Hospital itself to ensure senior level supervision. In reality the hospital is not the ideal location for such training as the sheer volume of interns and SHOs creates significant pressure on the 2 obstetric theatres with many finding it hard to get adequate time in theatre.
The coordinator of the SVP has been lobbying for some time to facilitate the rotation of SHOs through local HCIVs in order to improve SHO training and augment human resource in the HCIV settings (see below).

The lack of local medical staff in Kawempe makes it impossible for UK professional volunteers to engage (given the emphasis on capacity-building and commitment to ‘co-presence’).

Despite constant efforts to encourage the replacement of the medical officer we were unable to restore services. Then in 2013 a senior representative of Kampala City Council Authority (KCCA) advised us that Kawempe was scheduled for demolition to make room for a new Hospital.
A request was made at that point to wind down activity in Kawempe and turn our attention to Kisenye HCIV (see below).
2. Restoration of the Kabbubu-Kasangati-Mulago Referral Pathway

At the same time that work was taking place in Kawempe LMP identified another HCIV for intervention in Kasangati. The rationale for restoration of services at Kasangati HCIV was rather different. A small UK Charity (the Quicken Trust) had for many years invested in the development of a Health Centre II facility in a more rural hinterland some 45 minutes’ drive from Mulago Hospital. The ‘Kabbubu Project’ was a key member of the HUB and was making significant improvements in the delivery of maternal and newborn services in the community base. Indeed its success was marked by an upgrading to HCIII status in 2012. From January to October 2012, mean monthly admissions to the maternity department of Kabubbu HCIII were 23, with monthly deliveries averaging 21. It is interesting that 90% of total admissions at Kabubbu result in delivery.

![Figure 8: Admissions to Kabbubu. (Jan 2011-Oct 2012)](source)

Source SVP Benchmarking Report, 2013

The New Maternity Facility in Kabbubu
As a midwife-lead facility Kabbubu is unable to perform assisted deliveries or deal with obstetric emergencies. In such cases, Kabbubu should (ideally) refer patients to the closest HCIV (Kasangati – see Figure 9).

Kasangati
Despite its official status, the theatre at Kasangati was not operational in 2012. Patients were thus routinely referred on to Mulago referral hospital (some 25 minutes drive away). Knowledge of the lack of facilities in Kasangati by local health workers and patients often leads to a simple bypassing of the facility altogether. This breakdown in the referrals process leads to additional and highly stressful delays, high and often unaffordable transport costs and, inevitably, poor maternal outcomes.

In November 2011 a team from LMP and the Quicken Trust visited Kasangati to assess the situation. We were pleasantly surprised to find a sound basic theatre.

Average maternity admissions at Kasangati HCIV in 2012 were 219 per month resulting in an average of 156 deliveries per month. This suggests that around 63 patients were being referred to Mulago per month in addition to those (possibly numerous) cases where mothers simply bypass the Health Centre in the knowledge that it is not fully operational.
In February 2011, LMP invited one of the HUB partners working in Hoima (a specialist in the setting up of operating theatres) to accompany us on a second visit to Kasangati. Dr Bates made a detailed assessment of the existing facilities and the improvements needed to make the facility functional to perform surgical procedures such as caesareans. LMP’s provisional assessment suggested that a modest (one-off) investment in the infrastructure would enable the Facility to operate as a functioning HCIV.

One of the main obstacles to restoration of theatre functionality identified by the then in-charge doctor in Kasangati was the lack of a post-operative facility. In March 2012, LMP provided funding for the renovation of the operating theatre as well as building a new post-operative ward and a walk way between the two.

Figure 9 shows the volume of deliveries in Kasangati and also the high number of referrals all of which will go to Mulago NRH. Analysis of the reasons for referrals show a marked clustering in two rather ‘generic’ areas (‘slow progress’ and ‘big baby’) suggesting that the presence of a doctor could significantly reduce referrals.

Figure 9 Deliveries in and referrals from Kasangati HCIV January 2011 - May 2014

Source: Kasangati Benchmarking, 2014
The physical restoration of Kasangati theatre and post-operative ward was completed in 2012 at a total cost of £5000 (kindly donated to LMP following a bequest). However, the theatre failed to function for some time due to the lack of a medical officer at the facility and the unwillingness of the in-charge to undertake any public sector clinical duties. Eventually a medical officer was recruited and reported for work. At this point the SVP was able to engage effectively to support him.

![Figure 10 C-Sections completed at Kasangati Health Centre since theatre re-opening in March 2013](image)

Facility based data show a gradual increase in the number of sections performed in Kasangati and small decreases in the referrals out of the facility to Mulago.

**Kasangati in 2014**

The Medical Officer based in Kasangati successfully applied for a British Commonwealth Fellowship to study for the Diploma in Reproductive Health at Liverpool School of Tropical Medicine from Jan-April 2014. During this period LMP used the bench fee linked to the Fellowship to pay for medical cover for this doctor. Unfortunately the medical officer was moved by the DHO prior to returning to Uganda resulting in a period with no cover. A new medical officer and in-charge have now been appointed.

Figure 10 shows the relationship between SVP input and the presence of a Ugandan medical officer and the section rates. The c-section rate in Feb 2013 stood at around 5 a month. This declines in December 2013 when the Medical Officer came to the UK to commence his British Commonwealth Fellowship. It picks up again in February when LMP realized that no cover had been put in place to cover the medical officer’s work (despite assurances that this would happen) and LMP then funded a ‘back-fill’ position. Every c-section (15) completed in January-March 2014 was conducted by this Doctor (funded by LMP).
The Medical Officer returned to Uganda in April 2014 but was moved to another facility. As funding for the back-fill doctor ended, sections declined once again. A replacement doctor was employed in Kasangati in April 2014 but is as yet not fully active. We hope to be able to return to our previous level of involvement in Kasangati in due course when medical cover is restored.

During the period when a Ugandan doctor was present at the facility the SVP engaged a number of volunteers at the Facility. This has included multi-disciplinary interventions supporting the training of midwives, anesthetic officers and doctors. This has included training in neo-natal resuscitation, emergency obstetric care and the Safe Anesthesia from Education (SAFE) course. And, on a less formal note, on-going mentoring and support with antenatal care, deliveries and record keeping.

This report is not designed to capture the detail of volunteer interventions and training as such but rather to consider the issue of functionality of the HCIV facilities. However Figure 11 gives some indication of the kinds of interventions and success of these at least in the short term. In this case the volunteers developed an intervention designed to improve the recording of basic observations, including blood pressure, which then helped to identify women in need of support prior to emergencies arising. Figure 7 shows a marked increase in the recording of blood pressures as a result of a recent intervention by 2 SVP volunteers:

![Figure 11 Increase in recording of blood pressures in Kasangati following an SVP intervention (Percentage of blood pressures recorded in weekly antenatal clinic Jan-May 2014)](image)

The reduction in midwifery staffing in Kasangati coupled with the loss of the previous medical officer (and in-charge) have created serious problems in terms of continued SVP engagement in Kasangati. In order to avoid assuming a ‘gap-filling’ labour substitution role SVP has had discussions with the District Health Officer and the new-in charge to ensure a core complement of staff to work alongside SVP volunteers.
3. Functionalising Kisenye Health Centre IV

As noted above the specific request to get involved in Kisenye HCIV came from a senior health services manager at Kampala City Council Authority (KCCA) at the same time as the implications of demolishing Kawempe HCIV for the SVP was under discussion. LMP and SVP were delighted to be able to develop a stronger relationship with KCCA and work with them in partnership to help to take this work forward.

Kisenye sits in and serves one of the most deprived communities in the Kampala region, similar in many respects to Kawempe with large numbers of refugees living in the catchment area.

The first LMP visit to Kisenye took place in November 2014. At that time we were shocked to find such attractive premises and comprehensive infrastructure in place and a maternity facility that had never opened for patients. It was running outpatients clinics including ante-natal care but all patients were then referred to Mulago (or referred themselves).

The photograph of Kisenye Health Centre (below) shows the exterior of the new premises constructed in 2008. The ground floor was designated for maternal and newborn services including labour ward, delivery rooms, several unused wards and a theatre and was unused when we arrived on site. The premises were stacked with large quantities of equipment and consumables.

In addition to good infrastructure (and ambulance services) Kisenye HCIV also had a full staff complement on the books although many of them had not been utilizing their skills effectively due to the lack of functionality.

The lack of functionality results in a generally demotivating environment and a degree of skills wastage which the SVP has been able to respond to.

An initial scoping assessment involving meetings with representatives of KCCA and the in-charge (Doctor and Midwife) at Kisenye indicated the need for minor infrastructural interventions including the provision of sinks in delivery rooms and the newly planned neo-natal unit and theatre area (sluices and drains). 10

Most of these minor teething problems were resolved during an intense intervention in January 2014. A multi-disciplinary team of SVP volunteers (including a doctor, anesthetist, midwives, a neo natal nurse, a bio-medical engineer, social science volunteer and the SVP co-ordinator working closely with local staff and KCCA managers managed to organize the existing facility and resources and provide minor improvements (curtains etc.) enabling the Labour Ward to open at the end of the week with the first delivery taking place on the Friday morning.

This occurrence provided an ideal ‘test’ of readiness and ‘shocked’ the system into full operational state on January 14th 2014.

10 It is significant to note that, unlike in Wakiso, the majority of these minor works were funded directly by KCCA. The total financial contribution of LMP would be less than £500.
Neo-Natal Care at Kisenye
During the week in January SVP volunteers also worked with local staff to identify and set up a new neo-natal unit.

Figure 12 (below) shows the high proportion of referrals made for reasons connected with neonates. If we group the 4 categories together around 45 of the referrals made to Mulago since January are related to the needs of babies:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Pregnancy</td>
<td>3</td>
</tr>
<tr>
<td>Neonatal Conditions</td>
<td>29</td>
</tr>
<tr>
<td>Prematurity</td>
<td>7</td>
</tr>
<tr>
<td>Big Baby</td>
<td>6</td>
</tr>
</tbody>
</table>

The quality of basic infrastructure at Kisenye provided an ideal environment for the setting up of a neo-natal unit. This facility is now in place and extensive training and protocol development has been taking place with local staff to ensure preparedness for referrals.

The SVP team also worked to identify problems with the theatre, preparing inventories and training local anesthetic officers. The original design of the facility had included a flooring system unsuitable for theatres and this had to be removed and replaced taking some time. Theatre then opened in April 2014 in time for a Presidential.

Theatre is now operational but suffered some initial problems in terms of human resource preparedness with the 4 medical officers employed to work in Kisenye often unavailable to deal with complex cases and undertake c-sections.

Kisenye had the marked advantage of an in-charge doctor (Dr. Mwesigwa) who is prepared to engage actively in clinical work. This leadership is starting to pay dividends as medical officers are trained and supported to engage in clinical work.

Motivation remains a problem for local staff with many health care workers forced to spend time in the private sector to augment meagre salaries. This results in high level of absenteeism and dual working which reduce the effectiveness of services.

Building Relationships with Mulago Hospital
In May 2014 the SVP coordinator made a follow up visit to Kisenye meeting the KCCA lead to discuss developments and continued support from the SVP. This included high level meetings with senior staff from Kisenye, Mulago and KCCA. Mulago specialists visited Kisenye and were impressed with the quality of the facility. This represents a major step forward in holistic planning.

Discussions are also taking place to pilot the rotation of Mulago Senior House Officers (SHOs) with the necessary supervision arrangements in place. This development is highly symbolic offering improved opportunities for training for SHOs many of whom struggle to get adequate theatre time in the Mulago environment and also for Kisenye, offering additional human resource and motivational impact on existing Facility doctors.

It also makes it very difficult to deploy UK volunteers in the knowledge that they will be able to work alongside their Ugandan colleagues (See Policy Report 1).

KCCA are currently paying salary ‘top-ups’ to increase the motivation of doctors (set at 100,000 and due to rise to 400,000 Ugandan shillings in July 2014).

SHOs are qualified doctors often with considerable experience as medical officers. SHO’s are registered for a Master’s program of higher level specialist training in conjunction with Makerere University and Mulago Hospital.
Figure 13 shows the impact of this intervention in terms of maternal admissions and deliveries. Every delivery that has taken place in Kisenye represents a reduction in admissions to Mulago and a reduction in Type 2 delays.

<table>
<thead>
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<th>Jan</th>
<th>Feb</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>30</td>
<td>130</td>
<td>241</td>
<td>287</td>
</tr>
<tr>
<td>Referrals in</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Referrals out</td>
<td>15</td>
<td>45</td>
<td>63</td>
<td>66</td>
</tr>
<tr>
<td>Normal deliveries</td>
<td>15</td>
<td>91</td>
<td>167</td>
<td>194</td>
</tr>
<tr>
<td>Babies born</td>
<td>15</td>
<td>91</td>
<td>167</td>
<td>205</td>
</tr>
<tr>
<td>Fresh still birth</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Macerated still birth</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Neonatal deaths</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maternal deaths</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HIV positive mothers</td>
<td>2</td>
<td>14</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Instrumental deliveries</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The Referrals Book in Kisenye Health Centre records the reasons for referral. In some cases midwives are failing to record this at all and in others there are questions about the accuracy of recording. This is an area the SVP midwife volunteer has been working on with local colleagues to improve data management and record keeping practices. Figure 14 presents analysis of the 193 recorded referrals grouped into categories:

<table>
<thead>
<tr>
<th>Reason</th>
<th>No of Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged First Stage</td>
<td>22</td>
</tr>
<tr>
<td>Delayed Second Stage</td>
<td>24</td>
</tr>
<tr>
<td>Ruptured Membranes</td>
<td>13</td>
</tr>
<tr>
<td>Abortion/Miscarriage</td>
<td>23</td>
</tr>
<tr>
<td>Bleeding before Delivery</td>
<td>11</td>
</tr>
<tr>
<td>Haemorrhage</td>
<td>5</td>
</tr>
<tr>
<td>Infection</td>
<td>8</td>
</tr>
<tr>
<td>Malpresentation</td>
<td>9</td>
</tr>
<tr>
<td>Hypertension</td>
<td>7</td>
</tr>
<tr>
<td>Uterine Abnormality/Previous Scars</td>
<td>9</td>
</tr>
<tr>
<td>Multiple Pregnancy</td>
<td>3</td>
</tr>
<tr>
<td>Neonatal Conditions</td>
<td>29</td>
</tr>
<tr>
<td>Uterine Fetal Death</td>
<td>6</td>
</tr>
<tr>
<td>Prematurity</td>
<td>7</td>
</tr>
<tr>
<td>Big Baby</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>193</td>
</tr>
</tbody>
</table>

Figure 13 Maternity Admissions from Kisenye Health Centre since Opening in January 2014

Figure 14 Reasons for Referrals to Mulago from Kisenye (Jan-May 2014)
We have already referred to the high proportion of referrals connected to neonatal conditions. The very high number of referrals concerned with first and second stage delays are areas that we hope to be able to respond to now that theatre functionality is restored.

Admissions to the Neo Natal Unit
Since opening 50 babies have been admitted to the neo natal unit in Kisenye. Admissions commenced on March 18th with 1 or 2 babies being admitted most days since then. However since May numbers have begun to increase with 4 or 5 babies admitted on some days. This largely correlates with the commencement of c-sections in Kisenye.

The SVP volunteers are currently engaged in Community sensitisation to increase awareness of services at Kisenye and encourage referrals to Kisenye rather than Mulago.

Timing of Referrals to Mulago from Kisenye Health Centre
Figure 15 presents data recorded in the Admissions Book in Kisenye for the timing of referrals to Mulago during the first 3 months of operation. Once again this data is not complete with some gaps in the records books. However, times are available for 573 deliveries and 183 referrals (756 in total). This represents a referral rate of around 24% of those cases with a time recorded.

Source: Kisenye Benchmarking, 2014
Figure 12 is interesting as it does not show a large volume of referrals at night as expected (given the lack of medical officer cover at night at the present time. Rather referrals are highest when most staff are present in Labour ward during working hours.

This probably reflects awareness amongst patients that the facility is not yet fully functional with patients preferring to go directly to Mulago Hospital at night. In the first 10 days of May 2014, 123 mothers were admitted to the maternity unit in Kisenye. Of these, 11 (9%) were referred to Mulago and 5 had c-sections in Kisenye.

Referral Pathways into Kisenye
The success of the LMP/SVP intervention in Kisenye reflects in large part the quality of partnership working with KCCA.
Once the Facility became functional the SVP co-ordinator met with senior staff at KCCA to discuss future plans to augment this initiative. The midwife-in-charge at Kisenye was moved to a feeder Health Centre III (Kitebe) in May 2014. Following a request from this Midwife several SVP volunteers undertook a scoping visit to Kitebe HCIII to assess the potential for placing SVP volunteers and working to develop the referral systems.

This is seen as essential for 2 reasons: [a] In the short term to encourage use of Kisenye and; [b] In the longer term, to ensure that Kisenye does not become congested as a result of inappropriate and preventable referrals.

This was followed up in May by a team visit headed by the SVP coordinator to discuss potential support via volunteer placements at Kitebe. Kitebe is a large and growing HCIII and is currently in the process of having a large new Maternity Facility constructed (see opposite)

At present Maternity Admission average at 220-250 per month in a very small unit. We can anticipate a significant increase when the new facility is open.

The meeting with staff at Kitebe made us aware that nearly all of the health care staff have recently been re-located there following a major KCCA staff rotation exercise. There was a high level of interest in hosting SVP volunteers. It was also very obvious that none of the staff were aware of developments in Kisenye and were continuing to refer all maternity cases (mothers and babies) that cannot be delivered in Kitebe to Mulago bypassing Kisenye.

The meeting enabled us to sensitise local staff about the existence of a neo natal unit and theatre at Kisenye and encourage them to refer there where appropriate.

SVP volunteers are currently working with colleagues in Kitebe and Kisenye on referral protocols (with associated training).
This involved high level meetings with senior staff at Mountains of the Moon University. A Lecturer from MMU recently spent 3 months in the UK on a Diploma in Reproductive Health at the Liverpool School of Tropical Medicine (LSTM). This enabled discussion to take place with colleagues in the School of Midwifery at Salford University with a view to new Partnership formation focused on Degree level Midwifery Training in Fort Portal (the first course of its kind in Uganda).

As part of the planned program (including placement stays by Salford midwifery students) the team have identified a Health Centre close to the University which is currently unable to provide maternity services (beyond ante natal care). A dedicated building exists opposite the main Health Centre but is unused at present. Midwives are also in employment but under-utilised due to lack of facilities and the use of the dedicated midwives accommodation by administrative staff.

A follow-up visit is planned in July 2014 with a focus on improving the Skills Laboratory at MMU and functionalising Kagote Health Centre III. The objectives here are twofold:

1. Reduce congestion in Fort Portal Regional Referral Hospital and Maternal delays
2. Provide a dedicated Training Facility to support on-the-job midwifery training at MMU.

We are currently in the process of drawing up an MOU and negotiating with key stakeholders including the District Health Office prior to an intense intervention in July. The intervention will include infrastructure upgrading and the delivery of Emergency Obstetric Training. This course will be run by Ugandan clinicians trained in the UK on a British Commonwealth Fellowship and then supported in a follow up course that took place in Mulago in May (see below). The Ugandan Trainers will be supported by a multi-disciplinary team of SVP volunteers but will be taking a lead role in Course Delivery.
Training HCIV Staff

In addition to regular training sessions within each HCIV facility, SVP volunteers have supported major training interventions aimed at HCIV health workers. This requires a more coordinated approach as it is difficult to run more complex courses in every HCIV setting. Group training is also more motivational and Community-Building.

The first course was a SAFE (Safe Anesthesia from Education) which involved 2 SVP anesthetic volunteers working with a Uganda team. Anesthetic officers from Kisenye and Kasangati took part in this training in Makasa (Feb. 2014).

A comprehensive 2-day course on Emergency Obstetric Training was delivered by a multi-disciplinary team on May 21st/22nd 2014 in Mulago Conference Centre.

This course was specifically aimed at the needs of health care staff in the HCIVs that we are involved with. A total of 30 participants were trained by a team headed by Dr Helen Allott (Reading-Kisiizi Partnership). SVP Volunteers and 5 Ugandan doctors/midwives who had recently returned from British Commonwealth Fellowships supporting a Diploma in Reproductive Health at the Liverpool School of Tropical Medicine. In this case they were acting as facilitators for the first time with support from the SVP Team. As noted above the next course designed to run in Fort Portal in Aug 2014.

<table>
<thead>
<tr>
<th>Location</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kisenye</td>
<td>5 Midwives, 2 Medical Officers</td>
</tr>
<tr>
<td>Kasangati</td>
<td>2 Midwives, 1 Medical Officer, 1 Anaesthetic Officer</td>
</tr>
<tr>
<td>Kabbubu</td>
<td>2 Midwives</td>
</tr>
<tr>
<td>Fort Portal</td>
<td>1 Midwife</td>
</tr>
<tr>
<td>Kitebi</td>
<td>2 Midwives</td>
</tr>
<tr>
<td>MulagoNRH</td>
<td>8 Midwives, 6 Intern Doctors</td>
</tr>
</tbody>
</table>

Figure 16 Participants on the Emergency Obstetric Training Course (May 2014)
This Policy Report has outlined the activities that the SVP project (and in particular the LMP partner) have engaged in in response to a key SVP objective of improving Referral Systems in order to reduce congestion and Type 2 maternal delays.

This dimension of our activity has proved extremely challenging but also highly rewarding. The biggest challenges have arisen in relation to the Human Resource dynamics of engaging professional volunteers in Health Centre settings.

In all cases the issues of physical infrastructure and consumables have been dwarfed by the pressing need for human resource. In many cases low levels of recruitment/employment of local staff exacerbated by high levels of staff absence, low reliability and poor time keeping undermines the delivery of health services.

The SVP is committed to co-presence to support knowledge exchange and sustainability. Co-presence is particularly hard to achieve in health centre settings where staff are few and oftenfail to be present in the workplace. SVP volunteers are not and must not be allowed to play the role of substitute staff engaged in lone working in Uganda facilities (See Policy Report 1).

The most serious barrier to progress concerns the (predictable) presence of Ugandan medical officers. Without this presence the SVP can do little to achieve theatre functionality however much anaesthetic and obstetric training we engage in.

However, our experience of working in the Kisenye environment with solid backing from KCCA and the in charge Doctor and Midwife have shown that such interventions can work and can be highly effective and sustainable.

The work in HCIVs has really demonstrated the value of multi-disciplinary team working both within the Community of SVP volunteers and in their engagement with local colleagues on the ground.

Building peripatetic multi-disciplinary teams capable of adapting flexibly to local needs whilst also keeping a constant SVP presence on the ground (often via midwifery placements) offers optimal opportunities for sustainable capacity building. It also vastly improves volunteer and Ugandan employee motivation and impact.

It has taken some time to embed our work and convince local facility managers that the interventions in the Health Centres will have a significant impact on the referral hospitals. We believe that this message is now getting through and increased partnership working between relevant authorities in Kampala offers great hope for the future.

We hope to take this work forward in Fort Portal adding a critical new dynamic, namely investment in initial midwifery training, to complement the Continuing Professional Development work we have been engaged in in Kampala.

In conclusion, we firmly advocate the development of interventions in Referral Health Centres both as a critical way of encouraging systems change but also as a unique and holistic learning opportunity for Uganda health care staff and British professional volunteers.

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