

## Progress and lessons in improving the availability, safety and coordination of blood supplies in Bungoma County

### Background

Blood availability in Kenya is a widespread challenge. In 2016, the Kenya National Blood Transfusion (KNBTS) collected 158,378 units of blood, reaching 88% of the annual target of 180,000 units. The supply of blood is challenging to sustain due to low rates of voluntary donation, a high prevalence of blood borne infections, and limited funding allocated to blood transfusion services. Most counties generate their blood supply through blood outreach activities at high schools and colleges, and access to students drops off during holiday periods. Blood transfusion is a lifesaving, yet costly, affair. It is estimated that each unit of safe blood costs between KES 8,000 – 14,000 to produce.

A satellite blood bank was established in Bungoma in August 2014 to help respond to and improve availability and safety of blood. It supplies blood to over 14 transfusing facilities, including government, faith based and private facilities. Blood samples are sent to Eldoret Regional Blood Transfusion Centre for testing prior to distribution to health facilities. In 2016, data from the county's maternal and perinatal death surveillance and response system revealed that half of the maternal deaths in the county were due to post-partum haemorrhage. Some cases have been documented where a maternal death was directly due to blood shortages.

***“I used to work in facilities and saw the challenges before we had a satellite clinic in Bungoma. We wasted a lot of resources traveling to Eldoret to get blood, but often returned empty handed. We had to watch children dying every day because of no blood being available. We collected blood, but we had no control over it. Setting up a satellite changed all of this. If we could become some regional hub things could improve even more.”***

Melda Wafula, County Medical Laboratory Coordinator

The Maternal and Newborn Health Improvement (MANI) project began in Bungoma in 2015, and is reducing maternal and newborn mortality by improving the delivery of health services, increasing the uptake of



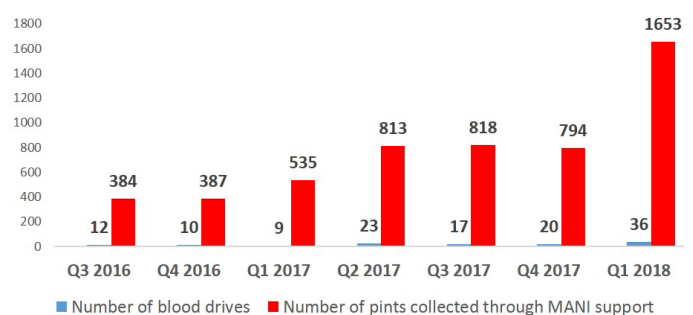
these services, and testing new innovations to catalyse change. Before MANI started, Bungoma county generated roughly 3,000 pints of blood per year (50% of the county's annual target). With support from MANI and other partners, this climbed to 4,364 pints in 2017 (61% of the year's target). This briefing sheet provides a short summary of the progress and lessons learned in addressing blood supply, safety and coordination issues over this period.

### Tackling Blood Shortages

#### Monthly blood drives

From mid-2016 to early March 2018, MANI has supported the Bungoma county blood satellite to undertake 127 blood drives, collecting a total of 4,566 pints of blood (see Table 1). The programme leverages on World Blood Donor Day to encourage donations, and other county events such as the Nurses Week Celebration and other commemorative days.

Table 1: Blood Drives with MANI Support



The blood drives largely target willing volunteers aged 16-20 at schools, colleges, and universities across the county. Due to the reliance on students, it is more challenging during the holidays (August, December and January). At these times, blood drives visit youth camps, churches, markets, and supermarkets, although turnout is lower. Time restrictions during blood drives also limit blood collection, with not all willing donors managing to donate.

***“I know there is someone somewhere who needs blood, and one day I may need blood too”***

Blood donor, Kamusinga Girls High School

**Walking the talk**

The theme for World Blood Donor Day 2017 was “What can you do? Give blood. Give now. Give often.” MANI project staff rolled up their sleeves and donated 26 pints at an office blood drive in June 2017, and encouraged other health programmes and health care workers to do the same. A second MANI blood drive was held at the beginning of 2018 where 16 additional pints were donated. Since then some MANI staff have become regular donors, with top donors giving blood 3 – 4 times each year.



**Improving Blood Safety**

**Haemovigilance equipment and infrastructure**

MANI procured and distributed equipment to improve the cold chain and blood storage capacity of the County satellite blood bank and to Webuye Sub-County Hospital, including appropriate blood bank refrigerators and cooler boxes. The programme procured cold chain equipment for five additional facilities ensuring enough capacity of blood transfusion services in Bungoma County. MANI also supported the renovation of the Bungoma satellite blood bank and donated blood drive chairs and a tent. This has facilitated the satellite staff to offer both in-house and blood outreach services with ease.

***“The satellite is now spacious and looks clean and presentable to blood donors. The blood bank storage equipment within the satellite and transfusing facilities offer enough capacity for the safe storage of blood.”***

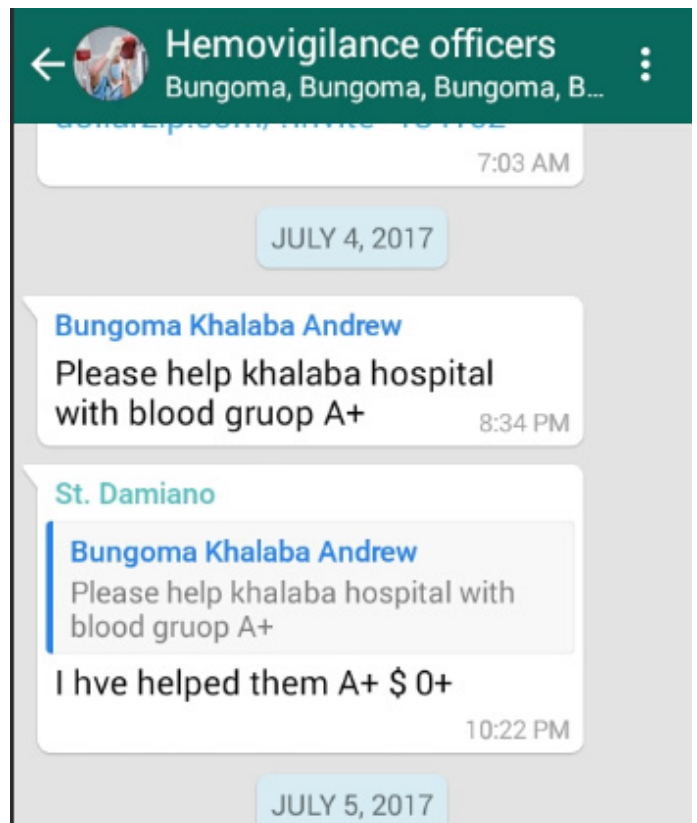
Gossage Okumu, Bungoma Blood Satellite

**Hospital transfusing committees**

MANI has supported the establishment of hospital transfusing committees at five high volume hospitals. The committees meet on a quarterly basis and they oversee the collection, safe storage, and distribution of blood. They also conduct regular audits to ensure staff follow best practices in the quality of transfusion services. The committees are usually comprised of specialist doctor (chair), laboratory in-charge (secretary), and representatives from departments undertaking blood transfusion. This has improved coordination and created a forum where the blood transfusing facilities can learn, benchmark and share experiences.

**Formation of a WhatsApp group**

MANI supported the participating facilities and health workers to establish a WhatsApp group with 27 members, linking all blood transfusion facilities, the county satellite, and the regional blood bank in Eldoret. The use of this approach has dramatically improved communication and coordination. The forum facilitates rapid responses to facility requests for blood, reports communities willing to host blood drives, shares best practices on haemovigilance, and plans for review meetings. It has removed the need for the satellite blood bank to be the ‘middle-man’ in sourcing blood



from one facility for another in emergency situations, creating unnecessary delays and increasing demands on satellite staff outside of working hours. Respondents typically reply within minutes of receiving emergency requests for blood and this simple, no-cost initiative is saving lives.

### Strengthened data management

MANI has designed new data management tools to capture data on blood drives and blood utilisation, to streamline data collection and to promote data use. The tools enable the Bungoma blood satellite and the transfusing facilities to identify who are the highest consumers of blood, where they come from, the most common reasons for transfusion, and ultimately the outcome after the transfusion. The data tools developed by MANI have been adapted by KNBTS at the national level.

"The data collection tool has been an eye opener and has been useful in engaging transfusing facilities to know who are being transfused, and which major departments and diseases are major consumers of blood transfusion." Gossage Okumu, Bungoma Blood Satellite

### Removing Barriers to Access

#### Removal of fees for blood transfusion

Blood donors and recipients were frequently complaining that blood was donated for free, and yet clients were being charged a fee to receive blood transfusions. This was raised during one of MANI's regular breakfast meetings with the Bungoma County Executive Committee Member (CEC) for Health. The CEC facilitated a follow-up meeting with all blood transfusing facilities in the county, including private and faith based hospitals, to discuss the costs incurred by facilities and client fees. A consensus was reached that all charges be dropped. Since then no blood transfusion charges have been reported, essentially making blood accessible to all clients.

*"I was not charged any fees for blood transfusion, and my family was not asked to donate blood. The hospital had blood available and ready for my transfusion. If the blood was not available, I would have died."*

Lydia Nanjala, Blood Transfusion Survivor, Lugulu Hospital

### Building on Success

MANI has strengthened the haemovigilance system in Bungoma county by increasing the availability of donated blood, improving functionality of transfusing facilities, enabling easy access to blood transfusion services, optimizing blood safety, and facilitating the generation and use of evidence.

### Where does donated blood go?

An analysis conducted for 6 major transfusing facilities between May and June 2017 has revealed that the most common reasons for blood transfusion were: anaemia due to malaria (56%), sickle cell disease (12%), post-partum haemorrhage (5%), and peptic ulcer disease (3%) (N=626). In addition, paediatric populations received the majority of blood transfusions at 44%; followed by patients in female and maternity wards at 36%, and lastly male wards at 19%. Of the total patients transfused, 95% were discharged alive (N=708). 65% of the transfusions took place in government hospitals. Data has also revealed that 11% of the patients who received transfusion services are from the neighbouring counties (mainly from Kakamega and Busia counties), over-stretching the capacity of the Bungoma Satellite and its transfusing facilities.

Additional interventions are needed to address the gaps that have been identified, including:

- Expanding the county-level target setting for blood donation by **considering the demands from neighbouring counties**. As Bungoma's blood supply has improved, neighbouring counties have increased their requests for assistance.
- Improving the **prevention and clinical management malaria and sickle cell disease**, as these account for roughly half of all blood transfusions. Better management of these conditions could improve the efficient use of limited blood and resources.
- **Increasing the numbers of trained staff** at the blood satellite to support blood drives. Given the restricted time available to collect blood during blood drives, especially in schools, more staff would enable more blood to be collected during each event.
- County-wide advocacy campaigns are needed to **promote voluntary blood donation**, especially among the adult population.

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