SOCIAL INNOVATION IN HEALTH INITIATIVE

BWINDI COMMUNITY HOSPITAL

CONTINENT	Africa
COUNTRY	Uganda
HEALTH FOCUS	Primary Health Care
AREAS OF INTEREST	Community Mobilisation, Financial Risk Protection
HEALTH SYSTEM FOCUS	Health Insurance

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BWINDI COMMUNITY HOSPITAL, UGANDA

Bwindi Community hospital provides a mothers waiting hostel for pregnant women in hard to reach areas with shelter where they stay as they await delivery, so as to contribute to better birth outcomes. The numbers of mothers utilizing the hostel has increased over the years and currently more than 150 babies are born per month with more than half of the mothers utilizing the hostel

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SUGGESTED CITATION:

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ABBREVIATIONS

ANC	Antenatal Care
BCH	Bwindi Community Hospital
EMTCT	Elimination of Mother to Child Transmission
MWH	Mothers Waiting Hostel
PMTCT	Prevention of Mother to Child Transmission
USD	United States Dollar
VHT	Village Health Team
WHO	World Health Organization

CASE INTRODUCTION

The Mother's Waiting Hostel (MWH) at Bwindi Community Hospital (BCH) is a simple, cost effective solution addressing the problem of high maternal morbidity and mortality amongst the local population living around the Bwindi forest, in Kanungu district, south western Uganda.

BCH offers a maternity waiting home for mothers who live far away from a health center, in order to reduce the distance to the health facilities and delays in accessing skilled birth attendance. Access to health care is challenging in Kanungu and S. western Uganda due to the hilly terrain and the large neighbouring forest area. In some situations, it may take about eight hours for a mother to move from her home to the hospital, when in labour. The hostel thus provides a place for mothers to stay within the hospital, as they await delivery. While at the hostel, pregnant women are reviewed daily, monitored for preexisting conditions, they are prepared for delivery. In case of an emergency, a fully functional theatre is available in the hospital and an operation can be conducted immediately.

Mothers make a one-time co-payment equivalent to USD 1.5 to stay in the hostel as they await delivery. The hostel obtains a minimal contribution for the running costs from the total budget of the hospital. Over the years, the hostel has contributed to an increase in the number of deliveries at the hospital from 10% in 2012 to 30% in 2014 and between 45%- 60% in 2017. Funding for the hospital is partly obtained from philanthropists and through the community health insurance scheme to which members pay a premium.

1. INNOVATION PROFILE AT A GLANCE

Organisation Details

Organisation name	Bwindi Community Hospital
Founding year	2003
Founder name	Dr Scott Kellerman and Mrs Carol Kellerman
Founder nationality	American
Current head of organisation	Dr Birungi Mutahunga
Organisational structure	Private not for profit hospital
Main value proposition	BCH offers a maternity waiting home for pregnant women from the hilly areas surrounding the Bwindi forest in south Eastern Uganda, in order to ensure access to a skilled birth attendant during delivery.
Organisational stage	Scale up
Size	28 beds
Main income streams	Funding is from the community health insurance schemes, and from philanthropists and tourists who visit the Bwindi Impenetrable forest National Park.
Annual expenditure	

Operational Details

Country/countries of operation	Uganda
Local scope	Kanungu district, Southwest Uganda
Type of beneficiaries	low-income rural mothers, who live in hard to reach areas of the hilly Kanungu district
Number of beneficiaries (annually)	600 mothers utilise the hostel annually
Cost per client	USD 1.50 contribution per client
Local engagement	1. Engagement with the community is done by using the existing Burial *(Bataka)* groups. The burial groups are an existing structure with governance and leadership, which community members use to save for funeral expenses. 2. The church of Uganda, through the diocese of Kinkizi provides oversight leadership. Using the WHO definition. 3. The hospital's community health department also works with 502 CHWs in 101 villages to identify and refer high risk pregnancies. High-risk mothers living in hard-to-reach areas are identified at antenatal clinics and in the community by the outreach team. These women are encouraged to stay at the hostel for up to a month before delivery, depending on the severity of their risk.

Innovative elements	a) A mother's waiting hostel within Bwindi community hospital, which ensures access to skilled birth attendants and improved birth outcomes. b) A community health worker program which is utilized to identify and refer high-risk mothers to stay at the hospital's hostel. c) Pre-paid and subsidised accommodation and health care at the hospital.
Scaling Considerations	Scaling up this idea can be considered in countries where maternal mortality remains high, and in rural and hard to reach areas.
Sustainability Considerations	The hospital provides a minimum contribution of 250 USD to maintain the hostel and pay utility bills. No new staffs are hired specifically for the hostel, as all activities of the hostel are integrated into the hospital. Mothers who stay at the waiting hostel pay an equivalent of USD 1.5 for the entire duration of stay. Women share a kitchen and take care of their own meals while at the waiting hostel. They also participate in cleaning the hostel.
Health Systems Lessons (3)	I. Maternity waiting homes for high-risk pregnant women in remote areas are recommended in national and global health policies, although they are almost non-existent in Uganda. II. Maternity waiting homes can contribute to increasing institutional deliveries; reducing obstetric delays; and improving maternal and perinatal health outcomes in remote areas. III. The waiting home can also be a basis for health education provided to women to improve the well-being of their new-born children and their families.

2. CHALLENGES

Uganda is a low income country in East Africa, with an estimated population of 40 million people. The life expectancy at birth is sixty years for males and 65 years for the females. Uganda's population is the second youngest in the world, with half of the country less than 15.7 years old (1). The population growth rate is 3.2%, one of the fastest growth rates in the world. The United Nations projects that the country will more than double in population by 2050, growing to 83.5 million people (1).

As the country's population continues to grow, the majority of that growth is taking place in rural areas, where access to health services is extremely limited. Public health has long been underfunded, with government expenditure as a

percentage of the total budget stagnating at 8%, and failing to meet the 15% Abuja declaration. On average, one in two Ugandans seeking medical treatment must use private instead of public clinics because the latter are unable to provide services (2).

Throughout the course of their lifetime, Ugandan women have a 1-in-35 chance of dying due to pregnancy-related causes, and every day 16 women die in childbirth(3, 4). Antenatal care attendance by a skilled provider has steadily increased from 90% in 2001 to 97% in 2016, and

skilled birth attendance has increased from 37% in 2001 to 74% in 2016 (5).

Despite large reductions in pregnancy-related

deaths over the past two decades (the maternal mortality ratio dropped from 684 per 100,000 live births in 1995 to 336 per 100,000 in 2016), the high number of maternal deaths in Uganda remains a public health challenge (5-7). A lot of effort has been targeted in maternal health interventions, but the country still lacks adequate health care and family planning services, and pregnant women have minimal access to skilled labor and emergency care (8), especially in remote and hard to reach areas.

The national health system is comprised of both private and public sectors. The private health sector is comprised of Private Not for Profit (PNFP), Private Health Practitioners (PHPs), and Traditional Contemporary Medicine Practitioners (TCMPs). Public Private Partnership in Health (PPPH) is an element of Uganda's Health Sector Strategic Plan II. The private sectors contribute to about 50% of the Health care delivery (9). The increase in the use of private health care is attributed to low investment by the government in public health care, which has affected quality and access for the majority of Ugandans. There is also a growing need by some Ugandans for comfort and convenience in accessing health care, which is preferable from the private sector.

The Uganda demographic and health surveys indicate that the private sector overall provides between 60 and 70% of the frontline health services and of this, the Private not for profit (PNFP) sub-sector provides 42% of health care (10). In terms of infrastructure, PNFPs operate 40% of hospitals and 22% of all lower-level health facilities (11) in the country. According to a situation analysis prepared by the Ministry of Health, the workforce in the PNFP sector constitutes nearly a quarter of the total health workforce in the country, with about 9000 professionals (12)

Most Ugandan mothers are under 30-years of age and in many cases, maternal mortality has been attributed to the "three delays": delay in making the decision to seek care, delay in reaching a health facility in time, and delay in receiving adequate treatment (13). The first delay is on the part of the mother, her family, or the community who do not recognize a life-threatening condition. The second delay is associated with delays in reaching a health centre, due to road conditions, lack of transportation, or location of the facility. The third delay occurs at the healthcare facility where upon arrival, women receive inadequate care or ineffective treatment.

3. INNOVATION IN INTERVENTION

Bwindi Community Hospital (BCH) is a PNFP facility that is addressing some of the delays in access to health care, by providing a maternity waiting home to enable pregnant women from remote and hard to reach areas to stay in the hospital, for about 1 month, prior to delivery. BCH was founded in 2003 by Dr. Scott and Carol Kellerman. It began as an outreach clinic under a tree but has expanded to a 112 bed hospital providing health care and health education to the population around it.

The hospital serves over 100,000 people and including the Batwa pygmies who indigenously lived in Bwindi Impenetrable forest that was

made a national park in 1991. The Batwa lived in

extreme poverty and suffered severe health consequences as a result of poverty and displacement. The hospital initially aimed to serve the Batwa, but now provides health care for the surrounding sub counties of Kayonza, Kanyantorogo and Mpungu. Due to the hilly terrain in this extremely remote area, mothers

usually walk for approximately eight hours to get to a health care.

BCH has a community health outreach department with 3 community health nurses who work with 502 CHWs. These teams work in 101 villages to identify women with high risk pregnancies. Women in the high-risk category as per the WHO definition are encouraged to come and stay at the hostel a few weeks before their expected date of delivery. The hospital utilizes existing health staff to take care of the mothers in the waiting hostel

4. IMPLEMENTATION

4.1. INNOVATION IN IMPLEMENTATION

The mothers waiting hostel

The mothers waiting hostel accommodates mothers after a one-time payment of USD 1.4 for the entire duration of their stay. Mothers who contribute to their community health insurance scheme pay even less (USD 0.66). The mothers waiting hostel leverages funding from other hospital programs and existing structures such as the sexual and reproductive health services and the CBHI.

A full time nurse is available to check the women's general condition and vital signs daily (Blood pressure, fetal heart rate etc.). In case of an emergency, the fully equipped hospital operating theatre is available and a full time obstetrician is on duty.

At the hostel, the mothers prepare their own meals and take part in the general cleaning. They also receive basic health education, including on how to prepare nutritious meals for their infants and young children. First time mothers are also engaged in peer learning on how to care for a new born.

The nurses and midwives also conduct sexual health sessions on family planning for the mothers, child spacing and the importance of small families so that women make an informed choice about contraceptive use.

The community health insurance scheme that is promoted to the hostel residents. The Bwindi Community Based Health Insurance scheme (CBHI) was initiated to increase access to health care at BCH. This scheme enables people to pay for health care collectively and in advance, instead of waiting until they become sick, when they may fear the cost of care. Prepayment and pooling of resources protects the poor at the time of illness and enables them to have some control over their health care. Individuals can join the scheme through their *Bataka* groups (burial groups).

We engaged the community to find out what they thought could help. Many of them believed that a waiting shelter was a solution to their problem.
(Dr. Scott Kellerman, founder, BCH)

The community based health insurance program

The CBHI program is designed in such a way that 50% the health care cost is met by the community itself, and the other half is met by supporting organizations. This program enables individuals in the remote Bwindi area to pay for their health care before they get sick through an annual payment of US $1.7 for each person ages five and over. This entitles them to use Hospital Outpatient and Inpatient services, including investigations, drugs and even certain surgeries at a cost of US $0.30 per visit.

For children under five years old, the rates are lower and cover more services. Patients who are not CHBI subscribers pay significantly more, with surgery costing up to $105 and hospital stays $14 a night.

The program works with Village Health Promoters

who are locally referred to as *Bataka* (Burial Society) leaders and Local Council 1 chairpersons in every village to: disseminate information about the scheme (such as the services offered and

exceptions), mobilize the groups, register individuals into the hospital database and collect premiums.

The Community health worker outreach program

The 502 community health workers primarily visit their 101 villages to conduct health promotion activities and identify women with high risk pregnancies who are referred to BCH and the mothers' waiting hostel.

Every six months, CHWs are trained in a different activity, and they conduct teaching and screening in the community on behalf of the Hospital. To prevent malnutrition the CHWs teach every household how to grow and prepare a balanced diet, and they provide a list of all the children in their villages to the hospital and check their children every three months for signs of malnutrition, referring children, mothers and other patients to the Hospital if necessary.

When I came here, you could see the real burden of health problems and how they originated in the community and ended up in hospital. I got to know that if you are to cause any impact in health, the best place to do it is in community not in a hospital. (Dr. Nkalubo Julius Gynecologist, BCH)

4.2. ORGANISATION AND PEOPLE

Dr. Scott Kellerman is a trained medical doctor, a professor at the university of San Francisco California and a lecturer of global health. Together with his wife, they founded Bwindi community hospital having worked for 28 years as medical missionaries until they retired from the practice. The interest to work in Kanungu was derived after watching a documentary on National Geographic channel which highlighted the plight of the Batwa pygmies. They later conducted a medical survey among the Batwa pygmies and decided to come to Uganda, specifically Kanungu district, to improve the lives of this marginalized group.

The area had no medical supplies, no support, and no services at all for three and a half years. We came here and bought some land and the community helped build the clinic. It has always been a community project. That's why it's called Bwindi community hospital. (Dr Scott Kellerman Founder, Bwindi Community Hospital)

BCH is staffed by a team of 125 personnel. These include; doctors, nurses, midwives, other health workers and support staff. 70% of the employees are from within the catchment area and 30% are from other parts of Uganda. In addition, the Hospital has trained 502 CHWs in the 101 villages in the Bwindi area.

4.3. BUSINESS MODEL

BCH activities are funded through the Kellerman foundation. Over 60% of the money needed to run Bwindi Community Hospital comes from donors and partners contributions. The 40% contribution is from the community through health insurance scheme. In addition, tourists who visit Bwindi forest for gorilla tracking activities also donate to the hospital activities.

The community's contribution is collected by the burial groups who collect the insurance premiums from the people and keeps records that are later taken to the hospital database.

5. OUTPUTS AND OUTCOMES

5.1. IMPACT ON HEALTH CARE DELIVERY

Every month, at least 150 babies are born at BCH and of these nearly 60% of the mothers use the waiting hostel. Children whose mothers are HIV positive are born HIV free through the EMTCT program. There was a 65%, 73% and 27% increase in the outpatient attendance, inpatient admissions and deliveries respectively at BCH between FY 2009/10 and FY 2012/13 after the launch of the health insurance scheme in March 2010. The proportion of the insured participants that used BCH services for a sick child was greater than the proportion of the non-insured that used BCH services for a sick child. Static immunization sessions and daily sessions on maternity ward were done by the community Nurse. About 150 children are seen by the community nurse during weekly static immunization sessions; all new-born babies received BCG and polio at maternity ward.

In 2014, there was a 10.5% increase in utilization of the mothers waiting hostel by women from distant sub-counties; and a fourfold increase in the utilization of delivery services at BCH. This meant that more marginalized women were accessing the benefits of the hostel

From July 2006 to 2012, on average 106 deliveries occurred monthly and an estimated 30% of the mothers utilized the MWH. By 2017, the hospital delivered an average of 150 babies monthly, and approximately 45% to 60% of the mothers utilized the waiting hostel.

5.2. ORGANIZATIONAL MILESTONES

Over the last decade, BCH has become a fully functional hospital with four doctors, over 100 staff members and is catering for a catchment area of over 100,000 people. A nursing school has also been established and has already provided the hospital with capable nurses. It continues to train the students in midwifery, nursing and ultrasound sonography.

The hospital has sponsored several nurses for an ultrasound course in Kampala and has bought medical equipment over the years and paid for a new radiology building, a gynecological consultation room and the extension of the operating theatre today.

At the moment, 12,000 people in Kanungu district can now access high quality health care through the health insurance scheme and every year, about 1200 babies are delivered safely though the maternity waiting home and hospital.

At least 14,300 people receive health outreaches services every month and 250 Batwa children now attend school.

5.3. COMMUNITY AND PATIENT EXPERIENCES

The community describes the relationship with BCH as a warm one. It's not called community hospital by word only; everything they do is for the community. The first thing is that the hospital started under a tree with one medical doctor working with people who had no medical background, but instructing them on what to do. The first foundation for the hospital was laid by the community, they convinced the land owner to sell the land and the community got involved in building the foundation. This way, they accept the service as theirs. As the facility grew bigger, we concretized the community health intervention plan and we work with VHTs and get a lot of community information. We have about 7 motorcycles and people go to the community to interface with the community about the services.

The criterion for admission into the waiting hostel was based on obstetric risk. Mother with two scars from a previous operation, and anemia in pregnancy were given first priority into admission to the waiting hostel, but with time, the criteria expanded to include mothers with social risks. These social risks included cases where a mother

was suffering domestic violence and needed to stay away for a while, prohibition by young girls who are newly married and are taken to the mother in law to deliver. This practice would make young girls deliver at home because of society and cultural perceptions that a woman's strength is measured by the ability to deliver at home. In some cases, the husband would disappear leaving her for a mother in law to help her deliver the baby.

We know that some of the problems can be managed so we come and wait for either three days or a week and be supported by nurses and go back with healthy baby. (Mother, Bwindi mothers waiting hostel)

They also feel like being in hostel, brings them closer to the health worker going to work on them. The prolonged stay emancipates them in decision making. So it's a blessing to us. (Dr. Nkalubo Julius Gynaecologist, BCH)

I hear about the hostel through radio programs and they keep telling us through radio programs to monitor our pregnancies and come to wait from here in the last days. (Mother 4, Bwindi mothers waiting hostel)

The mothers refer to themselves as proud owners of the hostel; they believe that it is worth the investment in time and resources. While at the hostel, they prepare their own food, they take part in social activities and some of the care takers also help to clean up the area. Husbands are willing to have their wives stay at the hostel because a good birth outcome is good for the entire family.

It was very rare to get a mother from Mpungu delivering from the hospital (before the waiting hostel was started).....that place is very far, mothers have to walk for about 8 hours to reach here and it is impossible for them to walk that distance while in labour.....when we got the maternity waiting hostel, women got to know about it and therefore they could just walk freely in the last month to come and wait here for the baby. (Midwife at Bwindi Mothers' Waiting Hostel)

6. SUSTAINABILITY

Through community contributions for the insurance scheme, the time offered by the volunteer CHWs, and government payment of salaries of medical doctors, the hospital meets at least 40% of its funding requirements. The remaining costs are paid by other donors and grants. By 2020, the hospital plans to meet at least 60% of the funding and reduce on donor reliance. Uganda Protestant Medical Bureau supports some of the activities of the hospital and the waiting home. The available experienced doctors are also involved in training and mentorship of the younger doctors and nurses to carry on with the work of the hospital and maternity waiting home

My biggest contribution is ability to build a team that can offer a service regardless of my presence...even if I left today, the service would continue since I'm not the work. We get new people coming in and we orient them to do and try to bring them from where they are to go through to do what they couldn't do before. (Dr. Nkalubo Julius Gynecologist, BCH)

7. SCALABILITY

BCH serves three sub-counties in Kanungu district, but the entire district needs the establishment of additional mothers waiting hostels. By drawing on the lessons learnt to provide a similar service for a hard-to-reach area,

there are plans to improve two established satellite clinics in in Kanyantorogo and Kanyashogyi. The idea of a waiting hostel has also been adopted by another hospital, Kisizi Hospital, in Kanungu District.

For the waiting hostel to be successful there needs to be community involvement. The community must be engaged in designing the solution, as their input, collaboration and use is vital. There are unforeseen challenges that may depend a lot on the context, in a society that is financially dominated by men. It is thus important to involve men in the organization of the waiting hostel.

8. KEY LESSONS

The idea of a waiting hostel is not new in Africa and other developed continents. In Zambia, the safe motherhood guidelines have been implemented since 2005, but in 2014, 42% of women in rural areas of Zambia delivered at home, which suggested that barriers to seeking, reaching, and receiving quality maternal health care still persisted in line with the Three Delays Model (14). Apparent and real distance to a health facility, transportation challenges, and costs are factors that have been shown to influence women's delivery location, with women living the farthest away from facilities more likely to deliver at home (15, 16).

The most important lesson learnt from the Bwindi mothers' waiting hostel is that community participation is crucial, especially male participation. When the waiting hostel was set up, the management of Bwindi Community Hospital thought that they had addressed the challenge of delay in reaching the hospital to obtain a skilled birth. Hospital staff later discovered that some mothers still failed to make it to hospital, and informal research showed that some husbands were unsupportive, there were other challenges such as shared bedding in the home, the expectant mother needed to take bedding and other items such as cooking utensils to the waiting home. Some women felt that they could not come into the hospital as they were responsible for the care of the other children at home. One of the key lessons was that men had to be involved in accepting the hostel as a solution. Thus community engagement was very important to the eventual success of the program. *In Africa, it is all about relationships and that is what makes the difference.* (Dr Scott Kellerman Founder, Bwindi Community Hospital)

CASE INSIGHTS

1. Maternity waiting homes for high-risk pregnant women in remote areas are recommended in national and global health policies, but they are almost non-existent in Uganda and other low income settings.

2. Maternity waiting homes can contribute to increasing institutional deliveries, reducing obstetric delays, and improving maternal and perinatal health outcomes in remote areas. In hard to reach areas, maternity waiting homes may contribute to reducing the high maternal deaths.
3. The waiting home can also provide opportunities for health education for mothers to improve the wellbeing of their new born children and families.
4. Finally, CHW outreach program is important for identifying and getting women into hospital, in these remote and inaccessible areas.

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