



Grand Challenges Canada®
Grands Défis Canada

APPENDIX OF PROJECTS (2018-2019)

AFRICA

CAMEROON

University of Ottawa

Using Targeted E-Voucher and Mobile Phone Technology as a Tool in Addressing Maternal Mortality and Reproductive Health Amongst Rural Poor Women in Cameroon

Sanni Yaya at the University of Ottawa is developing and testing a Pre-Natal Management System mobile phone application that is accessible to non-literate groups by using pictographs and communicates emergencies to providers using Geographic Information System in Cameroon. The application is designed as a tool to address maternal mortality and reproductive health amongst rural poor women in Cameroon, by increasing access to maternal and reproductive health services, as well as providing e-vouchers for transportation.

DEMOCRATIC REPUBLIC OF CONGO

Fundação para o Desenvolvimento Científico e Tecnológico em Saúde (FIOTEC)

Prematurity detection by light: The Preemie-Test Validation

FIOTEC's "Preemie Test" is a small, cost-effective, non-invasive device which uses light sensors to read backscattering luminescence off babies' skin, to diagnose premature and low birth weights. The project aims to aid birth attendants and lay caregivers at point of care, replacing expensive obstetric ultrasounds and complex neonatal maturity scoring, while enabling caregivers to act quickly in low- and middle-income countries (such as Tanzania, Mozambique, Democratic Republic of Congo, and Brazil), and refer low birthweight newborns to critical care.

East and Central African Association for Indigenous Rights Inc.

Improving the Wellbeing of Infants and Children with Mothers Victims of Traumatic Events

This initiative will promote early development and improves the physical, emotional and socio-economic wellbeing of at risk infants and children under 5 and members of their households through education and local solutions in the war-torn Goma, Democratic Republic of Congo (DRC). The program will establish and test programs that support education in basic parenting skills and health for 200 parents with at-risk children, as well as technical and financial support to take up animal husbandry; a 90% reduction in infant and child abuse, and in prenatal care attendance; and an 80% increase in appropriate management of sick infants and children.

EGYPT

**The Governing Council of the University of Toronto
To Enable Proper Dosing for Effective Treatment of Hemolytic Disease of the Fetus and Newborn (HDFN) in Africa**

Yu Sun at the University of Toronto is developing and testing an easy-to-use automated instrument for counting fetal and maternal red blood cells to enable proper dosing of RhoGAM for the treatment of Hemolytic Disease of the Fetus and Newborn. Clinical validation of the instrument will be conducted with partners in Egypt. The innovation will make RhoGAM more widely accessible in African countries by minimizing the financial burden of overdosing.

**Harmonic Medical Inc.
Non-invasive Treatment for Uterine Fibroids Using Focused Ultrasound**

Harmonic Medical, based out of Toronto, are working with collaborators in Egypt to develop and test a low-cost, non-invasive focused ultrasound surgery (FUS) system for the treatment of uterine fibroids in an outpatient setting. This solution would provide a cost-effective, safe, accessible alternative to the traditional treatment for uterine fibroids - hysterectomy - for women in the developing world.

ETHIOPIA

**International Governance Associates Inc.
Health & Gender Rights for Women & Girls: An integrated innovation to address reproductive and mental health needs of refugee women**

The Canadian organization International Governance Associates is working with Addis Ababa University (AAU) resident specialists and faculty to design, develop, implement and test ARC - Ethiopia in the Assosa Refugee Camps. The project is a sustainable model to integrate culturally sensitive assessment and treatment of women and girls for immediate gynecological, obstetric, and mental health problems, as well as to promote empowerment through community-based programming that addresses the consequences of sexual and gender-based violence (SGBV).

**St. Paul's Hospital Millennium Medical College
Establishing Breast Milk Expression Support in Ethiopia**

St. Paul's Hospital Millennium Medical College will establish a novel, affordable, breast milk expression support project in the workplace of selected Commercial Bank of Ethiopia branches in Addis Ababa. This project will include considerations for adequate facilities, break time, transportation, as well as training on breast milk expression, storage and use. This program has the potential to increase women's choice and empower them to continue breastfeeding after returning to work, if they choose to.

GHANA

The Ghana Health Service

Improving Maternal and Newborn Care with IUD Service Provision Using Task-Sharing Framework in the Central Region, Ghana

Maternal mortality ratio in Ghana is high and there is low uptake of modern family planning services, particularly intra-uterine devices (IUDs) which have been shown to be safe, highly effective, cost-effective and available. Currently, only midwives are trained to provide IUD services, and there is only 1 midwife for every 1475 women of reproductive age. This project will implement, test and evaluate a way to support basic midwifery and IUD provision in rural Ghana through task-sharing and training of 30 auxiliary nurses. Goals include a 10% rise in the number of women with access to IUDs as a family planning method at the intervention sites.

Ghana National Association of the Deaf

Improving Access to Sexual and Reproductive Health (SRHR) Information and Services for Deaf People in Ghana

Providing sexual and reproductive health (SRH) information and services to deaf citizens of Ghana. Involving 630 deaf people in 6 project districts, goals include a database on special needs, a 50% increase in deaf citizens with access to SRH services, contraceptive, safe clinical abortion services and new SRH information and services in 12 hospitals and clinics; a 40% increase in deaf citizens reporting improved use of sexual and reproductive services, and a 50% increase in district health centres offering deaf friendly reproductive health services.

GUINEA

The Sir Mortimer B. Davis Jewish General Hospital

Understanding Sexual and Reproductive Health for Adolescent Girls in Post-Ebola Guinea (USAGE-Guinea)

The project addresses the gap between mental health and adolescent sexual and reproductive health, through a stepped-care approach service provision in the post-Ebola era, in Guinea, West Africa. The project's outreach programs will include mobile phone messaging for delivery of information, and dispelling misinformation.

KENYA

Access Afya Kenya Limited

1,000 day nutrient monitor

Access Afya Kenya is developing and testing a revolutionary approach that aims to put nutrient monitoring into the hands of mothers using the non-invasive technique of near-infrared

spectroscopy (NIRS). Fingernail scanning can be done by mothers at home, and results are instantaneous and easy to interpret. With the 1000 Day Nutrient Monitor, each mother can repeatedly analyse her and her baby's nutrient levels, informing proactive diet changes.

African Field Epidemiology Network

The Face Book Screening Tool: A Non-Verbal Post-Partum Depression Assessment Instrument

African Field Epidemiology Network is assessing a unique non-verbal visual tool to assess post-partum depression among women in rural Kenya. The project will be teaching primary care health to use The Face Book tool's pictorial scale to screen, detect, and document peri- and post-partum depression (PPD) among mothers in four frontier provinces of Kenya (Marsabit, Turkana, Wajir and Mandera) who access services at their health facilities.

Christian Aid

Integrating Traditional Birth Attendants in Improving Adolescent Reproductive Health

The project seeks to implement a delivery model targeting adolescent girls in Narok County, Kenya, by task-shifting of traditional birth attendants (TBAs) to become skilled delivery champions and mother companions. Additionally, train TBAs in other income generating activities and link them to microfinance support based on their skilled delivery referrals rates.

COHESU Community Health Support Programme

“Ground Zero” – Mobile Phone Technology for Rapid Household Level Diarrhoea Reporting for Community Directed Intervention Initiatives

Kenya's Ministry of Health and Sanitation major concern is the management of diarrhea; the third most common cause of mortality/morbidity in the country, with a case fatality of up to 21%. The innovation will implement a mobile phone platform to gather daily diarrhea information at household level and relay it to community health workers for intervention. "Cohesion," a homegrown mobile phone application, simple smart phones and "Simprints" portable biometric scanners will collect and collate household level daily diarrhea information. This project targets vulnerable populations, particularly pregnant women and children under 5 years old.

Ekialo Kiona CBO

A Health Navigation model to strengthen maternal and newborn emergency care in hard to reach island communities of Lake Victoria, Kenya

Isolated communities on Mfangano island in Lake Victoria lack access to Kenya's health care system, and less than 50% of mothers receive antenatal care or deliver with skilled attendants. Ekialo Kiona's Health Navigation (HN) model strengthens the emergency referral system for mothers and newborns by establishing a durable pathway for healthy pregnancies, safe deliveries, and effective referrals. This innovation mobilizes local experts, community health volunteers (CHVs), to act as educators, skilled referral coordinators, and patient advocates. Financed through a community-managed fund, CHVs fill planning and communication gaps that make families vulnerable during emergencies.

Global Integration and Innovation Africa Limited**Akili (Smart) Mom Project : Increasing Access to Family Planning to Young Mothers**

This project is a supply chain innovation involving a product bundling model, leveraging an existing network of women micro-entrepreneurs. The two-prong social entrepreneurship looks to improve the choice and access to family planning products; as well as access to weaning food for infants through the bundling of food for sale, and provision of free contraceptives. These two products would be simultaneously marketed to a target group, the mothers of infants in rural areas, who have co-existing needs of pregnancy spacing and sourcing appropriate infant food. The project aims to demonstrate the feasibility and effectiveness of bundling contraceptive distribution with infant nutrition to low-income customers to reduce distribution costs. Goals include a 50% increase in contraceptive use by mothers of infants; a 20% rise in their long term contraceptive use, and a 20% reduction in the number of subsequent pregnancies less than 2 years apart.

Golden Girls Foundation**Mentor-peer training for school girls to reduce resistance to menstrual cup uptake and counter cultural taboos in impoverished communities**

Menstruating schoolgirls in Kenya have little access to affordable menstrual products. In turn, they frequently struggle with shame surrounding the use of unhygienic menstrual solutions, which poses health risks to young girls, and often prevents them from participating in school during menstruation. A lack of access to hygienic menstrual products in turn prevents school aged girls from learning, and engaging in life both inside and outside of school.

The project designs and tests a school-based program to mentor adolescent girls in menstrual hygiene management. The program goals include identifying, educating and providing menstrual supplies to 10,000 girls in 100 schools; recruiting, training and supporting up to 500 local female mentors; a 60% increase in schoolgirls knowledgeable about the correct practice of menstrual cups, and a 60% rise in schoolgirls attending school during menses.

Institute of Primate Research**Cloud-Based Maternal and Child Healthcare Record System with Vaccination Registration and Alerts in Kwale County, Kenya**

The project is developing, implementing and testing a cloud-based vaccination tracking system, shared across multiple Kenyan Kwale County public hospitals and vaccination outreach programs. This supplements a previous project that introduced cloud-based electronic medical records system in Kenya, with the goal of encouraging greater vaccination adherence. Goals include recording and monitoring infants' vaccination history, sending SMS vaccine reminders to mothers, 17,900 mothers enrolled within 18 months and a minimum 2% increase in adherence to immunization schedule.

Jacaranda Health Limited**Behavioral Nudge Approaches to Address Systemic Gaps in the Post-Natal Continuum**

Jacaranda Health is designing and evaluating a web-based postpartum questionnaire sent via SMS which will trigger automated referrals to seek facility-care and phone calls if certain danger signs are present. This tool will aim to increase the uptake of postpartum care and postpartum family planning to improve health outcomes for mothers and children in Kenya.

Safari Doctors Initiative

Empowering women & adolescent girls in marginalized communities in Lamu through health education, while improving access to healthcare through mobile clinics.

The Safari Doctors' Project engages and empowers 'Female Health Ambassadors' in at least 8 marginalized communities in the Lamu archipelago near the Kenyan/Somalian border. Through the project, Female Health Ambassadors will improve their communities' access to healthcare both through facilitating mobile clinics, and through empowering women and adolescent girls through the dissemination of sexual and reproductive health education.

Totohealth

The World Starts With Me Two

Totohealth is delivering "The World Starts With Me" sexual and reproductive health and rights (SRHR) information via SMS text messages to students and teachers at secondary schools in Kenya. The World Starts With Me (WSWM) curriculum developed by Rutgers, will be converted into SMSs (questions and answers) and offered to students in selected schools in 3 counties in Kenya (urban, semi-urban and rural). The SMS platform allows for two-way communication, permitting students and teachers to receive accurate, confidential, and non-judgmental answers, within 24 hours. This is an innovative adaptation responding to the local context in Kenya, where 1/3 of youth under 15 have had sexual intercourse, access to accurate SRHR information is scarce, cultural and societal sexual discourse is conservative, and mobile phone penetration is high at 90%. SMS allows for anonymous, confidential, non-judgemental discourse between vulnerable populations and comprehensive, evidence-based SRHR information, vetted by UNESCO, and implemented in 10 other countries over the last 10 years.

MALAWI

University of Malawi, The Polytechnic Kuwala Hypothermia Monitor

This team at the University of Malawi is developing and validating a hypothermia monitor called the Kuwala, a hypothermia monitor that clips to a neonate's cap and lights up brightly when newborns become cold. The device is designed to reduce the incidence of neonatal hypothermia through early detection.

MOZAMBIQUE

PCI Media Impact For Hair and More

PCI Media Impact's For Hair and More Project trains hairdressers in health counselling to use hair salons as entry points for information and guidance on sexual, reproductive and maternal health, as well as for the sale of sexual and reproductive health products for adolescents in Mozambique.

University of Saskatchewan

Incentives to Increase Access to Maternity Waiting Homes for Pregnant Women and Adolescent Girls in Mozambique.

Maternal mortality rates in Mozambique rank among the highest in the world, and Maternity Waiting Homes are used to bring delivery services to remote rural areas. However, these MWH's are underutilized due to access barriers, such as distance, lack of transport, lack of information, conservative social reasons, and money. In response, this project is providing cash based transfers to pregnant women and adolescents to bring them to MWH where obstetric care is provided and emergency care if necessary. Newborn child nutrition information and feeding practice is shared with parents and mothers are monitored before discharging them to their homes. Biometric data is collated in the SCOPE system and reflects antenatal visits for maternal health monitoring. This project is using SCOPE which is WFP's digital registration and funds transfer management platform; a cloud-based solution used for beneficiary registration, intervention setup, distribution planning, entitlement cash transfers and distribution reporting.

NIGERIA

MicroFuse Technologies Ltd. CIPHER

Sub-Saharan Africa accounts for 76% of malaria cases and 75% of malaria deaths globally, and children under the age of 5 are particularly susceptible to fatal malaria infections. More than 70% of all malaria deaths are children under the age of 5. Moreover, these deaths are concentrated among those with poorly developed immunity, particularly young children.

CIPHER is developing and testing a way to detect and diagnose malarial retinopathy with a smartphone camera, an attached 3-D printed camera that captures a photograph of the back of the eye, i.e. the fundus, and an ophthalmoscope. Goals include development of the camera and AI-powered mobile app with at least 90% accuracy to detect cerebral malaria; development of a complete system to acquire images and other functions, and to overcome concerns about the high intensity of light from the built-in light source of a smartphone.

**Institute of Child Health, University of Ibadan
Digital Skills Empowerment (DSE)**

This project is developing, digitizing and testing the capacity of a health and entrepreneurial skills curriculum tutorial to empower 100 women in Internally Displaced Persons camps in Nigeria. The tutorial aims to empower women to become financially independent, and to make informed health decisions. The program's goals are to induce a 25% increase in women and their children accessing health services, and a 25% increase in the women's wealth index.

**Deliver Health Foundation
Reversing Stigma and Maternal Mortality in Northern Nigeria**

Deliver Health Foundation is implementing and testing a two-part solution to reverse stigma and maternal mortality in Northern Nigeria. First, midwives are being trained in trauma-focused care for emergency low-resource situations. Secondly, they are facilitating a peer-to-peer advocacy program on gender-based violence (GBV) awareness and prevention, as well as reversing stigma placed on women and young girls returned from Boko Haram.

NIGERIA / CANADA

**The Canadian Network for International Surgery
META: Maternal Expert Thinking Analyzer**

Like many low- and middle-income countries, Nigeria faces high maternal and neonatal mortality rates, owing largely to the fact that 50% of mothers give birth at home, are attended to by midwives with limited training, and little information is available about pregnancy risks and delivery options. META is developing a point-of-care diagnostic, training and outreach app that uses patient data and obstetrical danger signs to produce risk-based management plans for midwives and enables midwives and extension workers to promote care by sending texts to pregnant women. Goals include a 25% increase in use of antihypertensives, antibiotics, and intravenous fluids (including blood products) in the intervention group vs. a control group and a 25% increase in skilled birth attendance and operative intervention in intervention group.

SENEGAL

**Keewu Production
C'est La Vie!**

Keewu Production, based in Senegal, is creating, broadcasting, and evaluating the impact of a television series focused on maternal, child and reproductive health and gender-based violence called, "C'est la Vie!" in 40 African countries. The use of a transmedia environment, including radio, television, mobile phones, social media networks, and print, allows the series to impact public knowledge and attitudes on a massive scale.



Grand Challenges Canada®
Grands Défis Canada

**Planned Parenthood Federation of America – International Africa Regional Office
Youth Providing Contraception Services to Peers in Senegal**

Planned Parenthood is training, deploying and testing the use of youth peer providers to provide sexual and reproductive health information, counselling, contraceptives, and referrals to clinical providers in Senegal. Sayana Press, a new contraceptive designed for easy and safe self-injection, will be integrated into this model to provide a long-lasting and discreet contraceptive option.

SOMALIA

**Mogadishu University
Mother and Child Care Educational Project**

This project addresses Female genital cutting (FGC) in Mogadishu, Somalia. The project seeks to educate, provide information, and sensitize Somali men and women, their children and social networks about female genital cutting and womens' health. The project will seek to disseminate correct information, encourage dialogue, and to train and network, in the interest of contributing to the eradication of FGC. It will address social justice issues, including protection and the development of safety nets. It will also address reproductive health and family planning, including issues of early, forced marriage.

It will implement and test this program in Mogadishu neighborhoods, as well as on internally Displaced Persons camps, in order to foster informed dialogue on women's rights and health, and specifically, female genital cutting. The project goals include: engaging 1000 youth, 100 activists, 100 elders, 50 traditional and/or religious leaders, and 10 FGC survivors; enrolling 300 other individuals in the "No to FGC" campaign. It will aim to increase knowledge, and to change the attitudes and behaviours of children after school visits.

SOUTH AFRICA

**Health Systems Planning and Development Trust
Using Digital Technology to Prevent Maternal Deaths from Hypertensive Disorders of Pregnancy**

Health Systems Trust is developing an mHealth driven solution in South Africa that will enable regular measurement of pregnant women's blood pressure, as well as early detection and referral of high risk cases for clinical care within a primary health care setting. Pregnant women, supported by community health workers (CHWs), will be empowered to play an active role in monitoring their blood pressure at home, between regular antenatal clinic visits, using digitally enabled devices. Readings will be captured on the MomConnect App, which will analyse the readings and advise mothers and facility clinicians of the risks and needed actions.

SOUTH SUDAN

African 1000 Days Actions PPH Prevention Project

The Post-Partum Hemorrhage (PPH) Prevention Project is implementing a business-centred approach to use misoprostol as a prophylactic uterotonic drug for the prevention of post-partum hemorrhage. This intervention targets women in South Sudan who deliver at home or in facilities where oxytocin cannot be prescribed. It also addresses private healthcare providers and pharmacists in the supply chain, and facilitates training for health providers.

Better Health Care Organization

Integrating Chlorhexidine into Safe Delivery Kits in the Republic of South Sudan: A Low Cost Intervention to Reduce Neonatal Mortality in Rural Community Settings.

Better Health Care Organization is developing and testing a system to integrate WHO-recommended chlorhexidine (7.5%) into safe delivery kits, as an intervention to prevent neonatal umbilical cord infections that result from rural home births in South Sudan. This innovation seeks to reduce the number of deaths in the early days of life caused by the often unhygienic environment of traditional home births.

Kitgum Concerned Women's Association

Savings Clubs as a Positive Incentive for Reproductive Health Among South Sudanese Refugees

This project seeks to engage South Sudanese refugee and host community women as economic actors, by integrating microfinance with family planning promotion and maternal healthcare requirements, in turn, enhancing their financial resilience and empowering them to invest in their health.

TANZANIA

Sahara-Consult Company Limited Inspire 100

Inspire 100 is developing an entrepreneurship acceleration program targeting young girls in rural Tanzania (Iringa region). This project aims to reach 100 out-of-school girls via hackathons and bootcamps, through which they will develop business ideas that incorporate messages about sexual and reproductive health and rights. The goal is to have 10 social sustainable business ideas and models generated or accelerated.

**Pamoja Tunaweza Womens' Centre Company Limited
Project for Reproductive Equity through Volunteers and Entrepreneurship, Networks and Technology: The PREVENT Project**

Through the PREVENT Project, Pamoja Tunaweza Womens' Centre is developing and testing the impact of a mobile platform in disseminating sexual and reproductive health education to adolescent girls. This platform will use interactive voice recognition to facilitate their access to additional information and counselling. The platform also provides linkages to confidential access points for contraceptive services. Participants are enrolled through a network of peer volunteers in the Kilimanjaro region of Tanzania.

**Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT)
Harnessing mhealth for Improved Fistula Awareness and Referral**

Over 21,000 women in Tanzania live with obstetric fistula; a tear in the tissue between the vagina and bladder that can result in incontinence, and complications in childbirth, with a delivery failure rate of 85%. Obstetric fistula is accompanied with heavy social stigma and affected women are often rejected by their communities, and live in isolation. This can make identification and referral for treatment difficult. The mHealth Interactive Voice Response technology will be used to strengthen the ambassador network by providing on-demand information, increase referrals, and create better access to fistula treatment.

UGANDA

**Centre Hospitalier de l'Université de Montréal
A Comprehensive, Low Tech Community-Based Intervention to Improve Family Planning and Maternal Health Services in a Conflict-Affected Setting, in Northern Uganda**

Centre Hospitalier de l'Université de Montréal is implementing and testing a way to improve the capacity of community health workers (CHWs) to recognize maternal and fetal danger signs, strengthen referral systems, and sensitize communities to cultural and gender norms affecting family planning in Northern Uganda. Goals include a 30% increase in both health care use and in referrals for complicated deliveries, and a 40% increase in both CHW skills and in community acceptance of family planning.

**Collaborating Operational Services for Scientific Researches (U) Ltd. (COSSR)
Empowering Refugee Women from Shame: Provision of Safe and Affordable Sanitary Pads to Manage Menstruation**

Managing menstrual health in refugee camps is a big problem, as refugees often have no access to sanitary pads, and thousands of adolescent girls and women are forced to improvise with unhygienic alternatives that put them at risk of contracting infections. The project will train and work directly with refugee women and youth to produce sanitary pads, creating opportunities for

employment and life skills development, while providing low-cost, washable, and reusable sanitary pads for sale to the refugee community in Uganda.

Global Health Economics Ltd

Development and Pilot Testing of a Mobile Phone Application to Increase Awareness and Uptake of Sexual and Reproductive Health Services among Youth Aged 15 to 30 years in Uganda

Youth in Uganda face many Sexual and Reproductive Health (SRH) risks such as unmet need for contraception, which leads to unplanned pregnancies that result in unsafe abortions and sexually transmitted infections. Global Health Economics will design a mobile phone based SRH service delivery application (“app”) which will remove financial and knowledge barriers among youth, will increase delivery and uptake of SRH information among youth, and link users to partner health facilities from which they can access free SRH services.

Makerere University

The Maternal PPH Wrap

Post-partum hemorrhage (PPH) is a leading cause of maternal mortality in low- and middle-income countries. The Maternal PPH Wrap is a user-friendly and affordable medical device to control PPH before professional intervention is available. The device can be used to administer external aortic compression, by application of a radial force on the descending aorta. This results in a compression force on the uterus, ultimately forcing it to fall back to a position that reduces the volume of blood flow to the uterus, managing PPH. This innovation is being implemented in Uganda, where many women give birth at home or clinic with the assistance of a family member or traditional birth attendant. In the event of PPH, the Maternal PPH Wrap can help control PPH while the mother is transferred to a hospital for medical intervention.

Makerere University

Point of Care Early Diagnostic Strip for Preeclampsia

Makerere University is designing and testing a point-of-care early diagnostic strip that expecting mothers can use at home to self-screen for preeclampsia. Goals include developing 200 test strips that can accurately detect the level of biomarker proteins from urine and inform the user if they are at risk of preeclampsia, clinical verification of the prototype and confirmation of user acceptability through a validation study in Uganda.

Makerere University

Testing a Novel Sonographic Technique to Improve Diagnosis of Pregnancies at Risk of Stillbirth

Makerere University is testing the use of the cerebroplacental ratio (CPR) alongside traditional approaches to improve diagnosis of pregnancies at risk of stillbirth. Goals include demonstrating that CPR — independently and/or in combination with uterine artery doppler and fetal weight — is more accurate than traditional methods alone in the diagnosis of pregnancies at risk of stillbirth.

Mbarara University of Science and Technology**I-Dress: A Ready-To-Use Improved Wound Dressing Material Made out of Honey and Olive Oil**

Joseph Ngonzi at Mbarara University of Science and Technology in Uganda is designing and testing I-Dress, a wound dressing material made of honey and olive oil embedded in measured pieces of gauze, as a resource to decrease wound sepsis following caesarean delivery. This novel innovation presents the potential for decreasing maternal deaths cause by wound sepsis.

Mildmay Uganda Limited**Delivering Sexual and Reproductive Health including Family Planning Services to Urban Refugees using a Gender Action Learning System Championed by Refugee Community Health Workers in Kampala, Uganda**

Using the Gender Action Learning Systems (GALS) approach, Mildmay Uganda is training urban refugees as community health workers to facilitate improved access and utilization of sexual & reproductive health and family planning services by other refugees in their communities. Kampala's weak health system is not adequately meeting the needs of host and refugee communities and Mildmay's project presents a solution to meet the particular vulnerabilities of refugees, including overcoming transportation, education, culture and language barriers.

Nipissing University**Using Cooperatives to Improve Maternal, Newborn and Child Health Among South Sudanese Refugees and their Host Communities in Uganda**

This intervention aims to promote health education and services for South Sudanese refugees in Ugandan camps. The goals include providing access to a cooperative store, community health workers, health products and services; information on gender equality, gender-based violence, sexually transmitted infections, and mental health; and reducing acute child malnutrition by at least 2% (from 9.4%), anemia among refugee children to 30% (from 40%); and the number of South Sudanese refugee children in need of mental health care to 55% (from 60%).

Nucleus Innovations Limited**mCTG: Non-Invasive Early Detection of Obstructed Labour for Low Cadre Health Workers**

Obstructed labour is a major cause of maternal mortality in Uganda. The majority of these cases occur in areas that lack basic health infrastructure, such as refugee camps, rural villages, and slums. Labour in these areas are often attended by traditional birth attendants who are unable to detect complications by physical examination. Nucleus Innovations Limited is developing and testing a low-cost, portable, solar rechargeable device that monitors frequency, duration and strength of maternal uterine contractions, along with fetal heart rate to diagnose obstructed labor, dystocia, preterm labor and fetal distress. Goals include validating the efficacy of mCTG over existing tools, and a reduced risk of obstructed labour complications due to early detection by the device.

Sanyu Africa Research Institute**Back to the BASICS: The Gel-heated Baby-Saver Tray for Affordable Neonatal Resuscitation in Resource-Poor Settings**

Every year, around 10 million babies worldwide are unable to breathe at the immediate time of their birth. 6 million of these cases require basic resuscitation, and nearly 1 million die – with the majority of deaths occurring in low-resource settings of low- and middle-income countries. Sanyu Africa Research Institute in Uganda is creating a bedside kit to assist mothers in the care of newborn infants who require basic resuscitation. The BabySaver tray is a resuscitation platform that allows neonatal resuscitation at the mother's side with an intact umbilical cord, and includes: pictorial resuscitation instructions; a gel heating pad to prevent neonatal hypothermia; and a compartment to hold supporting equipment such as a mask, stethoscope, and suction device.

Simon Fraser University**Getting to Zero: Safer Conception Programming to Eliminate Sexual and Perinatal HIV Transmission Among HIV-serodifferent Couples in Uganda**

Simon Fraser University is establishing a safer conception program towards eliminating sexual and perinatal HIV transmission among HIV-serodifferent couples in Uganda. Goals include: enrolling 50 individuals or couples, assessing acceptability of the intervention, achieving zero cases of HIV transmission among couples, and <2% perinatal HIV infection among infants born.

ZAMBIA**Marie Stopes Zambia****Scaling Up Access to Contraceptive Choice in Zambia through Mobile Community Nurses**

Marie Stopes Zambia will equip and quality assure the MSZ Ladies (a network of retired, under- and unemployed nurses) so that they are able to offer women comprehensive family planning services and HIV testing in their own homes or in available community spaces near “hotspots” such as market places. The model combines a form of income generation for nurses with a low cost mode of transport in order to deliver mobile services to women in low-income, high density compounds in and around Lusaka and Solwezi.

University of Zambia**Assessing and Addressing Risk of Antenatal Clinic (ANC) Attendees: Catalyzing Action on Violence Against Pregnant Women & Adolescent Girls in Lusaka, Zambia**

The University of Zambia's Anitha Menon is implementing a Danger Assessment tool (DA-4) in 4 low-income community antenatal clinics. The project will also facilitate access to, and improvement of, gender-based violence (GBV) supports in order to enable risk assessments, guide safety planning, and collect data to inform health and justice policy decisions. This is a much needed intervention in a country where rates of violence against women and girls are alarmingly high.

ZIMBABWE

Midlands State University

Road-MApp: Improving Access to Maternal Health Care Services

Poor access to maternal care services is a known determinant for low rates of facility births and adverse maternal outcomes. In Zimbabwe, 73% of maternal deaths are attributed to delays in accessing care, resulting from long distances and travel times to health facilities, limited transport options and lack of transport funds for maternal care. Roads become hard to navigate during the wet season due to precipitation and floods, leaving many pregnant women vulnerable to poor maternal outcomes. The Road-MApp project is a mobile app to help women access maternal health care and facilitate transportation of pregnant women to care. Road-MApp accounts for road and weather conditions in near-real time, and links women to local transport resources that are available to facilitate their transit to maternal care. Goals include establishing micro-savings groups to finance the process, a 25% increase in use of health facilities during pregnancy, and a 10% increase in in-facility deliveries.

AMERICAS

ARGENTINA

IECS – Instituto de Efectividad Clínica y Sanitaria Asociación Civil The App ESI

In Argentina, adolescent mothers comprise 15% of all births, with rates approaching 25% of births in some areas. Provinces with the highest rates of adolescent birth also have the largest proportions of families with unmet basic needs and mothers who have not completed primary school. These trends suggests that early childbearing primarily afflicts adolescents living in situations of extreme poverty. In these regions, quality information about sexual and reproductive health is hard to find. The App ESI aims to provide adolescents in two regions of Argentina with free, trustworthy and comprehensive information about sexual and reproductive health, gender-based violence, gender identity and sexual orientation via a mobile app. The App ESI goals include a 30% increase in users' knowledge of the subjects, and a 50% increase in users' self-reported willingness and ability to access services.

BRAZIL

Fundação para o Desenvolvimento Científico e Tecnológico em Saúde (FIOTEC) Baby-Thermocrown Africa: “USD\$60 for a Life?”

The Baby-Thermocrown is an innovative hat that cools the head of infants that perinatal asphyxial encephalopathy (PAE), a condition of harm to the brain caused by lack of oxygen to the newborn. Therapeutic hypothermia interventions are proven and widely practiced in high-income countries, but expensive and inaccessible in low- and middle-income countries. The Baby-Thermocrown being piloted in Brazil is light, portable, energy-independent, gas-activated device to treat PAE, will be available at \$60/unit. It can be easily activated upon demand, delivering selective brain cooling and maintaining focal brain hypothermia of the asphyxiated neonate until gentle re-warming is permissible. Using a two-layer head-cover, the top layer is inflated with cold vapor released from a CO₂ gas canister and the lower layer, filled with water, is thereby stably cooled by the upper layer.

Fundação para o Desenvolvimento Científico e Tecnológico em Saúde (FIOTEC) SBOX: Single-Serve “Pod” Suppository-Maker to be used in the Field

SBOX has been strategically designed to instantly produce specific suppositories to treat both mothers and newborns requiring early pharmacological treatment in under-resourced rural areas of low- and middle-income economies, such as in the target countries of Brazil and Mozambique. Sepsis is responsible for about 10% of all maternal deaths and 26% of neonatal deaths in sub-Saharan Africa. SBOX is designed to meet regulatory standards, be user-friendly, energy and water-independent, is recyclable, and comes in three varieties of stable pharmacological active ingredients such as gentimycin and misoprostol.

CANADA / GLOBAL

University of Ottawa

Expanding Access to Safe Abortion Care Through the Community Distribution of Misoprostol

Angel Foster at the University of Ottawa is looking to expand access to safe termination of pregnancy services, promoting women's empowerment, and demonstrating community-based distribution of health services that are safe, effective, and acceptable in different country contexts, including stable and conflict-affected settings.

COLOMBIA

Fundación Canguro / Kangaroo Foundation

La Méthode Mère Kangourou Comme Moyen de Transport de l'Enfant Prématuré ou de Petit Poids de Naissance en Situation de Terrain Difficile

Establishing and testing a model for using Kangaroo Method Care to transport preterm and low-weight babies in rural Colombia to avoid hypothermia and hypoglycemia, leading causes of death. Goals include eight training sessions for 54 nurses and doctors at community centers and 7 regional hospitals, as well as 54 nurses and community health workers in satellite primary care centres; a 30% decrease in the number of preterm babies arriving with hypothermia or hypoglycemia.

DOMINICAN REPUBLIC

Clinica de Familia La Romana (CFLR)

Strengthening the Self-Determination of Adolescent Mothers (Fortaleciendo la Autodeterminación de Madres Adolescentes (FAMA))

Clinica de Familia La Romana implements peer support groups, SMS messages on health topics and appointment reminders, and a WhatsApp digital support group through a user-centered approach to empower mothers with essential information to practice healthy behaviours and access health services in La Romana, Dominican Republic.

HONDURAS

Fundacion Lagu Hatavadi Waduheñu "Por La Salud De Nuestros Pueblos"

Low Cost Neonatal Intensive Care Incubator for Low Resource Countries



The Fundacion Lagu Hatavadi Waduheñu, in collaboration with Breegi Scientific, is developing a low-cost and disposable neonatal incubator, designed for one-week usage, which delivers essential necessities for neonatal critical care: heat, humidity, ventilation, phototherapy and containment. The low-cost of this device makes it viable in LMICs, which can lead to an increased ability to treat multiple life-threatening conditions in neonates.

ASIA

CAMBODIA

Clinton Health Access Initiative Canada

A Tablet-based Intervention to Improve Family Planning Access for HIV+ Women in Cambodia

In Cambodia, approximately 25% of women living with HIV wish to delay or avoid pregnancy, but do not have convenient access to modern contraception and could be at risk of unplanned pregnancy. The Perfect Fit project is implementing and testing a tablet-based, facility-level intervention to improve family planning service delivery at anti-retroviral clinics. Tablets will include family planning content tailored to women living with HIV and a tool to strengthen linkages to additional family planning services if needed.

INDONESIA

PT Kopernik

The Perfect Fit: A Smart Entry Point to Reshape Menstrual Hygiene Management in Indonesia

PT Kopernik's project involves the design, production and distribution of 'Perfect Fit', a low-cost, re-usable menstrual pad tailored to the needs of women in rural Indonesia. Production of these pads will focus on using locally sourced materials, while distribution models will serve as an entry point for creating dialogue to promote education on menstrual hygiene, as well as sexual and reproductive health and rights, which are taboo topics in Indonesia.

PT. Tulodo Indonesia Makmur

DOLPIN: a Family-based Health, Sexuality, and Relationship Teaching Kit for Urban Poor Children in Indonesia

PT. Tulodo Indonesia Makmur is developing and testing DOLPHIN, a family-friendly sexuality, health, and relationship teaching kit for children aged 5-9 years to enable parents to deliver sexuality education at home in Indonesia, where sex-ed is presented piecemeal in science and religion classes. DOLPHIN guides the family to become a comfortable and nurturing place for kids to gain knowledge about health and relationships.

Institute for Women's Human Rights - Instituta Hak Asasi Perempuan (IHAP)

Check2gether: Improving Access and Quality of Antenatal Care

Indonesia has high maternal mortality rates, especially in rural areas. Long distances, costs, poor quality equipment, and lack of awareness hinder pregnant women's access to antenatal care (ANC). The Institute for Women's Human Rights – Instituta Hak Asasi Perempuan (IHAP) project is utilizing and testing "Check2gether," an integrated testing kit with instant mobile

diagnostic support, via a mobile app, to improve access to and quality of ANC in rural Indonesia by detecting pre-eclampsia, anemia and diabetes.

MYANMAR

Marie Stopes International Myanmar

Improving access of Sexual and Reproductive Health and Rights with a social media marketing approach

Marie Stopes International is testing a social media marketing intervention in Myanmar. Using Facebook as a platform to reach a wide audience of women and adolescents, the project will disseminate information on sexual and reproductive health and rights. Learning will be enhanced through contest and quiz sessions on Facebook, as well as message delivery through other smartphone communication platforms.

NEPAL

ASTHA

Women for women - Improving sexual and reproductive health of female sex workers In Nepal.

ASTHA's Women for Women project aims to train and empower female sex workers in Nepal to be positive role models and counsellors for their peers on sexual and reproductive health and rights through community-based outreach. This intervention serves as a solution to the social exclusion and criminalization of sex work in Nepal which limits access to social institutions and further marginalizes women and girls who already come from poor and marginalized situations.

Mbarara University of Science and Technology

Protecting Remote Infants by SMS (PRISMS): A novel phone application that empowers frontline health workers to effectively manage sick newborn babies.

The Mbarara University of Science and Technology is testing the efficacy of "PRISMS," a text message-based system that empowers frontline health workers to save newborn lives by providing timely management suggestions based on validated algorithms. Goals include: a 10% improvement in survival of sick newborns and a 20% decrease in referral rate in intervention arm.

Memorial University of Newfoundland

Developing Peer Support for Adolescent Friendly Reproductive and Sexual Health Programs.

Demonstrating that peer to peer education improves sexual and reproductive health knowledge among adolescents in Nepal, young people will be engaged in needs assessment, development, monitoring and delivery of SRH information. Goals include: a 40% increase in knowledge and

20% increase in uptake of sexual and reproductive health services by adolescents in intervention communities, and evidence of changing gender norms.

Nyaya Health Nepal / Possible Health

Combatting Chaupadi and Empowering Women in Rural Nepal

Nyaya Health Nepal is implementing a project to combat Chaupadi, a social tradition associated with the menstrual taboo, and empower women in rural Nepal. To do this, Community Health Workers (CHWs) will utilize group antenatal care sessions to improve women's understanding of menstruation as a biological process and motivate CHWs to stop the harmful practice of Chaupadi.

Supportive Action Forum for Improvement

Menstrual Hygiene Management (MHM) Improvement in Achham: Empower the girls and women to manage their monthly period hygienically and with dignity

Supportive Action Forum for Improvement is establishing and mobilizing a Menstrual Hygiene Management (MHM) Promotion Committee, made up of local women and girl leaders, to improve MHM in rural Nepal. The Committee will become MHM champions, implementing MHM sensitization programs for stakeholders, ensuring water, sanitation & hygiene facilities are in schools, and creating an entrepreneurship initiative to produce affordable and reusable menstrual pads. The project seeks to empower girls and women to manage their monthly period hygienically and with dignity, in a region where Chaupadi, a social tradition associated with the menstrual taboo, puts them at risk.

PHILIPPINES

Renewsiya Foundation Inc.

A Healthy Me: empowering & equipping Filipina adolescents

A Healthy Me implements health education, specifically sexual and reproductive health, targeting primarily adolescent girls. With facilitators across at least 8 municipalities in Cebu, A Healthy Me goals include: 9-14 education sessions for 576 adolescent girls (aged 14 - 24), a 50% improvement of knowledge among the group, education sessions with 360 parents, 240 government health staff, and 14 high school teachers, and demonstrating the potential for scaling to more municipalities.

VIETNAM

Center for Promotion of Advancement of Society

E-BabyCare – A virtual platform of care for preterm babies after discharge from neonatal intensive care units in Vietnam

As perinatal and neonatal care advances, more preterm babies are surviving and being discharged from neonatal intensive care units (NICU) to be cared for by parents. However, follow-up care for these high-risk babies is often not available or accessible in low- and middle-income countries, such as Vietnam. E-BabyCare is a virtual platform for follow-up care of preterm babies with a web interface, smartphone apps, and a call centre. NICU care providers can make "virtual visits" and parents can remotely access providers via SMS, phone, chat, or video conference. Furthermore, the platform allows for real-time follow-up and monitoring of the baby's health, early detection of complications, and timely referral for early intervention.

Marie Stopes International Vietnam

Improved access to sexual reproductive health information and services for female workers

Female factory workers in Vietnam greatly lack information on sexual and reproductive health and rights (SRHR) and family planning (FP). While some factories have health clinics within them, they often do not provide adequate SRHR and FP services, and workers have difficulty accessing public or private clinics due to associated time and financial costs. Marie Stopes International will implement a "Blue Star" corner health kiosk within an established health clinic at the Pou Chen factory. The corner will provide high quality services by trained professionals with essential SRHR information and training will be provided to clinic staff.



INDIAN SUB-CONTINENT

BANGLADESH

Handicap International Federation

Promoting Responsible Fatherhood to Safeguard Maternal and Child Health in Refugee Communities in Bangladesh

In rural Bangladesh, preventable causes of maternal health complications are still common. Adolescent pregnancies, ascribed mostly to child marriages, are among the highest in the world. The situation is more acute in culturally conservative Rohingya refugee communities in Cox's Bazar, where men are key decision-makers in reproductive and maternal health. The "Men's Concern" campaign will encourage men and boys to adopt 'responsible fatherhood' behaviours that support 'safe motherhood' in refugee communities. The program will integrate direct work with men and boys, community leaders, local government and health services, in the Ukhia and Teknaf sub-districts of Bangladesh, where Rohingya refugee camps are home to the country's poorest and most marginalized communities.

Health and Education for All (HAEFA)

Novel Workplace NCD and ID Screening for Garment Factory Female Workers Using EMR

Bangladesh has about 5,400 garment factories with four million workers and up to 16 million livelihoods dependent on them. About 70% of these workers are reproductive-age women, who have almost no access to healthcare because they work six days a week for long hours, and the financial or time costs are considerable barriers. HAEFA and Brown University are implementing a mass health screening method in the workplace that electronically records BMI, BP, blood glucose, Hb%, and symptoms of high-risk pregnancy, tuberculosis, and asthma. All medical records are saved in a database with auto-flagging for diagnosis, follow-up, and remote prescription printing; it will also provide a list of GPS-mapped local healthcare providers as referral centers for each factory.

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)

Human-centered design and piloting of a manually powered spinner to facilitate washing and drying of reusable menstrual pads in Bangladesh urban slums

The International Centre for Diarrhoeal Disease Research is designing, piloting and testing a low-cost, manually-powered spinner for urban slum dwellers in Bangladesh to efficiently and discretely wash and dry their reusable cloth menstrual pads. This project targets displaced Rohingya refugee populations who lack access to affordable feminine hygiene products. The proposed innovation is to introduce the techniques of preparing recyclable sanitary pads and distribute them for menstrual hygiene management practice. Paired with appropriate sexual and

reproductive health messaging, these will be distributed among girls and women who experience menstruation and belong to Rohingya refugee camp.
INDIA

All India Institute of Medical Sciences, Jodhpur
Flipping to empower adolescents for sexual and reproductive health

Adolescents in India face barriers to accurate and constructive information about sexual and reproductive health and rights (SRHR). The "flipped classroom" provides SRHR information via mobile app, and allows students to study the material privately at home at their own pace. Class time is then used for questions, deeper learning, analysis, clarification, and discourse with a skilled facilitator such as a teacher or health professional. The project integrates technology and high mobile penetration in India, with innovative pedagogy with inputs from education specialists, teachers, parents, health educators, etc. It may also be adapted for other settings or used as a model for policy development.

ARMMAN
"A Life-saving call" : Preventing Relapse in a Child with Severe Acute Malnutrition

ARMMAN is implementing and testing a free tele-service in which counsellors guide parents of 960 children in Mumbai and New Delhi with severe acute malnutrition through direct calls on food, health and nutrition. These are conducted weekly through eight weeks of treatment and fortnightly during six months of rehabilitation. Goals include: improved nutritional recovery based on WHO standards, mid-upper arm circumference and absence of symptoms affecting feet. The improvement will be measured against a control group after eight months.

Audicor Cardiometrics Pvt. Ltd.
Detection and Monitoring Heart Disease in Underserved Women in India

Cardiovascular disease affects over a 1 million pregnant women in India every year leading to complications of the heart in the mother, which in turn can lead to abortion, stillbirth, or premature labour. Audicor Cardiometrics has a tool which non-invasively provides 4 biomarkers of heart disease, in 10 seconds, and can be done at point of care in rural and remote settings, for about 1/3 of the cost of traditional heart failure diagnostic services.

AYZH Health and Livlyhood Private Limited
Doorstep Delivery of Menstrual Hygiene Kits

AYZH is implementing a new delivery model for menstrual hygiene kits designed to increase adoption of quality sanitary pads and safe disposal practices in rural India. AYZH uses "door-to-door" product subscriptions to increase education and dialogue on menstrual health and linkages across the reproductive, maternal, newborn, child & adolescent health continuum. The kits are designed "for women, by women" based on quality and affordability. The model targets distribution to vulnerable regions specifically aiming to overcome chronic and neglected menstrual hygiene challenges that persist in rural and fragile settings.

BEMPU Health Pvt Ltd.**BHappy - Screening for Post Partum Depression in Indian Mothers Using a Simple App**

About 6 million young mothers in India face post-partum depression (PPD) annually and, as a result, 20,000 women committing suicide. The project aims to develop and test Bhappy; a low-cost screening tool for PPD that is usable on any standard smartphone and categorizes mothers as healthy, at-risk, or needs attention in order for nurses to connect mothers to clinical assistance as required. While the immediate effect of the app will be to identify and treat women who are at risk of PPD, the secondary, more long-lasting effect will be to standardize the procedure of checking for PPD at critical junctures in the postnatal period. This will represent a culture shift and will serve to “normalize” the identification and treatment of mental health conditions, rather than relying on women to ask for help while caring for families and hindered by stigma.

BEMPU Health Pvt Ltd.**Carelet - A Wearable for Measuring and Promoting Kangaroo Care**

Kangaroo Care (KC) is the practice of providing skin-to-skin contact between newborns and parents/caregivers, and is known to have benefits in promoting healthy growth, especially for premature and low birth weight babies. The project aims to promote KC in India, and to design and build Carelet; a monitoring bracelet that tracks quantity and quality of KC provided and prompts parents to improve compliance through visual feedback that shows parents the need to correct or continue their KC, and enables data to be updated in a hospital-based tracking app that is accessible to health workers.

BEMPU Health Pvt Ltd.**Kangubator - A system for Transport of Critical Neonates With KMC**

Kangubator is a wearable jacket to enable Kangaroo Transport of low birth weight and preterm newborns in India, to protect them during transport to healthcare facilities and homes, and prevent transport-induced hypothermia and noise and vibration stress. The goal is to provide 250 Kangubator jackets to hospitals in India.

Cerelia Nutritech Private Limited**Developing a nutrient loaded cosmetic preparation for tackling iron and vitamin deficiency anemia.**

Cerelia Nutritech is developing and piloting a scientifically formulated nutrition intervention in the form of a body lotion (or face cream) comprising of iron, folic acid, and vitamin B12 to tackle anaemia in adolescent, adult, and actively menstruating women in India. Iron deficiency anaemia during pregnancy is a known risk factor for mother and child, however adherence rates to iron

tablet supplementation remain low. This product represents an exciting new alternative for Indian girls and women.

College of Medicine, Nursing & Health Sciences
Early detection of bio-markers for pre-eclampsia

Pre-eclampsia is a major cause of maternal mortality & morbidity in low- and middle-income countries, such as India and Fiji. Early detection is highly expensive, time-consuming, and dependent upon the expertise of diagnostic technicians. This project proposes to develop an inexpensive point-of-care tool to measure inflammation molecules as biomarkers of pre-eclampsia. The tool can be operated by lay people, and with higher predictive yields than conventional methods.

Parisodhana Technologies Private Limited
Instant Warm Blanket – Life Saving Warmth Packed in a Bag

Parisodhana Technologies' Instant Warm Blanket project involves the design and testing of an easy-to-use blanket that provides warmth to a neonate suffering from hypothermia, using heating technology that requires no electricity or any other external heat source. This blanket is activated immediately upon removal from its packaging and would represent a low-cost option for neonatal care in low-resource settings, such as India.

MGM Institute of Health Sciences, Navi Mumbai
Project 'inj-TR2SERVE': A comprehensive program to train, triage, and improve services for unintended childhood injuries in India

Project inj-TR2SERVE is a computer and mobile based application that helps in effective recording, triage, care, and management of unintended childhood injuries and be linked to additional services for quick transfers to medical facilities. Additionally, the projects aim to develop training programs for parents, teachers, and community members to prevent injuries and for health care workers to effectively manage injuries in India.

Module Innovations Private Limited
CSense: Rapid, simple and low cost strip for early screening of Cervical Cancer at the Point of care

Cervical cancer is the second leading cause of cancer deaths for women worldwide. One third of these deaths occur in India, where there is a need for easy-to-use, low-cost, point-of-care diagnostic tools. C-Sense is a test strip being developed for the detection of HPV oncoproteins from cervical swabs, that correlate with cervical cancer. These strips cost less than \$1 each, and don't require electricity, labs, or expert technicians to deliver an accurate result. This makes

cervical cancer screening more accessible to women in rural and remote India, where there are fewer medical staff, or where women are hesitant to visit a male doctor.

OneKeyCare Ventures Private Limited

Stepped Care Intervention for Postpartum Depression in Rural India

Postpartum depression (PPD) is the leading cause of maternal morbidity and mortality and is a critical public health problem. In India, there are an estimated 26 million instances of postpartum depression per year, of which 90% never receive professional treatment and the estimated 20,000 mothers who commit suicide every year because of PPD, are the largest demographic group in India to commit suicide. OneKeyCare is developing a mobile phone app that uses online and offline data for screening, analysis, management and delivery of intervention services for postpartum depression in rural areas. The app will use voice to deliver the intervention and integrate a voice-based social network to create linkages to care. Goals include screening 2,500 new mothers; increased awareness of postpartum depression in at-risk women; improved access to postpartum depression intervention services and validation of their affordability.

The Research Institute of the McGill University Health Centre

Will an Emoji pendant empower rural young women to make smart reproductive choices?

Nitika Pai at the McGill University Health Centre is developing a wearable emoji pendant to help young women in rural India make informed decisions on sexual and reproductive health, in a setting where such information is difficult to access or non-existent. The wearable technology will also offer push notifications to mobile phones, and provide links to nearby clinical healthcare providers.

Saathi Eco Innovations India Private Limited

The Use of Biodegradable Sanitary Pads to Improve the Lives of Rural Indian Women

Saathi Eco Innovations is developing a data-driven, sustainable model for menstrual health interventions in order to improve girls' health and educational attainment in rural India. Through a network of female health workers in 100 villages, Saathi will distribute their locally produced biodegradable sanitary pads, as well as educate communities about proper menstrual hygiene practices and reproductive health. By making affordable and biodegradable pads available, as well as educating women and girls, Saathi hopes to positively impact women's health and school attendance rates of girls.

Sensivision Health Technologies Private Limited

Effective and Accessible means to diagnose Hypoxic Ischemia Encephalopathy in Neonates

India's Sensivision Health Technologies is establishing a diagnostic solution to Hypoxic Ischemia Encephalopathy, by identifying newborns at risk of asphyxia complications accurately and as early as possible after birth. This solution uses a combination of brain electrical activity monitoring and brain tissue oxygenation measurement to assess the impact and localization of the asphyxia event. The incidence of babies with birth asphyxia complications is high in resource-poor settings; thus, the ability to diagnosis early could reduce newborn mortality and morbidity in significant numbers.

University of Victoria

Semi-decentralized water treatment for MNCH in humanitarian crises

Adequate water supply is a public health intervention aimed at preventing diarrhoeal diseases in relief operations, and children under the age of 5 years and other vulnerable populations are most at risk from preventable enteric infections. This project will develop, test, and evaluate a strategy for semi-decentralized water treatment based on pre-mixed chemical formulations to treat surface water, especially in emergency humanitarian situations. Goals include implementing laboratory and field-based evaluation of water quality improvement; and field-based evaluation of the improvement relative to similar fully decentralized practices.

PAKISTAN

Child Advocacy International – Pakistan

Continuum of Care for Marginalized (CCM)

Lack of access to healthcare, compounded by inadequate healthcare knowledge is a significant reason for maternal and child morbidity for displaced people living in Pakistan's informal settlements. The project aims to deliver and test an Android-based app promoting a "continuum of care" for maternal health and child development in two slums of Pakistan. It will enroll 250 mother-infant pairs with goals for a 30% improvement in maternal nutrition, specifically iron and folate, and in the utilization of skilled birth attendance. They target higher rates of exclusive breastfeeding and initiating breastfeeding within the first hour after birth; and higher rates of age-appropriate immunization.

McMaster University

Improving women's reproductive care outcomes with Comprehensive Family Planning for Midwives

Eileen Hutton at McMaster University is developing an interactive e-book and training module with high-quality current information on family planning, safe abortion, and post-abortion care for midwives in Pakistan. The project targets midwives who perform half of abortions in Pakistan, yet have minimal training. The e-book uses audio and enhanced graphics in local language and reflecting cultural norms. Materials are distributed and downloadable on mobile phones, tablets and computers, without constant need for internet connectivity.



Grand Challenges Canada®
Grands Défis Canada

MIDDLE EAST

IRAQ

Women and Health Alliance International/ WAHA

Developing a mobile application to enhance the reproductive health services provided by Mobile Delivery Units for conflict affected populations in Iraq

WAHA is developing and piloting a mobile app to facilitate communication between health workers and Mobile Delivery Units (MDUs). WAHA aims to strengthen the efficiency of MDUs by offering timely and high quality reproductive health services, including antenatal care, postnatal care, and assistance in labor for conflict-affected and displaced women in the catchment area in northern Iraq.

JORDAN

Jordan University of Science and Technology (JUST)

Refugees' Immunization App (RImA) pilot and evaluation

The Jordan University of Science and Technology is implementing the Refugees' Immunization App (RimA) pilot, which is a smartphone app intervention to record the vaccination histories and send follow-up reminders to patients in refugee camp settings. The health needs of highly-mobile and vulnerable population are tenuous and difficult to track using traditional paper records. However, this digital device will offer portable recording through a standardized approach, will be available in multiple languages, and will be translatable in case of migration to a different context.

Journey Through Migration and Immigration Inc.

Community-based model to improve antenatal and neonatal care among unregistered Syrian refugee women in Baqaa, Lebanon – The CLEAR program model

Journey Through Migration and Immigration Inc. is implementing and testing CLEAR, a community-based program using peer educators, champions and mobile technology to address risks of poor maternal and neonatal outcomes among unregistered pregnant refugees in Lebanon. These include delay in care seeking, anemia, low rates of facility deliveries, and low pre- and post-natal care. CLEAR's goal is to decrease 20% anemia cases, increase in in-facility deliveries by 30%, and increase the population of pregnant women attending at least 4 antenatal visits by 50%.

PALESTINE

Hebron University Haya (Life) Project for Sexual and Reproductive Health

In Palestine, sexual and reproductive health and rights (SRHR) services primarily target married people, and are still considered private and taboo topics. Consequently, youth in Palestine lack access to SRHR information. The Haya Project for Sexual and Reproductive Health is the first initiative to establish a center at the university level in Palestine, and the first to include unmarried youth in its services. This project will employ innovative methods such as drama, plays, games, art, peer-to-peer education, and social media to enhance the effectiveness of its SRHR services.

WEST BANK / GAZA

Sawa Organization - All Together Today and Tomorrow A, B, C My Body & Me!

Sawa Organizations's A, B, C My Body & Me! will enable women in the West Bank & Gaza to detect vaginal infections by distributing take-home vaginal test kits and feminine hygiene kits. The mobile clinic will deliver workshops on feminine hygiene, vaginal infections, contraception, infections during pregnancy and birth, and how to maintain healthy balance after child birth. This Project will target particularly marginalized Palestinian communities where limited water and resources can make treating even a simple urinary tract infections difficult.

EUROPE

TURKEY

Medikal Arama Kurtarma Derneği (MEDAK)

HERA: mHealth Innovation to Increase Vaccination and Prenatal Care Uptake of Refugee Women in Turkey

MEDAK is developing and testing HERA, a mobile application that tracks individuals' hospital visits and treatment records to facilitate an increase in uptake of timely vaccinations and prenatal care through push notifications, health information sharing, and electronic health records. Though healthcare services are available to Syrian refugees in Turkey, the demand is limited due to foreign regulations and lower health literacy in the refugee community. As such, this project will specifically target enrollment of Syrian women and children in Turkish refugee settlements.

UKRAINE

Project Kesher

Get Real! Ukrainian Women Create Media to Debunk Myths and Rise Up! Realities about Women and Women's Health

Get Real! and Rise Up! are NGOs which are making fact-based and women-centric information available to Ukrainian women nationwide through the development and dissemination of podcasts, accompanying resource guides and outreach initiatives focused on topics of sexuality, reproductive and maternal health in order to reduce misconceptions and stigma, as well as increase women's self-advocacy in relation to these themes.