

# Fistula Care *Plus*: Key Achievements and the Way Forward to End Fistula

## WHAT IS FISTULA?

A genital fistula is an abnormal opening in the upper or lower female genital tract that causes uncontrollable, constant leakage of urine and/or feces. Obstetric fistula is usually caused by several days of obstructed labor without timely medical intervention. Iatrogenic fistula is caused by surgical error, most often during cesarean section. Traumatic fistula is caused by injury—for instance, through sexual violence or accidents. [www.fistulacare.org](http://www.fistulacare.org)

## BACKGROUND

Fistula Care *Plus* (FC+) was a global project initiated by the United States Agency for International Development (USAID) and implemented by EngenderHealth from December 2013 to March 2021. Building on work undertaken by the previous Fistula Care project (2007 to 2013), FC+ supported activities in 1,171 facilities (54 fistula treatment sites and prevention sites and 1,117 prevention-only sites) in Bangladesh, Democratic Republic of Congo (DRC), Mozambique, Niger, Nigeria, Togo, and Uganda. Table 1 summarizes the period of operation in each country. The data presented in this brief covers these time periods.

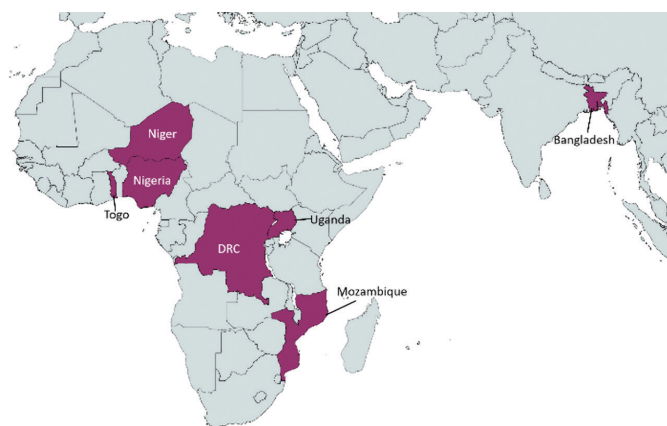
### At a Glance: Fistula Care *Plus* Results (December 2013 to March 2021)

- 15,230 surgical fistula repairs and 1,127 nonsurgical repairs supported in six countries
- 123 fistula surgeons and 10,531 other healthcare workers trained in fistula prevention and treatment
- Over 1.5 million family planning (FP) counseling sessions and over 1 million couple years of protection (CYP) delivered at project-supported health facilities
- 16 research studies conducted by FC+ and its partners to improve the knowledge base for fistula programming; more than 35 peer-reviewed journal articles documenting program learning and evidence published

Fistula is a sentinel indicator of national health systems' failures to provide equitable resources and care for women's sexual and reproductive health. The World Health Organization (WHO) estimates that up to one million women currently need fistula repair services and thousands of new cases occur each

Table 1: FC+ Country Program Dates

Country	Start date	End date
Bangladesh	December 2013	March 2020
DRC	May 2014	March 2021
Mozambique	December 2017	January 2021
Niger	December 2013	February 2021
Nigeria	May 2014	September 2018
Uganda	May 2014	May 2019
Togo	Training activities only; no direct support for repairs	



## GOAL

To strengthen health system capacity for fistula prevention, detection, treatment, and reintegration in priority countries in Sub-Saharan Africa and South Asia

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5
Strengthened enabling environment to institutionalize fistula prevention, treatment, and reintegration in the public and private sectors	Enhanced community understanding and practices to prevent fistula, improve access to fistula treatment, reduce stigma, and support reintegration of women and girls with fistula	Reduced transportation, communication, and financial barriers to accessing prevention, detection, treatment, and reintegration support	Strengthened provider and health facility capacity to deliver and sustain quality services for fistula prevention, detection, and treatment	Strengthened evidence base for approaches to improve fistula care and scaled up application of standard monitoring and evaluation indicators for prevention and treatment

Figure 1: FC+ Project Framework

year.<sup>1</sup> Fistula is a devastating morbidity, with profound social consequences for those affected. With awareness, appropriate resources, and strong health systems for prevention, treatment, and reintegration, fistula can be eliminated for future generations.

This brief summarizes the achievements of the FC+ country and global partners toward the project's results framework (Figure 1) and to advance global fistula elimination.

### EXPANDING ACCESS TO FISTULA REPAIR

Between December 2013 and March 2021, **FC+ supported the provision of 15,230 surgical fistula repairs in six countries:** Bangladesh, DRC, Mozambique, Niger, Nigeria, and Uganda (see Figure 2). In 87% of these repairs, the fistula was successfully closed (see Figure 3). FC+ supported the training of 123 fistula surgeons and 10,531 other health workers in the skills required to prevent and treat fistula.

FC+ also worked to increase awareness of and support for nonsurgical fistula treatment. Such treatment is appropriate for a proportion of fistulas, particularly recent fistulas and those

that are relatively small. **FC+ supported 1,127 nonsurgical fistula repairs** via catheterization, mostly in Nigeria. In 76% of these repairs, the fistula was successfully closed.

FC+ worked with partners to expand another aspect of nonsurgical fistula and pelvic organ prolapse (POP) treatment—physical therapy. FC+ and the Panzi Foundation collaborated with MAMA, LLC to introduce physical rehabilitation services into comprehensive fistula and maternity care at Panzi Hospital and supported MAMA, LLC to publish *“Implementing Physical Rehabilitation Services into Comprehensive Fistula and Maternity Care: A Training Guide for Health Workers”*<sup>2</sup>—one of the first resources focused on physical therapy for pelvic floor disorders geared toward low- and middle-income countries.

### IMPROVING SURGICAL SAFETY AND QUALITY

Eliminating fistula requires a collective focus on treating the backlog of existing cases and preventing the occurrence of new cases. Globally, FC+ promoted and supported the United Nations (UN) 2016 call to action to “end fistula within a generation.” In collaboration with international and regional institutions (see textbox), the project advocated for surgical systems strengthening and provided capacity building as well as financial and technical support to regional and national networks involved in surgical safety efforts.

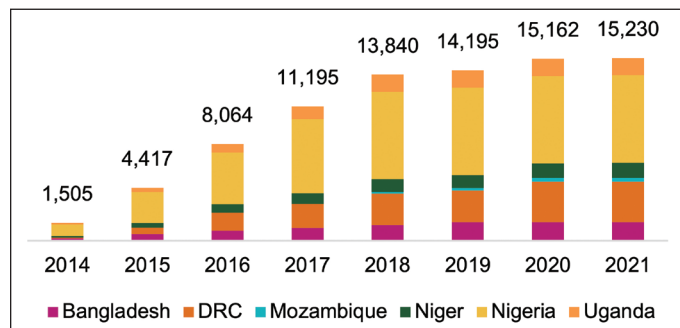


Figure 2: FC+-Supported Cumulative Surgical Fistula Repairs



Figure 3: Surgical Repair Outcomes

## International and Regional Collaborating Institutions

- American College of Obstetrics and Gynecology (ACOG)
- BRAC, Bangladesh
- College of Surgeons of East, Southern and Central Africa (COSECSA)
- East, Central, and Southern Africa College of Obstetrics and Gynecology (ECSACOG)
- Economic Community of West African States (ECOWAS)
- G4 Alliance
- International Continence Society (ICS)
- International Obstetric Fistula Working Group (IOFWG)
- International Society of Obstetric Fistula Surgeons (ISOFS)
- International Urogynaecological Association (IUGA)
- Maternal Health Task Force (MHTF)
- South Asian Group on Fistula and Related Morbidities
- United Nations Population Fund (UNFPA)
- West African College of Surgeons (WACS)
- West African Health Organization (WAHO)
- World Health Assembly
- World Health Organization (WHO) and its Global Initiative for Essential and Emergency Surgical Care

## Iatrogenic Fistula

Iatrogenic fistula is caused by unintentional errors during surgical procedures, most often a cesarean section or hysterectomy. The volume of cesarean sections in low- and middle-income country settings has increased steadily in recent years.<sup>3</sup> While the maternal and newborn health community has mostly focused on urgently needed expansions in access to emergency obstetric and newborn care, including lifesaving

surgical procedures, there is evidence that many cesarean sections are performed in settings where minimum standards of safety and quality are not achieved. It is imperative to ensure that emergency obstetric surgeries are both safe and appropriately-indicated in order to eliminate fistula by 2030.

A review of FC+ clinical data showed wide variation in the reported etiology of diagnosed fistula cases across time and location. While prolonged/obstructed labor remains the reported cause of the majority of diagnosed fistula, the percentage of cases classified as iatrogenic is concerning, with the highest proportions occurring in Bangladesh (43%) and DRC (34%) (see Figure 4). In most FC+ countries, iatrogenic fistula is primarily associated with cesarean section; however, in Bangladesh it frequently follows hysterectomy.

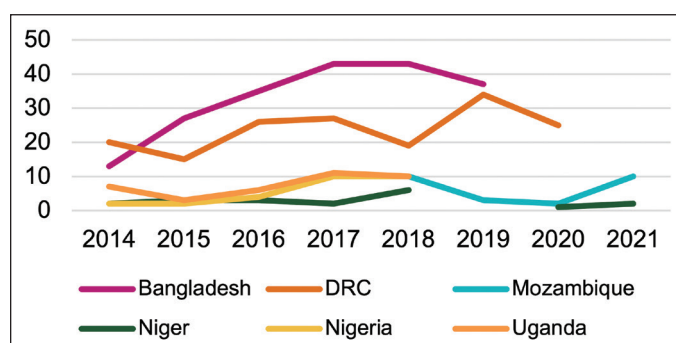


Figure 4: Percent of Diagnosed Fistula with Iatrogenic Etiology

FC+ raised awareness about this challenge, leveraging the project's body of service data and its partnerships with eminent fistula surgeons to document trends and identify actions to address the problem.<sup>4</sup> FC+ convened a technical consultation with the Maternal Health Task Force (MHTF) to examine systems challenges to safe cesarean sections and to develop a responsive action agenda.<sup>5</sup> This collaboration was also the topic of a 2017 webinar.<sup>6</sup> The project also provided monitoring and evaluation support to the American College of Obstetrics and Gynecology's (ACOG) Essential Training in Operative Obstetrics program in Uganda, which aimed to improve cesarean delivery skills among clinical trainees.

## Surgical Safety Toolkit

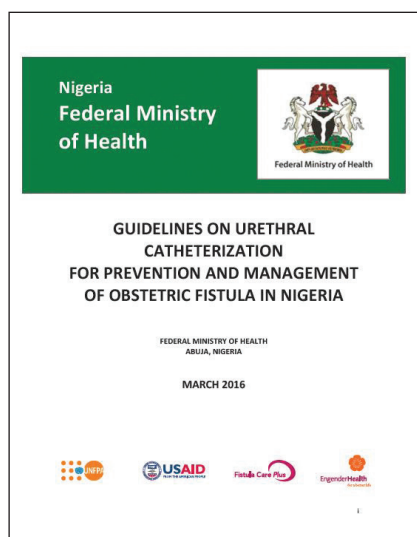
FC+ developed and introduced the Surgical Safety Toolkit (SST), an integrated package of clinical trackers and quality assurance checklists, in 27 facilities across four FC+ countries (Bangladesh, DRC, Nigeria, and Uganda).<sup>7</sup> It includes: (1) a client tracker for recording clinical outcomes of surgical and nonsurgical care for fistula, POP, and incontinence; (2) a surgical skills tracker to document the results of clinician

training for fistula, POP, and incontinence; and (3) a sentinel event tracker to identify trends of near-miss morbidity events in order to help target quality improvement support for facilities.

The anesthesia portion of the intra-op checklist and the post-op daily rounds checklist emerged as particularly important in sentinel event analysis and associated systems strengthening efforts. SST data also provided important insights into trends and potential challenges related to the provision of family planning (FP) counseling and referrals to fistula clients. A qualitative process evaluation of SST implementation<sup>8</sup> highlighted the importance of up-front and continuous investments (for instance, in information system assessments, staffing, training, and supportive supervision) in successfully introducing and sustaining a quality improvement culture within a facility.

### Bladder Catheterization for Prevention and Treatment

Following a 1994 article by Dr. Kees Waaldijk,<sup>9</sup> the prior Fistula Care project organized a consultation to develop recommendations for use of catheterization to prevent fistula after prolonged/obstructed labor, and for early treatment of small fistula.<sup>10,11</sup> Nonsurgical treatment has the potential to dramatically expand access to fistula repair for clinically eligible women and gives clients the option to forego the lengthy hospital stay required for a surgical repair, a common barrier to care-seeking, and to receive a less invasive intervention. FC+ supported Nigeria's Ministry of Health to adapt these recommendations and develop the first national guidelines on catheterization for fistula prevention and treatment.<sup>12</sup> The project also supported the translation and dissemination of these guidelines in four other countries (DRC, Mozambique, Niger, and Uganda), in addition to sharing them at international forums.



Cover of the Nigerian national guidelines catheterization for fistula prevention and treatment.

### SUPPORTING VOLUNTARY FP COUNSELING AND SERVICES

Voluntary FP services are essential to preventing unintended pregnancies and are critical for fistula prevention. FC+ incorporated EngenderHealth's REDI (Rapport Building, Exploring, Decision Making, and Implementing the Decision) Framework to support client-centered FP counseling,<sup>13</sup> to ensure fistula repair clients were offered FP counseling and methods to fit their needs. Counseling tools for fistula clients, developed under Fistula Care, recommend that fistula clients postpone future pregnancies until completely healed (at least nine months after surgery), attend antenatal care as soon as pregnancy occurs, plan for transportation to the hospital for delivery, and plan for a hospital birth by cesarean section.<sup>14,15,16</sup>

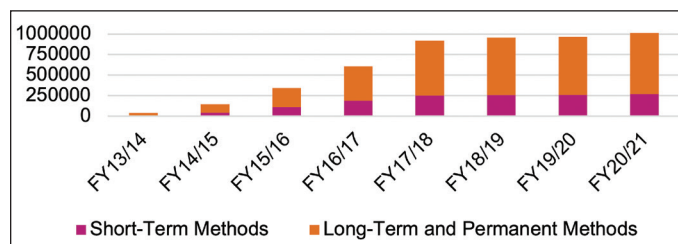


Figure 5: CYP at Project-Supported Facilities

Between December 2013 and March 2021, project-supported facilities delivered more than 1.5 million FP counseling sessions and more than one million couple years of protection (CYP) in Bangladesh, DRC, Niger, Nigeria, and Uganda (see Figures 5 and 6). This includes nearly 700,000 counseling sessions and 330,805 CYP delivered at former USAID/Targeted States High Impact Project sites in Nigeria, where FC+ monitored FP services; however, the number of sites supported by the project dropped significantly after project activities ended in Nigeria in 2018. FC+ also supported the training of over 3,600 healthcare personnel in skills related to FP service provision.

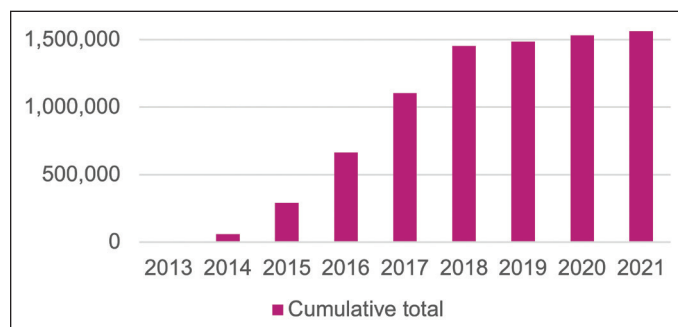


Figure 6: FC+ FP Counseling Sessions



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## MEASURING THE BURDEN OF FISTULA

High rates of fistula indicate the failure of health systems to deliver accessible, timely, and appropriate obstetric care. Fistula incidence and prevalence estimates are needed to inform effective healthcare planning and resource mobilization. FC+ convened a technical consultation with the MHTF to examine the measurement and estimation of fistula incidence, prevalence, and treatment backlog,<sup>17</sup> and subsequently collaborated with the WHO to identify and review methods and tools used in research studies and surveys.<sup>18</sup> The project advocated for the inclusion of estimates of fistula and POP in the Bangladesh Maternal Morbidity and Mortality Survey and provided technical assistance for a clinical validation study to evaluate the sensitivity and specificity of a screening questionnaire for fistula and POP cases.

In Bangladesh, FC+ worked with BRAC to adapt the 4Q Checklist<sup>19</sup> for community health workers to conduct household screenings for fistula and complete perineal tear cases. Community health workers referred suspected cases to community-based fistula diagnosis events and follow-up medical services as needed. The 4Q Checklist addresses the many barriers that many women face when seeking healthcare and bringing fistula information (including referral information) home, helps identify previously isolated women with fistula symptoms, and supports linkages to care. The Bangladesh Ministry of Health is currently examining how to integrate the 4Q Checklist into the 14,000 community clinics that deliver healthcare across the country.

The 4Q Checklist, developed for community-level fistula screening

## PUBLIC-PRIVATE PARTNERSHIPS Medical Equipment and Supplies

FC+ collaborated with manufacturers to strengthen facilities' capacities to provide fistula services. LABORIE introduced pelvic floor therapy treatment and urodynamics units for women with persistent incontinence post-repair and Gadian Health Systems improved anesthesia care through training, supplies, and ongoing technical support. FC+ also partnered with Direct Relief International to secure donations of Fistula Repair Modules—standardized packs of quality medicines and disposable surgical and anesthesia supplies necessary for fistula repair. These modules, provided to qualified health facilities for free, were delivered to 11 project-supported sites in four countries.

## Information Hotline

FC+ partnered with Viamo, a global social enterprise that specializes in mobile engagement and information and communication technology for development, to develop and test an innovative fistula screening and referral interactive voice response (IVR) hotline. This hotline linked clients who were positively screened for fistula to community agents who could refer them to quality treatment facilities and provide transportation vouchers. This innovation used context-appropriate methods to address barriers related to stigma, isolation, limited mobility, and low literacy—and allowed fistula clients to bypass many common cultural and health system gatekeepers.<sup>20</sup> An evaluation of this intervention suggested that it linked hundreds of women with fistula symptoms to care for the first time.<sup>21</sup>

Flyer for IVR hotline in Nigeria

## Mass Media Campaigns

FC+ and partners also established in-country partnerships with media outlets who donated airtime to publicize fistula outreach and treatment events as well as to directly deliver information on fistula prevention and treatment to their audiences. FC+ partnered with print, radio, and television journalists in all implementation countries to provide orientations on fistula and to develop material for publication and broadcast. Radio programs were particularly effective in reaching rural and isolated populations. Project-supported mass media outreach campaigns reached more than an estimated 57 million people.

## STRENGTHENING FISTULA POLICY AND NETWORKS

To support country-led sustainability of fistula services, FC+ collaborated with national fistula working groups developing strategies, policies, programming, and technical materials. The project facilitated and contributed to national strategy development in all project-supported countries, as well as national stakeholder meetings in Nigeria and Uganda to address the needs of those with incurable fistula. FC+ collaborated with and supported the International Obstetric Fistula Working Group (IOFWG) and the International Society of Obstetric Fistula Surgeons (ISOFS) in their ongoing global efforts to promote high standards of obstetric fistula care in a safe, effective, and ethical manner, and supported technical presentations and participation by project partners at their meetings. The project also reviewed and commented on the new United Nations Population Fund (UNFPA) Campaign to End Fistula document, *Obstetric Fistula and Other Forms of Female Genital Fistula: Guiding Principles for Clinical Management and Program Development*, published in 2021.<sup>22</sup>

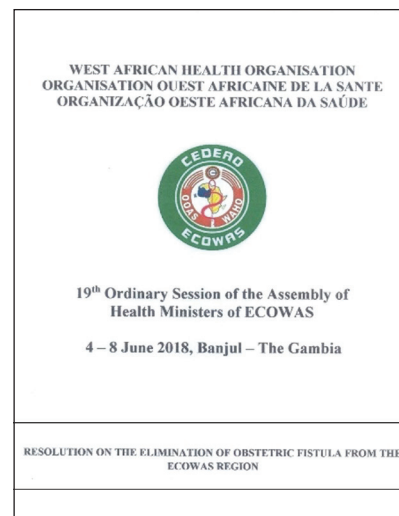
To strengthen systems contributing to regional surgical safety efforts, in conjunction with the 18th Annual College of Surgeons of East, Southern, and Central Africa (COSECSA) Meeting, FC+ supported staff and partners to participate in the biennial meeting of the WHO Global Initiative for Essential and Emergency Surgical Care (GIEESC) and hosted a side event to explore collaboration between different surgical communities and fistula surgeons to accelerate the UN Secretary General's 2016 call to action to end fistula. Alongside COSECSA, WHO GIEESC, and West African College of Surgeons (WACS), FC+ provided substantial support to the fellowship college of the East, Central, and Southern Africa

College of Obstetrics and Gynecology (ECSACOG) in their efforts to strengthen training, capacity building, and professional development for obstetrician gynecologists in the region, and facilitated participation of obstetrician gynecologists from supported facilities at the ECSACOG launch.

FC+ supported activities

to advance implementation of a resolution of the Economic Community of West African States (ECOWAS) Assembly of Health Ministers that mandated its 15 member states focus national investments and resource mobilization for collective action to end fistula in West Africa by 2030.<sup>23</sup> WACS, UNFPA, the West African Health Organization (WAHO), and FC+ jointly supported a meeting in Senegal in June 2019 to plan implementation of strategic approaches to accelerate fistula elimination in the region. To further advance implementation of this resolution, FC+ subsequently:

- Collaborated with WACS through its President, Professor Serigne Magueye Gueye, to prepare a report: *Mapping Exercise Documenting Fistula Facilities, Skills, and Services in the West Africa Subregion*<sup>24</sup>
- Partnered with Professor Oladosu Ojengbade, Director of the Center for Population and Family Health at the College of Medicine of the University of Ibadan, to prepare a *Workforce Development Plan*<sup>25</sup>
- Held two regional resource mobilization meetings, during which the two aforementioned documents were presented and discussed, and stakeholders throughout the region were invited to share their current status and activities
- Coordinated with UNFPA to advance the ECOWAS resolution, including via presentations at the two regional resource mobilization meetings and through participation in UNFPA West Africa's meeting to present and discuss its *Strategy to End Obstetric Fistula in West and Central Africa 2019–2030*<sup>26</sup>



2018 Resolution on the Elimination of Obstetric Fistula from the ECOWAS Region

FC+ collaborated with the fistula surgical community to address terminology and definitions, from etiology to evaluation and management to surgery and reintegration. FC+'s contributions to the International Continence Society (ICS) Standardization Committee's scoping document regarding the need for standardized terminology for female pelvic floor fistula led to the creation of the ICS Fistula Terminology Working Group. FC+ also contributed to the International Urogynaecological Association (IUGA)/ICS Joint Report on the Terminology for Female Pelvic Floor Dysfunction.<sup>27</sup>

## **INCREASING COMMUNITY ENGAGEMENT** **Facilitating Site Walk-Throughs (SWTs)**

FC+ enhanced community understanding and practices to prevent fistula, improve access to treatment, reduce stigma, and support reintegration of women and girls with fistula, by providing training to 3,387 community health educators and volunteers and supporting in-person community outreach activities reaching more than 7.4 million people. To strengthen linkages between health facilities and communities, FC+ implemented site walk-throughs (SWTs) in Niger, Nigeria, and Uganda.<sup>28</sup> The SWT consists of a guided tour of the health facility for community members and local officials to learn about services provided and to participate in the development of action plans to improve service quality, mobilize clients, and increase resources for the facility. SWTs foster community ownership of health services and engage community representatives in addressing health priorities at the community level.

## **Delivering Adolescent Health Programming**

Since lifelong habits are formed early in life, adolescents are important partners for fistula prevention. FC+ worked with adolescents in Bangladesh through the School Girls for a Fistula-Free Bangladesh initiative and in Uganda through partnerships with Aflatoun International and the Private Education Development Network.

In Bangladesh, FC+ supported teachers and female students to develop road maps for fistula prevention within their communities, linking them with local community clinics and institutions for social action. The project recognized students for their accomplishments, including for learning about fistula, referring their peers for antenatal care and hospital delivery services, and identifying and referring girls and women with fistula for treatment. In Uganda, FC+ collaborated with Aflatoun to adapt the Aflateen curriculum, integrating new sexual and reproductive health and gender equity modules, and implemented this curriculum to reach in- and out-of-school adolescents (boys and girls) to empower them to make positive decisions about their education, finances, health, and social well-being.<sup>29</sup>

## **Engaging Traditional and Religious Leaders**

In DRC, Nigeria, and Uganda, FC+ trained traditional and religious leaders to provide accurate health information related to fistula prevention, treatment, and reintegration.<sup>30</sup> These leaders shared this information during community outreach activities to influence health behaviors while discouraging



The Luzinga Senior Secondary School Aflateen PLUS youth group in Uganda. ©A. Kyajumbuka



harmful traditional and religious practices and beliefs that can lead to maternal morbidities and mortalities.

### Engaging Men and Families

Family support is crucial to recovery and reintegration after fistula repair, including for facilitating access to voluntary FP and maternal health services that can prevent fistula recurrence. In Nigeria, FC+ supported community-based organizations to facilitate training and peer education sessions for male involvement in maternal health and shared decision-making. In Uganda, partner facilities worked to engage men in caretaking and accompanying their partners in seeking fistula services. FC+ offered fistula clients and their partners meal and transport assistance to support this involvement. Men also participated in discussions of gender issues that increase women's vulnerability to fistula and other maternal morbidities, as well as poverty, gender-based violence, and alcohol and substance abuse. They discussed the importance and benefits of voluntary FP, healthy pregnancy, and the impact of delays in care-seeking on women's health. Conversations focused on the importance of respectful communication between couples and encouraged men to serve as community role models to share information regarding fistula prevention.

### Conducting Community Health Education

Where possible, FC+ partners integrated fistula messaging and outreach into broader community health education efforts. For example, in Niger, FC+ partner SongES integrated their outreach work with that of numerous other bilateral development projects, training participants to become

informed reproductive health and fistula awareness raising actors in their villages.

### BUILDING AND SHARING KNOWLEDGE AND EVIDENCE

Since 2005, the Fistula Care and FC+ projects have published more than 45 peer-reviewed journal articles and more than 20 research, technical, and policy briefs—all of which are available on the FC+ website.<sup>31</sup> FC+ also strengthened the evidence base for improved fistula programming and care by implementing a global learning agenda developed in consultation with its International Research Advisory Group.<sup>32</sup>

### Identifying and Addressing Barriers to Fistula Treatment

A key learning initiative was the FC+ and Population Council research-to-action partnership to examine and address barriers to fistula treatment. Following a global literature review,<sup>33</sup> in Nigeria and Uganda, FC+ with the Population Council conducted formative research, which identified long journeys to health facilities and limited decision-making ability among women as barriers to access.<sup>34</sup> Research also found that low female literacy and high stigma faced by women with fistula limited the utility of traditional community events and communication materials for fistula screening and mobilization, and that limited knowledge about and capacity for addressing fistula among primary healthcare workers delayed appropriate screening, referral, and treatment.



Community health worker meeting in Niger. ©SongES



FC+ developed an intervention to address the most salient barriers, pairing consistent fistula information and screening through multiple channels (community agents, health facilities, and IVR hotlines) with transportation vouchers for positively screened women and a companion for travel to an accredited fistula treatment center.

Population Council evaluated the intervention in three sites in Nigeria and Uganda. The intervention's results<sup>35</sup> demonstrated robust use of the IVR hotline by community members and increased ability of women to seek fistula care. The hotline and job aids supported community outreach agents in conducting fistula screenings and providing primary healthcare provider referrals. Trainings provided by the intervention resulted in positive trends in fistula recognition and referral knowledge and practices among primary healthcare providers and community agents. Comprehensive communication strategies developed by the program resulted in supportive community attitudes towards women living with fistula, including increased knowledge and support. The increased fistula admissions and surgeries recorded at fistula centers during the intervention in both comparison and intervention sites suggest ancillary effects of the intervention and the potential of wide-reaching digital health approaches as part of broader referral strategies for stigmatized populations, such as women living with fistula.

### Research Highlights

Other research conducted through FC+ and its research partners (see textbox) include:

- A survey of project-supported fistula repair sites to document demand for and capacity to provide pelvic organ prolapse (POP) services as well as perceptions around integrating POP and fistula repair services<sup>36</sup>
- Oversight of the clinical examination and referral of care for suspected fistula cases identified through the morbidity module of the 2016 Maternal Morbidity Validation Study (part of the Bangladesh Maternal Mortality and Morbidity Survey<sup>37</sup>), which enabled estimates of the sensitivity and specificity of fistula identification survey questions
- A global survey of skilled birth attendants to understand knowledge, attitudes, and practices related to intrapartum and postpartum bladder care, including catheterization to prevent fistula after prolonged/obstructed labor<sup>38</sup>
- A review of the partograph to understand when and how it works for labor monitoring<sup>39</sup>
- A study to understand the effects of psychosocial support interventions on the lives of women with incurable fistula in Uganda, which indicated that responding to individual

needs can have a dramatic impact on the quality of life and that structured programs are needed to support women with incurable fistula<sup>40</sup>

- A survey of clinicians and epidemiological modeling to estimate the burden of disease associated with prolonged/obstructed labor, which found the burden of disease to be nearly 40% higher than previously estimated<sup>41</sup>
- An analysis of Demographic and Health Survey and service provision assessment data from 44 countries to assess cesarean section trends in low-resource settings, with in-depth case studies of Bangladesh and Tanzania<sup>42,43</sup>
- A secondary analysis of all Demographic and Health Surveys that incorporated the fistula module<sup>44</sup>
- An in-depth analysis of associations between self-reported fistula symptoms and gender-based violence<sup>45</sup>
- An exploratory, mixed-methods study to understand the long-term trajectories of Ugandan women's physical and mental well-being after fistula repair and to develop and validate an instrument to measure these issues<sup>46</sup>

### Research Partnerships

- The Demographic and Health Surveys Program
- Harvard University Program in Global Surgery and Social Change
- HEAL Africa Hospital (DRC)
- icddr,b (Bangladesh)
- Johns Hopkins Bloomberg School of Public Health
- London School of Hygiene and Tropical Medicine
- Makerere University (Uganda)
- MEASURE Evaluation
- Panzi Hospital (DRC)
- Population Council
- Saint Joseph Hospital (DRC)
- TERREWODE (Uganda)
- University of California, San Francisco Bixby Center for Global Reproductive Health
- University of Manchester
- WHO



## Building Capacity

FC+ and the prior Fistula Care project emphasized research collaboration and building research capacity among national partners. A randomized controlled study<sup>47</sup> conducted by the Fistula Care project in collaboration with local investigators in eight countries determined that seven days of catheterization is non-inferior to longer catheterization after simple fistula repair. Following advocacy and support by FC+ and USAID, the WHO released a recommendation for seven-day inpatient bladder catheterization following surgical repair of a simple obstetric urinary fistula.<sup>48</sup> This recommendation could dramatically shorten required hospital stays for fistula repair patients, thereby reducing patient burden and increasing the number of patients who treatment centers can serve.

As part of efforts to strengthen local research capacity and prioritize research topics identified by local partners, FC+ employed a Flexible Operations Research Training<sup>49</sup> approach in the DRC, through which teams from HEAL Africa, Panzi, and Saint Joseph Hospital participated in workshops facilitated by an experienced researcher to develop research protocols and data collection tools. Each participating facility appointed its own local investigator and assistant. After data collection, the teams reconvened for another workshop during which they produced numerous manuscripts for publication, including “A Frequency and Management of Non-Obstetric Fistula in the Democratic Republic of Congo: Experience from the Fistula Care Plus Project,” which was published in *Tropical Medicine and International Health*.<sup>50</sup> These studies produced valuable baseline information to support fistula advocacy and to guide effective program strategies in the DRC and elsewhere. Additionally, FC+ clinical staff worked with surgeons and nurses from Panzi Hospital to further develop and publish findings from the Panzi staging system for fistula, POP, and incontinence.<sup>51</sup>

FC+ is committed to disseminating knowledge from programs and research at the national, regional, and global levels. The project presented program learning and evidence at many forums, including global conferences convened by institutions and networks such as the Global Health Workforce Network, Health Systems Global, the International Confederation of Midwives, the International Federation of Gynecology and Obstetrics, the Institute for Healthcare Improvement, the International Society of Fistula Surgeons, and the International Obstetric Fistula Working Group. FC+ shared over 175 presentations at conferences, in addition to convening 11 webinars (now available on FC+'s website<sup>52</sup>) on topics related to fistula prevention and treatment.

## TOWARD A FISTULA-FREE GENERATION

To eliminate fistula, new cases must be prevented and the existing backlog of cases require treatment. Key learnings from the FC+ experience can help inform a global road map for future action. In addition to sustained support from national governments and development partners for the provision of fistula repair, priority areas for the future include:

- **Iatrogenic fistula.** Advocate for regular investigation and standardized classification of iatrogenic fistula; increase awareness about iatrogenic fistula trends among obstetric, midwifery, and safe motherhood communities of practice at national levels; and advocate for iatrogenic fistula to be a reportable, sentinel indicator of basic surgical systems gaps that undermine a minimum acceptable standard of care.
- **Obstetric fistula.** To create synergy with the Sustainable Development Goals and the UN 2016 Call to Action to End Obstetric Fistula by 2030, advocate for obstetric fistula to be a reportable, sentinel indicator of maternal health systems gaps.
- **Fistula prevention.** Increase the focus on and funding for fistula prevention measures including voluntary FP, community education, safe motherhood, health systems strengthening of midwifery services and safe surgery, and universal health coverage.
- **Fistula screening and referral.** Expand access to screening and referral services via innovative, evidence-based approaches that involve the community and address documented barriers.
- **Nonsurgical fistula repair and prevention.** Expand awareness of and access to catheterization as both prevention and treatment approaches for fistula.
- **Holistic needs of fistula clients.** Embrace a holistic vision of fistula clients' needs, with particular focus on gender-based violence and physical and emotional well-being.
- **Service integration of fistula, POP, and non-fistula incontinence care.** Integrate genital fistula, incontinence, and POP services to enhance the financial sustainability of fistula services; engage the academic sector; and provide care for women with serious health needs who are often otherwise turned away from condition-specific sites.
- **Fistula and the safe surgery ecosystem.** Continue to advocate for fistula care representation within the safe surgery community, strengthen surgical capacity to provide fistula repairs, and promote the importance of fistula prevention and treatment as part of the safe surgery ecosystem.



## Footnotes

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