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***Health and Education for All
(HAEFA): Recent Activities in the
Rohingya Camps (10-09-2017 to 05-31-
2019)***

Providing free medical treatment and raising international awareness
for the forcibly displaced Myanmar nationals in Bangladesh

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Summary

The US-based nonprofit Health and Education for All (HAEFA) is one of the leading organizations focusing its attention on the crisis of the Rohingya, the victims of ethnic cleansing from Myanmar, living in Bangladesh since August 2017. The Rohingya have faced unspeakable atrocities at the hands of the government of Myanmar and need medical attention to address the effects of these attacks, of displacement, and of living for decades as a persecuted minority without access to healthcare. HAEFA has set up two health centers, in Kutupalong and in Balukhali, to treat the Rohingya patients in the refugee camps in Bangladesh. Using its original, paperless electronic medical record (EMR) system called NIROG (from the Bangla word for “absence of disease” or “good health”), HAEFA is able to track patient records without electricity or internet. HAEFA’s primary care centers screen patients for chronic noncommunicable diseases (NCD) including hypertension and diabetes, and acute and chronic infectious diseases such as Tuberculosis, offering treatment and patient referrals for more specialized treatment needs. HAEFA has also done considerable work raising international awareness for the Rohingya crisis, through panels, conferences, and publications in various news outlets and medical journals. Since October 2017 to May 31, 2019, HAEFA has provided free medical care to more than 103,000 Rohingya and host community patients in Ukhiya, Cox’s Bazar (Table 1). As a major caregiver in the Rohingya refugee camps, HAEFA has been included in the Joint Response Plan (JRP) of the WHO and will be serving additional 72,000 patients in 2019. In addition to its ongoing NCD healthcare work, HAEFA has plans to expand the use of NIROG to other health providers in the Rohingya camps such as UNFPA, IOM and WHO, to create an insulin service for uncontrolled diabetic patients, to develop an antibiotic usage protocol to prevent antibiotic resistance, and to conduct cervical cancer screenings of Rohingya women at its health centers.

Background on Rohingya crisis

The Rohingya are a stateless Indo-Aryan ethnic Muslim minority from the Rakhine State in modern-day Myanmar. They were an independent nation that lived peacefully with Rakhine Buddhists in the region for centuries, before being brought under Burmese rule in 1784 and then British rule in 1824 during the British occupation of Burma. During World War II, divisions in the region built up as the Rohingya supported the British while the Rakhine Buddhists sided with the Japanese forces entering the country. These tensions only increased once Burma became an independent nation.

In 1978, the Burmese state began systematic persecution of the Rohingya people which accelerated in 1982 with the passing of the Myanmar Citizenship Act. This stripped the Rohingya people of their citizenship, denying them access to healthcare and basic rights, and essentially making the Rohingya people stateless. The persecution continued for several decades with intermittent attacks on the Rohingya in the 1990s, 2012, and 2015 displacing hundreds of thousands of Rohingya people, most of whom sought refuge in neighboring Bangladesh. 2017 marked the start of the greatest exodus of Rohingya from Myanmar, precipitated by atrocities against the Rohingya people committed by the military of Myanmar. In a response to alleged Rohingya insurgent attacks, the army began a brutal slaughter of the Rohingya Muslims on August 25th, 2017. Up to 400 villages were burnt to the ground, and thousands of Rohingya were killed, raped, and tortured. This ethnic cleansing of the Rohingya was committed without any international retribution for the state of Myanmar. The attacks were so atrocious that the Rohingya have been designated the “most persecuted ethnic minority in the world” and the crisis was called “fastest-growing refugee emergency in the world today” by the United Nations.

The Rohingya sought refuge in nearby nations, and the majority settled in Cox’s Bazar in Bangladesh, on the western border of Myanmar, where camps had already sheltered Rohingya refugees for decades. In 2017, 690,000 Rohingyas fled to Bangladesh immediately following the attacks by the Burmese military, with the largest Rohingya camp in Kutupalong hosting 400,000 refugees. Bangladesh quickly deforested the region to make space for makeshift camps. There are now over one million Rohingya refugees in the camps in Bangladesh, all of whom have been denied healthcare for the past 47 years and are living in close quarters in temporary shelters in an area prone to flooding and landslides. NGOs working in the refugee camps often focus on treating acute infectious diseases such as diarrhea, fever, and cough. However, treating this population for noncommunicable diseases (NCDs) such as hypertension and diabetes and chronic infectious diseases such as tuberculosis (TB) is a critical and overlooked element of their healthcare. The need for patient follow-up and a longitudinal patient tracking system is often unmet due to the difficulty of working in such a resource-limited environment.

HAEFA’s origin and initial projects

Health and Education for All (HAEFA) is a US-based 501(c)(3) tax-exempt non-profit founded as a response to the poor health and working conditions of garment workers in Bangladesh in 2013. Dr. Ruhul Abid, a faculty at the Warren Alpert Medical School, founded

HAEFA to create a screening program for common NCDs among factory workers. The screenings focus on diabetes, hypertension, chronic obstructive pulmonary disease (COPD), malnutrition, pregnancy and related complications (preeclampsia), and TB. In order to get the employers to cooperate, HAEFA had to ensure that the workers were not wasting productivity hours by doing the screenings. The format that resulted was a brief series of tests that took in their entirety seven minutes to complete.

HAEFA developed a model made up of four stations: registration; height and weight; blood pressure and finger stick for blood sugar and hemoglobin analyses; and physician examination. Each station uses a handheld Android tablet as an EMR with software programmed by HAEFA called NIROG (meaning “absence of disease” or “good health”) to collect the information of each patient under a unique identifier (Figure 1). The patients also each have their own bar-coded ID card for follow up care. The data is then uploaded to the cloud and can be accessed by authorized healthcare providers from anywhere in the world. HAEFA has screened 19,000 garment factory workers since its founding in 2013 using the entirely paperless NIROG EMR system. With the influx of Rohingya refugees to Bangladesh in 2017, HAEFA shifted its attention to this vulnerable population and began using and modifying the system developed for the garment workers to screen the Rohingya people for NCDs.

HAEFA’s contributions to the Rohingya refugee camps

a. Primary healthcare centers

When the mass exodus of Rohingya from Myanmar occurred in August of 2017, HAEFA already had an efficient method for screening and treating a vulnerable population for acute and chronic infectious diseases as well as NCDs. In the face of the crisis, HAEFA quickly turned its attention to bringing its

Table 1. Data on Medical Camps’ Footfall (October 9, 2017– May 31, 2019)

Camp Site	Total Beneficiaries (Individuals) Reached	Total Male (Individuals) Reached	Total Female (Individuals) Reached
Kutupalong	59,609	23,216	36,393
Balukhali	44,386	20,491	23,895
Total	103,995	43,707	60,288

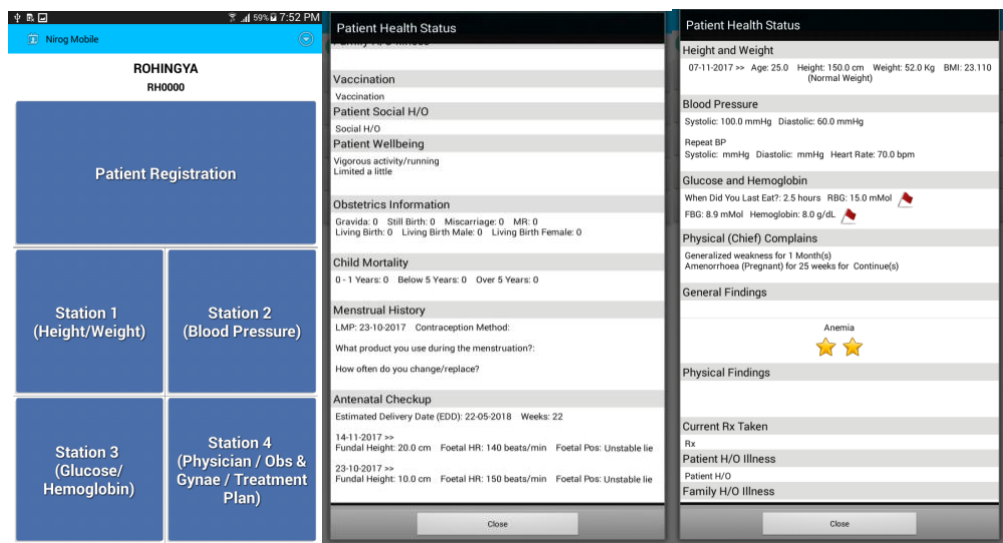
innovative system (NIROG) to the refugee camps. The work began with a donation of \$7,000 from a local mosque in Massachusetts, which covered two camps in Kutupalong and Balukhali for about one month. The first health centers were comprised of bamboo tents shared with the

government's health centers. Four doctors, six nurses and paramedics, eight health workers, and two IT assistants made up the first members of the team. This project has gradually grown in size and capacity, now employing 11 medical professionals in each camp as well as IT personnel, midwives, and even a nightguard. The two camps together treat 250-300 patients a day for six days a week, adding up to between 6,000 and 7,000 patients per month. In addition to treating the Rohingya patients, HAEFA also treats Bangladeshi people from the host communities as they are also an underserved population with little access to quality healthcare. HAEFA keeps the data of the patients from the host community separate from that of the Rohingya refugees. As of May 31st, 2019, HAEFA has treated approximately 103,000 Rohingya patients and members of the host community (Table 1).

HAEFA uses completely paperless digitized record keeping to keep track of all the patients it treats. This system evolved from the one used in the garment factories. In addition to using bar-coded ID cards that could easily be lost by the group of displaced and traumatized people, HAEFA developed a way

to use the NIROG system with fingerprinting as identification. This helps with efficiency because the Rohingya refugees are a mobile population, frequently moving from

Figure 1. EMR example screen, screenshot of physician's handheld tablet (Station 4)



camp to camp and relocating due to problems such as landslides. HAEFA also worked with IT support to create a system that compiles data from recurring patients without losing patient privacy and anonymity. These systems function on the NIROG EMR tablets. The handheld tablets are connected to the cloud using a WIFI router that is powered by solar panels, a solution to the

lack of internet and electricity in the camps (Supplementary Figures 3, 16-19). The entire system requires little to operate but maintains efficiency and organization in a chaotic environment.

There are two systems in place for the treatment of HAEFA's patients: direct treatment and referrals. Patients in need of treatment for hypertension, diabetes, fever, cough, or other illnesses are able to be treated right at HAEFA's health center in the camps. HAEFA developed a treatment protocol for hypertension and diabetes diagnosis and treatment based on various international protocols and Bangladeshi National Guidelines that were modified for the refugee population. However, due to the relatively small-scale nature of HAEFA's operations, it is necessary to partner with other healthcare providers in the camps for specific treatments such as TB, preeclamptic toxemia (PET), severe acute malnutrition (SAM), or mental health needs. Those who test positive for TB in HAEFA's center are referred to BRAC for treatment. All pregnant women are tested at HAEFA's center, and those with complications are referred to the UNFPA hospitals run by the Hope Foundation. HAEFA does not have a system for child delivery, so women with both normal and complicated pregnancies are referred to hospitals for delivery. Children who have moderate acute malnutrition (MAM) are treated by HAEFA with vitamins and health and nutrition education given to the parents. Children with SAM are referred to the World Food Programme centers. When HAEFA's doctors suspect a patient has mental health needs, the patient is referred to a government health center for care. Victims of sexual assault are referred to a women-friendly center run by UNFPA for their needs. With HAEFA's organized testing and record keeping along with the partnership of various other healthcare organizations, the Rohingya have a comprehensive network of support to gain the treatment that they need.

b. Raising international awareness

An important aspect of HAEFA's work as a US-based NGO is raising awareness for the plight of the Rohingya. HAEFA's collaboration with universities in the US has allowed HAEFA to spread the news of the crisis and of its work to university students and faculty alike. HAEFA has worked with these institutions by presenting its work at several conferences (Supplementary Figures 7-9). Harvard University hosted a conference last year titled "Bangladesh Rising" and is hosting another conference featuring HAEFA this September. Yale University also hosted a conference in 2018, UMASS Boston has hosted two panels where HAEFA has presented, and HAEFA has hosted talks at Brown University in 2018 and 2019. Through these events, HAEFA has educated audiences on

the needs of the Rohingya and has gained support for the cause. HAEFA is also participating in a Rohingya international conference organized by the UN Refugee Agency (UNHCR) in July 2019 in Dhaka, Bangladesh titled “Rohingya Crisis in Bangladesh: Challenges and Sustainable Solutions”.

In addition to attending conferences, HAEFA also gets the word out by publishing articles on the work being done in the Rohingya camps. With contributions from its volunteers, HAEFA has been featured in publications in the US by the Brown Medicine Magazine (2018, 2019), the Brown Daily Herald (2017), and the Daily Star (2018); in Bangladesh by Prothom Alo (2018); and internationally by the Groupe International De Travail Pour Les Peuples Autochtones (GITPA) in 2018 and the World Health Organization (WHO) in 2018 and 2019. HAEFA’s work was also highlighted in a national TV interview with Dr. Ruhul Abid which aired in Bangladesh in 2018.

Table 2. Publications featuring HAEFA (see Appendix for enlarged table)

US				Bangladesh			International							
Brown Medicine Magazine	Brown Daily Herald	The Daily Star	SCRIPTS: Cobb County Medical Society	Prothom Alo	TV Interview	WHO	GITPA	Inter-Section Coordination Group (ISCG) and WHO						
A People Without a Country	Back to Bangladesh	Professor provides health care to displaced Rohingya refugees	Club aims to raise awareness, funds for Rohingya refugees	Health On Wheels in action	The Cloud Meets Kutupalong	"Go to HAEFA!"	Taking health to the RMG workers	The pain in the eyes of the Rohingya children haunts us	Channel 24 Youtube video	Forcibly Displaced Myanmar Nationals (FDMNs) in Cox's Bazar, Bangladesh: Health Sector Bulletin	Rohingya Crisis in Cox's Bazar District, Bangladesh: Health Sector Bulletin	Rohingya Crisis in Cox's Bazar District, Bangladesh: Health Sector Bulletin	REPORT ON THE CRIMES AGAINST THE ROHINGYA FROM AUGUST TO DECEMBER 2017 IN THE RAKHINE STATE (MYANMAR)	Monthly 4W (Who does What, Where & When) Product, Round 43 as of 07 July 2019

c. Research

A number of students and faculty have received fellowships to conduct research at the Rohingya camps in collaboration with HAEFA. A few of the student projects have focused on the diphtheria outbreak in the Rohingya camps, adherence to TB treatment, and motherhood in limbo. An American University professor, Tazreena Sajjad, is doing research on the mental health

effect on the volunteers serving the population and is researching the policies and politics around Rohingya repatriation in collaboration with HAEFA. Professor of Anthropology Jean-Philippe Belleau from UMASS Boston also visited the camps and conducted 13 interviews with Rohingya patients which were included in an article on the Rohingya crisis featured on the UMASS website and published by GITPA. The outcomes of this research help HAEFA and other international organizations to improve their treatment protocols and patient care to better meet the health needs of the Rohingya people.

Who does HAEFA partner with?

As HAEFA is a 501(c)(3) nonprofit whose senior management is entirely volunteer-based, partner organizations are instrumental in the achievement of HAEFA's goals and the growth of the organization. It is an ongoing challenge for HAEFA to secure the funding necessary for this comprehensive and innovative healthcare system serving 1.3 million refugees who have been deprived of basic healthcare and immunizations since 1982. If approximately \$2 is needed per patient, HAEFA needs at least \$14,000 per month, including medicine, diagnostic costs, maintenance of the medical equipment, and the salaries of its onsite healthcare professionals, interpreters, and IT assistants. Fortunately, HAEFA has many partnerships with international and national entities, as well as individuals from various institutions.

a. Collaborating organizations

- Collaboration with the **government of Bangladesh** provides essential administrative help to HAEFA. Through this cooperation, HAEFA is able to refer patients to hospitals in Bangladesh for more specialized treatment. HAEFA also sends weekly reports on its data collection to the Coordination Cell, which helps the Ministry of Health track epidemiologic trends in the population by compiling the reports of all the health posts in the camps.
- HAEFA works in close collaboration with the **Office of the Refugee Relief and Repatriation Commissioner (RRRC)**, Cox's Bazar and the RRRC Health Coordinator for all operations in the FDMN camps.

- Another Bangladesh-based partner is **BRAC**, an international development organization and one of the largest NGOs in the world. BRAC collaborates with HAEFA in large part through receiving referrals for TB treatment.
- **Brown University Global Health Initiative (GHI)** is an important collaborator because it features HAEFA on its website and helps spread the word about what HAEFA is doing.
- **Brown University, Harvard University, Yale University, UMASS Boston, and American University** have also collaborated with HAEFA through faculty member's contributing their expertise to HAEFA's work and through invitations to participate in conferences happening on their campuses. Experts from these universities and others have visited the camps to contribute their skills and provided training for Bangladeshi medical professionals. Some of these experts include Dr. Jane Carter, a professor at Brown University specializing in TB and the former president of the International Union Against TB who visited the camps in 2017; Dr. Susan Cu-Uvin, another Brown University professor, director of Brown's Global Health Initiative, and world-class cervical cancer specialist who visited in 2018; Dr. Frank Sellke, world-renowned cardiac surgeon and Chief of cardiothoracic surgery at Brown who visited in 2016, 2017, and 2018; and Dr. Anais Ovalle, an infectious disease specialist and Chief Resident of Kent Hospital, affiliated with Brown University, who visited in May of 2019 to train HAEFA's doctors and nurses on diagnosis and treatment protocols for infectious disease in the camps. The collaboration between Bangladeshi and international health professionals has enabled continuous improvement of HAEFA's healthcare operations. The support of these institutions has also helped to get the word out to students and faculty about the crisis and ways to get involved.
- The **Burma Task Force** is a collaborating partner which helps to raise international awareness for the Rohingya cause.
- The **International Organization for Migration (IOM)** has also worked with HAEFA and is in discussion with HAEFA about funding medical supplies for the health centers.
- The **UN Refugee Agency (UNHCR)** and the **UN population Fund (UNFPA)** also collaborate with HAEFA. The UNFPA has hospitals run by the **Hope Foundation** where HAEFA refers pregnant women with complications in their pregnancy, and they also have women-friendly centers where HAEFA refers sexual assault survivors.

b. Funding organizations

Table 3. Funding Sources (see Appendix for enlarged table)									
US									Bangladesh
Aprosoft	Brown Global Health Initiative	Brown's Watson Institute	ICB Youth Group	Islamic Center of New England	Price water house Coopers (PwC)	Selimiye Mosque	Semnani Family Foundation	Unitarian Church of Nantucket	Abdul Monem group
donated to HAEFA by providing ongoing, free IT support since 2017	provided fellowships for students to conduct research in the camps	provided fellowships for students and faculty to conduct research in the camps	organized a major fundraiser for HAEFA in 2018	was the first to fund HAEFA in October 2017, and also ran several major fundraisers in 2018 and 2019.	donated to HAEFA in the form of materials from Better Shelters to build semi-durable structures at HAEFA's health centers in the Rohingya camps in June 2018.	ran a fundraiser for HAEFA in 2018.	provided HAEFA with funding for an entire year beginning in April of 2018.	ran a fundraiser for HAEFA in August 2018.	contributed funding since July 1, 2018

- **The Semnani Family Foundation**, Utah, USA has been a dedicated partner and is the major contributor to HAEFA’s humanitarian and clinical work, providing HAEFA with funding for an entire year beginning in April of 2018.
- **The Abdul Monem Group**, Dhaka, Bangladesh has contributed funding to HAEFA since July 1, 2018.
- The software development company **Aprosoft**, based in Andover, Massachusetts, has donated to HAEFA by providing ongoing, free IT support since 2017. Aprosoft helped HAEFA develop its EMR system, known as NIROG, in 2016.
- The **ICB (Islamic Center of Boston) Youth Group**, Wayland, MA organized a major fundraiser for HAEFA in 2018, providing HAEFA with almost four months’ worth of funding.

- The **Islamic Center of New England** in Quincy, Massachusetts was the first funding source of HAEFA in October 2017, and also ran several major fundraisers in 2018 and 2019.
- The **PricewaterhouseCoopers Foundation (PwC)** also donated to HAEFA in the form of materials from **Better Shelters** to build semi-durable structures at HAEFA's health centers in the Rohingya camps in June 2018. These are especially important considering the environmental challenges in the region. In order to make space for the millions of refugees fleeing to the area, extensive deforestation occurred. The dangers of monsoon season, including flooding, mudslides, and increased risk of disease, are magnified by the deforestation and the already present effects of climate change. The semi-durable structures donated by PwC provide much-needed protection from these environmental hazards.
- The **Selimiye Mosque** in Methuen, Massachusetts ran a fundraiser for HAEFA in 2018.
- The **Unitarian Church of Nantucket**, Massachusetts ran a fundraiser for HAEFA in August 2018.

Future goals for HAEFA's work

a. Mass screening and medical record keeping in the Rohingya camps

HAEFA has a strong foundation for its work in the Rohingya camps, and a model for delivering healthcare that is proven to work efficiently and well. With a small team of medical doctors and the help of many donors, HAEFA has made real contributions to the health of the displaced Rohingya people. However, there are still ongoing projects and goals that HAEFA plans to achieve.

- **Cervical cancer screening-**

One of the primary goals for the future is to provide cervical cancer screenings for the women in the Rohingya camps. Cervical cancer screenings are crucial in this population, due to the massive number of sexual assaults that occurred during the attacks against the Rohingya in August of 2017. It is estimated that 52% of reproductive age women were sexually assaulted during the attacks and these assaults put the women at a higher risk for cervical cancer. HAEFA has attempted cervical cancer screenings in the past but was faced with cultural barriers that impeded following through. Female doctors were employed to conduct

the screenings, but even with this measure taken the line of patients quickly dispersed when the women realized the invasive nature of the screening. HAEFA is working to overcome this obstacle by initiating conversations with local imams, leaders in the mosques, about the importance of the screening in the hopes that with influence from their religious leaders, the women will be more inclined to participate. HAEFA is planning to conduct cervical cancer screenings in three sub-districts in Bangladesh in collaboration with Brown University. If all goes as planned, beginning in July of 2019, 60,000 women will be screened in the Kurigram district over the next two years, and 7,000 women will be screened in the Rohingya camps within one year.

- Insulin for diabetic patients–

Another objective that HAEFA aims to achieve is creating an insulin service at its locations in the camps. HAEFA's ongoing project includes testing for diabetes, hypertension, and other chronic diseases in the population. Many of the Rohingya people have tested positive for diabetes and are receiving oral antidiabetic therapy (Metformin) from HAEFA. However, a significant number of diabetic patients do not respond to Metformin and require insulin. The current system for receiving insulin requires the patients to be referred to an in-patient hospital where the correct dose of insulin is determined and then they are on their own to administer insulin daily. Through collaboration with the in-patient hospitals, HAEFA plans to facilitate treatment by storing insulin right in the camps. The patients would still be referred to the hospital to determine the definitive insulin dose they need, but then they would go to HAEFA each day, sit for half an hour, and be treated. This is now a possibility because within the last two months HAEFA obtained electricity at its centers and is planning to purchase two refrigerators to store insulin. The implementation of this service would make treatment for diabetes much more efficient and accessible to the population.

- Prevention of antibiotic resistance–

HAEFA is also working to confront the issue of antibiotic resistance in the camps. As the Rohingya are a floating population, there is no consistent supervision for antibiotic treatments. Resistance to antibiotics is a real risk in the refugee camps and can lead to more disease including multidrug-resistant (MDR) TB. HAEFA plans to combat this problem by creating an antibiotic resistance program, developed by Dr. Anais Ovalle. This protocol, which comes after the hypertension and diabetes protocol developed by HAEFA already in use by

IOM, will be presented to IOM, WHO, UNHCR, and the Government of Bangladesh's Ministry of Health once completed.

- Sharing of patient data among different treatment providers in the camps using EMR–

While there are many organizations working to bring medical care to the Rohingya refugee camps, the data and medical records of the patients treated are currently not linked in any way between health providers. Having a system that shares the data of different treatment providers electronically would improve organization and patient care in the camps. HAEFA's paperless NIROG EMR system is an ideal tool for this, and HAEFA is in discussion with the Coordination Cell, IOM, and other organizations about bringing NIROG and training on how to use it to their health centers. This system does not require electricity or internet, which is ideal for the resource-limited environment of the Rohingya camps.

b. Universal health coverage

As HAEFA refines its system and expands its objectives and capacity, another goal has become to convince other partners to use its paperless EMR system, NIROG. There is already progress on this front as well. The International Organization for Migration (IOM)'s Health Director Dr. Francis Tabu has reached out to HAEFA and discussed the possibilities for wider use of the system. The director of the US Center for Disease Control and Prevention (CDC) in Bangladesh, Mr. Michael Friedman has also commended HAEFA's approach to delivering healthcare in the camps and commented that the digitized system is promising for broader use across health centers in Bangladesh. Conversations with the Director General of Health Services (DGHS), Ministry of Health, Bangladesh are in the works for HAEFA's methods to be implemented on a larger scale in Bangladesh.

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Appendix

Tables and Charts

a. Patients Treated

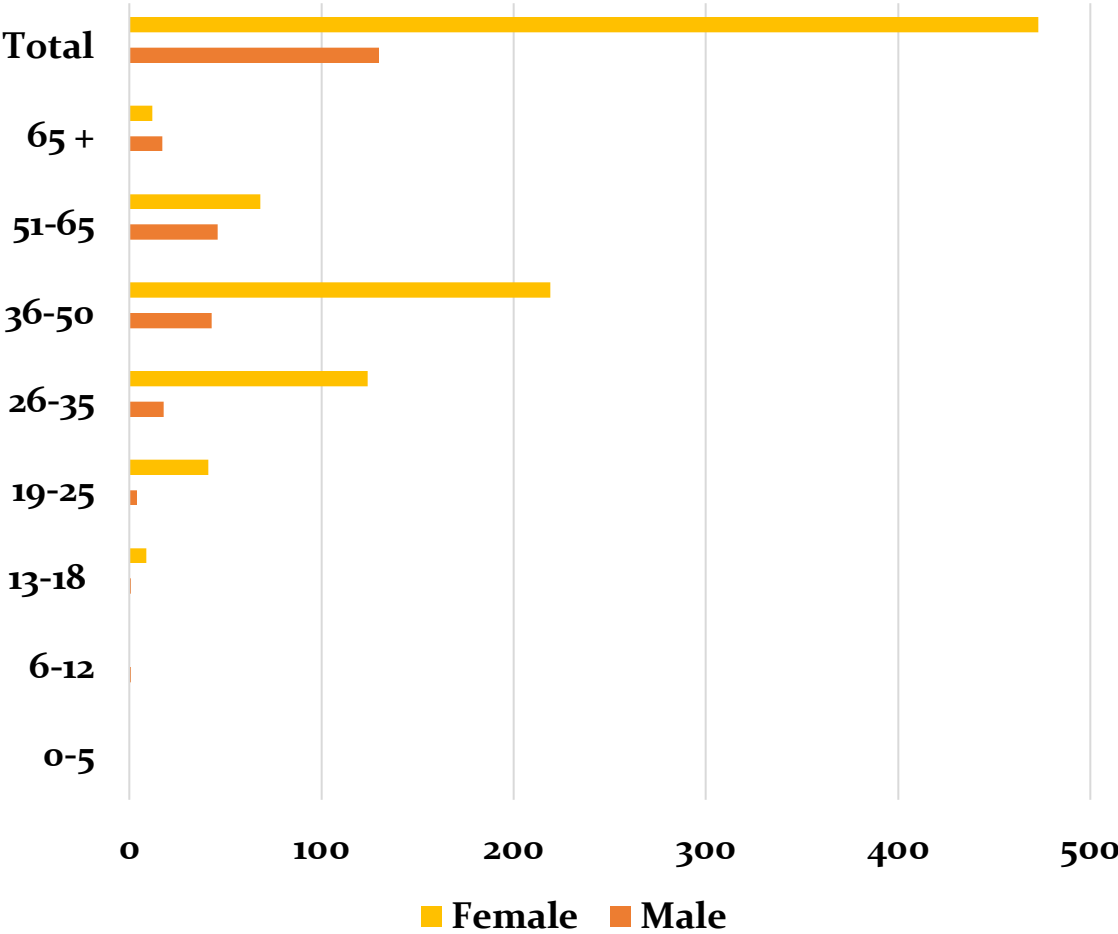
1. Supplementary Table 1. Disease Burden Analysis

(approximately 5% of the patients treated were of the host community)

<i>Disease</i>	<i>%</i>
Common Cold, AFI	16
Arthritis, joint and muscle disorders	6.1
Peptic Ulcer Disease, Dyspepsia	14
Skin diseases including bacterial and fungal	4.6
Respiratory diseases including COPD	7.2
Hypertension	7.1
Diabetes	4.9
Anemia (severe, < 8 gm/dL)	1.98
Diarrheal diseases including dysentery	5.5
TB (passive, excluding “loss to sputum test”)	0.1 *
Pregnancy with complications (GDM, PET)	2
Referred to MSF as suspected Diphtheria	0.2
Malnutrition (SAM)	0.32

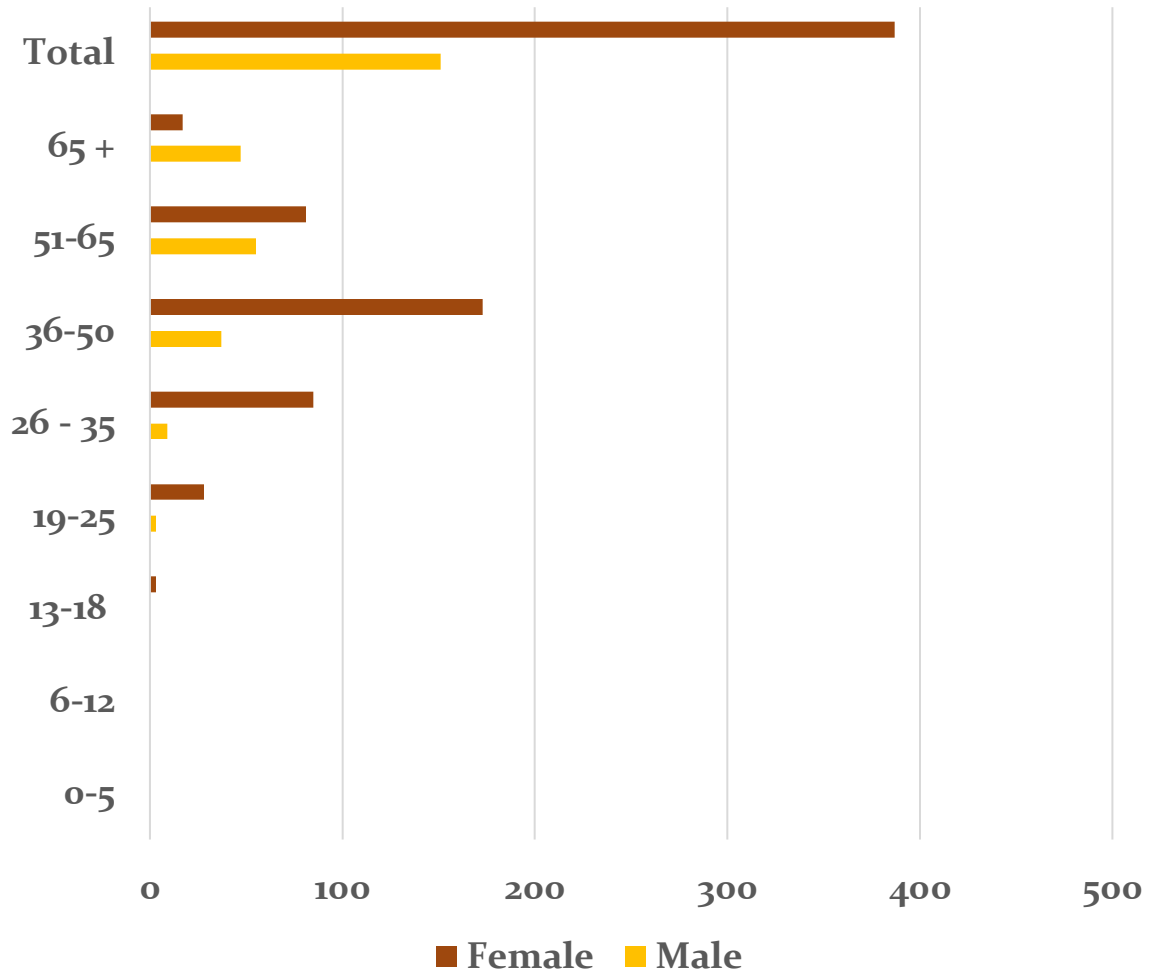
2. Supplementary Figure 1. Total patients treated for diabetes in number

(out of approximately 13,000 patients, treated between January 2019 and March 2019)

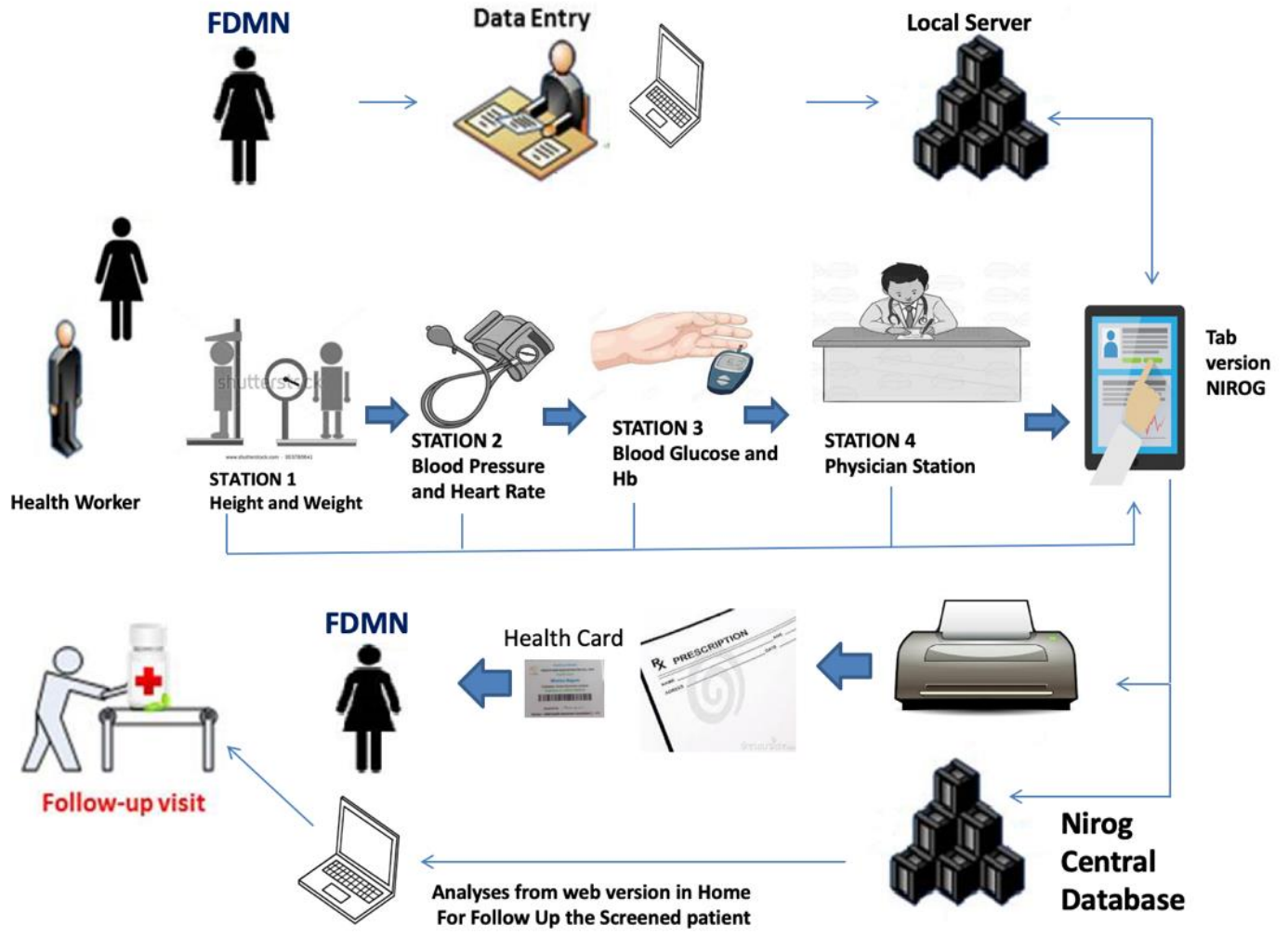


3. Supplementary Figure 2. Total patients treated for hypertension in number

(out of approximately 13,000 patients, treated between January 2019 and March 2019)

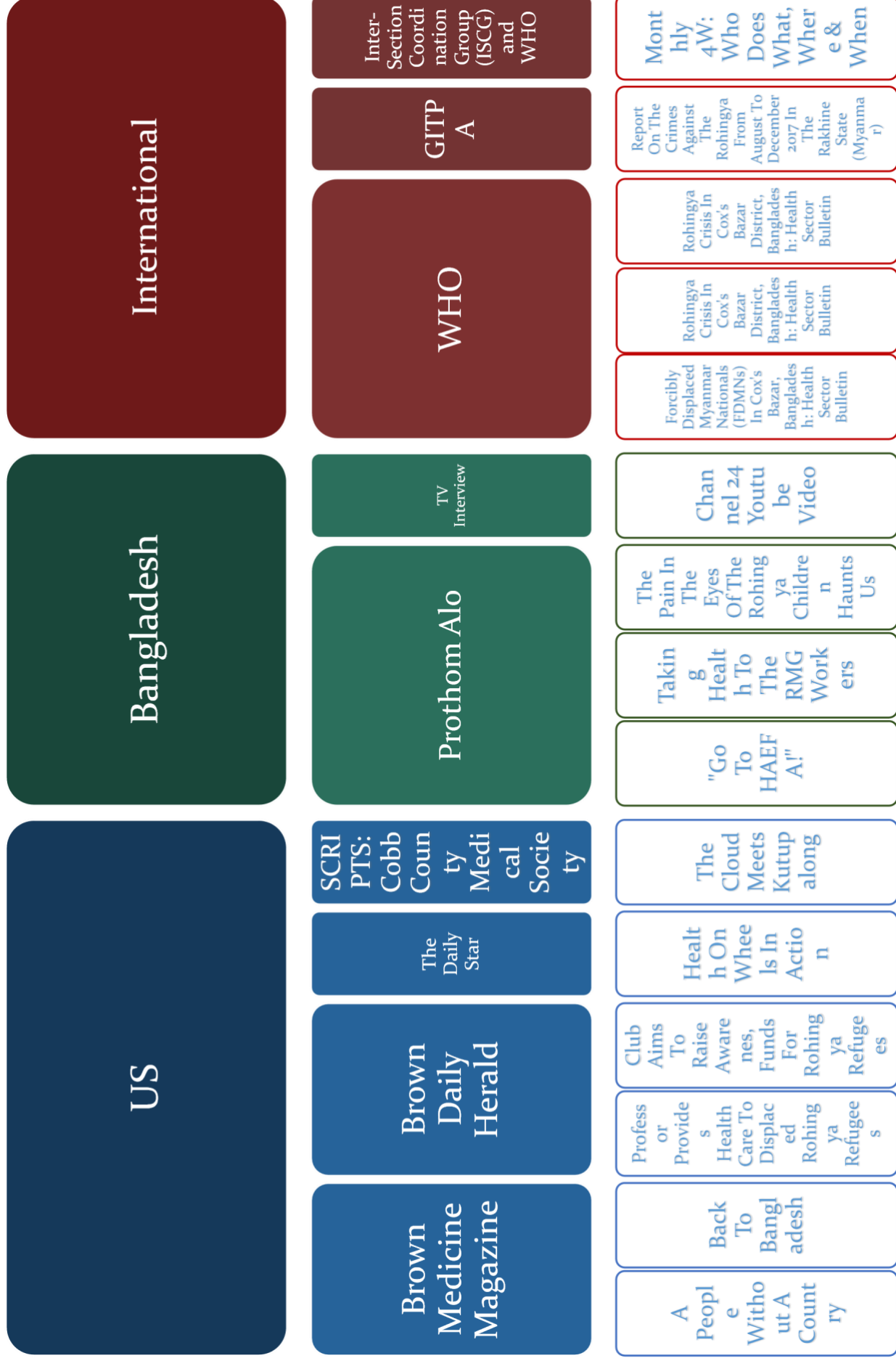


*b. Supplementary Figure 3. NIROG EMR system
(paperless, digital, solar-powered medical record system that
is capable of functioning without internet)*



d. Supplementary Table 3. Funding Sources

c. Supplementary Table 2. Publications Featuring HAEFA



US

Bangladesh

Aprosoft

donated to HAEFA by providing ongoing, free IT support since 2017

Brown Global Health Initiative

provided fellowships for students to conduct research in the camps

Brown's Watson Institute

provided fellowships for students and faculty to conduct research in the camps

ICB Youth Group

organized a major fundraiser for HAEFA in 2018

Islamic Center of New England

was the first to fund HAEFA in October 2017, and also ran several major fundraisers in 2018 and 2019.

Pricewaterhouse Coopers (PwC)

donated to HAEFA in the form of **Better Shelters** to build semi-durable structures at HAEFA's health centers in the Rohingya camps in June 2018.

Selimiye Mosque

ran a fundraiser for HAEFA in 2018.

Semnani Family Foundation

provided HAEFA with funding for an entire year beginning in April of 2018.

Unitarian Church of Nantucket

ran a fundraiser for HAEFA in August 2018.

Abdul Monem group

contributed funding since July 1, 2018

US

Bangladesh

International

American University

Brown University

Harvard University

UMASS Boston

Yale University

Bangladesh Ministry of Health

Coordination Cell

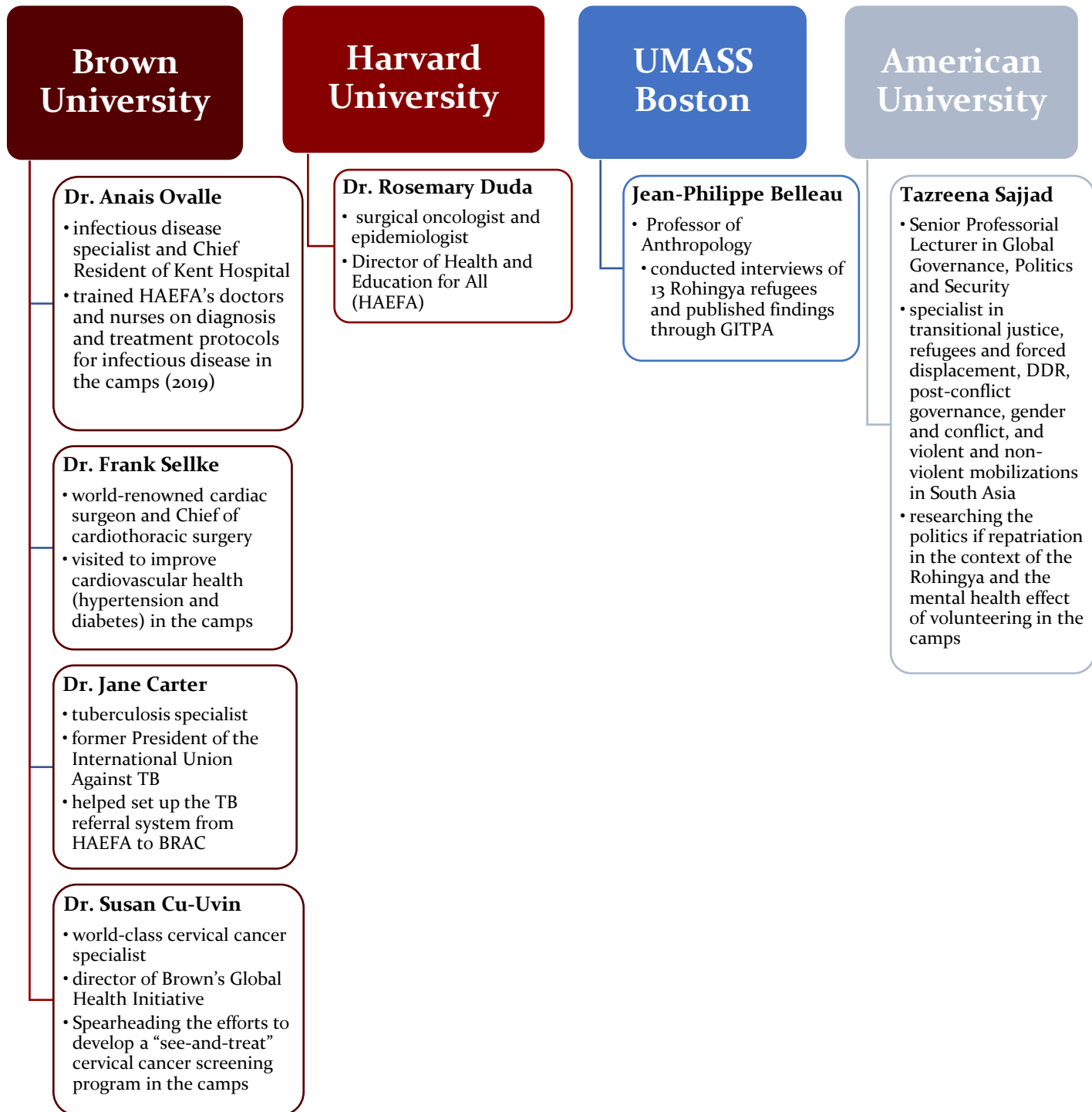
IOM

UNFPA

UNHCR

WHO

f. Supplementary Figure 5. Faculty Contributions



g. Supplementary Figure 6. Student Participation

Brown University

Christina Taylor IR '19 and Layla Breckherd IR '20 worked on a project involving vetiver grass to prevent land erosion in the region.

Imshan Dhrolia (medical student) studied "Motherhood in Limbo" for 5 weeks in the camps, with a fellowship from the Contemporary Center for South Asia, Brown University.

Jason Tschlis (medical student) studied the adherence of Rohingya patients to TB treatment. Funded by a fellowship from Alpert Medical School.

Nasifa Nur (Kent Hospital medical resident) studied the diphtheria outbreak: how it happened and how it was controlled. Supported by a Contemporary Center for South Asia, Brown University fellowship

Olivia Cummings '19, Huy Nguyen '19 and Briana Chung '19 visited the camps in 2018 and founded the **Solidarity with the Rohingya People Club** on campus.

- Olivia researched the perceptions of the patients and the healthcare providers of daily life experiences working at HAEFA
- Phoebe Kennan IR '19 also fundraised for HAEFA through the club on campus

University of Toronto

Ambar Ahmed spent the summer of 2019 in two health centers of HAEFA inside the Rohingya camps as a volunteer.

University of Alabama

Imaan Mir (Public Health) visited, fundraised for HAEFA, and published the story of his experiences in the SCRIPTS medical journal.

Tulane University

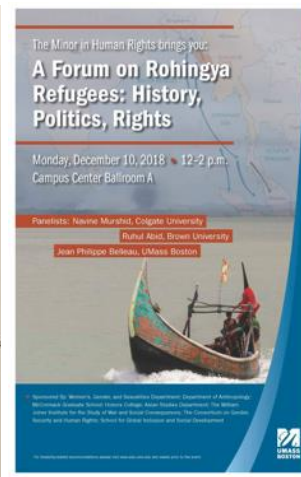
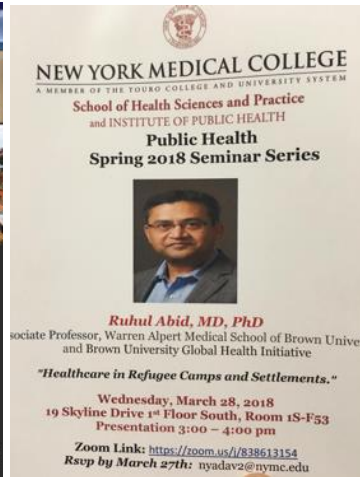
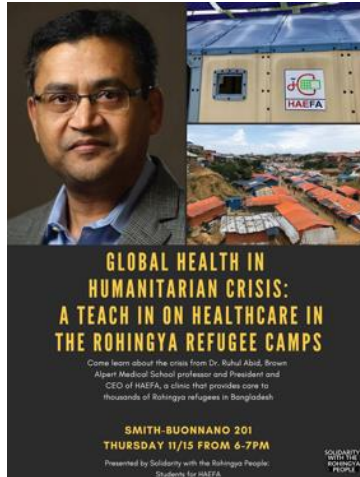
Anisha Sahibul fundraised for HAEFA and founded a student club at Tulane.

Sharon High School

Musheera Khondoker fundraised for HAEFA.

h. Supplementary Figures 7-9. Posters from conferences, panels, talks:

HAEFA president giving talks at Brown University (November 2018), New York Medical College (March 2018), and seminar at UMASS Boston (December 2018)



Photos

(1) *Supplementary Figures 10, 11. Rohingya camps 2017-2019*



(2) *Supplementary Figure 12. Initial HAEFA health center in October 2017*



(3) Supplementary Figures 13, 14. Improved semi-durable structures donated by PwC Foundation (UK) for HAEFA health centers in Kutupalong and Balukhali.



(4) Supplementary Figure 15. Flooding situation in the camps, in front of HAEFA Health Center (June 2018)



(5) *Supplementary Figure 16-19. HAEFA's customized electronic medical record (EMR) system known as NIROG (health, or absence of disease) setup (battery, solar panels, WIFI router, handheld tablets, digital cards) at HAEFA Health Centers in the camps.*



(6) *Supplementary Figure 20-23. Patients getting treatment at HAEFA Health Centers in Kutupalong (camp 1W) and Balukhali (camp 9).*





(7) Supplementary Figure 24. First attempt at cervical cancer screenings (September 2018)



(8) *International volunteers and researchers for HAEFA*

- a. *Supplementary Figure 25. Dr. Anais Ovalle, Chief resident, Kent Hospital, Brown, currently an Infectious Disease Fellow at University of Dartmouth, volunteered in the camps for two weeks (June 2019). Dr. Ovalle is writing the infectious disease protocol for the camps.*



- b. *Supplementary Figure 26. Dr. Frank Sellke, Karlson Professor and Chief of Cardiothoracic Surgery Division, visited to improve cardiovascular health (hypertension and diabetes) in the camp (December 2018)*



- c. *Supplementary Figure 27. Dr. Jane Carter, Ex-President of the Tuberculosis Union, and Professor at Brown University helped set up the TB referral system from HAEFA to BRAC (November 2017)*



- d. *Supplementary Figure 28. Dr. Susan Cu-Uvin, Director, Brown Global Health Initiative, and a world leader in cervical cancer, on her way to visit the Rohingya camps (September 2018). She is spearheading the efforts to develop a “see-and-treat” cervical cancer screening program in the camps. Ms. Nasima Banu, Chief Midwife, HAEFA is accompanying her.*



- e. *Students*

- i. *Supplementary Figure 29. Ambar Ahmed, student, University of Toronto, volunteering at the HAEFA health centers (June 2019)*



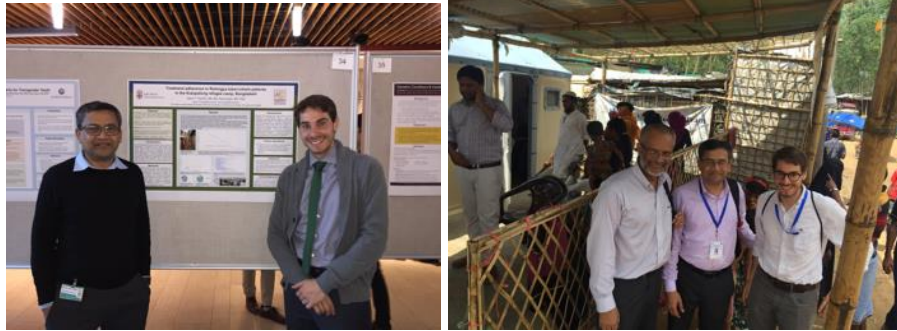
- ii. *Supplementary Figure 30. Anisha Sahibul, student, Tulane University, fundraising at a Roxbury, MA mosque (May 2019)*



- iii. *Supplementary Figure 31. Imshan Dhrolia, Brown University medical student, studied "Motherhood in Limbo" for 5 weeks in the camps (July 2019)*



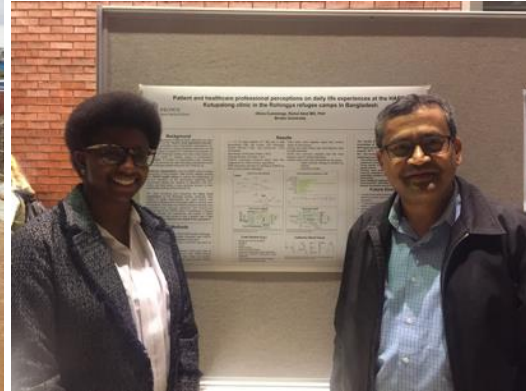
- iv. *Supplementary Figure 32, 33. Jason Tschlis, Brown University medical student, volunteering in the camps and presenting his research on “Adherence to the Treatment of Tuberculosis” at Brown University (June 2018)*



- v. *Supplementary Figure 34. Dr. Nasifa Nur, medical resident, Brown University’s Kent Hospital presenting her research on “Diphtheria Outbreak and Control” in the Rohingya camps at the Watson Institute, Brown University (February 2019)*



- vi. *Supplementary Figure 35, 36. Olivia Cummings, Huy Nguyen, founders of the Brown University Students Club for "Solidarity with The Rohingya People", in the camps (June 2018) and presenting research work on Women's Health at Brown (September 2018)*



- vii. *Supplementary Figure 37. Phoebe Kennan, student, Brown University, fundraising at Brown University for HAEFA (February 2019)*



f. *Supplementary Figure 38. Imam Dr. Khalid NasR of Quincy, MA mosque visiting the Rohingya camps (December 2018)*

