



THE INTERNATIONAL AGENCY
FOR THE PREVENTION OF BLINDNESS



A Situational Analysis:

EYE CARE NEEDS OF ROHINGYA REFUGEES AND THE
AFFECTED BANGLADESHI HOST POPULATION IN
COX'S BAZAR DISTRICT BANGLADESH

JUNE 2018 | JERRY VINCENT WITH YUDDHA SAPKOTA

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This Situational Analysis is the product of a collective effort to systematically respond to the crisis in Cox's Bazar District. Seva Foundation Executive Director Kate Moynihan and Dr. Suzanne Gilbert initiated the planning and design for the Analysis and arranged Seva's funding of this effort.

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Jerry Vincent OD MPH FAAO
Consultant Refugee Advisor
Seva Foundation



Yuddha Sapkota
South East Asia Regional Coordinator
International Agency for the Prevention
of Blindness

The views expressed here do not necessarily represent those of the Seva Foundation or the International Agency for the Prevention of Blindness.

Cover photo Orbis Bangladesh



Photo credit: Orbis Bangladesh

AIM

The intent of this document is to provide a current snapshot of the eye care context in Cox's Bazar District of Bangladesh.

The driving factor of this assessment was the influx of Rohingya refugees, which caught international attention. Seva Foundation, as an organization working to develop eye care services within Myanmar and Bangladesh, was concerned about the plight of the Rohingya refugees. Several of the agencies and organizations working in the eye sector in Bangladesh were interested to respond to this refugee crisis and have started to engage in the process of responding.

Early on, a decision was made that the agencies and international non-governmental organizations (INGOs) would coordinate their efforts in order to optimize the resources available.

This situational analysis is meant to provide a common frame of reference for all those who are responding or will be responding to the eye care needs in Cox's Bazar.

This analysis consisted of a desk review of available literature, data and reports, followed by travel to Bangladesh to meet with key stakeholders in the eye sector, government and UN officials and others as indicated. This also included a visit to the camps to get a first-hand view of the context on the ground, including observing how the provision of eye services is currently being conducted.

There will be significant limitations to this document. There was not enough time to meet every person or agency of interest and not all the data that was of interest exists or was available. Finally, it must be pointed out that the context described in this report is valid for the date of the report (June 2018). The context described here may change rapidly and some of the information provided here may become dated very rapidly.

The purpose of creating this report is to help inform strategic planning. Although a number of recommendations are included in this report, this should not be considered a plan. The development of a robust strategic plan will require additional data collection and thoughtful deliberation among all stakeholders.

ACRONYMS



ARSA	Arakan Rohingya Salvation Army	MSF	Medecins Sans Frontieres (Doctors Without Borders)
BVI	Blindness and Vision Impairment	NFI	Non-Food Items
CBBSH	Cox's Bazar Baitush Sharaf Hospital	NGO	Non-Governmental Organization
CBM	Christian Blind Mission	NIO	National Institute of Ophthalmology & Hospital
CDC	Center for Disease Control and Prevention	Orbis	Orbis International
CSR	Cataract surgery rate	OT	Operating Theater
EWARS	Early Warning Alert and Response System	PEC	Primary Eye Care
FDMN	Forcibly Displaced Myanmar Nationals	PHC	Primary Health Care
FHF	Fred Hollows Foundation	RAAB	Rapid Assessment of Avoidable Blindness
GBV	Gender Based Violence	RARE	Rapid Assessment of Refractive Error
GoB	Government of Bangladesh	RRRC	Refugee Relief & Repatriation Commissioner
HKI	Helen Keller International	Seva	Seva Foundation
IAPB	International Agency for the Prevention of Blindness	SPR	Spectacle provision rate
IMR	Infant Mortality Rate	SRH	Sexual and reproductive health
INGO	International Non-Governmental Organization	SSI	Sight Savers International
ISCG	Inter-Sector Coordination Group	TB	Tuberculosis
IOM	International Organization for Migration	TRA	Trachoma Rapid Assessment
JRP	UN Joint Response Plan	U5MR	Under 5 Mortality Rate
KIM	Key Informant Method	UNHCR	United Nations High Commissioner for Refugees
MHPSS	Mental Health and Psychosocial Support	UNICEF	United Nations Children's Fund
MICS	Multiple Indicator Cluster Survey	USD	US Dollar
MISP	Minimum Initial Service Package	VADD	Vitamin A Deficiency Disorder
MoDMR	Ministry of Disaster Management and Relief	WASH	Water, Sanitation and Hygiene
MoHFW	Ministry of Health and Family Welfare	WHO	World Health Organization
MOU	Memorandum of Understanding		

TABLE OF CONTENTS

List of Tables and Figures	5	The Need for Primary Eye Care	26
Executive Summary	6	Calculating Eye Service Needs	27
The Rohingya Refugee Crisis	9	Cataract Surgery and Spectacle Provision	27
Onset	9	Childhood Blindness	27
Historical Background.....	10	Chronic Eye Conditions	28
Reception in Bangladesh	12	Low Vision	28
Outlook for Resolution.....	12	Eye Health System Capacity	29
The Setting	14	National Level.....	29
Cox's Bazar District	14	INGOs and NGOs	29
The Refugee Camps in Cox's Bazar	15	Challenges	30
Sectors and Working Groups	16	Eye Health System in Cox's Bazar	30
Health Sector Organization.....	16	Eye Services in Refugee Camps.....	31
Potential for Disaster	17	Summary of Gaps	31
Population Characteristics	18	Working Group Coordination	33
Eye Epidemiology	20	Recommendations	35
Host Population Eyes	20	Recommendations for the Working Group.....	35
Refugee Population Eyes.....	20	Recommendations for CBBSH.....	35
Eye Care for Refugees	22	Recommendations for the Ministry of Health and Family Welfare.....	35
Minimum Initial Service Package for Refugee Eye Care	22	Recommendations for the INGOs Home Offices	35
Additional Eye Services.....	23	Recommendations for IAPB	35
Ruling Out Preventable Blindness	24	An Opportunity	36
Vitamin A Deficiency	24	References	36
Trachoma.....	25		

List of Tables and Figures

FIGURE 1: An updated map of destruction of Rohingya villages in northern Rakhine State	11	FIGURE 4: Health sector organizational structure for services in Rohingya refugee camps.....	17
FIGURE 2: Possible critical events by months	14	FIGURE 5: Selected demographic, health and other indicators	18
FIGURE 3: Population map of refugee camp locations in Cox's Bazar District.....	15		

EXECUTIVE SUMMARY

SEVERAL INGOs in the Bangladesh eye sector are responding already or have expressed interested in responding to the Rohingya refugee crisis. This situational analysis has been undertaken to provide a snapshot of the eye care context in Cox's Bazar district, where the refugee camps are located.

On August 26, 2017 the Myanmar military began a systematic process of burning down Rohingya villages in Rakhine state. In what the United Nations has referred to as ethnic cleansing, these attacks resulted in thousands of deaths, hundreds of villages being destroyed and 688,000 people fleeing to Bangladesh as refugees. Over 300,000 Rohingya refugees were already in Bangladesh from previous attacks, and as May 2018 the total number of Rohingya refugees in Bangladesh was nearly one million. There will not likely be a resolution to this refugee crisis any time soon.

All Rohingya refugee camps are located in Cox's Bazar District of Bangladesh. The Government of Bangladesh is leading the response and coordinates activities with UN agencies and INGOs, with Rohingya and host community representatives and with the Army.

The 2.3 million Bangladesh residents of Cox's Bazar are less educated, less literate, underemployed and disproportionately poor compared to other districts in Bangladesh. Several local villages have been completely surrounded by the refugee camps, resulting in loss of grazing and cropland, and the local prices of goods are rising. The host population and the refugee population are both in need of eye services.

In 2010, a district-wide RAAB (Rapid Assessment of Avoidable Blindness) survey in Cox's Bazar found that 3.2% of all adults over the age of 50 were blind. This is the highest district rate measured in Bangladesh. Most of the blindness was due to un-operated cataract and 99% of all vision loss was due to avoidable causes.

Eye epidemiology data is not available for the Rohingya, but given that this population had no access to health care or eye care, a large backlog of those in need of cataract surgery or eyeglasses would be expected. Stark living conditions with poor nutrition and poor environmental conditions would be expected to contribute to high rates of preventable forms of blindness. So far, among those coming for eye services in camp, 30% are presenting with cataract, about 25% are presenting with presbyopia and about 20% are presenting with cornea problems. An eye survey will need to be undertaken to determine rates and causes of blindness and vision loss in both the Rohingya and in the host population.

Consultant Jerry Vincent recommends a Minimum Initial Service Package for eye care in refugee populations that includes:

1. Addressing preventable forms of blindness as needed.
2. Setting up emergency eye referral processes as feasible.
3. Integrating primary eye care (PEC) into the primary health care (PHC) system.
4. Providing basic eye services (cataract surgery and provision of eyeglasses) without discrimination, as resources allow.

Other eye services, such as for childhood blindness, can be provided, depending upon the context, availability of resources and funding.

Preventable blinding conditions are a concern in the Rohingya population. Clinical vitamin A deficiency has been confirmed in the camp and additional assessment is needed to determine if the food basket, in tandem with supplementation, will be adequate to address this deficiency. Trachoma must be ruled out in the Rohingya population, as the Rohingya have come from an area where there may be active trachoma.

EXECUTIVE SUMMARY (continued)

The Bangladeshi National Eye Operational Plans call for a cataract surgery rate (CSR) target of 3,000 surgeries per million persons per year. Applying this rate to the refugee and host populations in Cox's Bazar indicates that over 9,800 cataract surgeries would be needed each year in this district.

Making provisional conservative estimates on refractive error and presbyopic correction needs indicates that well over 150,000 spectacles would need to be dispensed in this district each year. Additionally, there are likely to be about 980 blind children in the combined population, with more than 300 of these being cataract blindness. Twenty to thirty thousand people would be expected to be at risk for diabetic eye disease and nearly 70,000 might be expected to have glaucoma. Updated data and more detailed demographic data will allow for better calculation of needs.

According to the current national eye plan, there would be an eye operating theater in the district hospital, vision centers at the Upazila level, and over 30 ophthalmologists and 30 optometrists serving the combined population in Cox's Bazar. Currently the district hospital does not provide eye surgery. There are no vision centers in the district and there are only a handful of ophthalmologists and optometrists serving this population.

The only eye facility in Cox's Bazar District is the Cox's Bazar Baitush Sharaf Hospital (CBBSH). Orbis International (Orbis), Fred Hollows Foundation (FHF), Sight Savers and Christian Blind Mission (CBM) have supported this facility to provide cataract surgery and other services for refugees and host community.

CBBSH runs on a social enterprise model with sliding fees. Now with a million refugees who cannot pay for services taking up much of the caseload, the hospital is not generating sufficient funds. Costs for refugee services will need to be externally supported for the eye hospital to continue working.

The annual output of the hospital will have to increase significantly to meet the needs of the refugee and host populations. To do this, two more operating theaters will need to be outfitted and additional staff brought on board to be able to address the increased caseload. Eye hospital management will need capacity building to keep up with the growth and to manage additional services.

Services in the camps are provided via outreach teams, but so far these services only reach a small segment of the camp population. Additional teams will need to be deployed and ideally, vision centers will be built to provide a base for these services.

The eye care response in Cox's Bazar needs to be well coordinated among eye care stakeholders and also needs to coordinate efforts with the multiple systems in place. Out of the group of INGOs that are supporting eye care in Bangladesh, a working group has been created. This yet-to-be-named group will coordinate the eye response for the Rohingya refugees and local host population. A Memorandum of Understanding (MOU) is being drafted for the Ministry of Health and Family Welfare (MoHFW) to recognize this working group as the endorsed entity for managing the response in Cox's Bazar.

Key members of the working group have met with officials on the ground and at the national level as needed. A one-day consultation meeting was held in Cox's Bazar with Orbis, FHF, Seva, and ophthalmologists from the National Institute of Ophthalmology to discuss eye care needs in Cox's Bazar with representatives from government, United Nations High Commissioner for Refugees (UNHCR), World Health Organization (WHO), International Organization for Migration (IOM), United Nations Children's Fund (UNICEF), BRAC, Red Crescent and many of the NGOs working in the health sector in the camps. Representatives from the eye sector are now attending health sector meetings and there will likely be an eye sector working group established under the health sector umbrella.

EXECUTIVE SUMMARY (continued)

Several actions are now needed to go forward. Detailed recommendations are provided at the end of this document and are summarized here:

- » Working group will need to develop a 5-year strategic plan for eye services for Cox's Bazar District; plan and conduct a survey of rates and causes of blindness and vision impairment (BVI); integrate PEC into refugee camp PHC system; address avoidable blindness; work with CBBSH to develop a common reporting format; develop contingency plans for monsoon, cyclone and other disasters.
- » CBBSH should develop eye emergency referral criteria and protocols for use in the refugee camps; should cost out in detail cataract surgery and other services as provided in refugee camps.
- » The Ministry of Health and Family Welfare should recognize the working group as the coordinating entity for eye care responses in the Rohingya refugee population and as the entity responsible for developing the Cox's Bazar district eye plan; MoHFW should clarify to what extent they will be supporting the development of eye capacity at the district hospital.

The Rohingya refugee crisis presents an opportunity for the Bangladeshi eye community to conduct the largest refugee eye care response ever undertaken in the world. A successful response would:

- » reduce blindness and vision impairment in refugees and host communities alike;
- » strengthen the district eye system capacity to provide eye services;
- » strengthen the national capacity of the eye system to deal with crisis;
- » strengthen the national capacity of the eye system to manage large projects in a collaborative way;
- » demonstrate to donors that funding refugee eye services can be a good investment;
- » provide many lessons learned that, if widely shared in reports, publications and presentations, could be used in refugee responses in other countries; and
- » be able to illustrate how human rights abuses affect eyes and vision.

The current WHO Global Action Plan calls for the provision of universal health services including universal eye care. This undertaking may provide one of the most compelling examples of how universal eye care can be provided in a stark and difficult environment for one of the world's most disenfranchised and underserved populations.



THE ROHINGYA REFUGEE CRISIS

Photo credit: Roger Arnold | Associated Press | UNHCR

Onset

ON AUGUST 26, 2017 the Tatmadaw (Myanmar military) began a systematic process of burning down Rohingya villages in Rakhine state. The thatch roofs made homes easy to light and, in some cases, the soldiers were supported by helicopters dropping petrol bombs. Ethnic Rakhine vigilantes accompanied the Tatmadaw in some raids.

The Tatmadaw reported that they had killed 470 insurgents. They stated that the campaign was in retaliation for recent attacks on police posts on August 25 by the Arakan Rohingya Salvation Army (ARSA). The Tatmadaw also suggested that the fires were intentionally set by the Rohingya themselves.

According to Medecins Sans Frontieres (MSF), thousands died in these raids. Most who died were shot and many were burned alive in their homes. Others had their throats slit or were hacked to death. Young children were not spared and were shot, burned, clubbed or thrown into rivers. Women and girls were raped and groups of men were taken away and disappeared. These attacks have resulted in:

6,700 Rohingya killed, including 730 children under the age of 5;

362 Rohingya villages partially or completely destroyed; and

688,000 Rohingya fleeing to Bangladesh.

One Bangladeshi official noted that from his vantage point just across the border, he could see over 20 villages on fire, could hear the gunshots and commented that the shelling “rattled the tea cups on our tables.”

The international community condemned the initial ARSA attacks but has noted that the resulting campaign by the Tatmadaw has been disproportionate. The UN described the Tatmadaw attacks as textbook ethnic cleansing. *The New York Times*, CNN and other media outlets referred to this campaign as genocide. The resulting exodus of Rohingya to Bangladesh became what UNHCR described as the world’s fastest-growing refugee crisis.

THE ROHINGYA REFUGEE CRISIS (continued)

Historical Background

Previous outbreaks of violence and military campaigns against the Rohingya sent refugees across the border into Bangladesh in 1978, in 1991, again in 2012, and again in 2016. Because of this history, there were already hundreds of thousands of Rohingya refugees in Bangladesh before this current crisis erupted.

303,000 Rohingya refugees arrived in Bangladesh before August 25, 2017.

688,000 new Rohingya refugee arrivals since August 25, 2017.

991,000 total Rohingya refugees in camps when this report was published.

For decades, the Tatmadaw has been suppressing Myanmar's ethnic minority groups and are often involved in armed conflicts with several ethnic groups at the same time. The treatment of the Rohingya, however, has been particularly brutal and includes efforts to erase the Rohingya from the national fabric. The Rohingya were stripped of citizenship in 1982. In the 1990s, Rohingya land was confiscated in favor of Buddhist Rakhine or Bamar villagers. When a national census was finally conducted in 2014, the Rohingya were excluded. The Rohingya do not have freedom of movement and do not have access to government health, education or social services. As a result, the international community recognizes the Rohingya as being one of the most persecuted ethnic groups in the world.

Myanmar insists that the Rohingya have no claim to being in Myanmar and are not even a legitimate ethnic minority group. They are considered illegal immigrants and referred to as "Bengali." Myanmar is now insisting that the use of the word "Rohingya" in itself is inflammatory and no longer recognizes this term. The Rohingya insist they are a unique ethnicity and that they have been in the Rakhine state area for centuries. There is evidence to support this claim.

The ARSA is a relatively new armed faction made up of Rohingya. ARSA attacks on police posts in 2016 led to a similarly brutal reaction from the Tatmadaw. The ARSA has also been accused of attacking and killing local Hindu minorities. Many Rohingya are adamant that they do not support the ARSA or their violent methods.

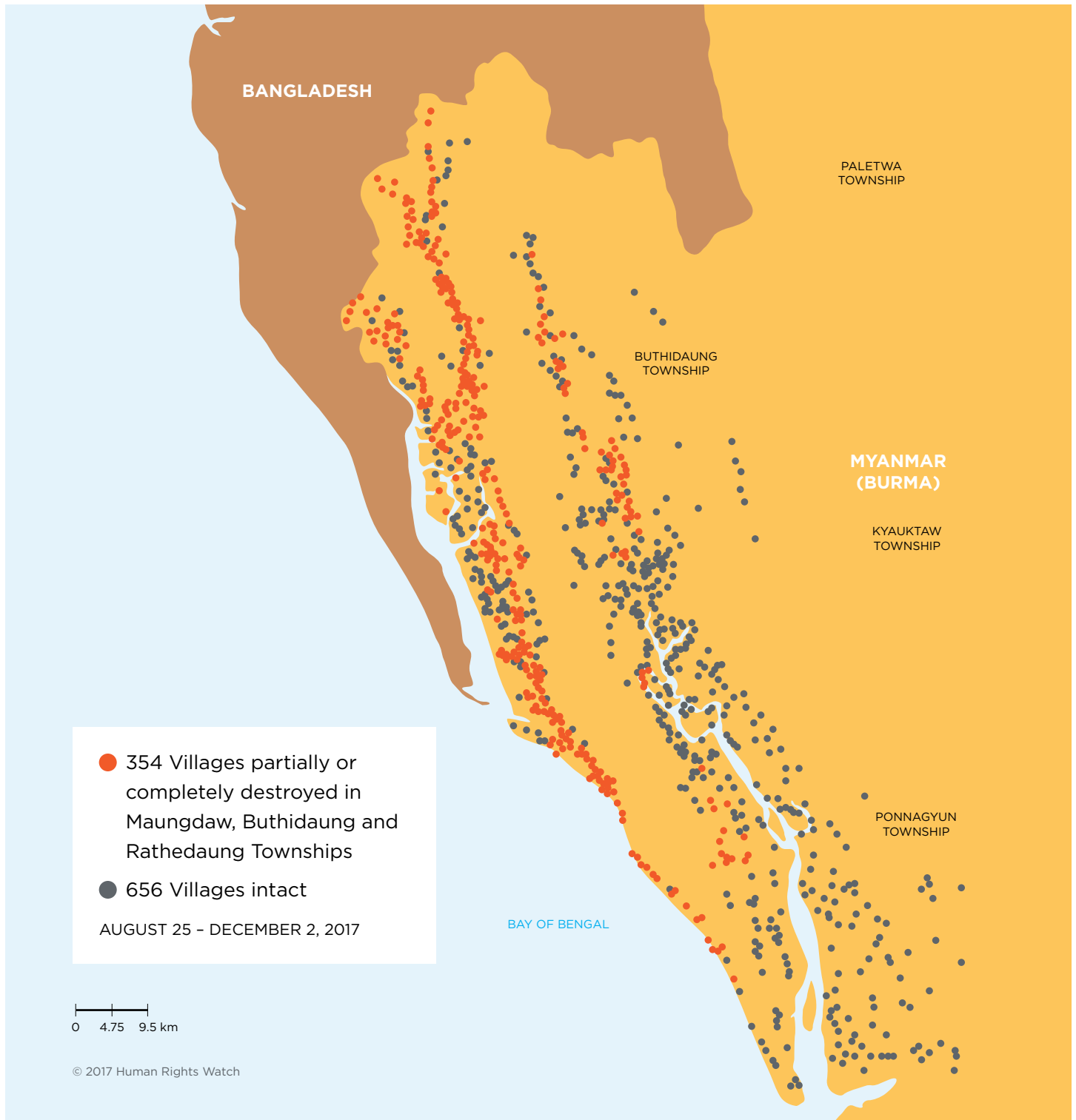
Myanmar has declared the ARSA a terrorist organization. The Tatmadaw have been supported by right wing nationalists and militant Buddhist monks, who have made very effective use of social media in swaying general public opinion in Myanmar against the Rohingya. Photographic and satellite evidence and the eyewitness testimonies of Tatmadaw atrocities in August and September of 2017 have all been decried as "fake news" by these hardline supporters.

"I am becoming more convinced that the crimes committed following 9 October 2016 and 25 August 2017 bear the hallmarks of genocide and call in the strongest terms for accountability."

— **YANGHEE LEE**, the Special Rapporteur on Human Rights in Myanmar

THE ROHINGYA REFUGEE CRISIS (continued)

FIGURE 1: An updated map of destruction of Rohingya villages in northern Rakhine State.



THE ROHINGYA REFUGEE CRISIS (continued)

Reception in Bangladesh

The time needed for those fleeing to reach safe haven in Bangladesh varied. Some villages were close enough that the journey only required one day to reach the border. Others had to cross a mountain range during the monsoon, all while hiding from the Tatmadaw. Others yet took to sea, which required paying boatmen. Boats were overloaded and many drowned.

The Government of Bangladesh (GoB) has taken firm ownership of this and previous refugee responses. In 2013 they formed a *National Strategy on Myanmar Refugees and Undocumented Myanmar Nationals* and a national task force to provide oversight and guidance to the management of the Rohingya response.

At the district level, the Refugee Relief and Repatriation Commissioner (RRRC), under the Ministry of Disaster Management and Relief (MoDMR), covers operational coordination for the entire refugee population. The Deputy Commissioner has the primary responsibility for operational coordination of the response for Bangladeshi host communities. The Senior Coordinator heads the Rohingya Refugee Response at the district level, chairing the Heads of Sub-Office Group, which brings together the heads of all UN Agencies and representatives of the INGO and NGO community, as well as representatives of the donor community based in Cox's Bazar. The Senior Coordinator also leads the Inter-Sector Coordination Group (ISCG), supported by the ISCG Secretariat. All domestic and international aid agencies must gain approval from this governing body to work in the country.

The current administrative and management system in place for the refugee population was initiated by the Bangladesh Army in order to quickly work with the refugee population in a systematic way. For every 100 households there is one "Majhee," always a man, who is responsible for transmitting messages and information from GoB, the UN and others back

to the households, and for gathering information from the households as needed to report back to the larger systems. There are "Head Majhee" to manage larger blocks of Majhee and "Chairmen" who represent entire camps, or large sections of camps.

During this current influx, the local population and the GoB immediately welcomed the refugees and 5,800 acres of land was quickly allocated for refugee camp use. However, the GoB refers to these Rohingya refugees as "Forcibly Displaced Myanmar Nationals" (FDMNs), thus not officially giving them refugee status. The position of the government is that the Rohingya problem is temporary and that they are working towards repatriation. The GoB is issuing approval of NGOs' programs, visas for staff, etc., for short time frames only and is currently even looking at trimming down the number of NGOs permitted to be involved in the response. Privately, however, some of the officials we spoke with acknowledge that this will be a long-term problem.

Outlook for Resolution

Resolution of refugee crises usually involves one or more of the following durable solutions: repatriation, resettlement and local integration.

Repatriation: The preferred solution is that whatever problems caused the refugees to flee are resolved so that the refugees can go home safely. Repatriation requires the agreement of both the host country and the country of origin. Refugees cannot be forced and the repatriation must be voluntary. UNHCR, IOM and other entities will play a major role in validating that all families who return are doing so voluntarily, that the journey is well organized and safe and that there are places for the refugees to return to, along with a basic package to get resettled and re-established. They also ensure that there is appropriate monitoring for the safety and protection of those who have repatriated.

THE ROHINGYA REFUGEE CRISIS (continued)

The actions of the Tatmadaw and the Myanmar government have made clear that the Rohingya are not welcome to return. Satellite imagery reviewed by Human Rights Watch indicates that at least 55 of the villages attacked by the Tatmadaw have been bulldozed out of existence. Military installations have now been built on some of these village sites.

The Rohingya refugees have also been very clear that they do not feel safe in Myanmar under the current circumstances and are not likely to volunteer for repatriation in any significant numbers. The refugees have frequently said that they will not consider going back to Myanmar unless questions of citizenship, legal rights, access to services, justice and restitution are addressed. Barring significant and highly unlikely changes in both the Tatmadaw and in the Government of Myanmar, repatriation is not likely to be an option any time soon.

Resettlement: In some cases, resettlement options may become available. This can happen when refugee status has been granted by the host country and countries of resettlement (USA, UK, Canada, Australia, Scandinavian countries and others as interested) interview families and individuals to vet and approve some for resettlement.

At this time, the Bangladeshi government has not given refugee status to the Rohingya. In addition, the political climate in Europe and in the USA is currently not amenable towards resettlement of refugees. Resettlement does not appear to be an option for the foreseeable future.

Should this situation change, the process of setting up the administrative systems would take months. The process of interviewing, vetting and clearing any given family for resettlement can take many months and even years and the time needed to resettle a population of this size could easily take a decade or more.

Local Integration: Sometimes, the host country agrees to absorb the refugee population on a permanent basis. The GoB has made clear that local integration will not be an option.

In addition to the UNHCR durable solutions, forced repatriation is another, less desirable, option. Forced repatriation is when the host country simply kicks the refugees out, forcing them to go back to the country from which they fled. This approach goes against international conventions and would not likely be an option used by the GoB. However, it is important to note that Bangladesh has not signed the 1951 UN convention relating to the status of refugees nor its protocol of 1967. Bangladesh has forcibly repatriated Rohingya refugees in the past.

The status of the Rohingya people is a protracted problem that will not be resolved any time soon. Rohingya refugees have been present in Bangladesh for years already and will likely remain in Bangladesh for many years to come.

RESOURCES

Medecins Sans Frontieres. "No one was left" Death and Violence Against the Rohingya in Rakhine State, Myanmar. 2018.

<https://www.medbox.org/assessment-response-5/no-one-was-left-death-and-violence-against-the-rohingya-in-rakhine-state-myanmar/toolboxes/preview?>

The Long Haul Ahead for Myanmar's Rohingya Refugee Crisis.

The International Crisis Group. REPORT 296 / ASIA 16 MAY 2018.

<https://www.crisisgroup.org/asia/south-east-asia/myanmar/296-long-haul-ahead-myanmars-rohingya-refugee-crisis>

Human Rights Watch. Burma: Scores of Rohingya Villages Bulldozed

<https://www.hrw.org/news/2018/02/23/burma-scores-rohingya-villages-bulldozed>



THE SETTING

Photo credit: Majed Chowdhury | Orbis Bangladesh

Cox's Bazar District

COX'S BAZAR DISTRICT is in Chittagong Division and is the most remote and southern-most area in Bangladesh. This coastal district is long and thin with the largest stretch of uninterrupted beach that rapidly transitions into hills. Outside the city of Cox's Bazar, most of the district is rural. Most of the INGOs, UN agencies, and government units responding to the Rohingya refugee crisis have offices in Cox's Bazar. Cox's Bazar is about 10 hours' drive and 1 hour by flight from Dhaka.

Districts are broken up into sub-districts (Upazilas) and may include city corporations, municipal corporations (towns) and Union Councils. Union Councils are the smallest government administrative





























unit and each Union Council is usually made up of nine or more Wards with each Ward containing one or more villages.

Cox's Bazar contains 8 sub-divisions and the refugee camps are all located in the two southernmost Upazilas. Teknaf Upazila has 6 Unions and 133 villages while Ukhiya Upazila has 5 Unions and 54 villages. One core road transverses these two Upazilas.

Bangladesh, including the district of Cox's Bazar, is the second most natural disaster-prone country in Asia and the Pacific. Its tropical monsoon climate creates a dry season from November to March, and a rainy season from April to October. Coastal areas such as Cox's Bazar are also exposed to cyclones.

FIGURE 2: Possible critical events by months

Less likely  More likely 

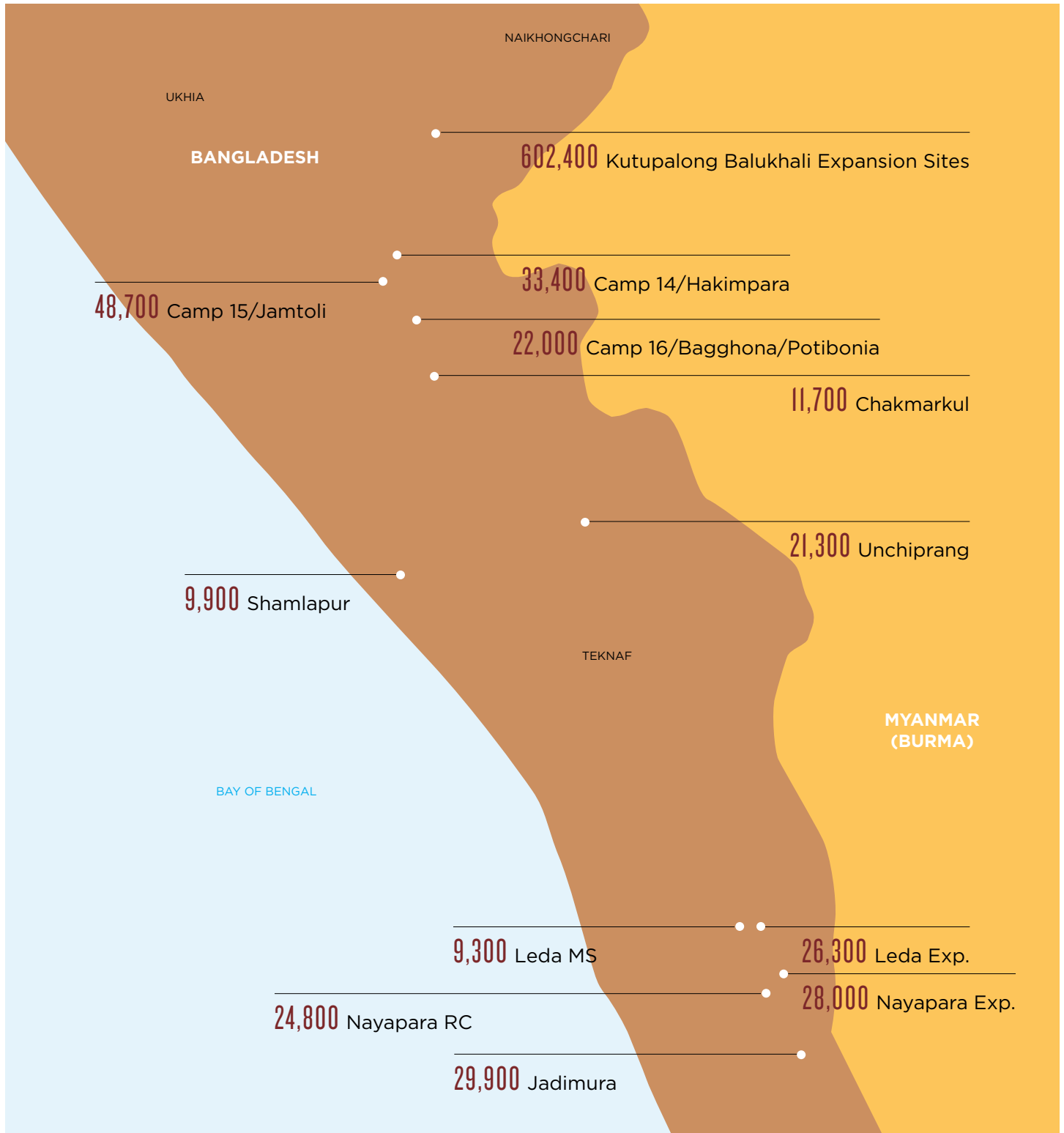
Critical events	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Thunder storm												
Cyclone/Storm surge												
Flood/Flash flood												
Landslide												
Drought												

SOURCE: BMD and BWDB, Cox's Bazar

THE SETTING (continued)

The Refugee Camps in Cox's Bazar

FIGURE 3: Population map of refugee camp locations in Cox's Bazar District



THE SETTING (continued)

All refugees are located in Cox's Bazar District. There are several camps in the district, and 20 of these camps have consolidated at Kutupalong to create a mega-camp of more than 600,000 refugees. The Kutupalong-Balukhali Expansion Site is now the largest refugee camp in the world.

More than 12,200 metric tons of food are needed per month to sustain this refugee population. More than 16 million liters of safe water are needed per day, from hand-pumps and surface water treatment plants that need to be constructed and maintained. Ninety-three percent of the population lives below the UNHCR emergency standard of 45 square meters per person. Space is as low as 8 square meters per person in some areas of the Kutupalong-Balukhali Expansion Site. More than 75% of the families are in shared housing.

Sectors and Working Groups

The Government of Bangladesh is working with several UN agencies and over 100 NGOs across many sectors to assure that services are provided as needed to the refugees. The UN Joint Response Plan (JRP) to fund activities for 2018 in all sectors is for over \$950 million US dollars (USD).

There are 10 sectors in the Rohingya response, including health, Water, Sanitation and Hygiene (WASH), nutrition, food security, education, protection, child protection, gender-based violence (GBV), non-food items (NFI)/shelter, and site management. Each sector has a lead agency responsible for holding meetings with all sector partner agencies as needed. Most sectors produce minutes and other reports as needed; the work of each sector is summarized in overall Inter-Sector Coordination reports. In addition to the formal sectors, there are several working groups and task forces. A dashboard showing what NGOs are working in what camps and in what sectors can be found here:

<https://www.humanitarianresponse.info/en/operations/bangladesh/iscg-4w-dashboard>

The main page for accessing general reports, maps and links to individual sector pages is found here:

<https://www.humanitarianresponse.info/en/operations/bangladesh>

Health Sector Organization

Overall, the health sector partners are coordinated under the leadership of Civil Surgeon's Office of Cox's Bazar, the Directorate General Health Services Coordination Center and WHO, for better planning and implementation of a coordinated emergency response. The Health Sector's portion of the JRP budget is \$113 million USD, of which about \$8 million has been received.

There is usually one lead agency for each sector but in the case of the health sector, leadership is shared between IOM, UNHCR and WHO. WHO serves as health sector coordinator. Each of these leads has specific geographical camp areas. Working in coordination for each of these agencies will be scores of INGOs and national organizations. At the individual camp level there will be one or more INGO or national organization that has responsibility for the health services/health facilities in that camp.

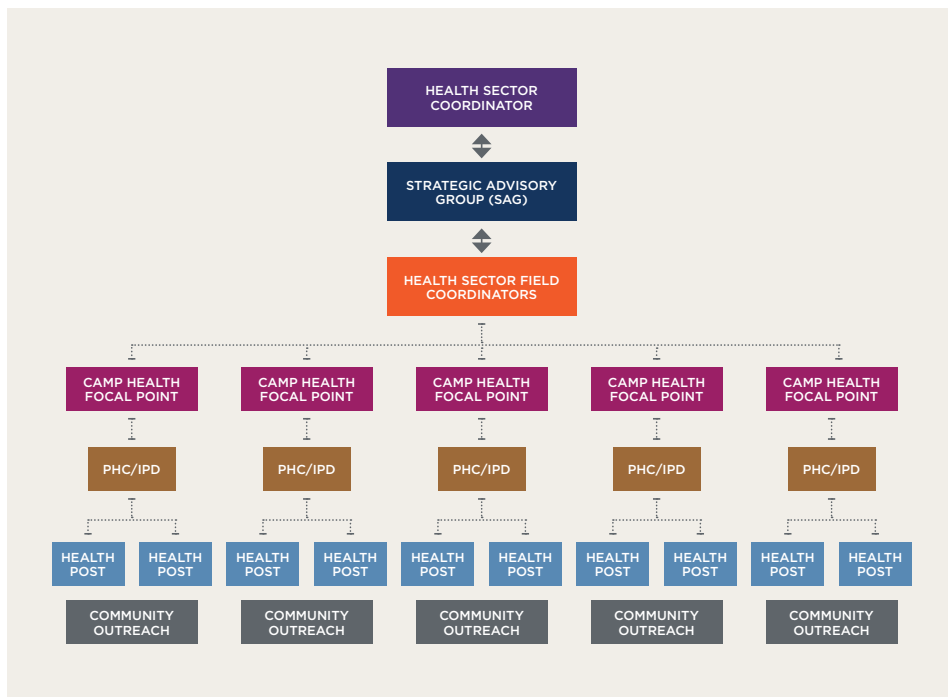
Under the health sector coordination there are several working groups. These groups evolve based on need, and meet as needed. At present, the active working groups include:

- » Mental Health and Psychosocial Support (MHPSS);
- » Sexual and Reproductive Health (SRH);
- » Community Health;
- » Health Sector Emergency Preparedness & Response;
- » Acute Watery Diarrhea; and
- » Vector Borne Diseases.

The major current concern of the health sector is being prepared for monsoon and cyclone seasons. Additional concerns include getting adherence to the validated minimum package of primary health

THE SETTING (continued)

FIGURE 4: Health sector organizational structure for services in Rohingya refugee camps



“We’re not out of the woods yet. There are still many risks to the health and well-being of the Rohingya refugees in Bangladesh. The majority are still housed in overcrowded, somewhat unsanitary camps and now, we are looking down the barrel of the Monsoon season with the inherent risk of flooding, landslides, as well as the Cyclone season.”

— DR RICHARD BRENNAN, Director of Emergency Operations at WHO

services, strengthening the quality of service provision and increasing services/programming for non-communicable diseases, malaria, tuberculosis (TB), and HIV/AIDS.

Health Sector meeting minutes and periodic reports can be found posted here: <https://www.humanitarianresponse.info/en/operations/bangladesh/health>

Potential for Disaster

There is grave concern about the monsoon season. Refugees are living under plastic sheeting held up by bamboo and rope. Over 30% of the area of the Kutupalong expansion site is prone to flooding and more than 200,000 refugees are living in areas at high risk of landslides or floods.

Attempts are being made now to relocate at least some of those who are at risk. As of May 22, 2018, 51 cumulative incidents have been reported in the camps - mostly high winds or landslides. A total of

1,064 shelters have been damaged or destroyed, affecting 9,087 individuals.

More than 19,000 latrines are present in the camps, but 12% are full and over 25% are in flood-prone or landslide-prone areas. Fifteen percent of the latrines are closer than 10 meters to a hand pump, resulting in water contamination. All efforts have been made to assure that the entire population has received oral cholera vaccination. Malnutrition in children will increase in the rainy season.

Discussions are also underway to move some refugees to an island being prepared specifically to receive them, as are discussions about building more resilient structures in the camps.

Eye services are not an emergency need. Eye services and eye programming should never be undertaken in the acute phase of an emergency where lifesaving efforts are underway, where mortality rates are still unnecessarily elevated or when resources need to be directed to reinstatement of essential life sustaining services.

THE SETTING (continued)

Population Characteristics

FIGURE 5: Selected demographic, health and other indicators

* data specific for Rakhine State, where available, is provided in parenthesis in the Myanmar column

	Cox's Bazar District Host Population	Rohingya Refugees in Camps	Bangladesh	Myanmar * (Rakhine State)
Demographics	pop = 2.28 million	pop = 915,000		
M:F	1.04:1	0.95:1	0.97:1	0.93:1
Under 5	13.3%	18%	--	17%
Under 15	43%	55% (U18)	29%	27% (31%)
60 and above	5.1%	3%	7.5%	8.8% (6%)
Adult Health				
Diabetes	--	--	7%	4.6%
Hypertension	--	--	female 32%; male 19%	--
Obesity	--	--	3.6%	5.8%
Disability rate	1.5%	4%	9%	4.8% (5.3%)
Other				
Adult literacy	38.2% female; 40.3% male; 39.3% all	estimated at less than 20%	70% female; 76% male; 73% all	72% female; 80% male; 76% all
GDP per capita (USD)	--	--	\$1,544	\$1,195
Child Health				
Low birth weight deliveries	32.3%	--	26%	8%
Exclusive breastfeeding (under 6 mo.)	--	--	56%	24% (1.3%)
Infant Mortality Rate (IMR)	--	--	29	41 (61)
Under 5 Mortality Rate (U5MR)	--	--	36; 56 rural areas	53 (71)
U5 stunting	49.5%	over 40%	36.1%	29.2% (42.9%)
U5 wasting	10.1%	24.3% (7.3% severe)	14%	7%
U5 underweight	40.5%		32.6%	18.9% (41.6%)
Measles imm. coverage	--	96%	86%	77.3%
Vit. A supp. coverage	--	95%	62%	54%
Diarrhea (U5 in past 2 weeks)	--	--	3.9%	--

This table is presented to provide a snapshot of the general demographic and health status of the Cox's Bazar host population and the Rohingya refugee population. National data for Bangladesh and Myanmar are shown for comparison purposes. Most of the data presented in this table are useful for eye service programming and/or have associations with selected eye conditions.

THE SETTING (continued)

About 1 million Rohingya Refugees in Cox's Bazar District Camps

The Rohingya are extremely poor, most having arrived in Bangladesh with nothing more than the clothes they wore. Few have had the benefit of any education and 80% of the Rohingya are illiterate. The demographic profile of the Rohingya in the camps is skewed towards women and children. There are fewer men than expected and significantly fewer elderly than expected. MSF recorded a ten-fold increase in death rates among the elderly during the initial month of the Tatmadaw attacks. There are fewer disabled in the camps than expected and it is likely that the disabled, including the blind, were less likely to survive than those who were not disabled.

The Nutrition sector reports that among children, only 8% in Kutupalong and 6.4% in Kutupalong are consuming a minimum acceptable diet (i.e., at least four food groups and three meals per day). There is a serious public health and nutrition emergency among all Rohingya children in Cox's Bazar.

About 2.2 million Bangladeshis in Cox's Bazar District

Cox's Bazar is the most remote and one of the poorest districts in Bangladesh. Villagers in Cox's Bazar are less educated, less literate, more underemployed and disproportionately poor than Bangladeshis in other parts of the country. Several local villages have been completely surrounded by the refugee camps. Grazing and croplands have disappeared, wells have become contaminated and the local prices of goods are rising.

The Rohingya refugees have fled violence and dire living conditions in one of the poorest states in Myanmar for sanctuary in Bangladesh. They landed in one of the poorest and most neglected districts in Bangladesh, where the local population is also very underserved and in great need of assistance. Recognizing this, one-quarter of the UN budget appeal for the refugees has been earmarked to go towards affected local communities.

Data Sources for Table

National data is provided from official sources such as government or UN agencies. From these sources, the authors have attempted to provide the most recent data available for each variable.

Refugee data is provided by official refugee sources (RRRC, IOM, UNHCR, WHO, etc.) as posted in reports on the Rohingya portal.

RESOURCES

Rohingya information from WHO/MMWR/EWARS reports

<https://www.humanitarianresponse.info/en/operations/bangladesh>

UN Stats

<https://unstats.un.org/unsd/demographic-social/index.cshtml>

World Bank

<https://data.worldbank.org/indicator/SP.POP.TOTL>

Demographic and Health Survey (DHS Survey) Bangladesh 2014

<https://dhsprogram.com/pubs/pdf/SPA23/SPA23.pdf>

DHS Survey Myanmar 2015-2016

<https://dhsprogram.com/pubs/pdf/FR324/FR324.pdf>

MICS Myanmar 2009-2010

https://mics-surveys-prod.s3.amazonaws.com/MICS3/East%20Asia%20and%20the%20Pacific/Myanmar%2C%20Republic%20of%20the%20Union%20of/2009-2010/Final/Myanmar%202009-10%20MICS_English.pdf

MICS Bangladesh 2012-2013

https://mics-surveys-prod.s3.amazonaws.com/MICS5/South%20Asia/Bangladesh/2012-2013/Key%20findings/Bangladesh%202012-13%20MICS%20KFR_English.pdf

Cox's Bazar District Statistics 2011

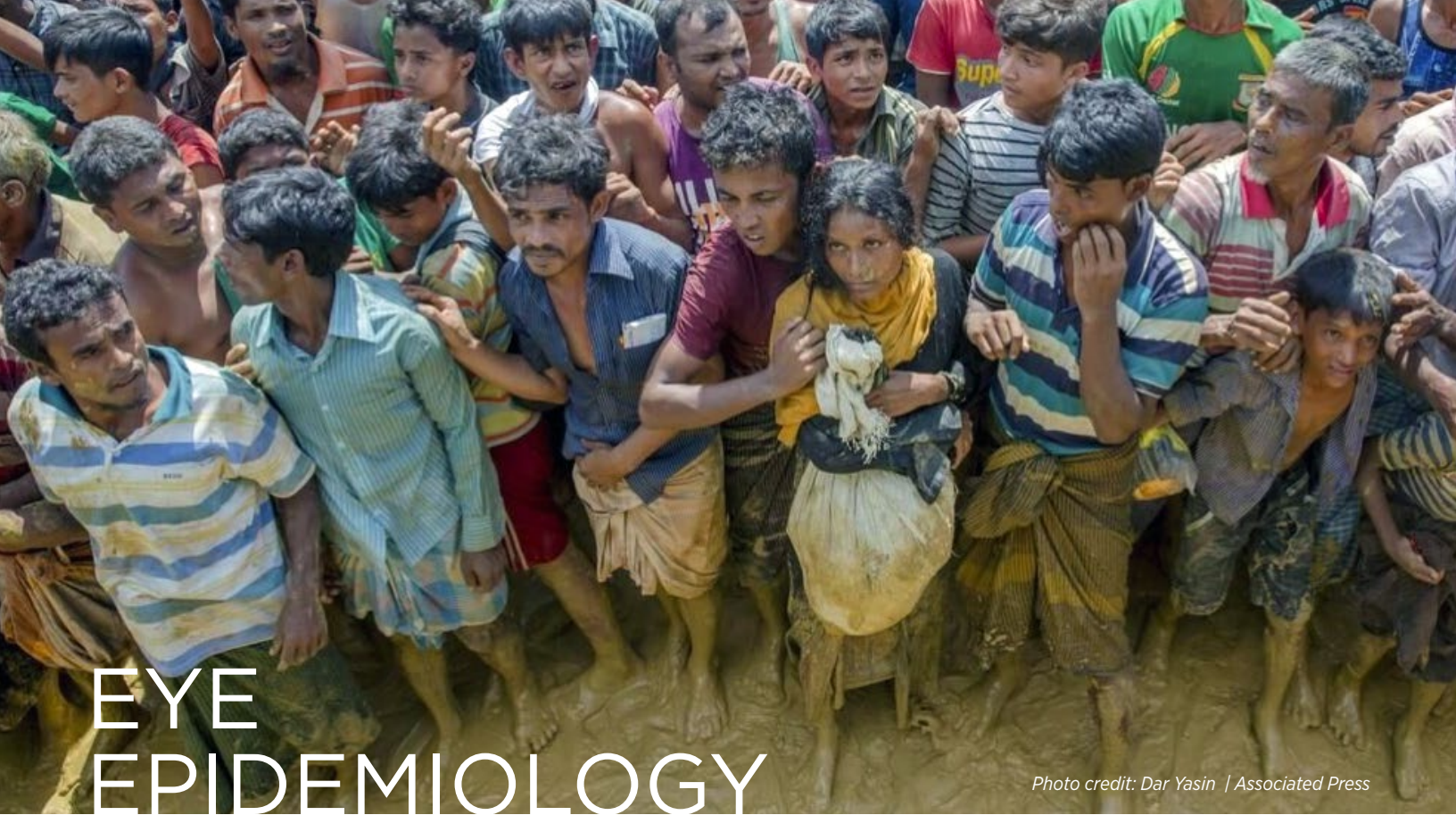
<http://203.112.218.65:8008/WebTestApplication/userfiles/Image/District%20Statistics/Cox%60s%20Bazar.pdf>

Cox's Bazar Pop Census

http://203.112.218.65:8008/WebTestApplication/userfiles/Image/PopCen2011/Com_Cox%27s%20Bazar.pdf

2014 Myanmar Census

http://themimu.info/sites/themimu.info/files/documents/Report_Overview_Results_of_the_2014_Census_DOP_Dec2017.pdf



EYE EPIDEMIOLOGY

Photo credit: Dar Yasin | Associated Press

Host Population Eyes

The last national eye survey in Bangladesh was conducted in 2000 (1) and is now well dated. In 2010, a district-wide survey in Cox's Bazar (2) found that 3.2% of all adults over the age of 50 were blind, 2.6% had severe vision impairment and 12.3% had vision impairment. This is the highest district rate measured in Bangladesh. Seventy-six and six-tenths percent of blindness was due to cataract and 92.2% of all blindness and severe vision impairment was due to cataract. Three and one-tenth percent of all blindness and 84.5% of all vision loss was due to uncorrected refractive error. Ninety-nine and seven-tenths percent of all vision impairment was due to avoidable causes of blindness.

A 2007 nationwide Key Informant Method program found that in children with BVI, the main site of abnormality was lens (32.5%), mainly un-operated cataract, followed by corneal pathology (26.6%) and disorders of the whole eye (13.1%). Lens-related blindness was the leading cause in boys (37%) compared with corneal blindness in girls (29.8%). In 593 children, visual loss was due to childhood

factors; over 75% was attributed to vitamin A deficiency. One-thousand three-hundred and thirty-eight children (69.2%) had avoidable BVI (3).

Specific information on rates of refractive error and presbyopia for Cox's Bazar is not available. A recent Rapid Assessment of Refractive Error (RARE) study in the northern district of Sirajgani found that among adults, 4.7% had refractive error and among those age 35 and above, 62% were presbyopic (4).

Refugee Population Eyes

There is no eye epidemiology data available for the Rohingya, but the following, when considered together, suggests that the rate of blindness in the Rohingya is high.

The lack of access to basic eye services means that those Rohingya in need of cataract surgery or eyeglasses will have gone without, creating a large backlog of treatable blindness and vision loss.

Stark living conditions of the Rohingya in Rakhine State exacerbates nutritional and environmental factors that contribute to high rates of preventable

EYE EPIDEMIOLOGY (continued)

forms of blindness. Both clinical vitamin A deficiency and active trachoma infections occur in rural ethnic areas of Eastern Myanmar; conditions in Rakhine state could be expected to be similar. Not-yet-published data from a recently conducted survey in a state nearby to Rakhine state found that more than 5% of adults over the age of 50 are blind and that a notable amount of the blindness was due to trachoma.

At the in-camp outreach eye clinics, the Rohingya are presenting with high rates of eye problems. According to outreach staff that have been working in Kutupalong camp, about one in three patients are presenting with cataracts. The need for eyeglasses is the second most common reason for presenting, and about 20% are found to have cornea problems, most of which might have been preventable. Most of those needing eyeglasses are presbyopes needing readers. So far, no high myopia has presented. Clinical vitamin A deficiency has also been found among presenting children.

At the hospital, a brief analysis of 320 refugee cataract surgeries completed to date at CBBHS as supported by Orbis Bangladesh shows:

210 cataract surgeries age 60 and above

67 cataract surgeries age 50-59

25 cataract surgeries age 40-49

18 cataract surgeries under age 40

Male recipients: 163 | Female recipients: 157

Particularly considering the conditions, the gender balance was quite good among those who have received cataract surgery to date.

We asked cataract surgery recipients about their access to eye services in Myanmar and we were told there was no access to eye or health care. One man said that the Rohingya were not allowed to travel outside of their designated area, and if for some reason you were able to get around the checkpoints to go somewhere to seek services, you would be charged much more because you were Rohingya.

Therefore, it is uncertain to what extent the Rohingya who were blind were able to survive and make it to Bangladesh. Although we spoke with cataract surgery recipients who were blind in Rakhine state and made it to Bangladesh by being escorted by relatives, there are also accounts of the blind not surviving.

“My mother is blind, she couldn’t run, and she burned inside our house. I could only grab my baby [20 days old] and run.”

— FEMALE, FROM RATHEDAUNG TOWNSHIP,

13 September 2017. No One Was Left. (MSF report).



EYE CARE FOR REFUGEES

Photo credit: Orbis Bangladesh

REFUGEE EYE CARE NEEDS will vary by context. It is typical that the refugees come from places that were underserved by eye services, so there would be backlogs of un-operated cataract and of uncorrected refractive error. There might also be potentially high rates of preventable blindness due to poor nutritional status and poor water, sanitation and hygiene (WASH) status.

In a new refugee camp setting, the rates of BVI among the arriving refugees will also vary by context. The time, distance and difficulty of fleeing may be such that the blind or visually impaired were less likely to attempt the journey, may have been left behind intentionally or may not have survived making the journey. In a new refugee crisis, the amount of BVI would therefore requires assessment.

In a stable, long-term refugee camp setting, the amount of BVI will be directly related to a combination of the scale and scope of eye services that are available and of the living conditions in the camp, particularly nutrition and WASH conditions.

Budgets for refugee eye care, when available, are often limited. Therefore, interventions in refugee camps need to be evidence-based and need to be prioritized so that limited budgets can do the most good.

Minimum Initial Service Package (MISP) for Refugee Eye Care

Consultant Jerry Vincent recommends a Minimum Initial Service Package for eye care in refugee populations. This package includes:

1. Addressing preventable blindness.
2. Integrating primary eye care (PEC) into the refugee primary health care (PHC) system.
3. Establishing guidelines for eye referrals.
4. Providing basic eye services (cataract surgery and provision of eyeglasses) without discrimination, as resources allow.

Preventing blindness can be critical in refugee populations. Underlying nutritional and water, sanitation and hygiene conditions may be poor enough that vitamin A deficiency and trachoma infections can both easily become major problems. Deliberate assessment and/or careful review of the data and context is usually needed to rule these problems out. The health care providers in refugee camps will usually not be aware of how to clinically recognize Vitamin A Deficiency Disorder (VADD) or trachoma, so the health system may not detect the presence of these conditions.

EYE CARE FOR REFUGEES (continued)

Primary Eye Care (PEC) integration into the camps' health systems will provide a strong backbone for eye programming efforts. Train all frontline health care providers in primary eye care as needed, so that PEC will be available in all health posts and other health facilities in the camps. Allow the health system to take care of ordinary red eyes and minor complaints, measure visual acuity, identify eye problems in newborn babies, impart health education and preventive messages and identify and refer cataract, refractive error and more serious eye problems, which can then be funneled into eye services.

In some contexts, the camps are remote enough, and funding is constrained enough that no referrals are feasible. In other contexts, there may be potential to refer eye emergencies or selected eye problems out of the camp and into the host country's health system. Find out what is feasible in terms of referrals and then establish sound guidelines for making eye referrals as needed.

Finally, all populations everywhere will have at least some degree of cataract and uncorrected refractive error. In nearly all cases, these two conditions combined will represent a significant majority of all vision loss. Basic cataract surgery and refraction with spectacle dispensing do not require sub-specialty skills and do not require highly specialized equipment. Initially concentrating actual eye services on these two problems provides the best return on resources.

Additional Eye Services

Other eye services can be provided depending upon the context, availability of funding and expertise. It is prudent to let the basic eye services scale up, mature and gain good coverage before considering the provision of additional services, but this also is context specific. Examples of other types of services might include:

- » Childhood Blindness/Pediatric Eye Services;
- » Chronic Eye Conditions; and
- » Low Vision.

Childhood blindness is a special consideration. Although rates of childhood blindness are very low compared to adult blindness, when converted to blind-years, childhood blindness starts to become more important. In most cases, the problem with addressing childhood blindness in refugee camps is that there are no qualified resources anywhere close by, and it is usually not feasible to send a child and guardian to the capital city for surgery and numerous follow ups.

Chronic eye conditions such as glaucoma, diabetic eye disease, age-related macular degeneration and others in some cases require higher level of instrumentation and equipment and all require ongoing follow up. If eye resources are scant and where there are large backlogs of easily treatable cataract, there should not be an emphasis on chronic eye conditions. As programs mature and the backlog diminishes, more attention can be paid to these conditions.

For Low Vision, it is often simple to provide one or two types of low vision aids, but providing more extensive low vision services is often difficult due to lack of expertise and available resources.

In addition to the above, eye services in refugee camps or camp-like settings also need to be compliant with host country Ministry of Health policies as relevant and should also be in alignment with the national eye strategy, as available. Eye service also need to make best use of International Agency for the Prevention of Blindness (IAPB) and WHO guidance and need to comply with relevant Sphere standards:

<http://www.sphereproject.org/handbook/>

It is usually not possible to provide a full slate of comprehensive eye services in refugee camp settings. Therefore, services need to be provided on the basis of evidenced need and prioritized in such a way that the greatest good is done with available resources. Eye services need to be provided without discrimination.



RULING OUT PREVENTABLE BLINDNESS

Photo credit: Majed Chowdhury | Orbis Bangladesh

WHEN PRESENT, preventable blinding conditions represent a threat to sight and in some cases, to life. In this context, both Vitamin A deficiency and trachoma must be considered and assessed in the Rohingya population.

Vitamin A Deficiency

Vitamin A Deficiency Disorder (VADD) is a common feature in refugee populations and **it must always be ruled out**. Vitamin A supplementation should begin immediately in all new refugee populations. Standard vitamin A supplementation occurs in most refugee contexts, but not in all cases is supplementation frequent enough or supplementation coverage high enough (it should be at least 80%). Even when the frequency and coverage of the supplementation is adequate, deficiency still occurs.

Deficiency can persist because the supplementation dose and frequency *is based upon the assumption that at least half of the vitamin A need is obtained via dietary intake*. The food basket provided to refugees in camps often contains very little vitamin A content. If at least half of the vitamin A requirement is not provided by the food basket, even with supplementation, deficiency should be expected.

Additionally, if the food basket does not contain at least half of the required vitamin A content, older children (age 5-15) should be assessed to determine if this age group is also deficient and in need of supplementation.

Even if the food basket contains adequate vitamin A, deficiency may still be present if the children are not getting an adequate share of the basket or if the preparation of food destroys vitamin A content.

The nutrition sector reports that between August and January, 228,306 children of 6-59 months received vitamin A supplementation. This is 95% of the target number. Thus, the ability to provide adequate coverage for vitamin A supplementation in this population has been established, but that may not be enough.

The current food basket is provided every two to four weeks; the amount depends upon family size. The basic basket includes rice, lentils and cooking oil. Lentils have a small amount of vitamin A and the oil is fortified with vitamin A, but to what extent needs to be determined.

We will need to discuss this issue with the nutrition sector and the food security sector to better determine the amount of vitamin A in the food basket. We will also need to clarify what criteria

RULING OUT PREVENTABLE BLINDNESS (continued)

and coverage there are for supplementary feeding programs for malnourished children, including vitamin A content of the supplementary food items.

Clinical vitamin A deficiency is now confirmed in this population.

Prof. Dr. Forhad Hossain, Head of Pediatric Department, National Institute of Ophthalmology & Hospital of Bangladesh, examined some of the presenting children during a half-day outreach clinic visit to the camp on May 16, 2018. He reported seeing two cases of corneal and conjunctival dryness due to vitamin A deficiency, two cases of Bitot's spots, and three corneal ulcers.

Eye services are not responsible for food basket content or for routine vitamin A supplementation. The eye sector will need to be alert for detecting clinical deficiency and for advocating for appropriate vitamin A interventions.

More frequent supplementation with high dose vitamin A in refugee populations is recommended by the Center for Disease Control and Prevention (CDC) (5) and by other researchers (6). In recognition that there is not enough vitamin A in the diet to meet at least 50% of the need, the same dose is used as in routine supplementation, but the supplementation is recommended to occur every 3-4 months instead of every 6 months. Older children might need to be included in the supplementation if deficiency is also found in older children.

VADD makes children sick, blinds them and kills them. Addressing this deficiency will help prevent childhood blindness and unnecessary childhood deaths in this refugee population.

Trachoma

Trachoma does not occur in Bangladesh and is absent in most of Asia. However, trachoma is a historical problem in Myanmar and trachoma infection still occurs, at least in pockets in selected rural areas, particularly in ethnic territories.

No trachoma-related information is available for the Rohingya or for Rakhine state. Trachomatous trichiasis has been recently documented as a cause of blindness in state(s) adjacent to Rakhine state (not yet published — do not cite).

We asked if any trachoma infections or if any trichiasis patients had been seen to date among those who presented for eye services in the camps. The Bangladeshi providers said they do not have any experience with trachoma, so they could not answer with certainty.

Given that the refugee camps in Cox's Bazar are densely populated and struggling to provide adequate coverage for WASH, this would be an ideal environment for trachoma to spread. Given the feasibility of trachoma being present in the Rohingya population, trachoma infection and trichiasis need to be ruled out.

It would be feasible to run a standard district-level trachoma survey in the refugee camps, but given cost of this vs. the uncertainty if trachoma is present, it may be prudent to conduct a Trachoma Rapid Assessment (TRA) first. TRA is brief enough that it could be conducted during the monsoon, if the weather cooperates. Given the lack of in-country experience with trachoma, trachoma assessment would need more external technical inputs than usual.

In anticipation that a wider trachoma assessment might be needed, the initial TRA could provide an opportunity to train local eye staff on clinical detection of trachoma, as well as an opportunity to have a trial run at using digital images and the internet to have any trachoma cases that are found validated by technical experts in other countries.

If no trachoma is detected via TRA, further assessment would not be needed. Should trachoma be detected in a TRA, a decision could then be made regarding running a standard, stand-alone trachoma survey or if an appropriate trachoma assessment could be integrated as a component into a larger BVI survey.



THE NEED FOR PRIMARY EYE CARE

Photo credit: Orbis Bangladesh

PEOPLE PRESENTING with eye conditions are common in refugee health facilities. A week-by-week look at the presenting conditions in all reporting camp health facilities, from last December to early June, shows that the percentage of presentations tracked that were eye infections varied from a low of 0.1% to a high of 11% of the presenting cases (see http://103.247.238.81/webportal/pages/controlroom_rohingya.php).

This illustrates the importance of having a strong primary eye care (PEC) system in place. The goal is that when a person walks into any basic level health facility, appropriate management for eye problems will be available as needed. All frontline health care providers in the camp should be able to recognize a visible cataract, assess vision acuity and give ointment for basic eye infections. They should be able to recognize a normal-looking eye from one that is not normal and should be able to determine when referrals are routine vs. urgent.

A strong PEC component in the Primary Health Care (PHC) system in the camp allows for mundane eye problems to be addressed without using eye service resources and allows for the entire PHC system to be used to funnel cataracts and uncorrected refractive error into the eye health system. A strong PEC component in the PHC system also makes accessing eye care much easier for the refugee population.

Anecdotally, several representatives from the NGOs providing camp PHC facilities commented that they are noticing many eye injuries, so good PEC training may end up playing an important role in preventing secondary infections in cases of minor eye trauma.

Ideally there would be an assessment of specific PEC training needs for health posts and other PHC facilities in the refugee camps. A review of the PEC context in the host population in the district health system should also be undertaken to determine if PEC strengthening is needed for the host population.



CALCULATING EYE SERVICE NEEDS

Photo credit: Sumon Francis Gomes | Orbis Bangladesh

Cataract Surgery and Spectacle Provision

THE BANGLADESHI NATIONAL EYE OPERATIONAL PLANS call for a cataract surgery rate (CSR) target of 3,000 surgeries per million persons per year. When applied to the Cox's Bazar population, including the refugees (about 3.3 million), this approach would target providing 9,900 cataract surgeries per year in this district. Skewed demographics or excessively high backlogs may provide justification for setting a higher CSR target for Cox's Bazar, at least on a temporary basis.

Similarly, a spectacle provision rate (SPR) can also be calculated after the rate of refractive error is determined via survey. A provisional calculation using data from another district in Bangladesh (4) predicts that 4% of adults would need a distance vision correction ($0.04 \times 0.57 \times 2.28 \text{ million} = 51,984$ people) and that about 60% of the older adults would need readers ($0.60 \times 0.30 \times 2.28 \text{ million} = 410,400$ people). Applying the conservative assumption that an average pair of eyeglasses might last 4 years before they are lost, broken or need to

be changed for power would mean that each year, the Cox's Bazar host population would need to be provided about 12,000 distance vision spectacles and about 100,000 readers. The Rohingya needs would be expected to be less than half the host population needs.

Based on these assumptions, the combined host and refugee population in Cox's Bazar will need nearly 10,000 cataract surgeries per year and will also likely need at least 150,000 spectacles per year. More precise calculations could be made after survey data is available and demographic data becomes more precise.

Childhood Blindness

The Bangladeshi national strategy uses the WHO global estimate of childhood blindness prevalence of 0.75/1,000 children, which for Bangladesh means that there would be about 300 blind children for every million persons. Around one-third (100 children per million persons) would be expected to be blind from cataract. Applying these rates to

RULING OUT PREVENTABLE BLINDNESS (continued)

the Cox's Bazar host population and the Rohingya refugee population would find about 680 Bengali and 300 Rohingya blind children for a total of about 980, of which about 325 children would be expected to be blind from cataract.

Chronic Eye Conditions

According to the International Diabetes Federation (2017), an estimated 7% of the Bangladesh population is diabetic. About 25% of the diabetic population is at risk of having diabetic retinopathy leading to blindness. Applying these figures to the adults in Cox's Bazar host population indicates about 22,743 at risk of diabetic retinopathy. Prevalence of diabetes among the Rohingya is not known but is likely to be low. Applying the Myanmar prevalence of 4.3% to the adult Rohingya and assuming that 25% of these would be at risk for retinopathy would indicate that about 5,200 Rohingya adults might be at risk for diabetic retinopathy.

Only about one-quarter of the health facilities in Bangladesh and only about 20% of the health facilities in Chittagong division (which includes Cox's Bazar) offer services for diabetes (2014 DHS survey). Non-communicable diseases services and programs are not yet established in the refugee camp health facilities. Thus, the primary health care systems in both the district and in the camps are not yet well positioned to care for diabetic patients.

The National Operational Plan for Eye Care notes that about 2.1% of the population has (open angle) glaucoma. This suggests that about 48,000 of the Cox's Bazar host population and 21,000 Rohingya refugees might be expected to have glaucoma.

Low Vision

Determining low vision needs by survey will present an opportunity to work with CBM, Handicap International, HelpAge and other organizations that work with those with disabilities, as they may be better placed to provide training for skills of daily living and other rehabilitation needs for those who have permanent severe vision loss.

Selected eye service needs are provisionally calculated using best available epidemiological and demographic data and current national targets. When eye survey data and more detailed demographic data becomes available, needs can be determined more precisely.

RESOURCES

Strategy for National Eye Care for Vision 2020 in Bangladesh.
AMZ Hussain. Dhaka, August 2014.

National Eye Care, Operational Plan January 2017- June 2022.
Ministry of Health and Family Welfare Government of the People's Republic of Bangladesh. April 2017



EYE HEALTH SYSTEM CAPACITY

Photo credit: Orbis Bangladesh

National Level

EYE SERVICES are found within the Health Population and Nutrition Sector Development Program of the Ministry of Health and Family Welfare (MoHFW). The National Institute of Ophthalmology and Hospital (NIO) serves as the apex eye institute in Bangladesh. The NIO provides tertiary eye services as well as advice and management for the eye health system in Bangladesh.

A national Vision 2020 Advisory Committee is chaired by the Director General of Health Services and has the line director of the National Eye Care Program as secretary. This committee identifies national eye care priorities for eye service, programs and research as needed, mobilizes resources, promotes the formation of district-level Vision 2020 committees and obtains Bangladesh National Council on Blindness endorsement on policies. The National Eye Care Program produces national strategic or operational plans for the eye program as needed.

INGOs and NGOs

Supporting MoHFW eye efforts are several INGOs and national organizations. IAPB members Orbis International, Christian Blind Mission (CBM), Fred Hollows Foundation (FHF), SightSavers International

(SSI) and Helen Keller International (HKI) all maintain offices and staff in Bangladesh. Each of these INGOs have been in Bangladesh for many years and all support the capacity building of the eye sector in Bangladesh. BRAC, a Bangladesh NGO that now has an international presence, also supports eye services in selected parts of the country. These INGOs meet periodically to discuss progress on the development of national eye capacity.

Seva Foundation, Andheri Hilfe Bangladesh-AH, Heart to Heart Foundation, and others also support efforts to strengthen the national eye capacity.

ChildSight Foundation is a national organization working on childhood blindness and disability, and there are numerous not-for-profit or social enterprise organizations in Bangladesh that are involved with eye services or supporting eye services.

Combined, these organizations provide considerable technical support and most of the external budget for eye services in Bangladesh.

These organizations are also the driving force in responding to the Rohingya refugee crisis. Orbis has a multi-year donor for this response. FHF has provided an initial tranche of funding for cataract surgery and outreach work via the local eye hospital; SSI is pondering options for responding. HKI is working in the nutrition sector in Cox's Bazar already. Seva is funding this situational analysis in order to

EYE HEALTH SYSTEM CAPACITY (continued)

determine programmatic support. CBM is working in the rehabilitation sector but is also doing some spectacle dispensing in the camps. BRAC is not doing eye care in the camps but does have a large presence working across several other sectors.

Challenges

Current challenges in the eye sector in Bangladesh include the low cataract surgery rate (CSR), estimated to be about 1,900 surgeries per million persons a year when the national target is 3,000 per year. Part of the reason for this shortfall is a shortage of ophthalmologists and a lack of productivity of the ophthalmologists. There are currently about 1,000 ophthalmologists but an estimated 1,600 are needed per national planning. Only about half of the ophthalmologists do surgery and among those that do surgery, not all are using appropriate surgical techniques. Quality of care requires attention.

There is likewise a lack of optometrists and of mid-level eye care workers. Optometry is new to Bangladesh and there is not a clear mechanism for placing optometrists in government services.

The national operational eye plan also calls each district to develop a Vision 2020 plan and for the building of 200 vision centers at the sub-district level. To date these plans have not yet progressed as rapidly as hoped.

Government spending on eye care is very small. The INGOs and NGOs working in the eye sector in Bangladesh have a combined budget about 10 times larger than the government eye budget.

Eye Health System in Cox's Bazar

According to the national eye plan, there would be a dedicated eye care center in the district hospital, vision centers at the Upazila level, and over 30 ophthalmologists and 30 optometrists serving the combined population in Cox's Bazar. Currently the

district hospital does not provide eye surgery. There are no vision centers in the district and there are only a handful of ophthalmologists and two optometrists serving this population.

The only eye hospital facility in Cox's Bazar District is the Cox's Bazar Baitush Sharaf Hospital (CBBSH). This social enterprise organization also provides schools, an orphanage and many other social services. This 50-bed facility claims coverage for all of Cox's Bazar district, but also claims coverage for two neighboring "hill districts." It is not clear if they are the only eye service providers for the other two districts.

CBBSH runs on a sliding fees model. Those who can pay help support services for those who cannot pay. Now with a million refugees who cannot pay for services taking up much of the caseload, the hospital is not generating funds as needed. Costs for refugee services will need to be supported for the eye hospital to continue working. Various NGOs have helped support eye services for the refugees, but usually at negotiated rates that did not cover all associated costs.

Prior to the refugee influx, the hospital was doing 400-500 cataract surgeries per month or about 5,000 per year. Meeting the current host population and refugee needs in Cox's Bazar would require doing nearly 10,000 cataract surgeries per year.

During the hospital visit, we noted some equipment needed repair; the hospital management noted that they will need to outfit 1-2 more operating theaters (OTs) with a full complement of instruments and equipment. At present they have one vehicle for transporting staff and patients to and from outreach locations. This arrangement is not sufficient.

They are requesting a bus and a minivan to better move patients. They want to upgrade to add 50 more private beds to better attract more fee-paying patients. They need a lift (elevator), as the OTs and beds are on upper floors, while many patients are old and cannot climb the stairs. All the needs listed by the hospital appeared to be reasonable, if not modest.

EYE HEALTH SYSTEM CAPACITY (continued)

The hospital would like to bring in more specialists to take care of problems that they now refer out to Chittagong, which is about a 4-hour drive. There was interest in potentially developing CBBHS to be a pediatric ophthalmology facility and eventually a tertiary eye center.

Orbis has initiated a project to build the capacity of the CBBHS to respond to the eye care needs of both the Rohingya population and the host community. Sight Savers International (SSI) initially equipped the hospital with instruments and equipment as needed. Since the refugee crisis, Orbis International, Fred Hollows Foundation (FHF), CBM, HelpAge, Handicap International and many other NGOs have helped support CBBHS to provide eye services. Hospital management noted that some of these agencies were only interested in funding very specific activities or costs, which often did not cover the actual cost of the work being done for them.

Ideally there would be support to increase eye capacity at the government district hospital. This hospital was outfitted with instruments and equipment for cataract surgery and eye examinations by FHF, but these instruments have not been used and are now in uncertain condition. A government-appointed ophthalmologist works a few days per week in the OPD to provide medical eye care only. It is not certain if the government will be supportive of building eye capacity at this facility, and this needs to be clarified.

Because of this uncertainty, there appears to be some reluctance on the part of the INGOs to provide additional support to the district hospital facility if MoHFW does not commit to providing necessary posting of ophthalmologists there.

There is also a medical college in Cox's Bazar, but it does not have any ophthalmology faculty. There has been some discussion about building the medical school capacity in eye care in tandem with building the district hospital's capacity.

Eye Services in Refugee Camps

Outreach teams managed out of the hospital and funded by the INGOs go out into the refugee camp and into the host communities. There is an eye clinic facility in Camp 11 where the Orbis/CBBHS outreach team holds clinic two days per week. About 300 people can be examined each day at this facility. Refractions and medical eye care are provided at this clinic; those who need surgery are brought out of the camp and to the eye hospital as needed. In addition to the clinic, teams go out and conduct vision screenings in host community schools and in child-friendly spaces in the camps. There are provisional plans to expand to other locations. FHF has sponsored selected outreach activities in the camps and CBM is also providing some spectacle dispensing in the mega camp. It is clear that these in-camp efforts are just scratching the surface of the need.

Summary of Gaps

Cox's Bazar is short of facilities and human resources. The current national plan calls for dedicated OTs in district hospitals and the placement of vision centers at the Upazila (sub-district) level. There are 8 Upazilas in Cox's Bazar.

The Vision 2020 targets for Asia for eye care staff are one ophthalmologist and one optometrist for every 50,000 persons. The national eye plan for Bangladesh uses a more realistic target of about 1,600 ophthalmologists and 1,600 optometrists nationwide. This level of support would be about one practitioner per 100,000 persons. The host population in Cox's Bazar would need about 33 ophthalmologists and 33 optometrists serving the combined population in the district. Given that it is not likely that this level of human resources will be available right away, there will need to be at least enough providers to address cataract surgery and spectacle dispensing needs, and the existing systems will need to be leveraged to the highest level possible.

EYE HEALTH SYSTEM CAPACITY (continued)

Basic eye service needs will require that CBBHS double the current cataract surgery output. Spectacle provision would have to increase by a factor of ten to 20 times current output to begin to address the needs. This increase will require support to CBBHS to upgrade facilities, increase professional staff, buy equipment, etc. as needed as well as support to significantly scale up outreach activities.

Preventable blindness needs to be addressed. Trachoma needs to be ruled out and if present, addressed as needed. Addressing vitamin A deficiency will require a multi-sectoral approach.

In the camps, the existing primary health care system likewise needs to be leveraged. There is no systematic Primary Eye Care in the refugee camps and training of the frontline primary health care providers is a must. Primary Eye Care being available in all of the camp health posts and other health facilities will be the backbone that supports and feeds the eye care system.

The eye services available in the camps has been very limited in scope and in scale. Most of the camps do not have direct access to eye care, as the outreach activities have only been conducted in a few locations. To prevent discontent, CBBHS/Orbis might consider working out of two to three locations in camp instead of one location, rotating by day of the week or the week of the month. CBBHS/Orbis and the CBM outreach team should coordinate activities and schedules to assure the best geographical coverage feasible for the existing level of services. The other INGOs should also consider supporting outreach teams so that more consistent and wide coverage can be made available. Also, for consistency, the package of services offered in outreach clinics should be harmonized across all agencies. The goal here is to create a systematic approach with the best geographic coverage that resources will allow.

There are an estimated 1,000 blind children in this district and about 300 of these are expected to be

blind from cataract. Once resources are lined up for pediatric cataract surgery, a Key Informant Method (KIM) could be used to identify the magnitude of problem and service need. Doing a KIM activity will provide an excellent opportunity to collaborate with the disability sector organizations.

There will be a need for more stationary clinic sites (vision centers). Placement of vision centers in the host community should be in sub-district health facility compounds per the current national eye operational plan. Vision centers in the camps could be temporary structures to allow for flexibility in event of population movements or relocations. The current camp outreach clinics might ideally morph into a set of vision centers (temporary structures) strategically located across the camps. These would be able to receive referrals from all of the health posts and health clinics in the camps (after PEC training has been provided) and also referrals from school vision screening programs, etc.

Given the high risk of flooding, landslides and cyclones in Cox's Bazar, vision centers should be built to withstand these hazards and ideally would also be built to be not only accessible for all, but also environmentally sustainable. CBM has modeled such construction in Cambodia and their example could be adapted as needed for Bangladesh.

In turn, the vision centers would refer as needed to CBBHS for cataract surgery, with onward referrals to Chittagong for tertiary eye care needs.

To get the best results, in devising the eye service plans for the district, the highest level of input and participation should be sought from all stakeholders.

RESOURCES

Strategy for National Eye Care for Vision 2020 in Bangladesh. AMZ Hussain. Dhaka, August 2014.

National Eye Care, Operational Plan January 2017- June 2022. Ministry of Health and Family Welfare Government of the People's Republic of Bangladesh. April 2017.



WORKING GROUP COORDINATION

Photo credit: Orbis Bangladesh

BY WORKING AS A GROUP, there is less likely to be duplication of efforts and it will be easier to identify and address gaps. The working group will collaborate to develop a strategic plan for eye services in Cox's Bazar District, including for the refugee population. Out of the group of INGOs that are supporting eye care in Bangladesh, a working group has been created. This yet-to-be-named group will coordinate the eye response for the Rohingya refugees and the local host population in Cox's Bazar. Working in this environment to provide eye services requires coordination with government at several levels, with the UN system and with the refugees themselves. There are also many compliance issues and guidelines to be followed.

The working group will coordinate with the MoHFW, NIO and other national entities to assure that the efforts in Cox's Bazar district are adherent to national policies and guidelines and in accordance with the current operational plan for eye care. The working group will coordinate with the health system at the district level regarding provision of eye services in the host population.

The working group will coordinate with the health sector for provision of eye services in the refugee camps. It will also need to coordinate from time to time with the education sector, the nutrition sector and the disability related organizations. The working group will also need to coordinate with the Majhee leaders of the refugee population.

The working group will also coordinate as needed with external entities such as donors, IAPB, etc. Most coordination efforts to date have been well led by Orbis, and there has already been good recognition of this coordinated effort. An MOU is in process with the MoHFW that will recognize the working group as the coordinating body for eye care response in Cox's Bazar district.

As a result of extensive groundwork conducted by Orbis Bangladesh, a high-profile visit from the Orbis NY office, numerous conversations, and the extensive consultation meeting on eye care needs held in Cox's Bazar in May, the health sector agencies now recognize the importance of eye care. End-of-meeting suggestions collected from health sector participants at the conclusion of the eye consultation

EYE HEALTH SYSTEM CAPACITY (continued)

meeting found that nearly all health organizations that were in attendance requested eye related training for their staff and asked for better access to eye services.

Eye sector members have been attending the weekly health sector coordination meetings. After a presentation by Orbis, Seva and FHF at the May 16th health sector coordination meeting, the health sector member agencies have suggested creating an eye care working group.

Moving forward, the two most important tasks will be to conduct an eye survey as needed to determine the rates and causes of blindness and vision impairment in both refugee and host community populations, and to develop a long term strategic plan for eye care for the district.

The working group recognizes this refugee crisis has brought about an opportunity in which, for at least

a limited amount of time, there may be increased donor interest to help. The working group will use this opportunity not only to provide eye services as needed for the refugees and the affected host population, but also to move forward on some of the national operational plan agenda items such as:

- » district level planning for eye care;
- » building of vision centers; and
- » use of optometrists and mid-level eye care providers.

In the future, the working group will ideally develop joint proposals for building the eye care capacity in Cox's Bazar. The working group will also work together to identify and undertake research and learning opportunities.

The success of this endeavor will be dependent upon good ongoing coordination.

RECOMMENDATIONS

Recommendations for the Working Group

- » Plan a BVI survey for the Rohingya and host populations, using external technical advisors as needed. The main survey should not be taken until after monsoon season. Limited assessments (TRA for trachoma) may take place sooner if conditions allow (also see below).
- » Initiate a strategic planning process to develop a district wide, five-year plan to address BVI for all residents and refugees in Cox's Bazar. The plan should include human resource development in all cadres; infrastructure development (primary, secondary and specialty care); capacity building in terms of equipment instrument support and maintenance and skill improvement; service delivery; and a quality monitoring mechanism in place and template to be provided.
- » Address avoidable blindness. Assess if trachoma is present or not and address as needed. Work with the nutrition sector to clarify vitamin A content in the food basket and supplementary feeding programs. Work with the nutrition, food security and health sectors to address vitamin A deficiency as needed, including more frequent vitamin A supplementation (4,5). Include VADD and trachoma content as needed in any PEC trainings.
- » Review PEC training needs, adapt materials as needed and provide training (or training of trainers) for all frontline health care providers in all camps and in affected host communities as needed.
- » Develop Security and Disaster Preparedness Measures as needed. (Guidance will be provided). The WHO health sector coordinator advised that the eye sector have a way to stay in communication with any team working in the field. As there are dead spots in the camps for cell phone reception, it may be necessary to look into getting radios.

- » Work with CBBSH to develop a common data reporting format. When each NGO has different reporting requirements it creates a lot of extra work for hospital staff.

Recommendations for CBBSH (Eye Hospital)

- » Develop emergency eye referral protocols to be provided to the health sector coordinating committee for further dissemination to all agencies that provide health care in the camps.
- » For planning purposes, clearly identify all costs associated with provision of cataract surgery and basic outreach services in the Rohingya population.

Recommendations for MoHFW

- » Via MOU, recognize the working group as the entity for refugee eye response and for district planning in Cox's Bazar.
- » Clarify to what extent the district hospital will be supported by MoHFW for development of eye OTs, ophthalmology services, placement of staff, etc.

Recommendations for the INGOs Home Offices

- » Orbis, Seva, FHF, CBM and SSI home offices, as much as possible, should work as a team to support the working group. Home offices should also recognize that decision making should be made at the country office level.

Recommendations for IAPB

- » IAPB should continue to monitor and support this effort in Bangladesh in order to be well positioned to assist in other crises that occur in the region.

AN OPPORTUNITY

The Rohingya refugee crisis presents an opportunity for the Bangladeshi eye community to conduct the largest refugee eye care response undertaken.

As the Rohingya are likely to be present for years, this will be a long project that will face many challenges, and there will be a lot of learning along the way. A successful project here will be found to:

- » reduce BVI in the refugee population;
- » reduce BVI in the local host population;
- » strengthen the district capacity to provide eye services;
- » strengthen the national capacity of the eye system to deal with crises;
- » strengthen the national capacity to collaboratively manage large projects;
- » demonstrate to donors that funding refugee eye services can be a good investment;

- » provide lessons learned that could be used in refugee responses in other countries; and
- » illustrate how human rights abuses affect eyes and vision.

The current WHO Global Action Plan calls for the provision of universal eye care. This undertaking may provide one of the most compelling examples of how universal eye care could be provided in a stark and difficult environment for one of the most disenfranchised and underserved populations on the planet.

“Alone we can do so little, together we can do so much”

— HELEN KELLER

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