

ORIGINAL RESEARCH

Report of a medical mission to Somaliland, 2001

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ABSTRACT

Somaliland is a self-declared state, not recognized by the nations of the world. Sixty percent of the population are herders or small scale farmers. GNP (Gross National Product) and other data are not available, but it is evident, according to surveys conducted by the UN (United Nations), that most of the population has a low income. The health care system consists of a public sector, which covers primary care, hospital care, immunizations, and tuberculosis care. The major clinical problems are tuberculosis, malaria and childhood diarrhea. Lack of trained personnel is a major difficulty in the health care system. This paper describes visits to health care facilities in Somaliland, and suggests some improvements for the system.

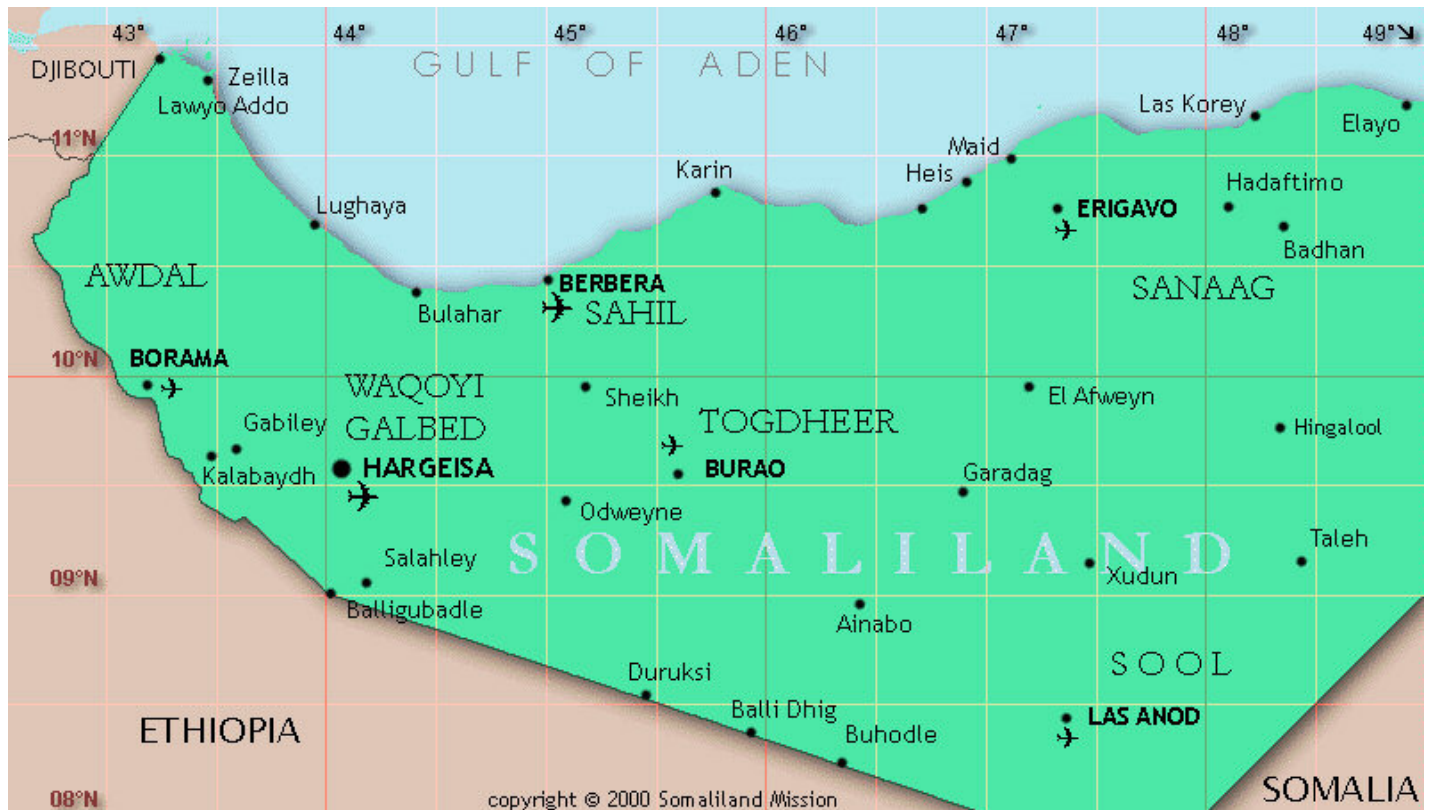
Background

During January 2001, a mission to Somaliland was initiated by a commercial company. During their visit, a physician (MLA) was cordially invited by the Minister of Health (AADA), to evaluate the health care system and to find ways to assist the Somaliland authorities in health care delivery.

The reason for this field trip was economical, but the health care aspect was seen as part of the project.

Methods

Meetings with several government officials were conducted, and apart from spending time in Hargeisa, we traveled to Berbera, Sheikh and Borau. We had the opportunity to visit



several health care facilities in these places. This report is based on these experiences.

Country Background

Somaliland is a self-declared state, not recognized by the nations of the world (Fig 1). Independence from the Republic of Somalia was declared ten years ago, and fighting for independence has gone on for several years, resulting in the destruction of the infrastructure of the country. Currently, the country is run by a government, headed by President Mohamed Haji Ibrahim Egal. The size of the country is large, and the terrain varies from desert coastal plains, through high mountains and a high plateau (1,700m), with acacia bush, home to more than seven million goats and sheep, and five million camels.

The Population

Somaliland has not had a census, and population estimates are difficult for the following reasons: Returning refugees¹, internally displaced citizens, citizens of Somali ethnicity who reside in neighboring countries seek medical care and other benefits in this relatively newly established country. These factors are the reason for the diversity of figures quoted regarding the population size and composition. It is likely that Somaliland has about three million people, 30% of whom are semi-nomadic shepherds², 30% are small scale farmers, and 40% live in towns and cities.

Economy

GNP and other data are not available. A recent report³ on the southern region reveals that people are poor, and they depend on livestock.

Approximately 50-75% of the income of the poor is spent on basic food and non-food items, including: sugar, wheat flour,



oil and meat. Calorie and protein intake are not always adequate. Other expenses include: soap, 8 pieces per month, (approximately \$30/year), clothes \$35-45/year, schooling, kerosene, approximately \$35/year. Veterinary and human drugs are selectively purchased depending on income available at the time and the situation, but may range from \$70-90/year. Tractor hire (8-15 hours at \$4-6 per hour), \$30-90 per year.

There may also be some expenditure on khat, which is an intoxicating leaf, chewed by inhabitants of the Horn of Africa and Yemen, particularly on Thursday afternoons and Fridays. Details of expenditure on khat have not been assessed. In some areas money may also be spent on water for livestock in the dry season.

The economy is based on the export of live goat and sheep to Saudi Arabia, where they are slaughtered for sacrifice during the pilgrimage to Mecca (The Haj). A recent ban on livestock from Africa was instituted by the Saudi Government because of cases of Rift Valley Fever in East Africa, and the possible transmission through infected animals⁴.

Trade of small livestock usually is for one of the following purposes: Gifts, payment of debts, rehabilitation of the house, purchase expensive clothes for women, marrying another wife, or payment to Koranic school teacher. Animals are slaughtered as part of the prayers and ceremony associated with the birth of a child, circumcision celebrations for boys and girls, visits by relatives, or religious festivals and holidays.

The average household size is between 6-8 people. A family will have 0.5-1.5 hectares of cultivated land, yielding 0.25-1.125 metric tons of staple food per year, 1-3 cows and 5-8 goats or sheep³.

The Health Care System

There is a public sector, run by the ministry, and the private sector, which is independent. The exception is the maternity

and pediatrics hospital in Hargeisa, which will be described in detail. My visit was to the public sector: The Hargeisa Group Hospital serves as the national medical center. There are five district hospitals, each is supervising 5-6 health centers, which have responsibility for a total of 125 health posts.

The country is served by one hundred doctors (1:30,000 population, similar to the situation in other countries in the Horn of Africa). There are about 300 nurses (1:10,000), and currently there is no functional nursing school.

Major Health Care Problems

Lack of trained manpower in all fields is a major issue^{5,7}. There is limited access to medical services, especially among nomads, but also lack of means of transportation limit access to medical services. The nation has incomplete immunization coverage, resulting in frequent measles epidemics. Over-prescribing of medications, especially antibiotics, is common.

There is a high prevalence of malaria⁶, and childhood diarrhea is also a major cause of morbidity and mortality⁸. There is also a high prevalence of tuberculosis^{9,10}. DOTS(Direct Observed Treatment Schedule), a new method for treating tuberculosis, is the preferred method of treatment, due to problems with compliance¹¹. HIV-AIDS (Human Immuno-Deficiency Virus - Acquired Immuno-Deficiency Syndrome) is not a big problem, probably due to low rates of transmission of STDs (Sexually Transmitted Diseases)^{12,13}.

Results of the visits to the Health Facilities

The National Hospital, Hargeisa:

This structure was built by the British in the 50s. Little has changed since then regarding the physical structure. The hospital includes the four departments: Medicine, pediatrics, OBGYN (Obstetrics & Gynecology) and surgery, with a



total of 400 beds. There is also a 100 bed psychiatric ward, but there is no trained psychiatric staff. Conditions for these patients are especially difficult. In addition to the usual rates of mental disease in a normal population, post traumatic stress syndrome (PTSD) and coping with returning from exile are additional issues, making psychiatric diagnosis and treatment difficult. Psycho-pharmaca are not used, except for tranquilizers.

Laboratory services are limited to the basics. The only functioning X-ray machine is an old mobile unit, not sufficient for the needs of the hospital. There is an ultrasound machine, which can examine the trunk only. This is used for abdominal, pelvic, and rarely chest examinations. There is no permanent record of the examinations, as there is no recording paper.

There is no regular supply of bottles of oxygen for the hospital. Currently, all bottles are empty. The blood bank functions well. I was given the rates of positive tests on donated blood (mainly by patients' family members): HbsAg (Hepatitis B surface Antigen): 15-20%. VDRL (Venereal Diseases Research Laboratory, a screening test for syphilis): 10% and HIV <2%.

Tuberculosis Hospital, Hargeisa:

This structure was the old British general hospital until they moved to the "new" facility in 1958, and the old one became the Tuberculosis hospital. It has 127 beds, and a large out patient department (The Fisher Clinic), seeing about 700 people daily. Patients are all treated by the DOTS method, as in-patients for two months, and as outpatients for the remaining four months. Assuming full occupancy, the calculated number of new cases averages 63 per month, with a population catchment 250,000, the annual incidence of 'open' TB is 3:1,000. Record keeping and reporting is meticulous and accurate. They reported in the year 2000 597 new cases of smear positive TB (Tuberculosis), and 489 cases of smear negative TB, of those 261 were extra-pulmonary tuberculosis. This total number gives an annual incidence of 5.4%. They had 30 cases of 'relapses'.

Assuming all these are MDRTB (Multi-Drug Resistant Tuberculosis), which is the worst case scenario, this is a 3% rate, which is acceptable. The laboratory performs about 250 smears per month, 10-15% are positive (These are mostly new cases, as many of the negatives are patients on DOTS). They do not have the facilities for culture or sensitivity.

Ms. Edna Adan's maternity and children's hospital:

This structure is not finished yet, it will hopefully be opened in April of 2001. It is a charity hospital, with the goals to reduce maternal mortality by providing treatment for complicated pregnancies, and to reduce mortality of children, especially from diarrheal disease. In preparation for the opening of the hospital, there are currently 33 young women studying in a course organized and taught by Ms. Edna, some nurses and guest teachers. They have succeeded in putting together a medical library which is a corner stone for the nursing school.

Urban Health Center in Hargeisa:

This urban health center serves 10-15 thousand families, many of them returning refugees. They provide DOTS to 17 tuberculosis patients. A committee elected by and representing the community is functioning at the center, participating in decision making and is finding additional resources. At this center, the system of patient cost sharing is piloted. So far it looks like a success, due to community involvement. Under the previous regime health care was free, and explaining to the public why now it costs money is not easy.

Berbera Regional Hospital:

During our visit, a board meeting of community members took place. The agenda was: A report from the District Medical Officer about his trip to Hargeisa; an operational plan for the hospital (guided by a specialist from Italy); follow-up from last week's business; and the role of the municipality in running the hospital.



They have patients in four separate buildings, separated by a large compound, which houses also the local high school. There is the general hospital (210 beds), the tuberculosis hospital (56 beds), the surgical hospital (80 beds) and the psychiatric hospital (42 beds, 37 of which are occupied by male patients.). The hospital pharmacy is adequate, the director of the hospital encourages local production of formulae from existing medications, like crushing pills, and suspending the powder in syrup for pediatric use. He plans to manufacture intravenous solutions for fluid infusion, using glass bottles and an existing autoclave.

The budget is balanced due to donations from the Italian NGO (Non Governmental Organization) 'COPI' and through cost-sharing by patients. The hospital has its own electrical generator, which supplies more power than the hospital needs. The excess is sold to the city. The hospital works closely with the peripheral health centers, which in turn coordinate the work of health posts in the region.

Tuberculosis is a serious problem. The local laboratory is performing 150-200 tests per month. 10-15% of these tests are positive. Presumably, all of these are new cases, as they have very few treatment failures. This makes an annual incidence of >200 cases for a population of less than 200,000, or more than 1:1,000 smear positive cases per year.

The surgical hospital serves as a referral center for the region beyond the district (Burao and beyond), they have many cases of trauma. A visiting consultant from Italy left a video library for surgical procedures, which is functioning and available in the doctors' lounge.

The mother and child health (MCH) clinics are sponsored by UNICEF, they function well, they see about 20 children daily, all <5 years of age, and 15-20 anticipating mothers for antenatal care. They are giving tetanus toxoid vaccination to pregnant women. They run 'polio vaccination days', door to door, putting blue stickers on the door posts of houses visited to prevent duplication.

Burao regional hospital:

This remote town was the center for livestock trade. Currently, the market is empty due to the ban of exports. The population of the region is about 250,000 people, most of whom are shepherds.

The hospital has 65 beds, and the tuberculosis hospital has 114. Patients are hospitalized for two months for tuberculosis, and the average stay in the general hospital is much shorter. The high number of beds needed for tuberculosis patients is impressive. Many of these patients are ethnically Somali, but came from Ethiopia (only 70 Km away).

The hospital is staffed by seven doctors and 35 nurses, plus auxiliary staff. Burao born Somalilanders who live in Western countries have donated money and equipment for the local hospital. These efforts have resulted in the arrival of a brand-new X-ray machine, which has not been put to use due to the inability of the local electrical power to supply the 80 KWH (Kilo Watt per hour) needed for this machine. The hospital laboratory is currently paralyzed due to lack of reagents.

The hospital pharmacy needs upgrading and supplies are scarce. It serves 21 health posts and 10 MCH clinics, which requires physical means as well as managerial skills. The surgeons lack instruments. None of the instrument sets is complete.

The problem of childhood malnutrition is more severe in the town than in the rural population. This indicates that economical problems in the town of Burao are serious, and I was glad to see that a modern abattoir and a tannery are being built in town.

The tuberculosis ward is run by a competent and energetic registered nurse, who knows everything there is to know about this disease. Her laboratory performs many more tests than the others (280 in the month of January), and the rate of positives is lower (5.4% in January), indicating that follow-



up is tight, and that treatment is successful, as most of the tests are for follow-up of patients under treatment.

Discussion

The health ministry is doing a remarkable job, with very limited resources, and tremendous problems. They function under circumstances of permanent shortage, and seasonal calamities such as malaria outbreaks in the wet season, measles outbreaks every 3-4 years, and the constant burden of tuberculosis.

Tuberculosis is a major issue, and the disease is under-diagnosed. Living conditions in close quarters, and cold nights contribute to the spread of the disease among family members of undiagnosed cases, augmented by borderline nutrition and emotional stress⁸. It is good to hear that the supply of anti-tuberculosis medications is not a problem due to UN agencies involvement.

The DOTS method is the best treatment method, as the patient is taking the medication under direct observation of a health care worker, who will record and monitor compliance. Hospitalizing the patients for the first two months of treatment seems long, but this will cover the critical period of therapy, when the patient has to take four medications, or 16 tablets per day. The employment of this method requires persistence and endurance for both the health care worker and for the patient¹⁰. Prevention of further spread of the disease is paramount, and case finding, contact screening and treating are essential components of a good TB program.

Visitors and NGOs want to contribute, and the easy way is to contribute a piece of equipment, or a month supply of an expensive medication. This is definitely not the way to go. Sharing knowledge, teaching skills, upgrading health care professionals is an investment which will last for much longer, and will improve the well being of the population.

'Prevention is better than cure'. However, public health is a formidable task. The cultural issues are not to be taken lightly: People who were nomadic by tradition do not have

habits of garbage disposal or sewage like people who lived in urban centers for generations. It is important to provide health education in the school system, so that the next generation will be able to live in a cleaner environment. Plastic bags do not carry disease, but they are a marker of carelessness. The country is littered with millions of used plastic bags, and this is a sign of poor garbage disposal.

Sewage is not regarded as a serious issue, but I have seen in Berbera open sewers running into the closed bay, contaminating the water. Berbera's drinking water comes from a series of springs, originating far from the city. The water is flowing to the city by gravity, and an efficient chlorinating system is in place. In Hargeisa, the city is supplied by drinking water from clean wells. The amount is 800 m³ per day, for about 200,000 people. The water is distributed to central taps in neighborhoods, from which water is carried by small donkey cart tankers and is sold to peoples' homes. This gives an average of 400 liters per day per person, not including city needs, small industries and other losses. Such amounts need a sewage system, with treatment to prevent contamination of the aquifer.

Summary Recommendations

1. The public health sector of the ministry of health should be stronger. Professionals should be sent to Somaliland to teach local officials the skills and practice of public health
2. A nursing school is needed for the country. The current efforts do not meet the needs.
3. The tuberculosis program in Berbera region should serve as a model for other regions in the country.
4. Water resources must be developed and maintained, assuring safe water supply and safe wastewater disposal.
5. Health education is a key issue in this developing nation. It should be incorporated in school curriculae.



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