



GLOBAL CENTRE
FOR RENEWAL AND GUIDANCE
المركز العالمي للتجديد و الترشيد

The Mauritanian Health Care System Overview and Recommendations

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Introduction

For five days in March 2012, a team of six medical and public health experts from North America toured medical facilities and health programs¹ in Mauritania's capital, Nouakchott. There, the team met with medical staff and health ministry officials conducting extensive interviews. The team also reviewed available reports on the Mauritanian health system developed by external international organizations spanning eight years. The visit was hosted by the Global Centre for Renewal and Guidance (a Mauritanian non-governmental organization) in cooperation with the Mauritanian Ministry of Health.

This report will provide both the observations and analysis of the team spanning the spectrum of healthcare, as well their subsequent recommendations. The segments of health systems covered include: Health Promotion and Disease Prevention; Primary and Preventative Care; Secondary and Tertiary Hospitals; Emergency Response System; Emergency Medicine; Pharmaceutical and Supportive Services; Workforce Development; and National Health Policies and Oversight.

Much of the analysis and recommendations have their limitations – a limited number of facilities were visited, data were difficult to obtain and verify, and gaps of information were supplemented based on interviews.

Health Promotion and Disease Prevention

Observations & Analysis

Various health organizations, as well the Ministry of Health, in Mauritania have long-term plans which incorporate appropriate goals and implementation strategies. There is widespread preventable disease in Mauritania with extensive impacts in morbidity, mortality, and cost of healthcare.

Consistently, the various organizations were incapable of implementation of health promotion and disease prevention programs due to a lack of funding. Given the inability to adequately promote health and prevent disease, significantly larger proportion of healthcare costs is applied to resource intensive treatment of chronic diseases. An adequately funded national program of health promotion and disease prevention would lead to a significant reduction in the prevalence of disease in the country. This will, in turn, lead to a reduction in patient care costs for preventable and manageable conditions.

¹ Arafat Regional Clinic, Women's & Children's Hospital, Cheikh Zayed Hospital, Friendship Hospital (China), National Central Hospital, Cardiovascular Center, Ministry of Health maternal and child health programs, National Oncologic Hospital, national health insurance fund.

Recommendations

1. *Consolidate existing health promotion and disease prevention plans:* There are various organizations with multiple plans – these need to be consolidated to develop an overall cohesive vision under the Ministry of Health.
2. *Development of a broad, multi-faceted program:* A cohesive program should include, among other initiatives: proper utilization of the healthcare system, promotion of sanitation, nutrition, maternal and child health, immunizations, disease education, family planning, and smoking cessation.
3. *Develop multi-pronged awareness campaigns:* Multiple types of media must be utilized including television, print media, radio, grassroots organizations, internet, and primary points of contact in the healthcare system.
[Example: Television and radio commercials promoting awareness of emergent medical conditions; Utilizing idle time in waiting rooms with health promotion videos.]
4. *Development of a national health registry:* This will facilitate introduction and integration into the healthcare system with incentives to participate in preventative programs.
[Example: Requiring proof of primary vaccinations to register in the educational system.]
5. *Provide necessary funding and investments:* There are many various organizations with strategic plans for health promotion and disease prevention which only require the appropriate funding in order to implement them.

Primary and Preventative Care

Observations & Analysis

The primary care system in Mauritania is grossly underdeveloped. It consists of local clinics and health posts staffed by one or more physicians and medical auxiliaries. The Arafat district clinic served a very large population with minimal staffing and equipment. It provided medical care through a government-sponsored prenatal program, a general medicine clinic, rudimentary birthing services, a basic laboratory and a limited pharmacy.

Throughout the facility basic equipment and hygiene were lacking. There did not appear to be an adequate system for medical transportation for high-risk pregnant women or when complications arose during birth. There was no apparent appointment system or triaging of patients. There also appeared to be no patient record maintenance system. Basic screening and referral for treatable and chronic conditions also seemed to be lacking.

Recommendations

1. *Improve and increase the primary care system of Mauritania:* It is the principal means of early diagnosis of treatable disease, long-term management of chronic disease, and appropriate utilization of the healthcare system's resources.

2. *Develop a system conducive to continuity of care:* In order to reduce the incidence of complications and decrease morbidity and mortality from chronic diseases, such as hypertension and diabetes, patients require continuity of care with a primary physician, which will also reduce redundancy. Continuity of care will also require a regular appointment-based system, as opposed to an ad-hoc walk-in basis. [Example: Patient will have the same primary doctor in one clinic that will monitor and manage chronic illnesses with regularly scheduled appointments.]
3. *Develop a centralized medical record system:* A well-utilized medical record keeping system will help reduce redundancy, facilitate continuity of care, allow closer regulation of chronic disease, help provide demographics to identify current health trends, and allow integration of health screening and disease prevention.

Secondary and Tertiary Hospitals

Observations & Analysis

We visited several hospitals that delivered a range of services. Common observations throughout each of these include: inability to accommodate patient load, inadequate equipment and technologic support, as well as insufficient human resources. There were overfilled waiting rooms and insufficient equipment. Much of the equipment was either dysfunctional or outdated. There were no internal maintenance systems in place for increasing the lifetime use of the equipment due to a lack of trained personnel.

There was evident lack of coordination between all levels of care including primary, secondary, and tertiary care settings with no referral system in place, for example one patient was sent abroad for surgery that apparently could have been performed in a Mauritanian facility. In addition, there is no sharing of medical records for transferred patients.

There was a wide array of highly trained and dedicated specialists and sub-specialists. They were consistently overburdened and lacking in support staff and services. They engaged in levels of care that could be adequately performed by care providers of lower levels. They also lacked the specialized nursing staff to support their full range of services, often leading to the inability to provide services domestically not due to a lack of a specialist, but the lack of lower levels of providers to support them.

Hospitals suffered from a lack of systems in place for patient flow, evaluation, and treatment. As such, patients waited longer to be evaluated and physicians spent more time treating fewer patients. They also had substandard sanitation and hygiene conditions which increase rates of hospital-acquired infections, increase morbidity, mortality, and healthcare expenditure. Oftentimes, due to a lack of space and appropriate beds, patients with communicable diseases were in close proximity with other patients, placing them at risk.

Recommendations

1. *Establish a centralized referral system:* A systematic approach to referrals, for both urgent care and outpatient evaluation, will ensure a more appropriate handoff of care and utilization of resources.
[Example: A patient would not proceed directly to a specialist but would obtain a referral from a primary physician detailing the workup thus far and the reason for the referral.]
2. *Improve basic sanitation and hygiene standards:* This would include increasing the number of alcohol-based sanitizer dispensers in strategic locations, ensuring adequate sinks with running water and soap, cleanliness of patient beds, and overall clinic maintenance.
3. *Adhere to international infectious disease precautions:* Following appropriate isolation standards (including respiratory, droplet, contact, etc.) and universal precautions would drastically reduce incidence of hospital acquired infections.
[Example: Patients with active tuberculosis should be in closed rooms with negative pressure.]
4. *Invest in equipment and hospital infrastructure:* All of the hospitals were grossly undersupplied and were operating at a marked disadvantage to ensure quality patient care.
5. *Expansion of secondary and tertiary hospitals:* Expansion of hospital capacity would help alleviate the widespread bedding and manpower crises to better face rapidly growing patient volume.
6. *Expansion and training support staff:* Implement initiatives to expand nursing and technician schools to increase the volume of support staff. Expand training programs in a continuous fashion to all for continued education and training to better support physicians.
7. *Invest in a regular supply of bottleneck overhead:* Many specialists are unable to perform procedures and surgeries because of a lack of inexpensive one-time use equipment. Ensuring a regular supply of such equipment will ensure that large capital investments (such as physicians, large expensive equipment, etc.) do not go unutilized.
[Example: A cardiovascular surgeon who does not have the appropriate sutures, which cost a few dollars, is thus unable to perform surgery.]

Emergency Response System

Observations & Analysis

According to the limited exposure of the team and the interviews they performed with Health Ministry officials, it appears there is a nearly non-existent emergency response system. Ambulances are quite scarce, poorly equipped, and essentially reserved for inter-hospital transfers. In many cases, the transportation vehicle was simply a car with a stretcher and no other medical equipment.

Recommendations

1. *Develop emergency response networks:* As security and communication networks develop, utilize these systems to provide a strategically placed emergency response system. These can also be used for inter-hospital transfers.
[Example: Strategically place several ambulances in districts of major cities that can quickly respond to emergencies reported by individuals via an emergency hotline (e.g. 911).]
2. *Train first responders:* Providers trained specifically for the function of stabilization and transport of potentially critically ill patients will decrease morbidity and mortality of acute critical illness.
3. *Acquire properly equipped ambulance fleet:* A properly equipped transportation vehicle will allow providers to monitor patients en route and administer a limited scope of time-sensitive interventions.
[Example: An emergency medical responder could assess the oxygenation of an asthma patient and administer albuterol as a result.]

Emergency Medicine

Observations & Analysis

Emergency medicine remains a relatively new field in much of the world. Up until now, the evaluation and treatment has most been ad hoc and many systems-based improvements could be made. There was a lack of a triage system to categorize patients by acuity, a lack of standardized self-directed protocols, adequate monitoring, as well as medical record keeping. Emergency departments also had a redundant and inefficient process for surgical emergencies with an operating room in the emergency department. Patient flow was also inefficient which led to increased patient wait times, overcrowding in patient areas, increased length of stay for patients, and redundant work by healthcare providers. Also, emergency departments were divided into two broad categories: medical and surgical. Patients themselves were responsible for directing themselves into one of these categories, a process that is immensely ineffective.

Recommendations

1. *Implement a nursing based triage system:* There are many internationally recognized triage systems which divide patients into categories based on vital signs and chief complaint. Triage patients by category of urgency will help ensure that the most serious cases are given priority, ensuring that time sensitive interventions can be provided.
2. *Develop standing protocols:* For common presenting complaints, emergency physicians can develop protocols that can be initiated by a technician/nurse providing basic interventions and workup while awaiting evaluation by a physician.
[Example: When a patient has a chief complaint of chest pain, a set of blood work would be drawn, an EKG and a chest x-ray obtained.]

3. *Design an emergency department centered on patient flow:* An ED centered on patient flow will facilitate appropriate triage, reduce crowding, and ensure patients are given follow-up instructions.
[Example: Patients enter into the registration area where they register and wait until called to a triage room; based on acuity they will be called back to be seen; then upon discharge flow towards a discharge desk where they receive discharge medications.]
4. *Design an emergency department divided by level of care:* Rather than dividing an ED by medical vs. surgical causes (which are very hard to determine early in the evaluation), the ED should be divided by triage level so that some areas can have continuous cardiac monitoring and better nurse-patient ratios.

Pharmaceutical and Supportive Services

Observations & Analysis

Information regarding the availability of medications varied from site to site, with some reporting frequent medication shortages. In general, medications are made affordable to patients. All hospitals had expensive equipment that had become dysfunctional due to simple issues but no skilled staff could repair them. Ancillary support services such as information technology and equipment maintenance were also lacking. In some hospitals, patients with terminal illnesses occupied hospital beds and resources.

Recommendations

1. *Ensure adequate supply of medications:* Proper record keeping by hospitals will allow more accurate medication requests. Still, providing healthcare center pharmacies with a buffer surplus will ensure that patients always have access to the medications they need at an affordable price.
2. *Provide adequate maintenance services:* This will increase the lifespan of expensive equipment and ensure that information technology continues to facilitate use of such equipment.
3. *Establish an external hospice unit:* When housed in a building specific for those patients with end of life care or palliative care, this will relieve congestion at the hospitals and free up hospital resources, the cost savings of simple implementation would be in millions. Hospice is a philosophy of care that accepts dying as a natural part of life. Hospice provides support and care in the last phases of incurable disease and illness, so that people may live as fully and comfortably as possible. For further reference and implementation of the program please use the following resource.

The National Hospice and Palliative Care Organization

www.nhpco.org

American Academy of Hospice and Palliative Medicine

www.aahpm.org

Workforce Development

Observations & Analysis

Most specialists in Mauritania trained abroad and are not currently training other physicians. Other supportive services, such as specialized technicians, anesthesiologists, etc. which would facilitate healthcare were lacking. Physicians spent their time performing tasks that could be carried out by personnel with less training. They also consistently reported inadequate training of staff leading to the overqualified physician carried out many tasks.

Many physicians and specialists are overworked and underpaid. As a result, many opt to work abroad leading to a drain on the human resources of the country.

Recommendations

1. *Develop residencies, particularly for specialties:* Residency programs allow for a multiplier effect for Mauritanian specialists. It also will offset much of the workload burden and allow for specialists to play the role of supervising physician instead of only direct care provider.
[Example: Vascular surgeon would have general surgeons training under him who perform all surgeries under his supervision and round on the patients before he arrives in the morning in order to present cases to him.]
2. *Send nurses/technicians for specialized training:* Technicians with specialized training will improve hospital efficiency and time utilization by physicians. Necessary specialty training for nursing and technicians include: echocardiography, ultrasound, intensive care nursing, emergency care nursing, and neonatal intensive care nursing.
3. *Expand admissions for medical and nursing schools:* This will increase the number of trained healthcare workers over a period of time and is a necessary component of long-term healthcare strategy in Mauritania.
4. *Continuous Partnerships:* Establish relationships with NGO's and international organizations to provide technical training, education, and consulting services.
5. *Incentivize retention/recruitment in Mauritania:* Develop funds to provide more competitive salaries for Mauritanian physicians and attract new physicians with better support and facilities within which to work.

National Health Policies and Oversight

Observations & Analysis

The Ministry of Health is the government agency responsible for the overall health and medical systems in the country. Government funding (currently 7%) for the health sector is much lower than comparable countries and certainly is inadequate given the state of the medical facilities and the lack of health promotion programs.

At this time, projects do exist with their individual strategies and goal, but do not appear to be part of an overall health policy. Currently, there are neither any national healthcare guidelines nor a body dedicated to oversight of compliance.

Recommendations

1. *Develop a cohesive national healthcare vision:* Under the Ministry of Health a cohesive healthcare vision and subsequent policies must be developed which incorporate the various components of healthcare strategy and delivery. The Ministry should also have a clear strategic plan for improving health outcomes for the Mauritania population and a robust surveillance program for monitoring population health and evaluating the success of the strategic plan.
2. *Develop national healthcare guidelines:* Guidelines for the different levels of care must be developed and provided to healthcare centers in order to set a standard of care for Mauritania. A governing body dedicated to oversight of adherence to these guidelines must also be developed to ensure compliance.
[Example: A national healthcare guideline can be set for sanitations levels and centers non-complaint could risk losing accreditation.]

Summary

Our observations are that the Mauritanian health care system is plagued by lack of investment in public health promotion and education, primary and preventive care, and hospital facilities. There is a shortage of trained medical personnel ranging from community health workers, medical auxiliaries and technicians, nurses and midwives to general practice physicians and specialists. Nearly all of the facilities visited lacked basic sanitation and hygiene, and upkeep and maintenance were deficient.

Despite all of the shortcomings in funding, training and equipment, the health care workers and officials we met were highly dedicated and motivated to improve the health of their patients. They are well aware of the system's shortcomings and had many recommendations and strategies for improving the system's capacity and quality. We are confident that with the appropriate resources and financial support, they will be able to create a high-level healthcare system.

In conclusion, our recommendations can be summarized in the following five points:

1. Prioritizing Health promotion and disease prevention programs
2. Developing a robust primary care network
3. Financing adequate hospital resources and capacity
4. Training and developing the workforce
5. Implementing a National healthcare strategy

The Global Centre for Renewal and Guidance will utilize its networks and resources to develop several projects for implementation in the coming months. Delegations of physicians and health experts will visit Mauritania again in the future to initiate and oversee these projects. We look forward to these opportunities with great hope and optimism.

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