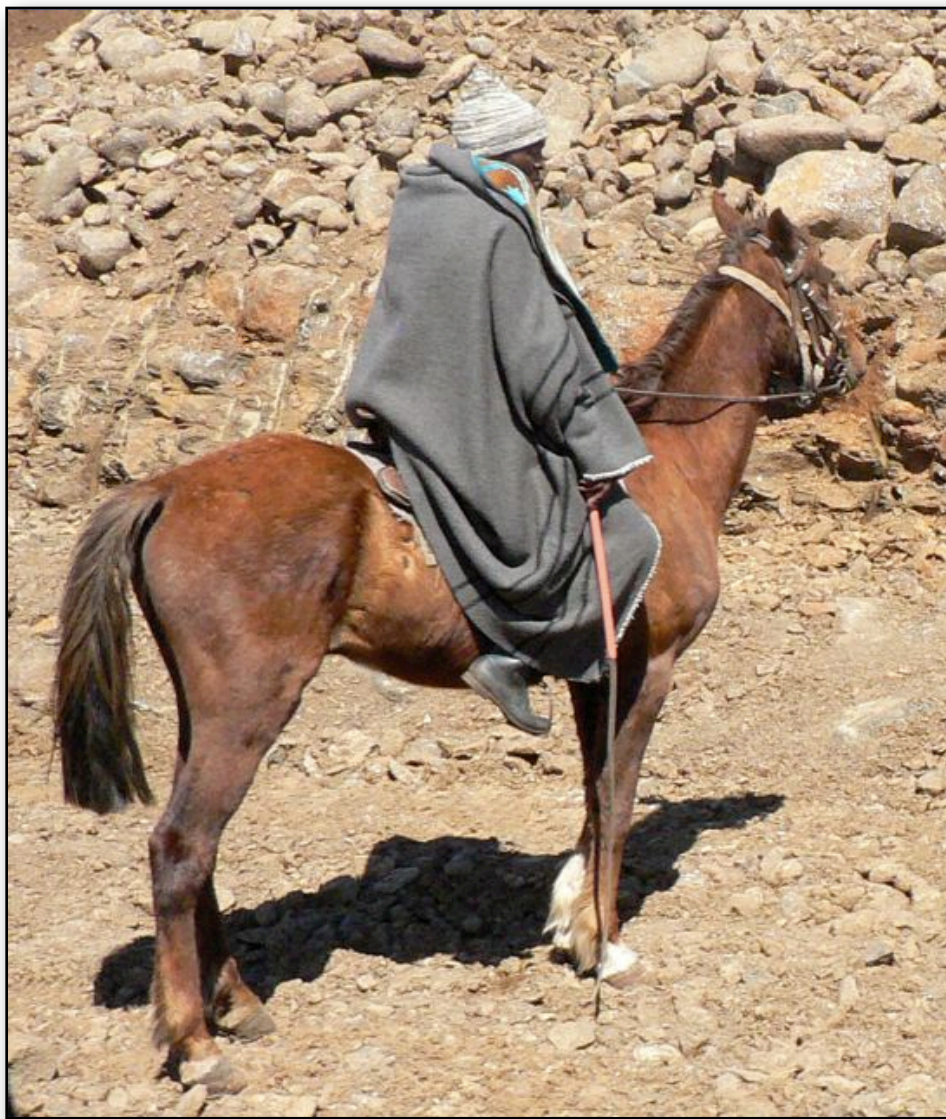


N O V E M B E R

# Lesotho Medical Association Journal

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V O L U M E 6



N U M B E R 3

# Lesotho Medical Association Journal

VOLUME 6; NUMBER 3 - NOVEMBER 2008

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## From the President's Pen

Dear Colleagues,

Once again the Lesotho Medical Association held its annual general conference (AGM) on the 28<sup>th</sup> and 29<sup>th</sup> July 2008. I would like to take this opportunity to congratulate the association for having hosted a successful AGM.

All members of the executive committee are ready and willing to serve in their various portfolios for the success of the association. The support of all members of the association is crucial. It is only through the participation of all its members that the association will be able to achieve its goals.

This year the association will focus, amongst others, on:

- Increasing its membership through the stimulation of interest amongst the doctors.
- Continuing medical education and development of a CPD point system.
- Actively participating in the achievement of the Millennium Development Goals, in particular goals 4, 5 and 6 aimed at reduction of child mortality, improvement of maternal health and reduction of maternal mortality ratio, and combating HIV/AIDS, respectively.
- Strengthening relationships with current international partners of the association and incorporating more partners.
- Retention of doctors within the health system in Lesotho.

The following sub-committees of the association are expected to actively ensure that the activities of the association succeed with the participation of all its members:

- Subcommittee on Continuing Medical Education
- Subcommittee on Estate
- Subcommittee on the Constitution
- Subcommittee on Fundraising

All members are encouraged to join any of the subcommittees. It is also very important to expand the activities of the association to cover the entire country. In this regard the association is planning to have sub -regional committees in the North and South of Lesotho.

The following doctors will attend the Summer school in Frankfurt-am-Main in Germany from 27<sup>th</sup> October till 7<sup>th</sup> November: Sebaka Malope; Makoae Taoana ; Tlali Mpholo ; Tsolane Koele ; Limpho Maile , Thabiso Molapo , Piet McPherson.

I congratulate them on their selection and I wish them a successful summer school.

I request all doctors to provide information on Basotho doctors outside the country in order to establish a database as a tool for future cooperation. I urge all doctors to actively provide articles to the association's journal in order to ensure its survival. I wish all members of the executive committee an enjoyable and fruitful term of office.

Thank you.

Dr. Piet McPherson. M.D

PRESIDENT

## Editors

Dr. M. Mokete  
Dr. Mohapi  
Dr. Moji  
Dr. Tiam

## Instructions for Authors

The Lesotho Medical Association Journal accepts editorials, original research papers, review papers, case discussions, clinical guidelines, letters and Lesotho medical news reviews.

The author should submit both an electronic and hard copy of the manuscript to the address below:

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# Manpower Capacity and Braindrain

M Mokete, MD

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Lesotho ranks number 2 in the world after Guyana in brain drain according to world statistics published by The Economist newspaper for 2008.

Lesotho has more than eighty percent (80%) literacy, one of the highest in Africa as well as among developing countries. Many young fellows have benefited from direct scholarships offered by the Lesotho Government, topped by WHO and other friendly countries which have also made offers for Basotho to study in the country and beyond the borders of Lesotho and abroad.

National Manpower training unit has legal documents for contract fulfillment after qualifications requiring service to the country. However the terms of the contract seem to remain either half honored or never at all, without any serious review as to the impact on the economic and social development of the country.

Guarantees by SADC and commonwealth countries about repatriation of the graduates have remained hollow. The Health and Social Welfare Ministry has been acutely affected to the extent that more than half of the serving Medical Doctors are drawn from outside the Country, with the ratio still at one doctor for seventeen thousand patients (1:17, 000).

Even though we are having brain exchange instead of brain drain, the fact remains that the young fellows who seek work outside Lesotho are no more in search of experience outside than greener pastures.

With HIV and AIDS, PTB (XMDR), and several other ailments, including many public health concerns, it is high time there was a strategic development of Manpower with the emphasis on retention. This would, in the long run, be cost effective by meeting the aspirations of the young people so that

they in turn can realize that a good turn deserves another.

Lesotho has already lost four opportunities of establishing a medical school (1978, 1988, 1997 and 2006) some of which were most propitious in terms of timing and cost effectiveness.

Offers by other countries have been made, used, and given up without proper audit. Should we embark on any such schemes again, in-depth consideration and debate should be made to avoid failure, which vocabulary should not exist in our strategic planning.

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MUSI MOKETE M.D  
EDITOR

# Case Report: An Unusual Case of Scabies

Dr. M.A. Siddique F.R.C.S

Dr. Wani M.D.

A young girl of 14 years of age was referred from Quthing Hospital to Queen Elizabeth II Hospital Maseru on 5<sup>th</sup> May 2008. She had large, firm, scaling type growths on both hands and both feet. Her right index finger growth had become infected with deep ulcer, eroding the bone and causing osteomyelitis of the phalange. She had a small bumpy lesion on the right side of the abdomen above the iliac crest.

She had great difficulty in eating and walking because both hands and feet were involved in the disease. She was not able to wear the shoes and look after daily chores. The process had been going on for years. She was brought up by her grandmother as both of her parents died – the cause of death could not be ascertained. She had been treated for T.B. and given ART all at irregular intervals. Unfortunately her previous records were not available.

The examination showed a malnourished, underweight, stunted and weak girl. By appearance she only looked about the age 10 years. She had scaly growths on the hands and feet as described above. See picture 1, 2, 3 and 4.

Picture 1

Picture 2



Picture 3



Picture 4



She has not attended school. Her vaccination history was not available. Her investigation showed HB 10.5g/l, HCT 30.6%, WBC 9.8 10<sup>3</sup>/cubic millimeters, creatinine 57  $\mu$ m/l, Urea 3.6 mmol/l, Na 132 mmol/l, K5.0 mmol/l, ce 102mmol/l AlvPhos 275/1 U/L, GGT182U/L, ALT 33U/L, AST 58U/L, T.P 117 g/l ARB36 g/l, HIV test positive.

She was given warm baths, dressings, analgesics and nourishing diet. On the 15<sup>th</sup> May she was taken to operating theatre where under general anesthesia old crusts and scabs were removed from the hands and feet and the right index finger was amputated as it was hanging only by a bridge of skin. A pus swab was taken from the index finger which showed staphylococcus aureus growth sensitive to all antibiotics. All the crusts removed from hands and feet along with the amputated finger were sent for histology. Some of the crusts sent without formalin for fungal investigation. The report showed chronic inflammation of skin with ulceration and chronic osteomyelitis.

The superficial skin showed the scabies infestation. The infestation was quite extensive and causing chronic inflammatory process. No sign of granulomatous inflammation or fungus could be identified.

She was given warm baths daily and benzyl benzoate lotion was applied to her hands, feet

and body where necessary. Gradually she became better, her hands and feet became normal, and she was able to feed herself, dress herself and was able to look after her needs. She also became a cheerful smiling young girl. She was discharged home on 23<sup>rd</sup> June 2008. Because of her HIV status she was referred to Baylor Pediatric Clinic and they made arrangements for her to be treated at Quthing Hospital for AIDS. See pictures taken before re-discharge which shows dramatic recovery from her condition.

Picture 5



Picture 6



## **SCABIES**

Scabies is a skin disease caused by mite-sarcoptes scabiei. The impregnated female burrows into the skin and lays eggs. The larvae move about on the skin. The movement of mites in and on the skin produces an intense itch which resembles allergic reaction. The presence of the eggs produces more itching. Scabies is transmitted by skin to skin contacts to household members, schoolmates, etc.

The common sites are webs of fingers and toes, flexor surfaces of wrist and armpits, on lower buttocks, along creases, areola of breast in females and genitalia of male. The face is usually not involved in this disease process.

The rash becomes secondarily infected due to scratching where skin breaks down and becomes vulnerable to infection. In persons with severely reduced immunity, such as those with HIV infection and malnutrition, a wide spread rash often thick and scaly may result as it happened in the reported case. This variety of scabies with large scaling is called Norwegian Scabies.

The infection may continue deeper and can affect underlying tissues and bone. The people with compromised immune system may not develop antibodies to the mite and may develop crusted Norwegian Scabies such as developing redskin, white or grey crusted areas with little itching. Mite populations are seen in thousands in AIDS patients.

Before eruption, scabies is frequently misdiagnosed as intense pruritis due to some allergic reaction. The burrows appear as small, barely noticeable bumps and may be shiny or dull rather than red. Diagnosis is made by finding burrows, which may be difficult because they are few, tiny and obscured by scratch marks due to itchiness, when a suspected burrow is found diagnosis can be confirmed by microscopy of surface scraping from affected area.

Treatment of the scabies is aimed at killing the mites and preventing its spread. As it is transmitted by contact, the bedding, clothes and all linens must be washed thoroughly. All members of the family should be treated simultaneously to prevent cross infection by contact. The whole body, from shoulder to the feet, should be treated as mites can be present in other parts other than itchy areas. Benzyl Benzoate 25 per cent emulsion is a long standing effective treatment for scabies with a good cure rate. It is applied all over the body and should be repeated.

This is effective against mite and larvae but does not kill eggs. Hence reapplication is recommended. Other medications are also available if there is an allergy to Benzyl Benzoate. Gambex (gamma benzene Hexachloride) as one per cent in cream or lotion can be used in such cases. If secondary infection exists it should be treated with appropriate antibiotics after swab, culture and sensitivity.

The pruritis may persist after effective treatments which can be helped by calamine lotion. The failure of the treatment may be due to poor hygiene of the surroundings, clothing and not treating all contacts completely.

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## Objectives

- Define burnout.
- Highlight some sources of stress that lead to burnout in the health service delivery.
- Link burnout with sources of errors and negligence in general client “patient” management especially in the HIV/AIDS era.
- Give a calling for strengthening of all Health professional bodies, their regulation and professional indemnity under one Council to strengthen our client protection and quality of service in Lesotho.

## Introduction

Even though the author is not a behavioral scientist, the fact, in health services, (laboratory, pharmacy, medical, nursing, etc.), “every person should be aware that bad planning, organization, leadership and control which can cause increased stress and anxiety diminishes employee effectiveness” (van Rijswijk, 1992).

A continuous monitoring including integrated environmental, social and health statistics is necessary especially in the HIV/AIDS/TB/Cancer era. Operational guidelines keep changing and vary because of the HIV/AIDS management pressures. Health professionals are human beings and need time to adjust to bad news, and to face reality under these pressures. Strong ethical and legal issues should be there to accelerate the energy and force of scope and action for us to deliver our services; hence there is need for us to communicate as different health professionals and a Health Professional Council should take a strong lead.

Dimensions of spirituality are a dimension of each human being. Every human being is born spiritual; we express this by showing love, compassion, caring and freedom. We seek harmony between body and soul. Health professionals should have a strong dimension

of spirituality as we deal with patients. Are we all equipped with this demand when we give care in our professional practice? This is a summary report of a study conducted on professionals I interviews and the analysis made about burnout in the era of HIV.

## Challenges of a Hospital Environment

The fact about the hospital environment is that we deal with sick clients, we have fear of infection with HIV, hepatitis, extremely resistant TB, and there is no workmen’s compensation plan for health professionals. There are many ergonomical factors to put on paper and this creates a difficulty in maintaining quality and consistent service delivery to the client.

Civil servants vs. Health professionals: We are treated as skeletons (e.g. 20/6/2008, the whole civil service was enjoying and not productive except the hospital services).

Operating hours are long and there is no overtime pay.

Turnaround time has to be maintained.

Where is equipment?

General guidelines and requirements for laboratory testing, medical care, and infection control – do we adhere to them?

There are operation hours like cut of hours, time for preparing samples, analysis, quality control, validation and many tasks and processes. Tube and volume requirements increase drastically. Sample transportation is a problem, rejection of samples because they are too old or haemolysed increases- not that the laboratory people do not feel, we also have a feel for patients.

Staff turnover is a problem, guidelines vary from centre to centre.

With burnout, we turn to blame each other as a result of lack of coping mechanism, laboratory practitioners, doctors and nurses. Issues like Phlebotomy – whose responsibility is it?



## **Facts about Lesotho (MOHSW, 2008)**

Orphans and vulnerable children: 108,700 (2007)

Doctor to population ratio is 1:16,298

Nurse to population ratio is 1:2,226

National literacy rate: 90.3% (F), 73.7%

HIV Prevalance rates:

15-49 year olds: 23.2%

ANC (rural) 35%

New infections in adults (2007) – 21,000

Number of peopl of ART (2007):

20,240 adults

931 children

Cancers in the HIV era:

Cervical 40.9%, ASIR 66.7:100,000

Breast 18%

Prostate 13.5%

Skin 12.6%

Lung: no estimates (found on autopsy)

Leukemias/lymphmas – no estimates

No cancer treatment centre

Where OPI's cme from?

Food: raw vegetables, fruits; raw meat, eggs, poultry; stored food; unwashed food;

Water: cryptosporisiosis, microsporisiosis

Air: TB, cryptocococcus

## **Challenges of HIV/AIDS**

Monitoring Treatment Adherence- Failure?

To increase adherence, doctors and nurses conduct the following with patients at each visit: clinical review and respond to any problems or change in status; assesses adherence by reviewing the medications with the patient and his/her caregiver; determine whether there is an adherence problem. Definitely they can not do these without the cushion of Laboratory tests.

## **What is burnout?**

In Smith et al's article, they describe burnout as:

"a state of emotional and physical exhaustion caused by excessive and prolonged stress. It can occur when you feel overwhelmed and unable to meet constant demands. As stress continues, you begin to lose the interest or mo-

tivation that led you to take on a certain role in the first place. Burnout reduces your productivity and saps your energy, leaving you feeling increasingly hopeless, powerless, cynical, and resentful. The unhappiness burnout causes can eventually threaten your job, your relationships, and your health. Because burnout doesn't happen overnight, and it's difficult to fight once you're in the middle of it, it's important to recognize the early signs of burnout and head it off." (Smith, Jaffe-Gil, Segal, & Segal, 2007)

Multi-professional technical institutions like the Hospital are a place where stress leading to burnout emanates, especially when professionals do not know the scope of the practice of other health professionals who are also their internal clients, and they have shared responsibilities to serve external clients efficiently. Sometimes we expect more than others can offer. Sometimes we are expected to do more than we can offer. Burnout typically grows from stress, therefore it is important to recognize the symptoms of stress and address them early on in order to avoid burnout.

Health professionals (doctors, nurses, lab scientists, pharmacists, dental technologists, etc.) do not want to talk about burnout because of the public expectation but the effect is immeasurable and devastating.

Nurses are as burnt-out as lab practitioners. Doctors and pharmacists get burnout early in their career and leave for their own practice, from the civil service and are no longer available to be interviewed. The equipment is expensive for lab practitioners to explore the private practice lab, but that will change soon.

## **Signs and Symptoms and Burnout**

The symptoms of burnout are primarily mental. They include: "powerlessness, hopeless-

ness, emotional exhaustion, detachment, isolation, irritability, frustration, being trapped, failure, despair, cynicism and apathy". (Smith, Jaffe-Gil, Segal, & Segal, 2007)

### **Stress vs. Burnout**

Burnout can result from unending stress, but it is not the same thing as stress. Smith et al. describe the difference:

"Stress, by and large, involves too much: too many pressures that demand too much of you physically and psychologically. Stressed people can still imagine, though, that if they can just get everything under control, they'll feel better. Burnout, on the other hand, is about not enough. Being burned out means feeling empty, devoid of motivation, and beyond caring. People experiencing burnout often don't see any hope of positive change in their situations. If excessive stress is like drowning in responsibilities, burnout is being all dried up." (Smith, Jaffe-Gil, Segal, & Segal, 2007)

The symptoms of stress include over engagement, over reactive emotions, feelings of urgency and hyperactivity, loss of energy, and anxiety disorders. The primary damage from stress is physical. On the other hand, the symptoms of burnout include disengagement, blunted emotions, feelings of helplessness and hopelessness, loss of motivation and hope, detachment and depression. The primary damage from burnout is emotional. While burnout may not kill a person, it "may make life seem not worth living" (Smith, Jaffe-Gil, Segal, & Segal, 2007).

### **Burnout in the Workplace**

Most people have a bad workday or two, where we feel bored, overloaded or unappreciated (Smith, Jaffe-Gil, Segal, & Segal, 2007). But there is a difference between a bad day and burnout.

Smith et al list the following signs as risk fac-

tors for burnout:

"Every day on the job is a bad one; Caring about work seems like a total waste of energy; the majority of your day is spent on tasks you find either mind-numbingly dull or unpleasant; nothing you do appears to make a difference in a workplace full of bullying, clueless, or ungrateful supervisors, colleagues and clients." (Smith, Jaffe-Gil, Segal, & Segal, 2007)

Remember, stress and burnout are not the same. When you become burnt out, you become a HAZARD to the patient.

### **Causes of Job burnout in health professionals**

Smith et al list multiple factors that increase the chance of burnout among health professionals. These include: "employees who feel underpaid, unappreciated, or criticized for matters beyond their control; employees "in frequent contact with the dark or tragic side of human experience"; "setting unrealistic goals for yourself for the job that doesn't pay you or having them imposed upon you; being expected to be too many things to too many people; working under rules that seem unreasonably coercive or punitive; doing work that frequently causes you to violate your personal values; boredom from doing work that never changes or doesn't challenge you; feeling trapped for economic reasons by a job that fits any of the scenarios above." (Smith, Jaffe-Gil, Segal, & Segal, 2007)

### **Are we prepared enough to avoid burnout as health Professionals?**

The people more prone to burnout than any other group are caregivers, including Health professionals. The stress of providing can be overwhelming but often with very little reward.

Palliative care is the total care of individuals with incurable diseases and their families. It embraces all physical, emotional, social, and spiritual needs rather than purely medical needs. Do health professionals need palliative care also as care givers?

Does the lack of control over HIV/AIDS management cause Burnout?

Many caregivers' stress is often increased by other external factors, such as financial and support issues. "As these factors pile up, frustration and despair take hold and burnout becomes a very real danger. Unfortunately, once burnout occurs, the care giving experience is not a healthy option for the caregiver or the person receiving care." (Smith, Jaffe-Gil, Segal, & Segal, 2007)

### Preventing job burnout

If you are burnt out or feel that your stress might be leading to burnout, Smith et al list multiple activities to improve your situation

- Clarify your job description.
- Request a transfer.
- Ask for new duties.
- Take time off
- Join a support group.
- Know your limits.
- Accept your feelings.
- Confide in others. (Smith, Jaffe-Gil, Segal, & Segal, 2007).

### Strengthen a Health Professional Council/Health Federation

Burnout of a health system can also be reduced by strengthening the professional health care councils. This includes:

Organizational improvements should be conducted, considering functional criteria as key factors in driving the changes

Job grading should be harmonized with job descriptions

Nursing, medical, pharmacy, laboratory serv-

ices, etc., should be responsible to ensure that services at point-of-service-delivery at each level meets required International standards

A Regulatory Council/Authority should be established by government to regulate registration/licensing of health and laboratory practitioners, and ensuring that Code of Ethics is followed.

Only persons with accredited laboratory training shall be licensed by the Regulatory Council/Authority to practice the medical science and art of laboratory diagnostics

Incorporation of AMLSL is the health professions council as a regulatory body for lab professionals to avoid quacks

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# The Impact of Climate Change on Human Health

**Dr. Angela Benson**

*WHO Representative in Lesotho*

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## INTRODUCTION:

Scientific evidence continues to show that the climate is changing and human activities are a principal cause. This Year's World Health Day Theme is: "Protecting Health from Climate Change" with the aim of turning attention of policy-makers to the compelling evidence from the Health Sector. We can no longer doubt the reality of climate change; however, we can reduce the magnitude of its health impact if we act with appropriate interventions and urgency.

The United Nations Framework Convention on Climate Change describes climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" The change in climate and effects on the environment are aggravated by the emission of greenhouse gases from use of fossil fuel and inappropriate technologies. Climate change is one of the most crucial global challenges of our time.

Hence this key note address. Climate change is an emerging threat to health security and puts an additional pressure on public health systems world wide and even more so in the developing countries like ours.

Climate change endangers health in fundamental ways. The warming of our planet may

be gradual but the effects of extreme weather events are reported quite often. Depending on where we are, there are more storms, more floods, droughts and heat-waves – all these events affect the fundamental determinants of Health such as the air we breathe, water, food, shelter and freedom from disease. Developing countries and small island nations are usually the hardest hit.

The World Health Organisation (WHO) has identified 5 major health consequences of climate change as follows:

First, the Agricultural sector is extremely sensitive to climate changes. Rising temperatures and frequent droughts and floods are compromising food security. Increases in malnutrition are especially severe in countries where large populations depend on rain-fed subsistence farming. Climate change contributes to frequent floods and droughts which seriously affect food production. Malnutrition, much of it caused by periodic droughts, is already responsible for about 3.5 million deaths per year.

Second, more frequent extreme weather events mean more potential death and injuries caused by storms and floods. In addition, flooding can be followed by outbreaks of diseases such as cholera, especially when water and sanitation services are damaged or destroyed. Waterborne diseases and epidemics of acute diarrhea are rampant in flood situations. As a result the nutrition status of children in many developing countries is worsening. Storms

and floods are already among the most frequent and deadly forms of natural disasters.

Third, both scarcity of water, which is essential for hygiene, and excess water due to more frequent and torrential rainfall will increase the burden of diarrheal disease which is spread through contaminated food and water. Diarrheal disease is already the second leading infectious cause of childhood mortality and accounts for a total of about 1.8 million deaths each year.

Fourth, heat – waves especially in urban “heat islands” can directly increase morbidity and mortality, particularly among the elderly people with cardiovascular or respiratory illnesses. Apart from the heat-waves, higher temperatures can increase ground level ozone and hasten the onset of pollen season contributing to increase in asthmatic attacks.

Finally, changing temperatures and patterns of rainfall are expected to alter the geographical distribution of insect vectors that spread infectious diseases. Of these diseases, malaria and dengue are of the greatest public health concern. The occurrence of epidemics of meningitis, Rift Valley fever and cholera are now in previously unaffected areas. For example the geographic distribution of meningococcal meningitis appears to be expanding from the usual meningitis belt to the Southern African Region.

In short, climate change can affect problems that are already huge and largely concentrated in the developing countries and are difficult to combat. The Director General of WHO, Dr. Margaret Chan and the Regional Director for Africa, Dr. Luis Sambo announced increased WHO efforts to respond to the challenges to reduce the impact of climate change on health. The announcement was made during this

year’s World Health Day commemoration and WHO and its partners are devising a research agenda to get better estimates of the scale and nature of health vulnerability and to identify strategies and tools for health protection. WHO recognizes the urgent need to support countries in devising ways to cope. Better systems for surveillance, forecasting, and stronger basic health services and health systems can offer health protection. Countries can improve health care services by revitalizing Primary Health Care to reach vulnerable populations, adopting health promotion policies and strategies, and encouraging individuals to adopt environment friendly technologies.

Every community and every individual can contribute daily to mitigate climate change. We all need to know and understand why climate is changing and what we can do collectively to protect our health from climate change.

I thank you!

# Cervical Cancer, an AIDS Defining Illness: Prevention & Early Treatment Strategies for Lestoho

Brian Jack, MD - Boston Medical Center, Lesotho Boston Health Alliance

William Bicknell, MD - Boston Medical Center, Lesotho Boston Health Alliance

Senate Matete, PhD - Lesotho Boston Health Alliance

Makhethe Mpoti, BA - Boston Medical Center

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Cervical cancer is the leading cause of cancer death for women in developing countries. Over 83% of cervical cancer occurs among women in developing countries where only 5% of cancer care resources are available (1, 2). The rates of cervical cancer in Lesotho are among the highest in the world (see below). In the AIDS era, the incidence of cervical cancer has drastically increased, as HIV positive women are four to five times more likely to develop cervical cancer than HIV-negative women (3). In 1993, the CDC added invasive cervical cancer as an indicator condition in the case definition of AIDS.

In recent years, an immunization has become available that can prevent the majority of cervical cancer (primary prevention). Furthermore, new techniques are now widely available for the direct visualization of the cervix and immediate treatment, which have been shown to greatly reduce cervical cancer rates in a single visit (secondary prevention).

This article reviews the epidemiology of cervical cancer in Lesotho and describes prevention, and early diagnosis and treatment methodologies that are now available. Finally, we describe the introduction of a new program to provide “cervical cancer vaccine” to young women in Lesotho.

## **Incidence of Cervical Cancer in Lesotho**

The rates of cervical cancer in Lesotho are among the highest in the world, in the range of 60-90/100,000 women (2, 4). For perspective, in 1950 the cervical cancer rate in North America was in the range of 16/100,000 and was reduced to under 5/100,000 by 1980 with the introduction of cervical cytological screen methods (i.e., the Pap smear) (5).

Data about the incidence of cervical cancer in Lesotho comes from a study by Phaeroe (6) in which he performed a retrospective analysis of cytology and histology archives of the referrals from the Leribe and Mohale’s Hoek districts between January 1, 2005 and March 31, 2006 and

determined an age standardized incidence rate of cervical cancer of 66.7:100,000 women.

More data is provided by Bicknell (7) who reviewed all referrals from Lesotho to South Africa between April 1, 2006 and March 31, 2007 and found that 49 percent of all referrals were for adult oncology and, of that group, 36 percent were for cervical cancer (figure 1). Further, the age distribution of women referred for cervical cancer was predominantly among women more than 40 years old, the age group among which advanced cervical cancer is found (figure 2). The government funds spent on these cases of advanced cervical cancer is ~ M 16,970 per case resulting in a total expenditure of ~M4.5 million, when treatment options usually include only palliation. It makes a lot of sense to re-direct these funds to primary and secondary prevention programs as described below.<sup>1</sup>

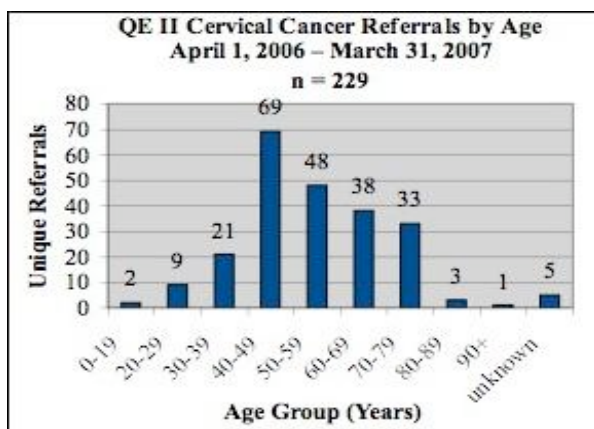


Figure 1 QE II cervical cancer referrals to South Africa (n-229) by age group.

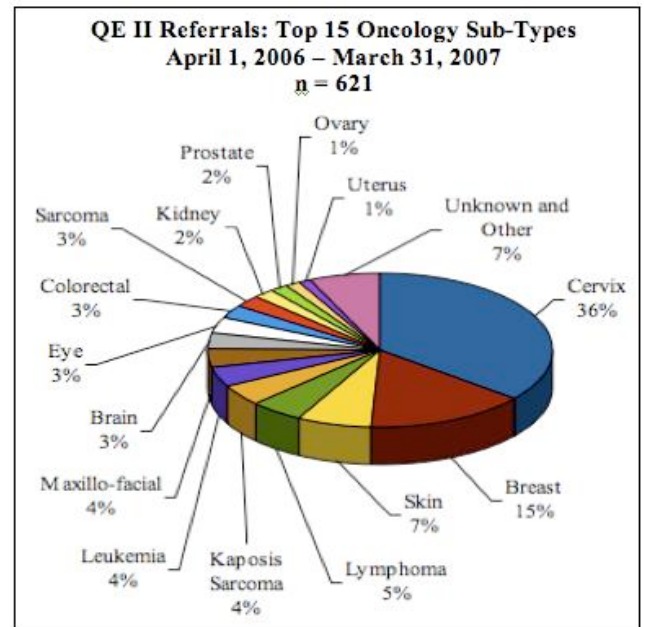


Figure 2 QE II referrals by type, April 2006 – March 2007

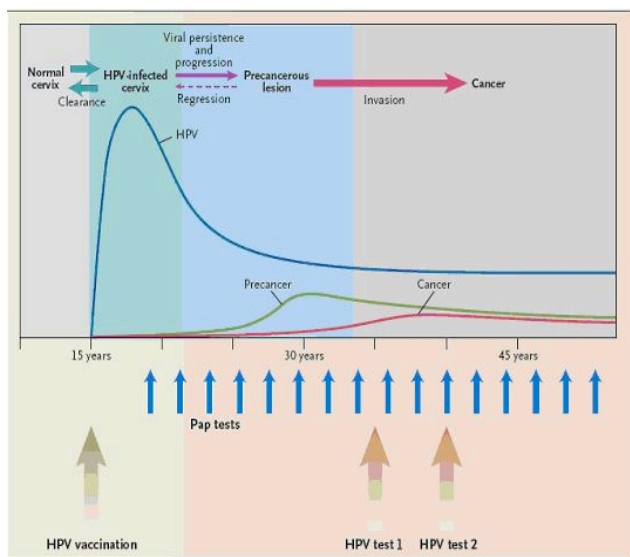
### Human Papilloma Virus (HPV) and Cervical Cancer

In recent years it has become known that cervical cancer is highly associated with long term exposure to human papilloma virus (HPV), especially the high risk types of HPV called HPV 16 and 18 which are responsible for over 80 percent of cervical cancer in southern Africa (8). Women acquire HPV through sexual contact. In a study of young college students, over 50% were infected with HPV within the first 56 months from the time of their first sexual intercourse (9). However, 70 percent of women clear the infection within one year and over 90% clear the infection within two years (4). Those

<sup>1</sup> Primary prevention prevents the occurrence of illness. Vaccines are an excellent example of primary prevention. Secondary prevention is early diagnosis and definitive treatment. Papanicolaou smears and cervical surgery such as conization or visual inspection with acetic acid and treatment with cryotherapy are both good examples of secondary prevention.

women who are unable to clear the infection and remain chronic carriers are at particularly high risk of developing cervical cancer, especially if they have HPV types 16 and 18 which, over a period of 10-30 years, can lead to invasive cervical cancer. The key to the success of cervical cancer screening programs is that cells of the cervix show “precancerous changes” long before invasive cervical cancer occurs. Identifying these “precancerous changes” is an essential step in early detection and treatment programs (both Pap<sup>2</sup> smears and visual inspection of the cervix). Figure 3 shows the natural history of cervical cancer.

Figure 3 Natural history of HPV infection and cervical cancer. (from Schiffman M & Castle P, N Eng J Med 2005; 353:2101-2104)



### Cervical Cancer Screening Among HIV positive women?

Women with HIV are at especially high risk of being unable to clear the HPV. Thus HPV can be considered to be an opportunistic infection. As noted above, chronic exposure to HPV over many years leads to the increased prevalence of cervical cancer among HIV infected women. There is hope that treatment of HIV positive women with antiretroviral medications will improve their immunity so that they are more readily able to clear HPV. However this enthusiasm has not been confirmed as multiple clinical studies yield varying results (3, 10, 11, 12). In fact the incidence of cervical cancer has not declined in the ART era. Some studies show that HIV positive women on treatment are likely to have persistent HPV and are at continued risk of cervical cancer – thus requiring ongoing and regularly scheduled monitoring for and treatment of early precancerous lesions – with either cytology based methods (Papanicolaou smears, biopsy and cervical conization or loop electrosurgical excision procedure (LEEP)) or with visual inspection of the cervix with acetic acid (VIA) followed by Cryotherapy (Cryo) (when the two procedures are combined they are often referred to as VIA/Cryo).

### Advantages and Disadvantages of Pap Smears in Lesotho

<sup>2</sup> Pap is contraction of Papanicolaou, the name of the man who developed the cytological test for cervical cancer that now bears his name.



As mentioned above, the rates of invasive cervical cancer in North America have been dramatically reduced with the introduction of cervical cytological screening (Pap smear) whereby cells are sampled from the transformation zone of a woman's cervix and examined after fixation and staining. If precancerous cells are identified, the women can be treated to prevent development of invasive cervical cancer. Although one of the great advances of medicine over the past 50 years, Pap smear screening has several disadvantages when applied to resource poor countries (see Table 1). In general, this technique is relatively expensive, requires complex infrastructure and experienced cytologists and pathologists able to read a high volume of smears and biopsies, and it is a multi-step process during which many patients can be lost to follow-up. Finally, the low sensitivity of the Pap smear requires that the test be repeated for every woman every 2-3 years. Implementation of these procedures in Lesotho for all women would place a great burden on an already overburdened health system and would likely not reach most women in the country. Pap smear technology has been available for over 60 years but is still not widely available in Lesotho and most other lower income countries – an indication that

continuing this approach will continue to be unsuccessful. It is time to try something new.

### **New Primary and Secondary Prevention Methods**

In recent years, several new techniques have become available that are highly effective and very practical for widespread use in Lesotho. The next sections discuss two new options: (1) HPV vaccine and (2) Direct Visual Inspection of the cervix with acetic acid followed by immediate cryotherapy (VIA/Cryo).

#### **Human Papilloma Virus (HPV) Vaccine**

Vaccination has three major advantages compared to screening programs: it prevents disease in ~70% of those vaccinated, it is much simpler and less costly (if the vaccine is free) than screening and in Lesotho it can be tagged onto the well-established vaccination programs that already exist.

The efficacy of Gardasil has been tested in randomized placebo-controlled clinical trials. The FUTURE group<sup>3</sup> ran women (aged 15-26 years) with no prior HPV 16 and HPV 18 infections and who received the vaccine were protected 100% against CIN grades 2 and 3 and adenocarcinoma *in situ* (AIS) caused by the respective strains (13). In another sub-study,

<sup>3</sup> Females United to Unilaterally Reduce Endo/Ectocervical Disease

Gardasil showed 100% efficacy in preventing HPV 6/11/16/18-related external warts, vulvar/vaginal intraepithelial neoplasia and cervical lesions of any grade (14). The vaccine was less effective (39%) when analysis from the two studies included women who had prior HPV infection, thus the push to vaccinate women before initiation of sexual activity. Villa et al reported 100% efficacy against CIN grades 1-3 through a follow-up period of 5 years (15).

Based upon this data, on June 8, 2006, the United States Food and Drug Administration licensed a quadrivalent vaccine (Gardasil®) that is active against HPV types 16 and 18 (highly related to cervical cancer) and types 6 and 11 (highly related to genital warts -condyloma acuminata). The vaccine was approved for prevention of cervical cancer, genital warts and cervical, vaginal and vulvar precancerous lesions. It was approved for girls/women ages 9-26 in a three dose schedule (given at 2 and 6 months after initial dose).

The HPV vaccine is recommended for ages 9-18 because: (i) it is important to reach younger adolescents before sexual activity begins and before they are exposed to HPV; (ii) adolescents may be more susceptible to HPV (16); and (iii) vaccination in schools could become a

major contributor to strategies of wide coverage in the population.

No major side effects beyond slight soreness at the injection site have been reported to date (17, 18, 19,20) I have not one this today but there have been no deaths. It is important to mention that even with the successful dissemination of the HPV vaccine, screening and cryotherapy must continue forever as ~30% are not protected through the HPV vaccine and there are a large number of women with active infections for whom vaccine will be too late.

### **Lesotho Will Be One of the First Countries to Benefit**

The Merck company, manufacturer of Gardasil®, has set up an access program in which the company will donate 3 million doses to developing countries. This is a major donation as the current price of a single dose is \$125/dose. The Ministry of Health and Social Welfare in conjunction with the Lesotho Boston Health Alliance and Partners in Health has successfully applied to this program. Lesotho will receive 120,000 doses (enough for 40,000 women). These will be used in the Leribe district (80,000) and the Mophale's Hoek district (40,000 doses). The application requested enough vaccine for five districts but only the above two districts were approved by the donor.

It is important to note that this is NOT a clinical trial or an experiment. Gardasil has been approved for use in 70 countries including the United States. The strategy in the Leribe district is still being discussed with MOHSW officials and others. Possible avenues to administer the vaccine include: (i) school-based strategy; (ii) nurses and community health center based strategy; or (iii) both. The national monitoring and evaluation system will be used to identify any untoward events.

#### **Direct Visual Inspection of the cervix with acetic acid (VIA)**

Cryotherapy was first used in the mid-1800s and is now a common technique. Often liquid nitrogen is used to chill a probe to extremely low temperatures and freezing or a cycle of freezing, thawing and freezing is used to kill the offending tissue. Cryotherapy for precancerous cervical lesions<sup>4</sup> in Zambia called for 3 minutes of freezing followed by 5 minutes of thawing and then another 3 minutes of freezing. Up to 40% of women will experience lightheadedness and some pain during the procedure, most (83%) will experience a vaginal discharge of several weeks duration and less than 20% some post treatment bleeding that is rarely

serious and almost always requires no treatment (15).

Over the past 5-6 years there have been many reports showing very favorable results from several developing countries about VIA/Cryo techniques, many of them done in southern Africa (21). The most extensive roll-out of VIA/Cryo has been in Zambia where 8,823 women have been screened over a period of 22 months (22). In this setting, 15 nurse clinicians were trained to visualize the cervix using a vaginal speculum, to wash the cervix with acetic acid, and then to carefully inspect the cervical epithelium for signs of precancerous lesions (e.g., aceto-white lesions, mosaicism, punctate lesions, among others). The nurses photographed the cervix with a digital camera followed by immediate freezing of the abnormal cells with compressed nitrous oxide gas. The digital photographs were reviewed among the team of nurse clinicians performing VIA and a gynecologist each week to insure consistency and high quality. There were few complications reported with most women only reporting a vaginal discharge. Only 5% of the women screened met VIA criteria for further consultation with a trained physician.

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<sup>4</sup> Cervical Intraepithelial Neoplasia grades 1, 2 and 3 can and should definitively be treated by a trained nurse on an outpatient basis when the lesion is identified by VIA. Although some CIN lesions do revert to normal, some progress on to invasive cervical cancer. Therefore, it is sound to treat all such lesions and this is the current recommendation of the American College of Obstetricians and Gynecologists.

In one randomized controlled trial of VIA/Cryo, compared to a control group of women on a waiting list for treatment (deferred treatment), VIA/Cryo was shown to reduce cervical cancer precursor lesions and cervical cancer by 37 percent after only one visit (23). It is presumed that periodic visits every 3-5 years would yield results equal to or better than cytology-based Pap smear.

Importantly, in the Zambia study, those women who were HIV positive had more than double the rate of VIA-positive screens requiring treatment than HIV negative women, thus providing evidence that screening and treatment with VIA/Cryo is likely to be particularly important for this group of women.

In the Leribe district alone, we have calculated that the adult female population is about 125,000. With a lifetime risk of 2 to 4 percent (and higher among HIV positive women), there are probably over 5,000 women that will eventually develop cervical cancer among the current population. VIA/Cryo is a reasonable approach to screen large numbers of women and to definitively treat those with precancerous lesions, which will result in the prevention of a large number of the potential cervical cancer cases in the Leribe district. There are some costs for training the nurse clinicians and the physician consultant, a small capital investment for

the examination table, speculum, biopsy forceps, cryotherapy unit and digital camera; the only ongoing cost is for the source of nitrous oxide (and biopsy, if biopsy is deemed necessary).

### **Direct Human Papilloma Virus (HPV) Testing**

Rapid direct HPV DNA testing to determine if a woman has been exposed to high risk types of HPV is another technique that holds promise for the future (15). Testing women for high risk HPV with VIA and providing cryotherapy for those HPV positive improves the sensitivity and specificity. However, this test is not routinely used and in Lesotho it is not practical in the immediate future due to the lack of availability and high cost.

### **Final Comment**

Lesotho has one of the highest rates of cervical cancer deaths in the world and currently there are no organized screening or treatment programs. A large amount of government funds are spent each year on palliating those unfortunate women with advanced disease and many may not even receive palliative care. The new HPV vaccine, which is highly effective in preventing cervical cancer, is now available. Lesotho is fortunate to receive a donation of 120,000 doses, enough for immunization of 40,000 young women 9-18 years old. This will prevent up to 80 percent of cervical cancer cases among

this cohort. The vaccine will be given to young women in the Leribe and Mohale's Hoek districts this year; and we will continue to lobby for funds to vaccinate young women in the entire country.

For those women 30-50 who have been exposed to HPV, new techniques of early diagnosis and treatment by direct visual inspection of the cervix followed by cryotherapy (VIA/Cryo) can reduce cervical cancer by about 37% in a single visit, and can surpass the effectiveness of the cytological testing if repeated every 3-5 years. We hope to organize this program in the Leribe district over the next 12 months.

By providing both primary and secondary prevention in the form of vaccination and VIA/cryo, we hope to reach both the uninfected younger subpopulation and women beyond the current vaccination target group who are already infected with high-risk HPV.

### **PAP smear screening – Challenges in Developing Countries**

- Requires experienced clinician with experience sampling the transformation zone
- Specialized equipment for obtaining the sample (examination table with stirrups, cotton swabs, glass slides, fixative, transport to laboratory)

- An experienced cytologist able read a large number of specimens
- Report of the cytologist reaches the clinician who then notifies the woman to return to the clinic
- A colposcopic examination and biopsy by experienced clinician
- A pathologist able to read a large number of biopsy specimens
- The report of the pathologist reaches the clinician who recalls the woman for a third visit
- Availability of cryotherapy for treatment of early grade lesions and excisional biopsy for those with higher grade lesions

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# Lesotho Medical Students Association (LEMSA)

Timothy L. Tlale, UKZN

Nelson R. Mandela School of Medicine, Class of 2011

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## Introduction:

For over decades, Lesotho has been challenged by poverty, poor socio economy, and human resource shortage which have in turn decimated our most crucial necessity which is our health structure. It is estimated that over 270 000 people in Lesotho are living with HIV and 70 die each day<sup>1</sup>. This puts Lesotho in the third rank worldwide. TB also poses a major threat and it is estimated that there are 695 cases per 100 000, 10% whom have MDR TB<sup>1</sup>.

Human resource crisis is also critical in Lesotho and there are about 90 Doctors for more than two million people and 80% of those Doctors as foreigners. This problem is evident to the Ministry of Health and Social Welfare. The government recognises it as a major challenge and has thus taken strides to send students abroad for medical training. Despite this initiative, the government of Lesotho has difficulty bringing back these students to work in their home country.

It was at this instance that I and my colleagues here at the University of Kwa-Zulu Natal, Nelson R Mandela School of Medicine, borrowed the words of former United States President John F. Kennedy:

**“Ask not what your country can do for you –  
ask what you can do for your country.”**

We felt it was time to plough back home and give back to our community which has sacrificed its taxes to facilitate our being here. A lot of questions echoed

in our minds as this matter was first laid down, but given the demarcations of our countries' health situation, we felt it was imperative to intervene while in the centre stage of our careers.

This we plan to do by establishing an organisation called **Lesotho Medical Students Association (LEMSA)**. We aim to root this organisation here in UKZN and once it becomes established we plan to diversify to all universities that offer medicine and have Lesotho Medical students in them. Lastly we will take it to the national level. We have a hope that this organisation will help us, in collaboration with the Ministry of Health and Social Welfare and Lesotho Boston Health Alliance, to keep track of all our colleagues and establish firm means of communication and good relations among each other. Mostly we want to form a team and start being hands on as early as possible. We plan to do community outreaches, help in primary health care facilities and embark on more HIV/AIDS awareness and intervention plans in our country.



MOTTO: “Together striving for better health”

## MISSION STATEMENT

- To be committed to the improvement of health care and healthcare-delivery to all people in Lesotho;
- To encourage medical students to go back to Lesotho not only after the completion of their studies but also during vacations as a way of decreasing Doctor-patient ratio;
- To promote the active improvement of medical education;
- To involve its members in the social, moral and ethical obligations of the profession of medicine;
- To assist in the improvement and understanding of health problems in Lesotho;
- To contribute to the welfare of all members, including premedical students, medical students, interns, residents and postgraduate trainees;
- To improve and encourage relationship among medical students as a way of ensuring collaboration in Lesotho after qualifications;
- To improve emergency health care services;
- To implement health projects and workshops on issues such as HIV/AIDS, TB, Sanitation.
- To research on issues impacting health in Lesotho and find their remedies;
- To ensure that medicine reflects the diversity of society, with diversity including but not limited to differences in age, culture, sexual orientation and gender identity, gender and disability.

## Eligibility for membership

All Basotho medical students and interested individuals (associates) shall be eligible for membership.

## Message from LEMSA

We are firstly members of our community before we are students; our community is still suffering from the rage of diseases. Poverty and the scourge of HIV/AIDS are amongst our most serious challenges. Our newly acquired skills will be put to good use to deal with these challenges. We are committed to helping the nation and we will be called upon to become the conscience of our communities to fight poverty, disease and hunger, whenever and wherever they exist. We hope to educate the public about health, issues related to TB, HIV/AIDS, STI's, Hypertension, Diabetes Mellitus and a other diseases that are posing a threat to our society. We further ask support from our Doctors that are already based in Lesotho and wish to tell them that our mission and objectives will not be achieved without their help, support and guidance. Moreover without the help of our community, this mission will only remain a dream. We also wish to drive the message home and buttress the fact that health is not a privilege but it is a right, therefore we will strive to bring Basotho doctors back home.

For more information about LEMSA, contact Timothy L. Tlale at 072 602 1755

Or +266 58849311, Email address:

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# ANNOUNCEMENTS

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Outcomes of the L.M.A ANNUAL GENERAL MEETING on the 24th – 25th of July in Maseru are:

PRESIDENT: Dr M. McPherson  
VICE PRESIDENT: Dr M. Mojela  
GEN SECRETARY: Dr Molise  
Dr Prithi Virag  
TREASURER: Dr L. Makakole  
MEMBERS: Dr T.Mohapi  
Dr Moji  
Dr Mokete

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The Annual General Conference held on the 24th – 25th July 2008 in Maseru successfully tackled the theme of “Global Warming Impact on Health”.

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Lesotho Medical Dental and Pharmacy Council hosted the inaugural conference of African Medical Councils of Africa (AMCOA) on the 30th September to 2nd of October 2008. “World Class Medical Care” was the exciting theme for review.

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Lesotho Medical Dental and Pharmacy Council participated in the International Association of Medical Regulatory Authorities held in Cape Town, South Af-

rica (6th-9th October 2008) whence the theme of “Professionalism” was taken up enthusiastically by all participants.

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Editorial Board:

EDITOR: DR. 'MUSI MOKETE  
MEMBERS: DR. TITI MOHAPI  
DR. N. MOJI  
DR. A. TIAM

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The first summer school workshops on HIV / AIDS will be held in Germany in August 2008 with participants from Lesotho, (Lesotho Medical Association) Stellenbosch University and the hosts (Germany). The next sessions will be held in Lesotho in December 2008 and Stellenbosch in March 2009.

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## **2008 ANNUAL L.M.A AWARDS**

- Dr Teboho Lekhanya: Received Appreciation Award.
- 
- Dr Thamothersampilai Prithiviraj: Received recognition and Appreciation Award.
- 
- Lesotho Boston Health Alliance: Received Appreciation Award.
- 
- Dr Nonkosi Tlale: Received Pioneer Award.
- 
- Dr M. Metsing: Received Pioneer Award.



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