

April 2013

World Spine Care



Presentation to:

Mahalapye Spine Care Conference

Mahalapye, Botswana. April 5, 2013





Mrs. Shenaaz el Halabi

Deputy Permanent Secretary Preventative
Health Services

for

Dr. Malefho – Permanent Secretary,
Botswana Ministry of Health



Dr. Kunal Bose

Superintendent, Mahalapye District
Hospital



Archbishop Emeritus

Desmond Tutu

Nobel Peace Prize Laureate

Member, Advisory Council, World

Spine Care

we make

erence.

Salaf Hammad, Jan. 20



Appreciation

- Dr. Malefho, Permanent Secretary, Botswana M of H, Mrs. Shenaaz el Halabi, Deputy Permanent Secretary Preventative Health Services and everyone at the M of H who has helped make the WSC program a success
- Dr. Bose, Superintendent, Mahalapye District Hospital, and the staff at the Mahalapye District Hospital
- Archbishop Tutu, Nobel Peace Prize Laureate
- Dr. Outerbridge and the WSC volunteers
- Foundations, businesses and individuals who provided funding to WSC

World Spine Care

The Mahalapye Spine Care Educational Conference, Botswana

April 2013

Expectations

Continuing Education for Botswana Health Care Professions
Advance the understanding of the importance, diagnosis and
management of spinal disorders in Botswana
Multidisciplinary program

Free to Botswana Government health care clinicians
Minimal cost to clinicians with private practices



The Mahalapye Spine Care Educational Conference, Botswana April 2013

Sponsorship

The Botswana Ministry of Health and Mahalapye District Hospital
The North American Spine Society
The International Society for the Study of the Lumbar Spine
Eurospine, The European Spine Society
The South African Spine Society
The Chiropractic Association of South Africa
The Swiss Spine Institute

*Lunch graciously donated by the Canadian Memorial Chiropractic
College (Toronto)*
Conference room provided by the Cresta Hotel, Mahalapye

The Mahalapye Spine Care Educational Conference, Botswana April 2013

Program in Brief

Introduction video from Archbishop

- 1. Burden of Spinal Disorders - Scott Haldeman (USA)*
- 2. Evidence based treatment Guidelines – Margareta Nordin (France)*
- 3. Spine Imaging and MRI – Lindsey Rowe (Australia)*
- 4. Scoliosis screening program – Joan Haldeman for Sally Valentine (USA)*
- 5. Non-surgical management – Geoff Outerbridge (Canada/Botswana)*
- 6. Surgery for radiculopathy – Christian Etter (Switzerland)*
- 7. Surgery for deformity – Emre Acuroglu (Turkey)*
- 8. Failed Spine Surgery – Norman Fisher-Jeffes (South Africa)*
- 9. Research – Maria Hondras (Denmark)*

The Mahalapye Spine Care Educational Conference

Goals

1. To provide understanding of the importance of spinal disorders and the impact of these disorders on society
2. To provide an overview of how current evidence based guidelines for imaging, diagnosis and management can guide our treatment approaches to people with spinal disorders
3. To provide some insight on how screening for spinal disorders can be instituted in the school systems
4. To provide an overview of the indications for spine surgery and the different surgical procedures that can be considered
5. To provide an overview of the research being considered by World Spine Care
6. To provide information on the future goals and the model of care being considered by World Spine Care

The International Burden of Spinal disorders and the Goals of the World Spine Care Program

World Spine Care April 5, 2012
Mahalapye Spine Care Conference
Mahalapye, Botswana

Scott Haldeman, DC, MD, PhD, FCCS(C), FRCP(C)

Department of Neurology, University of California, Irvine

Dept. of Epidemiology, School of Public Health, University of California, Los Angeles

Visiting Professor, Southern California University of Health Sciences

Visiting Professor, Shanghai University of Traditional Chinese Medicine

President World Spine Care

Global Burden of Disease 2010 Report

GBD2010

- **Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010**

Christopher J L Murray et al. Lancet 2012; 380: 2197–223

- **Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010**

Theo Vos et al. Lancet 2012; 380: 2163–96

Global Burden of Disease 2010

Organization and Funding

- Global Burden of Disease 2010 (GBD 2010) was implemented as a collaboration between seven institutions:
 - WHO
 - University of Queensland School of Population Health
 - Harvard School of Public Health
 - Johns Hopkins Bloomberg School of Public Health
 - University of Tokyo
 - Imperial College London
- Funding: Bill & Melinda Gates Foundation

Global Burden of Disease 2010 Report

Key results – Musculoskeletal disorders

- Musculoskeletal (MSK) conditions such as low back pain, neck pain and arthritis affect over 1.7 billion people worldwide.
- MSK conditions have a greater overall impact on the health of the world population, considering both death and disability than:
 - HIV/AIDS
 - All tropical diseases combined including malaria
 - The forces of war and nature combined
 - All neurological conditions combined.
- DALYs from MSK disorders increased by 45% between 1990 and 2010.

Global Burden of Disease 2010 Report

Key results – spinal disorders:

- **Low back pain is the leading cause of disability worldwide (YLDs) contributing 10•7% of total.**
- **Neck Pain** is the fourth leading cause of disability worldwide
- **Low back pain is the sixth most important contributor to the global burden of disease (death YLLS and disability YDLS)**
- **It** has a greater impact on global health than:
 - malaria or tuberculosis
 - preterm birth complications
 - COPD
 - diabetes or lung cancer.

Global Burden of Disease 2010 Report

Key results – spinal disorders

- **When combined with neck pain** (#21 on this list) back pain and neck pain are second only to ischemic heart disease in its impact on the global burden of disease
- **Back and neck pain combined have a greater impact on global health than**
 - HIV/AIDs
 - Malaria
 - Lower respiratory infections
 - Stroke
 - Breast and lung cancer combined
 - Alzheimer' s Disease
 - Diabetes
 - Depression
 - Traffic injuries

Global Burden of Disease 2010 Report

Key results - General

- The global disease burden has shifted away from communicable to non-communicable diseases and from premature death to years lived with disability compared to a similar study in 1990.

World Report on Disability 2011

WHO and World Bank

- More than a **billion people** in the world today experience disability. (the *Global Burden of Disease* estimates **190 million (3.8%)** have “**severe disability**”)
- 2006 census data - 393 785 people in **Ireland** were disabled, a rate of 9.3%. If pain and breathing difficulties are included the number increased to **18.5% of the entire population**
- Mobility problems are amongst the commonest disabilities

World Report on Disability 2011

WHO and World Bank

- **Arthritis, rheumatism and back problems** were the most common health conditions related to disability

Estimates of World Disability Prevalence

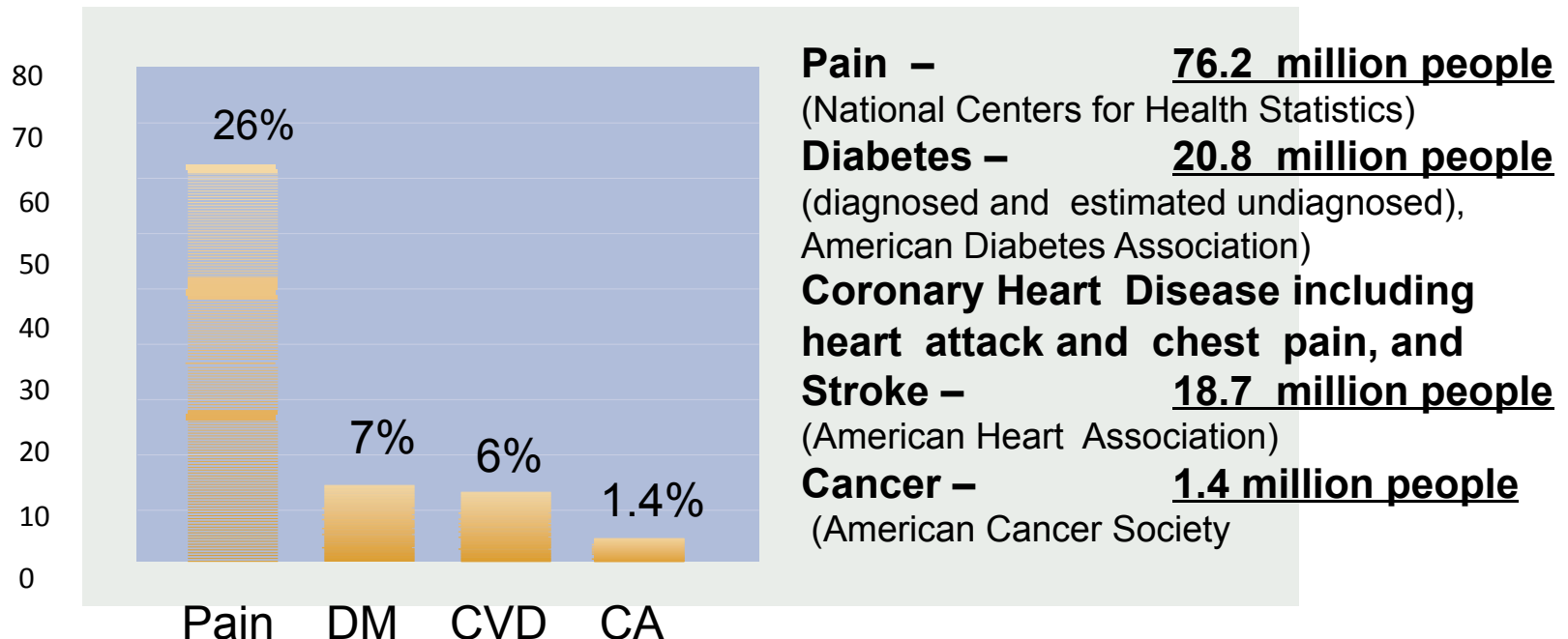
Disability threshold of 40 (on a 100 point scale)

Considered significant disability

Subpopulation or subgroup	Higher income countries	Lower income countries
Male	9.1% (SE 0.32)	12.0% (SE 0.18)
female	14.4% (SE 0.32)	22.1% (SE 0.24)
Age 18-49	6.4% (SE 0.27)	10.4% (SE 0.20)
Age >60	29.5% (SE 0.66)	43.4% (SE 0.47)
Urban	11.3% (SE 0.29)	14.6% (SE 0.25)
Rural	12.3% (SE 0.34)	18.6% (SE 0.24)
Poorest quintile	17.6% (SE 0.58)	22.4% (SE 0.35)
Richest quintile	6.5% (SE 0.35)	13.3% (SE 0.25)

American Pain Society Pain, Facts and Stats 2008

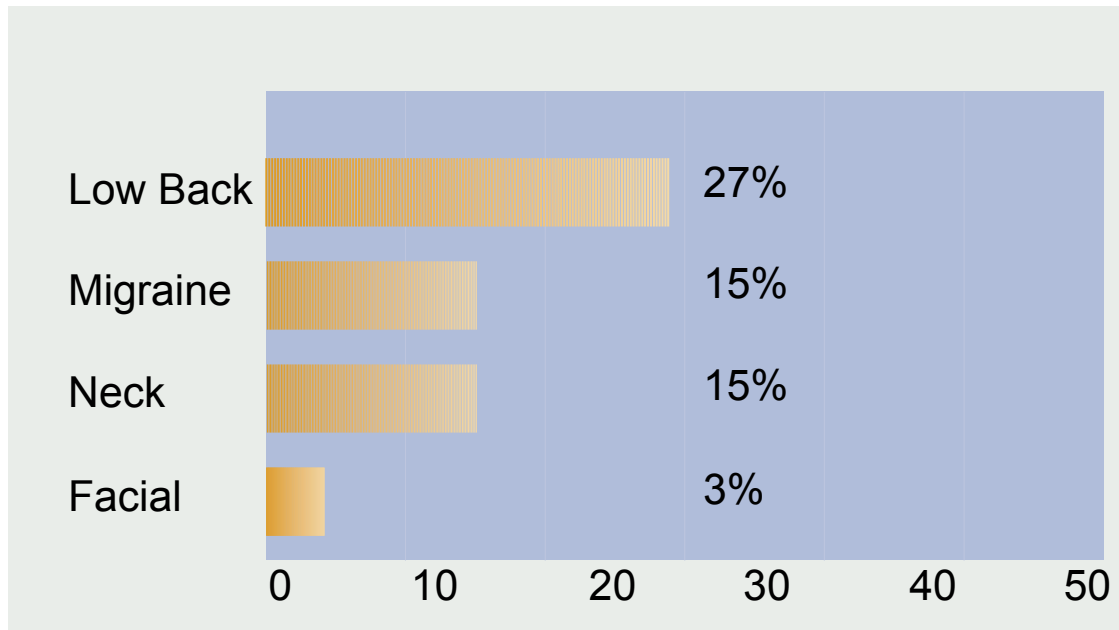
ESTIMATED INCIDENCE*



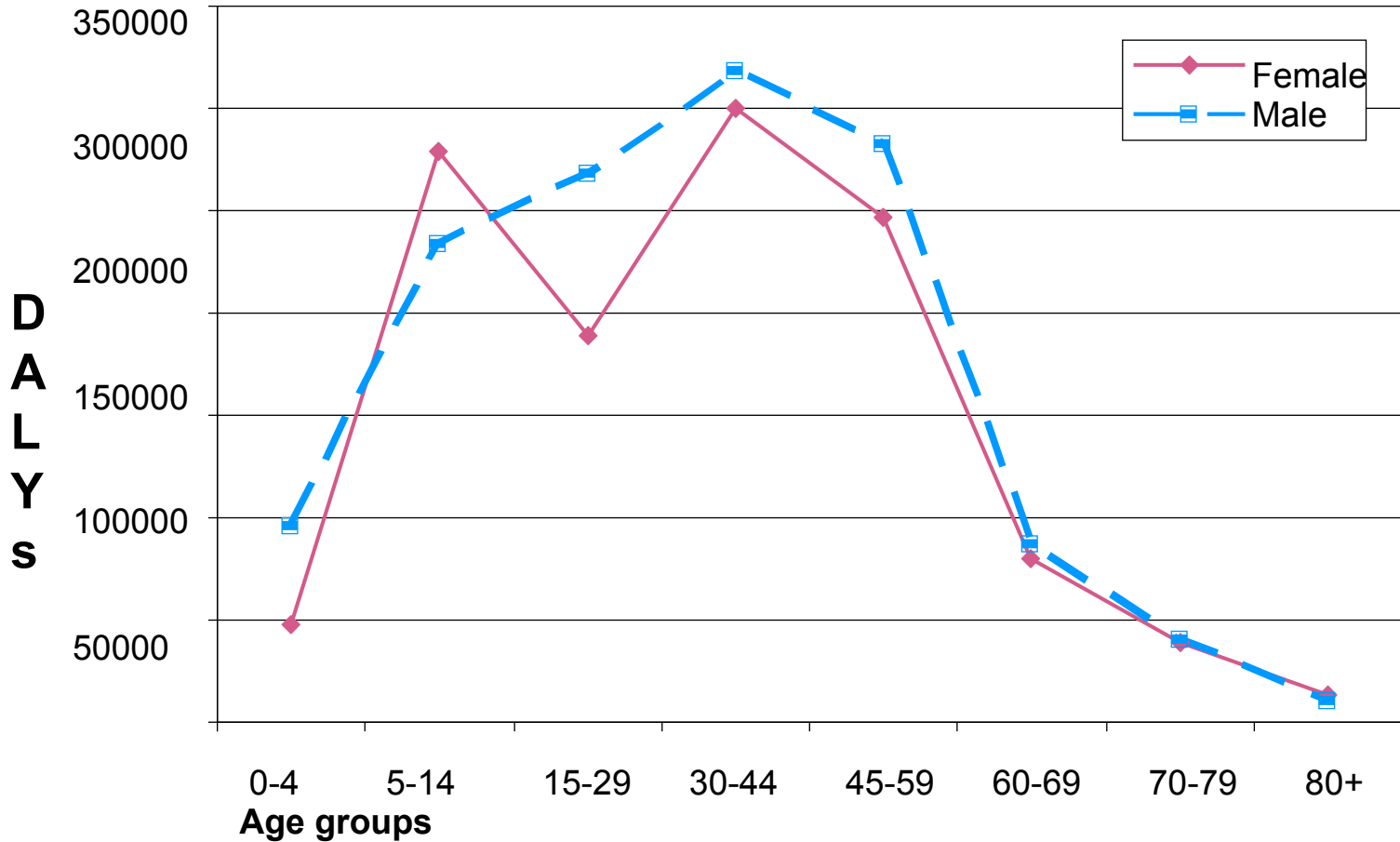
About **one-third** of people who report pain indicate that their pain is “**disabling**,” defined as both severe and having a high impact on functions of daily life.

American Pain Society Pain, Facts and Stats 2008

Most Common Types of Pain



Global age and sex distribution of Disability Adjusted Life Years for low back pain, Global Burden of Disease 2004.



Wieser S et al., Cost of low back pain in Switzerland in 2005

European Journal of Health Economics, 2010

[Epub ahead of print]

-
- The total economic burden of low back pain to Switzerland in 2005 ranged from **1.6% to 2.3% of the gross domestic product.**
 - If these figures applied to the U.S. LBP would have imposed a financial burden ranging from some **\$200 billion to \$287 billion**
 - Fort Knox: 147 million ounces of gold @ \$1,744/ounce.

Current value ~\$257 billion



What about Treatment?

- Can the burden of spinal pain be impacted by expensive, high tech treatment approaches in rich countries?
- What is the impact of no treatment in poor countries?

Expenditures and Health Status Among Adults with Back and Neck Problems



Martin BI and Deyo RA et al, JAMA 2008;299:656

- Total expenditures increased by 60% between 1997 and 2005
- Prescription medication increased by **188%**
- Narcotic expenditures increased by **423%**
- Outpatient service expenditures increased **43%**
- Inpatient service expenditures increased by **87%**
- Chiropractic costs increased by **111%**
- Physical therapy expenditures increased by **78%**

Medical Expenditure Panel Survey

Costs

- Total expenditures ↑ **60%**

Benefits

- Physical functioning limitations ↑ **from 20.7% to 24.7%**

- **Increased costs = worst health?**

Martin BI and Deyo RA et al, JAMA 2008;299:656

Model of Care for Spinal Disorders

Low Income Communities

Ranthambhore Sevika Hospital, India

Mahalapye District Hospital, Botswana

- Estimate that **25-40% of all patients** who are seen at the emergency room and outpatient clinic have complaints of spinal pain.

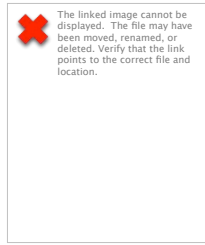
Conclusion

1. Spinal and MSK disorders constitute a global health crisis
2. The treatment models in rich countries appears to increase disability
3. Lack of any significant treatment for spinal disorders for people in poorer countries does not reduce disability
4. There is a growing awareness that a new model of care is needed

Addressing the Problem



The Bone and Joint Decade
2000-2010



Bone and Joint Decade 2000-2010 Extended to 2020

- Endorsed by the United Nations on November 30, 1999
- Formally launched at the WHO headquarters on January 13, 2000, in Geneva
- Headquarters in Lund, Sweden.
- National networks in 97 countries
- Endorsed by the governments of 61 countries
- Hundreds of participating professional organizations



**A project supported by the
Bone and Joint Decade, an
initiative of the World Health
Organization**

**A non-profit public charity
registered in the United States
and non-profit in Canada with
the goal of helping people with
spinal disorders in under
served communities
throughout the world.**





Archbishop Emeritus

Desmond Tutu

Nobel Peace Prize Laureate

Member, Advisory Council, World Spine Care

“I support the goal of World Spine Care to enable effective spine care, one village at a time, for the hundreds of millions of people around the world who suffer from spinal problems and have no access to treatment”

Elon Musk

Board of Directors, World Spine Care

CEO and CTO of SpaceX

CEO and Product Architect of Tesla Motors

Chairman of SolarCity

Co-founder of Paypal

“By bringing practical, effective care to the world’s most disadvantaged populations, World Spine Care is initiating a program that should facilitate a transformational change in the understanding and management of this very important cause of reduced productivity around the world.”



Professional and Institutional Endorsements

- Bone and Joint Decade
- The International Society for the Study of the Lumbar Spine
- North American Spine Society
- Eurospine, Spine Society of Europe
- World Federation of Chiropractic
- South African Spine Society
- Chiropractic Association of South Africa



WORLD FEDERATION
OF CHIROPRACTIC



World Spine Care Collaborating Institutions

- University of South Florida
- University of Southern Denmark
- University of Hawaii
- Palmer College of Chiropractic
- Canadian Memorial Chiropractic College



Goals of World Spine Care in Botswana

- Establish spine care programs
- Develop preventive programs
- Build local capacity through mentorship, education and training
- Ensure sustainability
- Transfer clinics to local management

History of WSC relationship with Botswana

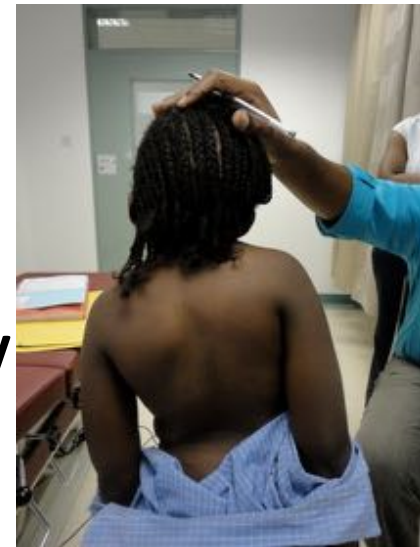
- February 2010 - Initial meetings with representatives of Botswana Government and local Hospital
- June 2011 – Signing of MOU
- October 2011 – Geoff Outerbridge and family arrive in Mahalopye
- December 2011 – Mahalopye Clinic Opens
- August 2012 – Shoshong Clinic Opens
- April 2013 – Malahapye Spine Care Conference



Mahalapye District Hospital Clinic

Open December 2011

- **By April 2013**
 - 212 new patients, 1350 office visits
 - One full time volunteer,
9 short-term volunteers
- **Analysis of first 212 individual patients**
 - 80% clinically significant improvements
 - 3 patients identified who likely required surgery
 - 6 patients with compression fractures
 - 2 patients with severe deformity



Shoshong Clinic

Open August 22, 2012

Government supplied 5 room portacabin
Treatment tables donated

August 2012 - April 2013

140 new patients, 900 office visits

Analysis of first 140 individual patients

Older patient population

**3 patients identified who likely
required surgery**

6 patients with compression fractures



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Education and Sustainability program

Education Scholarships

Full tuition scholarships have been offered by CMCC and Palmer College. Travel and living expenses to be covered by the Government of Botswana

Community and continuing Education

Presented at hospitals, schools and clinics by volunteer clinicians and researchers



Community Education

“Straighten Up and Move”

A spinal health promotion initiative

- World Spine Day
- President’s Council on Physical Fitness and Sports
- United States Bone and Joint Decade
- Always Play Fair Sportsmanship Initiative
- Child and Adolescent Health and Development Cluster of WHO
- Numerous professional associations



Courtesy Ron Kirk MA, DC

Community Education

“Straighten Up and Move”

Lifestyle Choices

1. Choose to improve
2. Choose to enjoy healthy, invigorating activity
3. Choose to live tobacco free
4. Choose healthy foods
5. Choose good posture
6. Choose a balanced supportive book bag/back pack
7. Choose a comfortable supportive mattress.
8. Choose to be quiet
9. Choose to serve others



Teacher and School Nurse Community Education and Sustainability program

Scoliosis and Deformity Screening June 2013



World Spine Care Research Program

TEAM 1

“Assessment of the prevalence, burden and care of spinal disorders amongst Batswana in Village Shoshong”

Maria Hodras has received the International Danish Chiropractic Research Stipend of DKR 1,000,000 (US\$ 173,000) and Palmer College in-kind salary support of \$140,000

WSC Research Team 2

- Create an Integrated **Model of Care** for the Management of Chronic MSK Conditions in Botswana
- Create a **Front Line** Health Care Worker Training Module for the Screening & Assessment of Spine Conditions in Botswana
- Assess the Frequency & Type of MSK Conditions Presenting in **HIV/AIDS** Botswana in Shoshong Village

*Proposal in preparation to the
Gates Foundation and CIHR
(Canada)*



World Spine Care

Major Financial Sponsors



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Palmer College of Chiropractic
Canadian Memorial Chiropractic College
Scott and Joan Haldeman
The Vickie Anne Palmer Foundation
Elite Tables



World Spine Care Financial Sponsors



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Ontario Chiropractic Association

Cleveland Chiropractic College

Dr. Deborah Kopansky-Giles

Dr. Lou Sportelli

Dr. Hugo Gibson

Micheal Hanna Ph.D., Donald Petersen, George Brook

World Spine Care Future Directions



- **The Model**
 - Develop and test a cultural sensitive, low tech, low cost, sustainable model of spine care with distance consulting and visiting surgical and specialist care
- **Clinics**
 - Open additional clinics in Botswana or other countries.
 - Establish a Surgical Treatment mentorship program
- **Research**
 - Data collection by Team 1.
 - Funding for Team 2
- **Education**
 - Educational conferences on Spinal Disorders
 - Education program for the public, nurses, doctors and first responders
 - Scoliosis screening program
 - Scholarships for training in spinal disorders

Mahalapye Spine Care Conference, April 5, 2013

Why is this conference important

- **B**ecause knowledge promotes care of excellence at low cost for the patient, the community and the government
- **R**ural and remote areas have special problems
- **A**dvances are made and must be culturally adapted and accepted
- **V**oices from the clinicians on site must be presented and discussed as a forum for net working
- **O**rganization and support from government and specialized world leading societies for quality is necessary

The BRAVO Concept in integrated spine care

Mahalapye Spine Care Conference

- It is hoped that Spine Care Conference will become an annual event in Botswana to promote and exchange knowledge for clinical evidence based care, and promote research for people with spine ailments in rural areas
- It will draw attention to Botswana's Government who has recognized the problem for rural healthcare nationally and internationally and its specific problems
- Attract worldwide expertise and knowledge to find solutions
- Set up national and international spine net works for public health and health care for rural treatment naïve population

Looking Forward

This is a volunteer organization. It can only provide help to others if those in privileged positions are willing to provide time, expertise and funding.

All are welcome!





Re a Leboga!

