Challenges and Opportunities in Prevention, Control and Early Detection of Cancer in Low Resource Settings

INSTITUTE OF MEDICINE’S NATIONAL CANCER POLICY FORUM

BY

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Outline of Presentation

Prevention: Botswana Case Study

Early Detection and Treatment: Zambia Case Study

Lessons Learned and Suggestions for Replication
Continuum of Cancer Control and Care

Primary Prevention
- Vaccination
- Awareness-Raising
- Breast Self Awareness

Secondary Prevention
- VIA
- Biopsy
- Cytology

Treatment - if abnormality found
- Cryotherapy
- LEEP
- Refer

Referral
- Biopsy
- Pathology

Cancer Rx
- Surgery
- Chemo
- Radiation

Palliation

Technical Support

Awareness Raising & Community Education
Demographics:

- **Total Population:** 2,024,904
- **Female Population:** 1,035,833
- **30-49 years:** 247,606

**HIV/AIDS**

- **23%** prevalence 15-49 years old
- **180,000 women** over age 15 living with HIV/AIDS
- **PMTCT rate:** less than **3%**
Cervical Cancer Prevention
Botswana Case Study

Most-Common Newly Developed Cancers in Women in Botswana 2012

1. Cervical 29.0%
2. Breast 18%
3. Kaposi's sarcoma 5%
Other (>10 types) 27%
Human Papilloma Virus (HPV) Vaccination in Botswana – Challenges in 2012

- **Competing priorities:** Overworked EPI staff laser-focused on childhood immunizations: no room for HPV vaccination until 2017
- **Policy:** No national injection safety policy combined with delayed rollout of use of auto-disabled syringe
- **Management:** Stock management inadequate and forecasting supplies compromised by delayed 2012 census
- **Sustainability:** Securing financing to procure HPV vaccine at an affordable price—Botswana not Gavi eligible (not less than price offered by manufacturers to PAHO)
Human Papilloma Virus (HPV) Vaccination in Botswana -- Opportunities

- **Leadership:** Ministry of Health provides leadership in advocacy and oversight and is respected at community level

- **Government commitment:**
  - Government allocated resources to training for new vaccine introductions
  - Knowledge that when Botswana adopts a program, it follows through

- **Policy:** High school enrollment nationwide including girls

- **Leverage:** High HIV prevalence & functional HIV clinics

- **Public-Private-Partnership (PPP):** Multiple partners (including Pink Ribbon Red Ribbon) interested in supporting the national cervical cancer control program
Human Papilloma Virus (HPV) Vaccination in Botswana – Harnessing Resources: PPP

- **U.S. Government:** US$3M for cervical cancer control through the President’s Emergency Plan for AIDS Relief (PEPFAR)

- **World Bank:** U.S.$385,000 for HPV vaccination logistics & scale-up of “See-and-Treat” in four districts

- **American Society for Clinical Pathology:** improved histology capacity

- **American Society for Colposcopy and Cervical Pathology:** Training on colposcopy

- **Becton, Dickinson and Co./Medisend:** Donation of 100,000 autodestruct SoloShot® syringes for HPV vaccination

- **Merck:** Donation of 7,800 doses of quadrivalent GARDASIL® HPV vaccine in 2013; and 44,000 doses in 2014

- **Bill & Melinda Gates Foundation/CDC Foundation:** Baseline analysis of data systems for cervical cancer conducted by Indiana University
Human Papilloma Virus (HPV) Vaccination in Botswana – National Commitment
Human Papilloma Virus (HPV) Vaccination Program in Botswana – Tangible Results

- Botswana developed a **national policy** on cervical cancer control including HPV vaccination.
- **The catalyst for action:** PRRR partner—Merck—donated 7,800 doses of Gardasil® for school-based demonstration program.
- **2,015 girls** fully vaccinated with 3 doses in 2013.
- Consultant provided technical assistance for **post-introduction evaluation**.
- MoH **adopted and implemented** consultant’s recommendations: second year demonstration.

“We cannot go back; communities are demanding services.”
Permanent Secretary, Ministry of Health, Botswana
THE REPUBLIC OF BOTSWANA

13,899
number of women screened
2012-2014

3,935
number of women treated with cryotherapy or LEEP 2011-2014

8,357
number of girls vaccinated
2013-2014

2015: National HPV Vaccination Rollout
- Fully funded, led & monitored by Batswana
- Dose 1, March: **68,304**
- Dose 2, September
Human Papilloma Virus (HPV) Vaccination Program in Botswana -- Sustainability

- Government of Botswana fully owns and leads HPV vaccination program as part of its national cervical control plan
- HPV vaccination fully embedded into the National Expanded Program on Immunization
- Dedicated National Program Manager funded by Government of Botswana
- National cervical cancer control program embedded in the national budget
- Evaluation of the current plan 2012-2016 to use findings to plan for the next 5 years—supported by U.S. National Cancer Institute
Early Detection and Treatment: Zambia Case Study
Demographics:

- Total Population: 13,046,548
- Female Population: 6,652,053
- 30-49 years: 1,174,000

HIV/AIDS

- 15.1% prevalence 15-49 years old
- 490,000 women over age 15 living with HIV/AIDS
Zambia Case Study
Status of Cervical Cancer

- Zambia has the **second highest prevalence** and **highest mortality** worldwide.

- Most common cancer in Zambian women.

- **40% of women** with late stage cervical cancer are less than 35 years.
Challenges of Combatting Cervical Cancer in Zambia—2012

- Lack of access to:
  - information and knowledge of the disease resulting in fear of stigma and rejection by family
  - screening, early detection and treatment services
  - finances to pay for health care services
  - advanced cancer care close to home—geographic access
  - strong healthcare system—capacity, equipment, techniques, referral...........
Challenges of Combatting Cervical Cancer in Zambia—2012

- **Competing priorities:** HIV, maternal and child health were first priority

- **Policy:** No national strategy—no roadmap

- **Management:** Two ministries in charge of health: Ministry of Health (MoH); Ministry of Community Development, Mother and Child Health (MCDMCH)

- **Sustainability:** the national cervical cancer control program was very much NGO-dependent

- **Cancer Care:** Only one cancer center in the country (13M)
Challenges of Tackling Cervical and Breast Cancer in Zambia—2014

Zambia Health Promotion Team traveling to hard-to-reach areas in Western Province
Source: PRRR Zambia
Cervical Cancer Early Detection in Zambia

Opportunities

- **Political will**
  - High level Government of Zambia commitment (President, Minister of Health, First Lady, VP spouse)
  - Supportive US Ambassador, strong PEPFAR platform
  - VIA/cryotherapy/LEEP and cancer care are free

- **Technical capacity**
  - CIDRZ, Cancer Diseases Hospital, CDC, MoH and MoCDMCH

- **Committed NGOs:** Project Concern International, Palliative Care Association, Breakthrough Cancer Trust, others

- **Leveraging:** High HIV prevalence—leveraged existing HIV clinics for cervical cancer

- **Public-Private-Partnership:** Multiple partners (including Pink Ribbon Red Ribbon) interested in supporting the national cervical cancer control program
Cervical Cancer Early Detection in Zambia
Harnessing Resources: Public-Private Partnerships

- **CIDRZ:** Trained 121 health-care workers in “See-and-Treat”

- **GWBI:** Rehabilitation of Ngungu and Mosi-Oa-Tunya clinics

- **PRRR Secretariat:** US$ 50,000 for “e-hub” facility to enable real-time consultations between nurses in the field and doctors in Lusaka; consultancy to develop national cancer strategy

- **Merck:**
  - 180,000 doses of quadrivalent GARDASIL® HPV vaccine;
  - in partnership with Komen, supported US$ 1,900,000 worth of activities including introduction of HPV vaccination (US$ 600,000)

- **Airborne Lifeline:** Air transportation of equipment and supplies
Cervical Cancer Early Detection in Zambia
Harnessing Resources—Public-Private Partnerships

- **U.S. Government:**
  - US$3M through the U.S. President’s Emergency Plan for AIDS Relief and CIDRZ to scale up “See-and-Treat”

- **U.S. National Cancer Institute:** three-year Cancer Registrar position

- **U.S. National Breast Cancer Foundation:** US$ 500,000 over five years to hire national health promotion manager

- **MD Anderson Cancer Center:** North-South Exchange program, including “Virtual Tumor Board” with Cancer Diseases Hospital

- **Bill & Melinda Gates Foundation/CDC Foundation:** Assessment of data system for cervical cancer led by Indiana University
Cervical Cancer Screening & Treatment: VIA & Cryotherapy—Single-Visit Approach

Source: Pink Ribbon Red Ribbon
THE REPUBLIC OF ZAMBIA

154,269
number of women screened
2012-2014

33,733
number of girls vaccinated
2013 and 2014

11,719
number of women treated with cryotherapy or LEEP
2012-2014
Lessons Learned
Suggestions for Replication
Local Grassroots Efforts

NGOs

First Ladies

Government
Strategies for Replicating Cervical Cancer Control

ACCESS

- Education & Awareness
- Vaccination
- Screenings Diagnostics
- Treatment
- Skills Building & Equipment
Conclusion

Despite huge challenges to combatting cervical cancer in low-resource settings arising from social and huge health systems issues,

Applying proven, simple and cost-effective interventions can give hope, improve quality of life and survival even in the poorest countries.

Government ownership and leadership promote sustainability.