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

Awareness Raising & Community Education

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

Secondary Prevention
- VIA
- Biopsy
- Cytology

Treat – *if abnormality found*
- Cryotherapy
- LEEP
- Refer

Referral
- Biopsy
- Pathology

Cancer Rx
- Surgery
- Chemo
- Radiation

Palliation

Technical Support

Cervical Cancer Prevention
Botswana Case Study

Demographics:

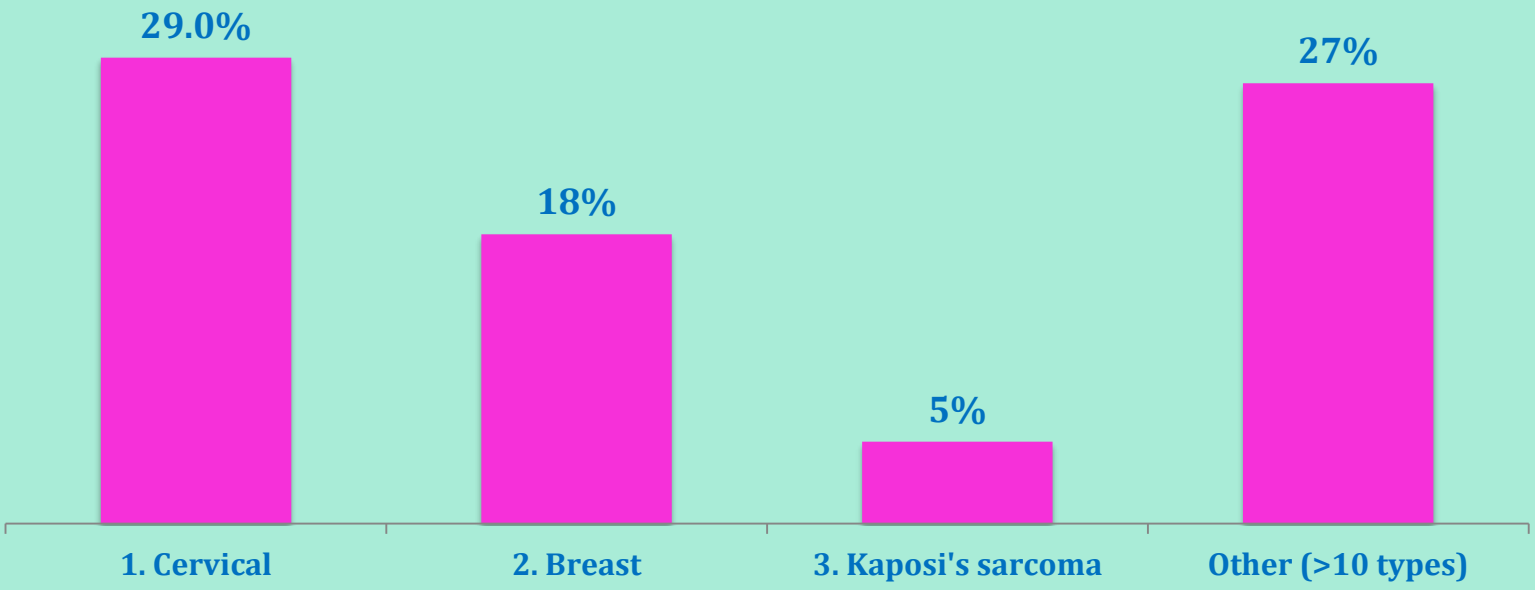
- **Total Population:** 2,024,904
- **Female Population:** 1,035,833
- **30-49 years:** 247,606 247,606

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



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 100,000autodestruct 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

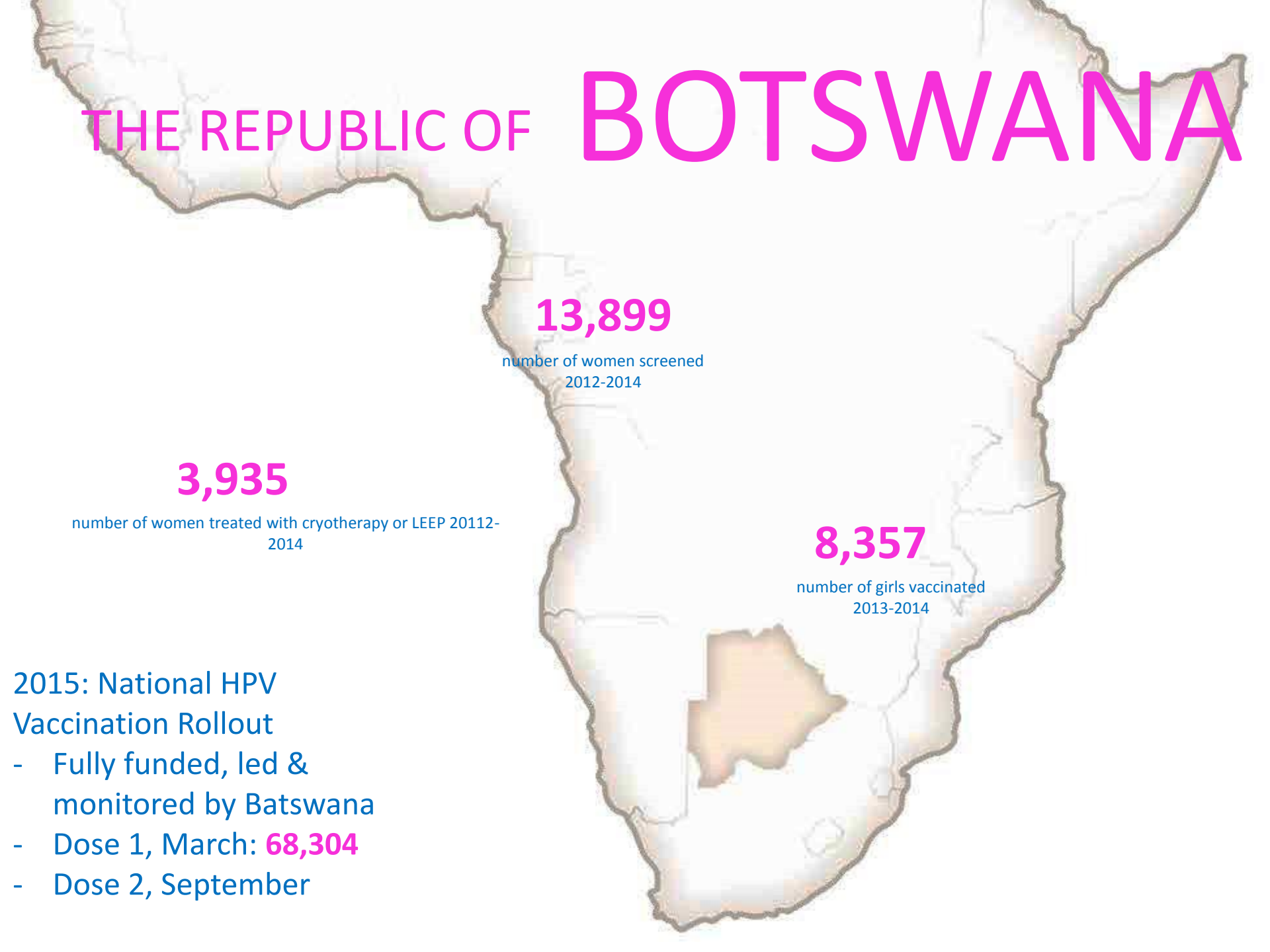
Human Papilloma Virus (HPV) Vaccination in Botswana – National Commitment

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 20112-2014

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

Cervical Cancer Early Detection & Treatment
Zambia Case Study

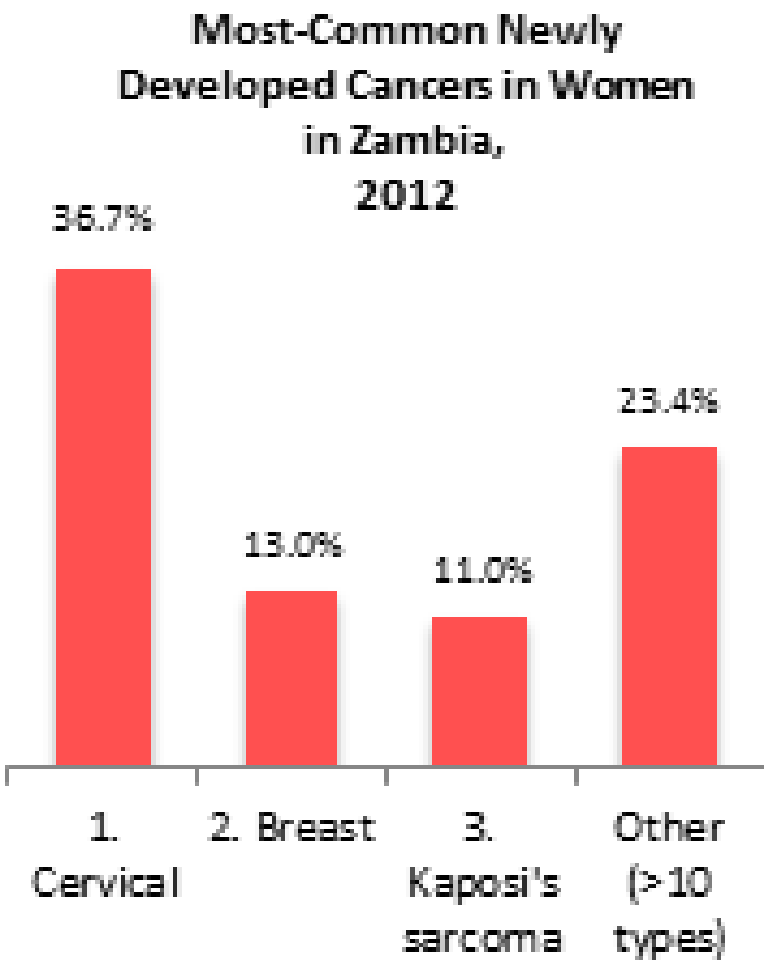
Demographics:

- **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

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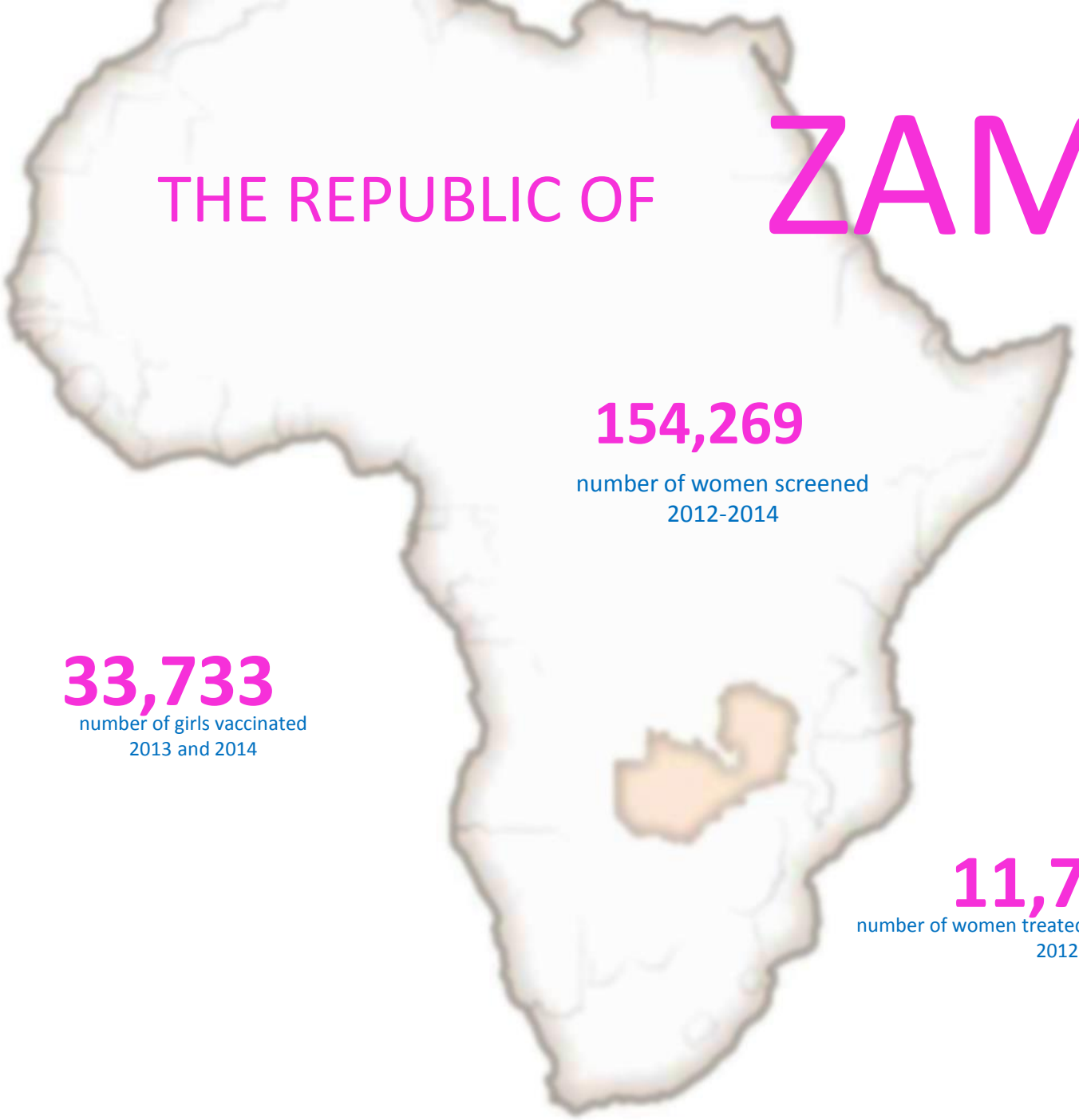


154,269

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

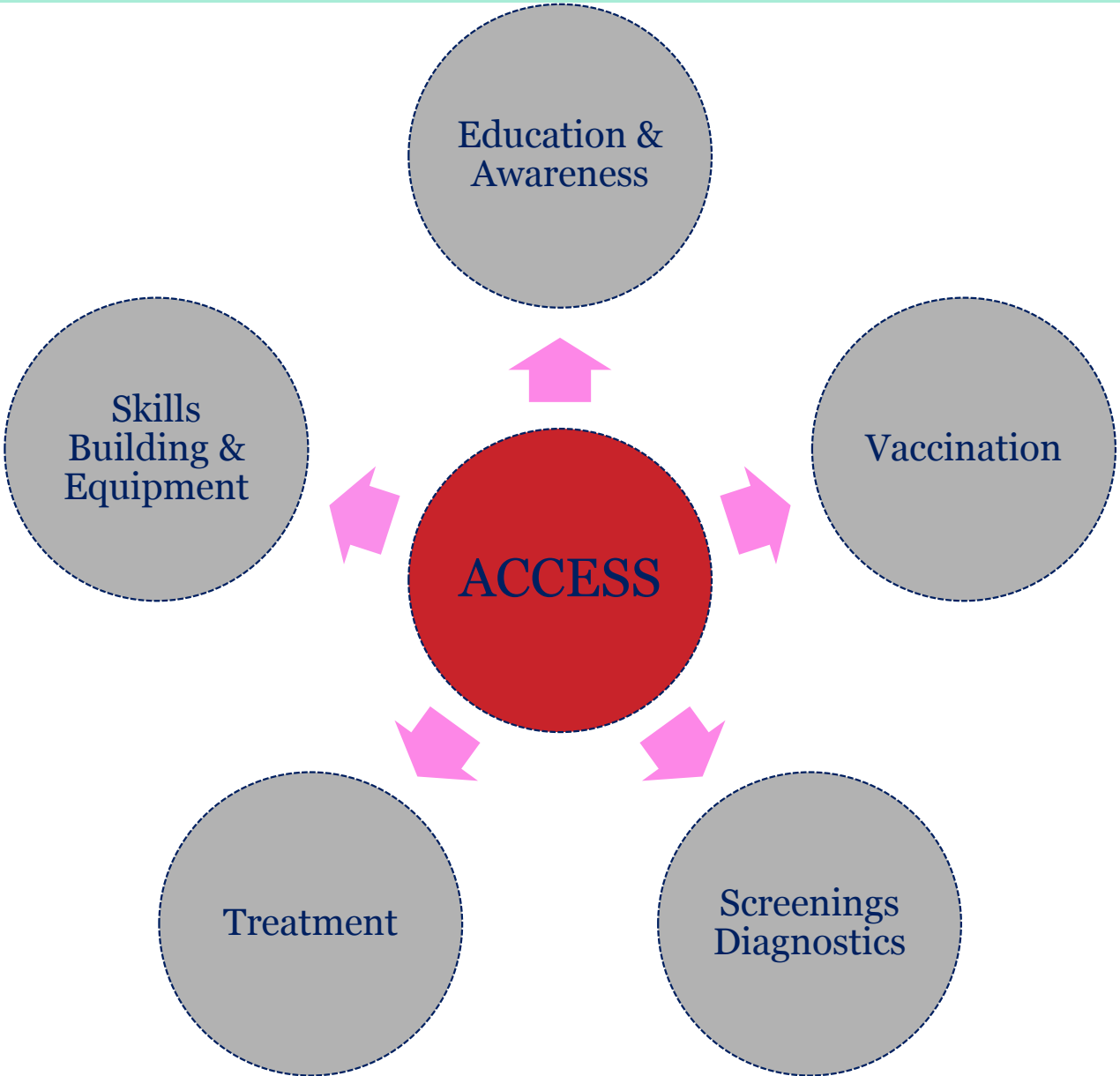
Local Grassroots Efforts

NGOs

First Ladies

Government

Strategies for Replicating Cervical Cancer Control



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.**

Thank You!

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