Where Are We

May Maloba : Country Director GHI
Outline

- Understanding the Burden of HPV Disease
- Benefits of the HPV Vaccine and Recommendation
- Kenya HPV Vaccination Efforts
- The Impact of HPV Vaccination and Key Consideration
Females and males are infected with at least one type of HPV at some point in their lives

- HPV is a sexually transmitted infection
- There are more than 100 types of HPV.
- Several types can cause changes in the cervix leading to cervical cancer precursors and cervical cancer.
- HPV infection is most common in people in their teens and early 20s
Cervical cancer: Disease Burden

Cervical cancer is the 2nd most common cancer among women globally.

Higher cervical cancer mortality in developing countries due to lack of effective screening programs and high rate of HIV.

- Incidence in developed countries: 10 cases /100,000 women
- Incidence in developing countries: 25-55 cases /100,000 women
- Incidence in Kenya: 200 cases /100,000 women
### Comparison with Maternal Mortality

<table>
<thead>
<tr>
<th>PREGNANCY-RELATED COMPLICATIONS (MATERNAL MORTALITY)</th>
<th>CERVICAL CANCER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANNUAL DEATHS</strong></td>
<td></td>
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<tr>
<td>358,000 women</td>
<td>270,000 women</td>
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<tr>
<td>DIE ANNUALLY</td>
<td>DIE ANNUALLY</td>
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<tr>
<td><strong>MORTALITY TRENDS</strong></td>
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<tr>
<td>↓34% DECREASE IN MORTALITY 1990-2008</td>
<td>↑45% INCREASE IN MORTALITY 1990-2008</td>
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<tr>
<td><strong>PRIORITIZATION IN MILLENIUM DEVELOPMENT GOAL (MDG)?</strong></td>
<td></td>
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<tr>
<td>YES (MDG 5—IMPROVING MATERNAL HEALTH FROM PREGNANCY RELATED COMPLICATIONS)</td>
<td>NO</td>
</tr>
<tr>
<td><strong>CURRENT ANNUAL INVESTMENT IN DEVELOPING WORLD</strong></td>
<td></td>
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<tr>
<td>USD 12 billion</td>
<td>??? EXACT FIGURE UNKNOWN</td>
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HPV & Cervical Cancer

- HPV Infection
- Low-grade (CIN 1)
- High-grade (CIN 2/3)
- Invasive Cancer

60% 15%

10% in 2 years

~20% within 10 years
HPV is a necessary cause of cervical cancer – 99.7%\(^4\)

Cancer causing Types
High risk group-16,18, 31,33,45,52,58

Non-cancer causing types
Low risk group- 6,11.

- >75% of Cervical Cancer\(^5,6\)
- >50% of Vaginal & Vulvar Cancer\(^5\)

Need for multivalent HPV vaccine for broader HPV protection

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\(^1\) Schiller JN, Castle PE. Arch Pathol Lab Med. 2003;127:953–954.
THE CAUSE

HPV infection is a necessary cause of cervical cancer and is linked to several other anogenital diseases.

Percent of cases attributable to HPV infection:
- Cervical Cancer: ~100%
- Penile Cancer: 50%
- Vaginal Cancer: 70%
- Oropharyngeal Cancer: 13-56%
- Vulvar Cancer: 43%
- Anal Cancer: 88%
- Genital Warts: ~100%

HPV Causes More Than Cervical Cancer

HPV Vaccination: The Basis of Cancer Control

- Primary prevention: Vaccination
- Secondary prevention: Screening and treatment of precancers
- Cancer treatment
- Palliative care

HPV Vaccination Efforts

- In Kenya HPV VAC has not been integrated in routine immunization scheme
- Licensed for use in 2006
- Strategic guideline for cervical cancer Prevention

Community-National pilot project in Kitui 2012-2013

School based- Moi university Hospital target promotion of the HPV-vaccine

HIV infected adolescent - Dr Nelly Mugo target Boys and girls
The Impact of HPV Vaccination
Extrapolating the prior pyramid with projections of vaccine efficacy based on Australian data

- **Cervical cancer**
  - 46% reduction in CIN2/3 requiring LEEP
  - 75% if vaccination by age 14

- **92% reduction in genital warts**

- **35% reduction in CIN1**
Higher effectiveness with vaccination at younger ages.

% Reduction in cervical dysplasia 5 years after vaccination, by age at vaccination

Source: Gertig DM, BMC Med 2013
Success Coverage in Australia

80% of school-age girls in Australia are fully vaccinated

High-grade cervical lesions have declined in women less than 18 years of age

For vaccine-eligible females, the proportion of genital warts cases declined dramatically by 93%

Genital warts have declined by 82% among males of the same age, indicating herd immunity
<table>
<thead>
<tr>
<th>Outcome</th>
<th>%</th>
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<tbody>
<tr>
<td>Baseline acceptance</td>
<td>88%</td>
</tr>
<tr>
<td>Daughters Vaccinated</td>
<td>31%</td>
</tr>
<tr>
<td>Missed Opportunities</td>
<td>51%</td>
</tr>
<tr>
<td>Refused vaccination (male partners declined and fear of side effects)</td>
<td>18%</td>
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Key considerations for HPV vaccination

1. Different age group than routine infant vaccination
2. Identifying size of the target population and where they are
3. Implications for communication and social mobilizations
4. New delivery platforms and a combination of strategies
5. HPV vaccination and integrated approaches
HPV vaccine delivery is opportunity to strengthen primary health care of adolescents

Joint delivery of HPV vaccine with other interventions e.g. other vaccines, deworming, menstrual hygiene education, hand washing, malaria education and bed nets, physical activity promotion
Support and drive policy implementation

Integration support

Resource Mobilization

Support service transition process
Partnership & Team Approach is key to success