Global Mapping of STIs, HIV, and Unplanned Pregnancy: Where Do These Epidemics Intersect?

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Multipurpose Prevention Technologies (MPTs): Developing interventions to simultaneously prevent STIs, HIV and pregnancy
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Presentation Outline
- Project Objectives
- Methodology
- Indicators
- Maps & Findings
- Limitations
- Implications

Objectives
- Examine the global distribution of HIV, unintended pregnancy, HSV-2 & HPV
- Determine where these issues have the greatest geographical overlap
- Review the strengths and limitations of the available data and surveillance systems

Methods
- Conduct key informant interviews and a literature search
- Review the limitations of the available data and surveillance systems
- Select indicators for SRH risks
- Determine where these issues overlap through mapping and principal components analysis

Indicators
1. HIV prevalence among women 15+
   - Data Source: UNAIDS 2013 prevalence estimates

   Strengths
   - Standardized data makes countries comparable
   - Robust surveillance systems

   Limitations
   - Unpublished or regional estimates substituted for small number of countries with missing (generally those with small populations)
2. Herpes simplex virus type 2 (HSV-2) prevalence among women 15-49

**Data Source:** Looker et al. 2015*

**Strengths**
- Literature review of data from 2000 to 2012
- Pooled prevalence estimates for six regions

**Limitations**
- No country level data
- HSV-2 surveillance varies

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3. HPV prevalence among cytologically normal women aged 15-49

**Data Source:** HPV Information Centre* & 2010 Bruni et al. meta-analysis**

**Indicator Strengths**
- Regional estimates based on meta-analysis
- Inclusive of all HPV types (not just high risk)
- Limiting to women with normal cytology gives approximation of distribution in general population

**Indicator Limitations**
- Mixed country- and regional-level data
- Data quality inconsistent
- HPV is a transient infection

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4. Unmet need for modern methods of contraception

**Data Source:** UNPD 2012 country-level estimates

**Indicator Strengths**
- Proxy measure for gap between women's reproductive intentions and their use of highly effective contraception
- Available for most countries
- Focus on modern methods emphasizes effectiveness for pregnancy protection

**Indicator Limitations**
- Not self-defined, may not indicate desire to use contraception
- Only captures women married or in union
Principal Components Analysis

- Data reduction technique to extract most important information
- HSV-2 and HIV highly correlated
- Constructed two key components
  - STIs
  - Unmet need for modern contraception
- Mapped results to capture all indicators
Key Findings

- Greatest potential impact in Sub-Saharan Africa
- Specific countries vary by MPT product and indication
  - Uganda
  - South Africa
- MPTs have potential across contexts

STI Data Limitations

Bacterial & Parasitic STIs

Prevalence of Curable STIs among Females, by WHO region, 2008

Need for higher quality and more granular STI data

Adolescents & Young Adults

- Burden of many STIs greater among young women
- Desire for MPT indications will vary by life stage

Case Studies: Kajiata & Angie

- Age 33, married
- 6 children
- Husband spends time out of the village and she accepts he is unfaithful
- Husband will not use a condom

- Age 27
- Not in a committed relationship
- Currently taking oral contraception
- Doesn’t always use a condom

Implications

- Broad, population-level overview of overlapping burdens to identify regions of high need
- Need for additional research, including subpops and qualitative, user-focused research
- Expansion of pipeline related to non-HIV STIs
- Guide strategic planning and investment in MPTs

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