



Southern African HIV Clinicians Society 3rd Biennial Conference

13 - 16 April 2016
Sandton Convention Centre
Johannesburg

**Our Issues, Our Drugs,
Our Patients**

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Mapping of Pap smear quality and results using routinely collected South African health facility data

Caroline Makura

14 April 2016

Kathryn Schnippel, Pamela Michelow, Carla Chibwasha, Bridgette Goieman,
Suzette Jordaan, Cynthia Firnhaber



2016

Background

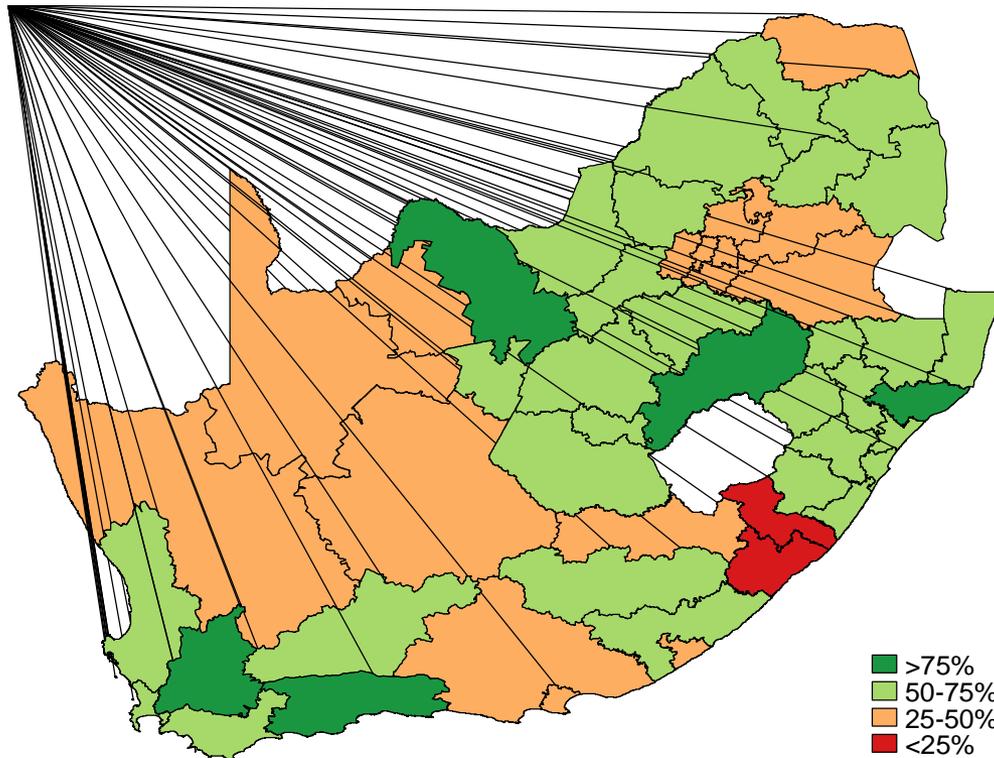
- Second most common cancer in women yet we can easily screen and prevent [International Agency for Research on Cancer, 2012]
- Affects 1/41 women and an estimated 8 women die from cervical cancer daily [National Cancer Registry (NCR) 2009]
- Rate of cervical dysplasia is **5X higher** in HIV-infected women [NIH National Cancer Institute, 2011]
- Pap smears are the most commonly used screening method for early detection
 - If lesions are found, treatment such as LEEP or cryotherapy can be performed

Methodology

- Routinely reported facility data collected by the National Health Laboratory Service (NHLS)
- Facility-level data extracted for April 2013 -March 2014
- 791,067 total slides collected across 4562 facilities
- Choropleth map is a thematic map in which areas are shaded in proportion to a statistical variable
- Choropleth maps represented for:
(1) Pap smear coverage (2) Pap smear quality (3) High-grade cytologic abnormalities



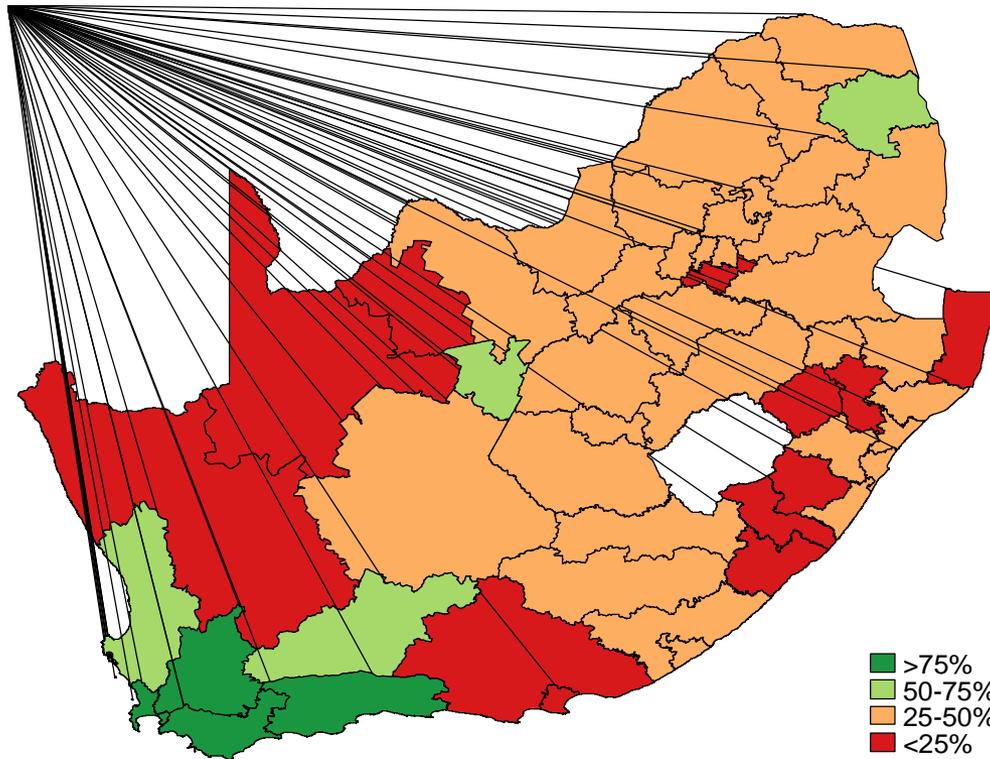
Pap smear coverage: Overall women



- WHO recommends 3 smears per lifetime with a 10-year interval between each smear
- First Pap smear done at age 30
- Median 56% (44-67%)
- 18/52 districts < 50%
 - 2/52 districts <25%

Coverage defined as: proportion of total Pap smears done out of population estimate for each district

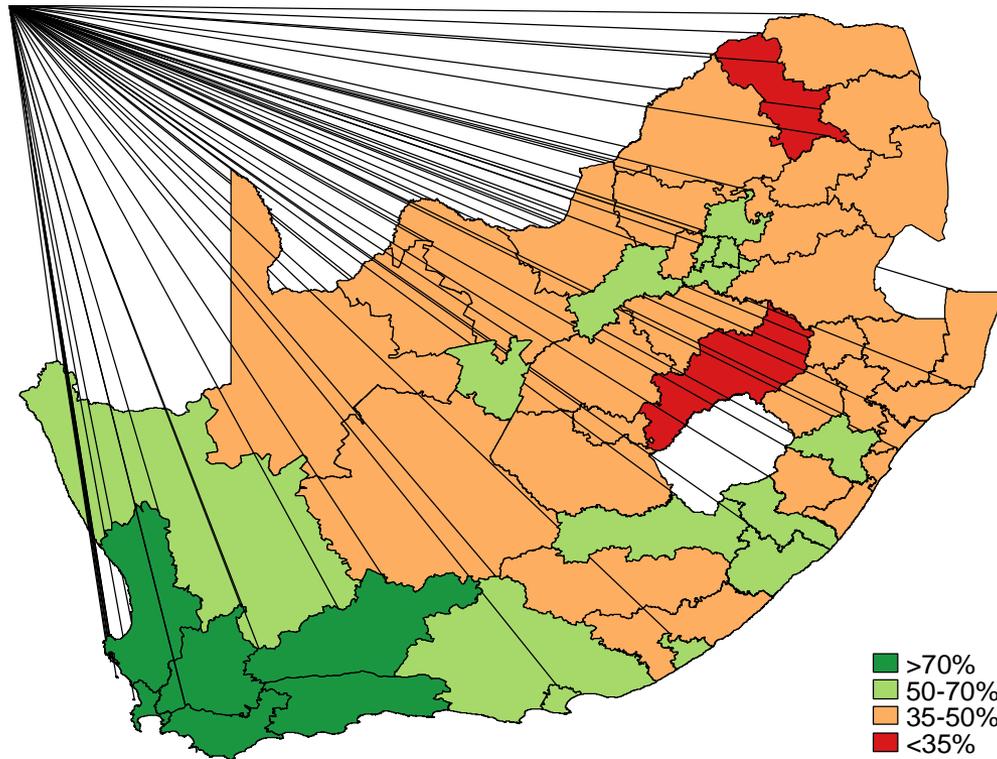
Pap smear coverage: HIV-infected women



- 2010 South Africa guidelines recommend screening every 3 years in HIV-infected women
- 2014 South Africa guidelines recommend annual screening
- District HIV estimated prevalence rate applied
- Median 31% (26-41)%
 - 44/52 districts < 50%

Coverage defined as: proportion of assumed HIV infected Pap smears done out of population estimated HIV-infected women aged 25 years

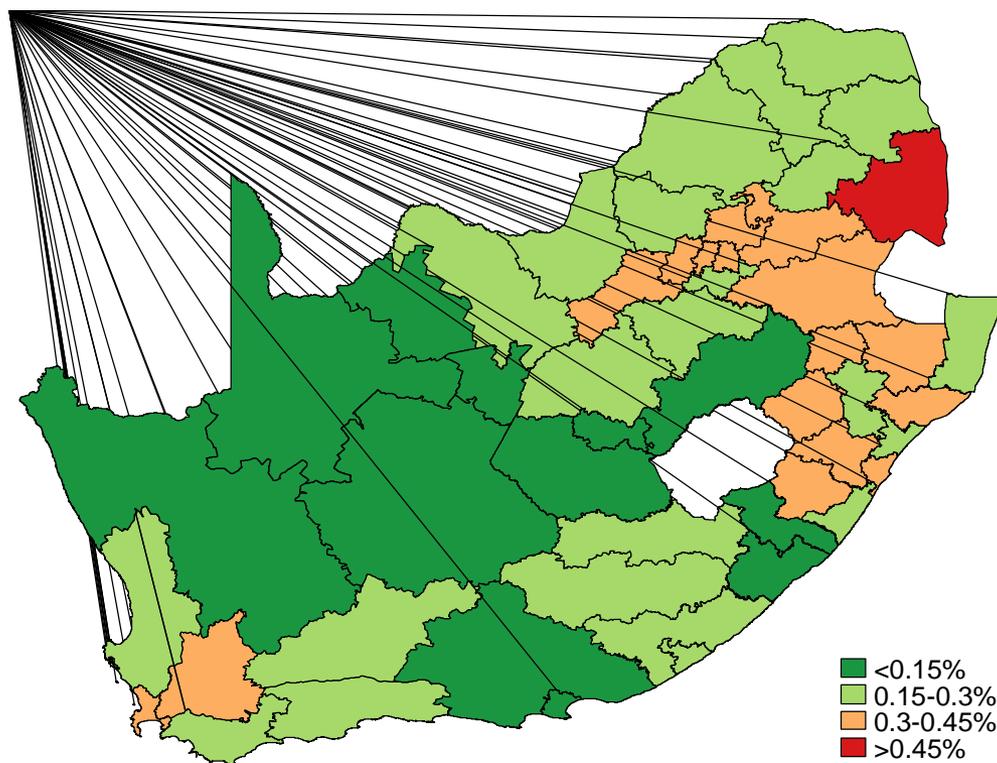
Pap smear adequacy: Overall women



- An adequate smear should contain both ecto- and endo-cervical cells
- Department of Health National standard = 70%
- Median 47% (44-56%)
 - 6/52 districts > 70%
 - 27/52 districts 35-50%
 - 2/52 districts < 35%

Adequacy rate defined as: percentage of specimens with endo-cervical component present over the number of specimens where endo-cervical cells expected

High-grade abnormalities: Overall women



- High grade results classified as:
 - suspicious for invasive carcinoma; or
 - high-grade squamous intraepithelial lesions (HSIL); or
 - atypical squamous cells: cannot exclude HSIL (ASC-H)
- 17/52 districts >0.3%
 - 1/52 districts >0.45%

Cytology results: not disaggregated by HIV status

Limitations

- Dataset does not record the total number of times a women presents for a Pap smears
- Pap smear coverage in HIV infected women based on self reporting of HIV status
- Pap smear cytology results not disaggregated by HIV status

Conclusions / Implications

- Coverage of Pap smear screening is far below targets
- Quality of Pap smears below target:
 - Inadequate Pap smears increase the risk of false-negative diagnosis and should be repeated
 - Increased burden on clinics and women
- Regional disparities in cytology results should be investigated
- Additional treatment needed for women with abnormal Pap smear results

Thank you

Acknowledgements:

NHLS for granting access to the national cervical cancer database
Pam Michelow and Suzette Jordan for facilitating access to the NHLS database and reviewing the abstract

Tinyiko Ngobeni at NHLS CDW for database export
Cindy Firnhaber and Carla Chibwasha for editing, consolidation and reviewing the abstract
Bridgette Goieman for reviewing the abstract

Kate Schnippel for data planning, analysis consolidation and report editing

Carol Makura for data analysis and report write up

Research Unit - Right to Care for facilitating the research project



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Disclaimer: This presentation is made possible by the support of the American people through the United States Agency for International Development (USAID). The contents are the sole responsibility of Right to Care and do not necessarily reflect the views of USAID or the United States Government.



2016