

Integration of Care and Treatment for Multi-Morbidities into HIV Care

Sten H. Vermund

CIRA AIDS Science Day 2023
and 25th anniversary symposium

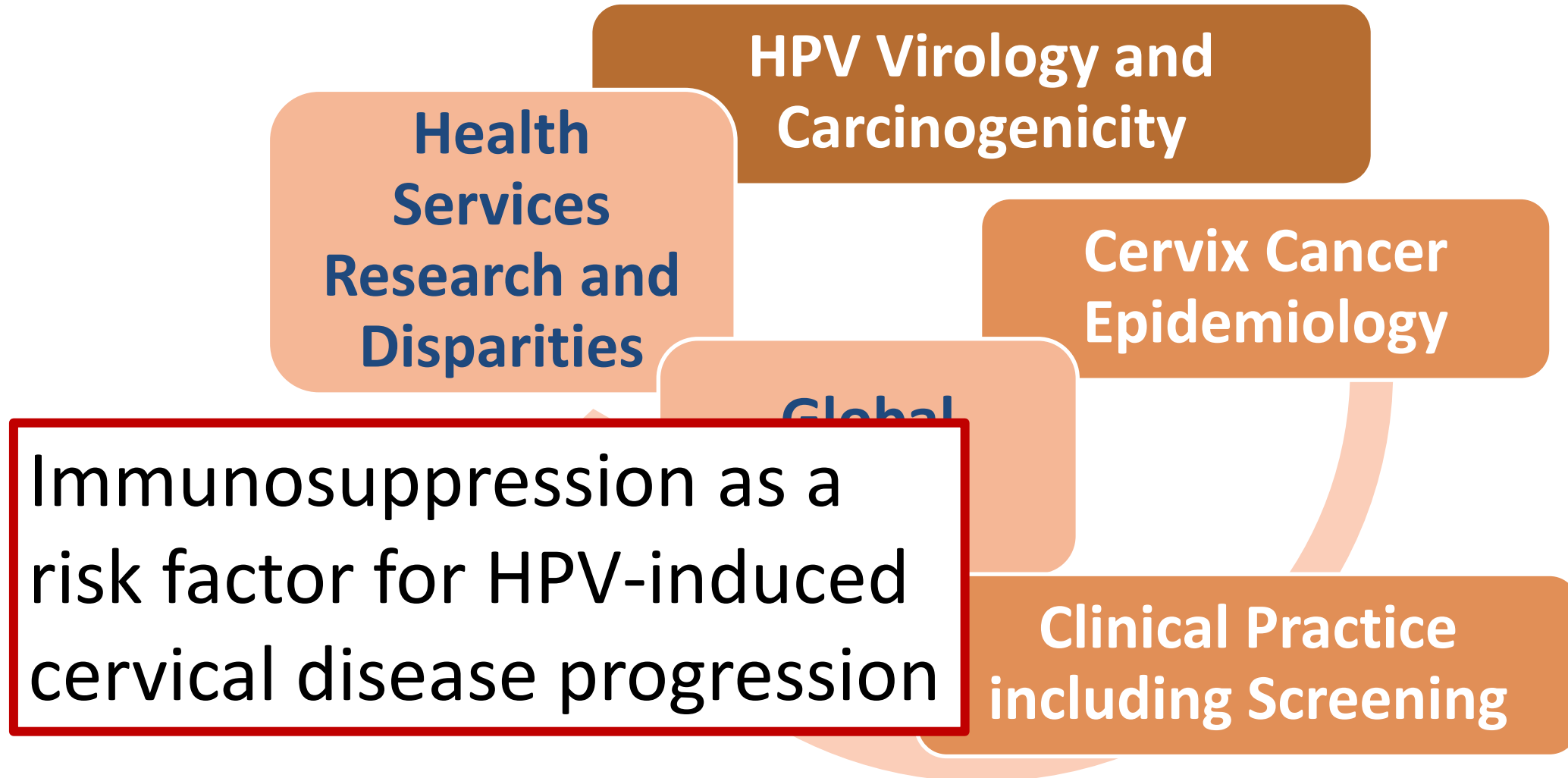
PEPFAR

- Massive impact on global HIV/AIDS incidence and mortality
 - Over \$100 billion since 2003
 - Sub-Saharan Africa focus, complemented by The Global Fund
- Vertical programmatic focus on HIV prevention, testing, and treatment generate concerns about sustainability
 - Failure to fully integrate with national primary care programs
 - Concerns about community and political base of support

1: Brault MA, Vermund SH, Aliyu MH, Omer SB, Clark D, Spiegelman D. Leveraging HIV care infrastructures for integrated chronic disease and pandemic management in Sub-Saharan Africa. *Int J Environ Res Public Health* 2021;18(20):10751.

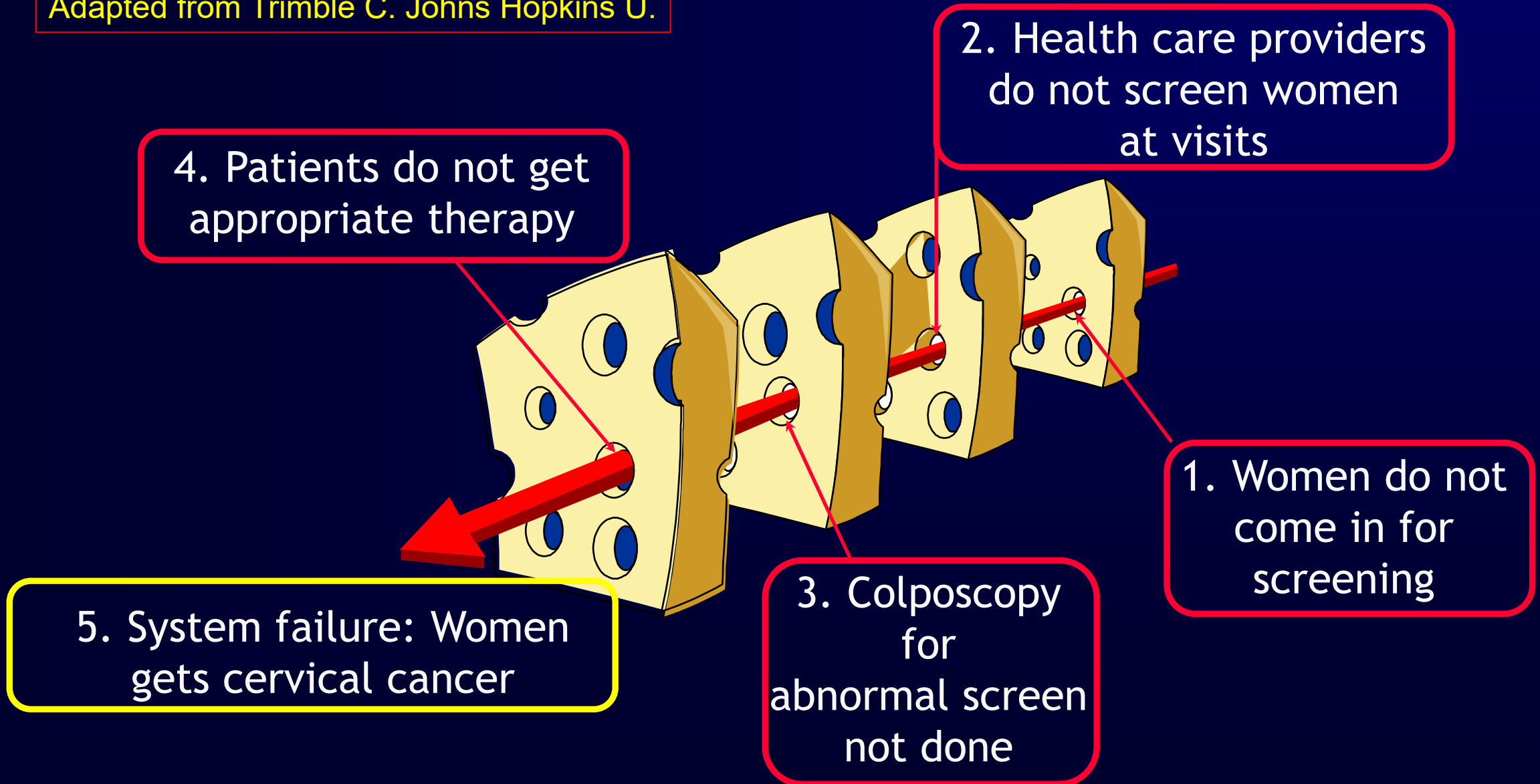
2: Vermund SH, Sidat M, Weil LF, Tique JA, Moon TD, Ciampa PJ. Transitioning HIV care and treatment programs in southern Africa to full local management. *AIDS* 2012;26(10):1303-10.

Discovery in the HPV-cancer arena



System Failure Leading to Cervical Cancer Diagnosis

Adapted from Trimble C. Johns Hopkins U.



Global Cervical Cancer Prevention

- Almost completely preventable by screening and HPV vaccine
 - HPV testing
 - Pap smear
 - Visual inspection with acetic acid (VIA)
- We know what to do in a clinic, however **How do we bring a program “to scale” in real world settings?**

Global Cervical Cancer Crisis Table, 2012

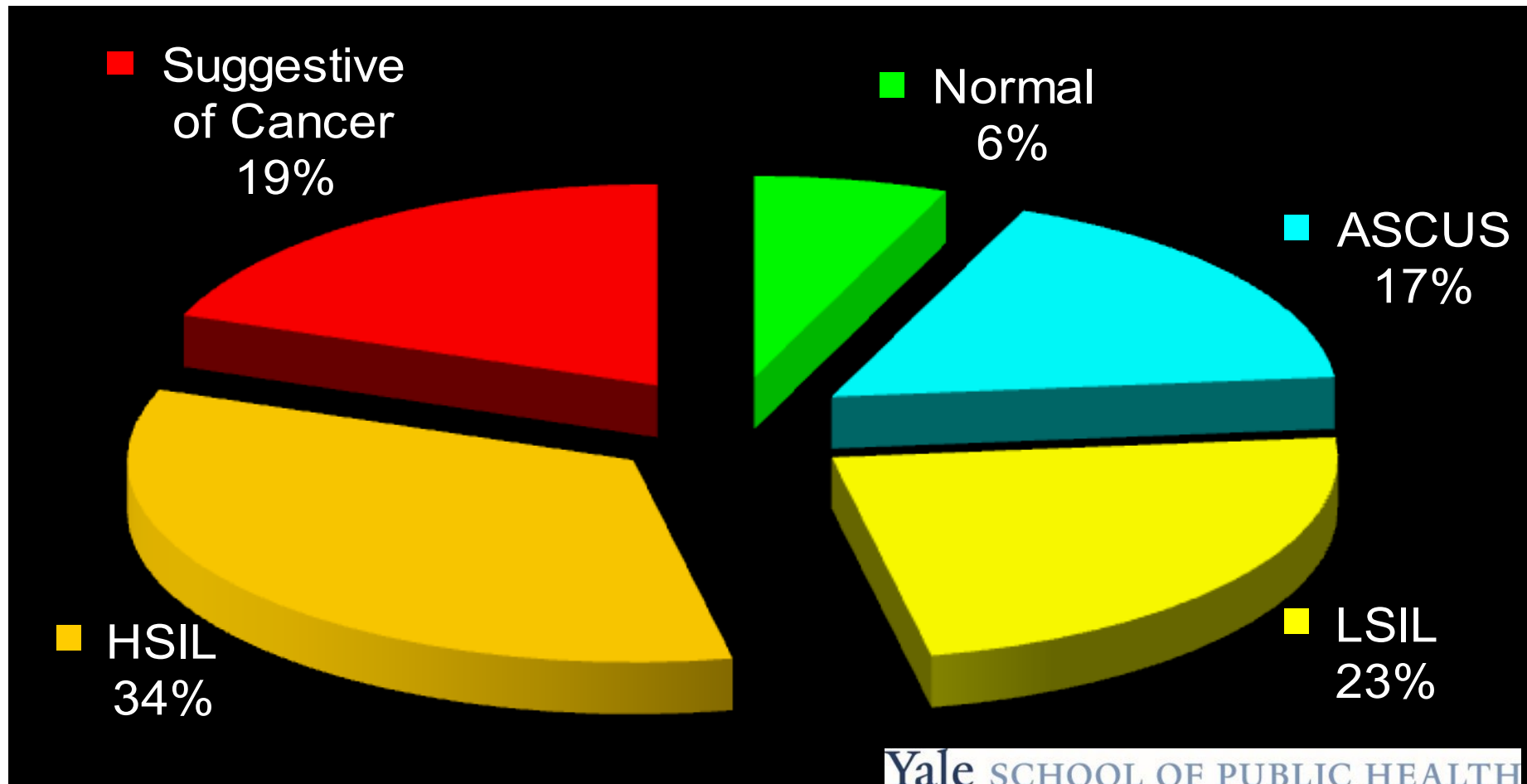


Country	Rank	Mortality Rate/100,000
Zambia	1	39
Malawi	2	38
Tanzania	3	38
Uganda	4	35
Mozambique	5	35
Zimbabwe	6	33
Mali	7	28
Ghana	8	28
Rwanda	9	25
Nigeria	10	23

Prevalence and predictors of squamous intraepithelial lesions of the cervix in HIV-infected women in Lusaka, Zambia

Groesbeck P. Parham ^{a,b,*}, Vikrant V. Sahasrabudde ^c, Mulindi H. Mwanahamuntu ^d,
Bryan E. Shepherd ^c, Michael L. Hicks ^e, Elizabeth M. Stringer ^{a,b}, Sten H. Vermund ^{b,c}

Gynecol Oncol 2006; 103: 1017-22

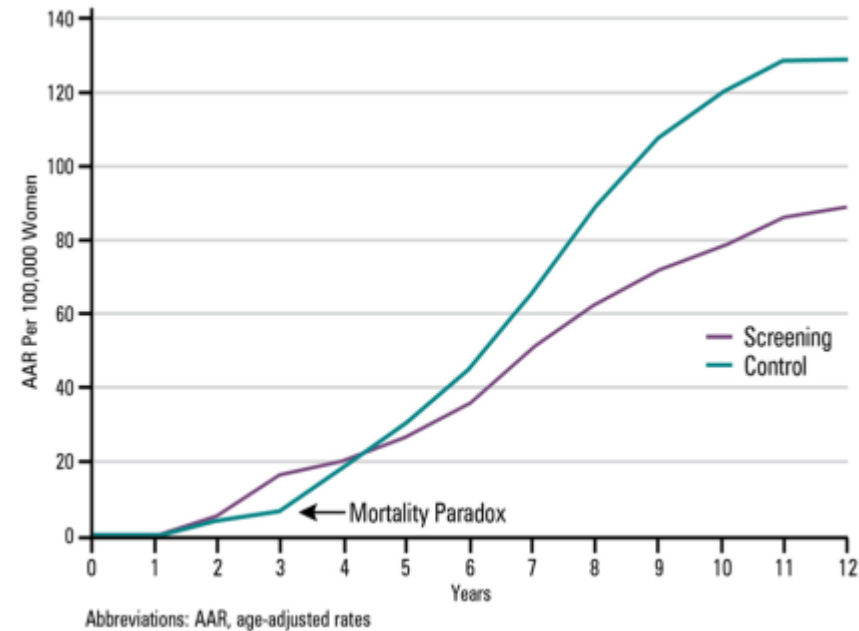


Improving screening in low-resource settings

Visual inspection with acetic acid (VIA)



Nurse taking a digital cervical photograph post VIA

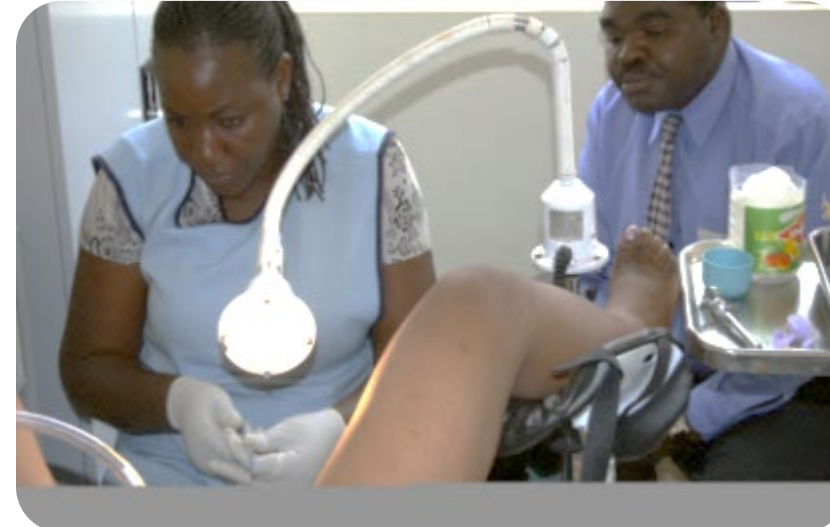


RCT evidence of a long-term mortality benefit of VIA-screening
(Shastri SS, et al. *J Natl Cancer Inst* 2014)



Low cost!

Nurses are the backbone of the cervical cancer prevention program



First phase of rapid expansion: VIA and digital cervicography

Implementation of 'see-and-treat' cervical cancer prevention services linked to HIV care in Zambia

Mulindi H. Mwanahamuntu^{a,b,c}, Vikrant V. Sahasrabudde^d,
Krista S. Pfaendler^{c,e,g}, Victor Mudenda^{a,b}, Michael L. Hicks^f,
Sten H. Vermund^d, Jeffrey S.A. Stringer^{c,g} and
Grosbeck P. Parham^{c,g}

AIDS 2009; 23: N1-N5

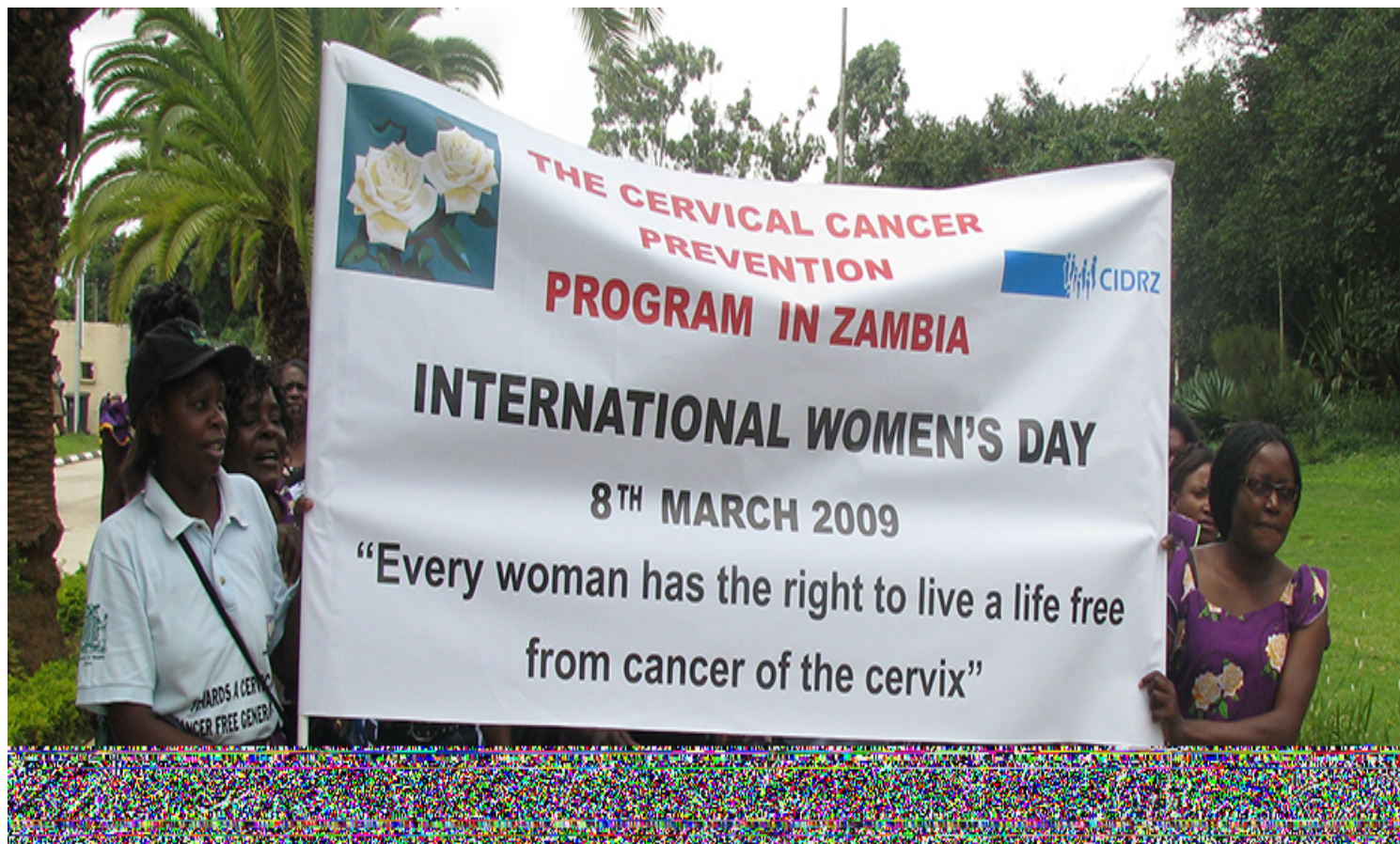


Communication and social mobilization

- Regular meetings with Ministry of Education
- Continued media orientation
- Great investment (time and funds) into social mobilization
- Continued community and individual engagement within existing sociocultural contexts
- Gender and equity considerations
 - Rural vs. Urban
 - In- vs. Out-of-school
 - HIV+ vs. HIV negative (including HPV vaccine 3 vs 2 dose considerations)

Health Fairs





Parham GP, et al. PLoS One 2015;10(4):e0122169.

Kapambwe S, et al. J Acquir Immune Defic Syndr 2015;70(1):e20-6.

Mwanahamuntu MH, et al. Int J Gynaecol Obstet 2014;126(1):88-89.

Mwanahamuntu MH, et al. . PLoS One 2013;8(9):e74607.

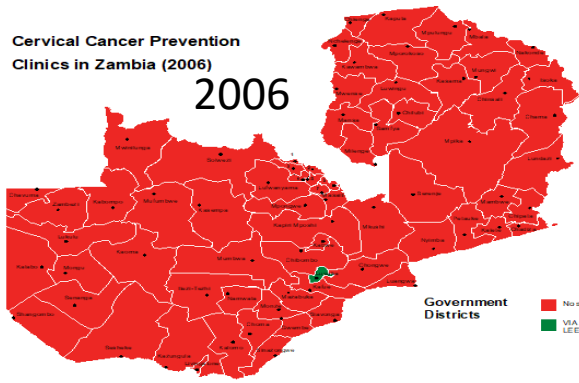
Parham GP, et al. HIV Ther 2010;4(6):703-722.

Lessons learned: Implementation Science in Cervical Cancer Prevention

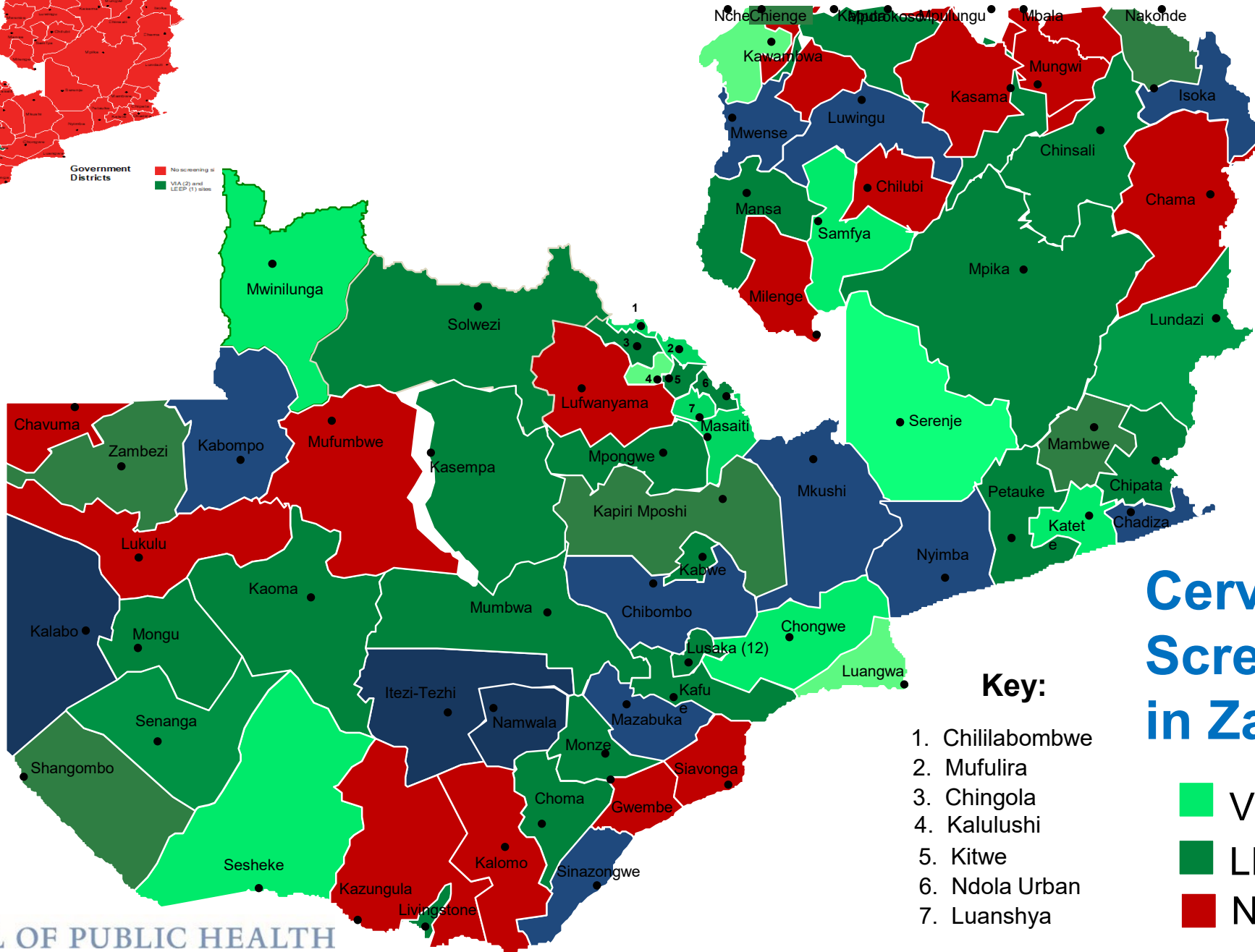
- To develop cancer prevention programs in LMICs, it is smart to piggyback on ongoing global health implementation programs (e.g., PEPFAR)
- Task shifting to nurses and clinician support by telemedicine.
- Community mobilization and peer-to-peer support systems vital for broader community-level acceptance
- Build capacity for cancer Rx (“don’t screen if you can’t treat”)
- **Bottom-line**
 - Saving lives with sustained efforts at modest cost!
 - We need vaccines to “turn off the tap”



2006



Government Districts
 No screening at all
 VIA (2) and LEEP (1) sites



Cervical Cancer Screening Clinics in Zambia (2017)

Key:

1. Chililabombwe
2. Mufulira
3. Chingola
4. Kalulushi
5. Kitwe
6. Ndola Urban
7. Luanshya

- VIA only
- LEEP and VIA
- NO SCREENING



Sept. 13, 2011: Launch of the **Pink Ribbon Red Ribbon®** Initiative Dr. Groesbeck Parham with Dr. Anthony Fauci, Ambassador Eric Goosby, Dr. Beatrice Wiafe Addai, and the moderator (George W. Bush Institute, Komen Global Alliance, & UNAIDS)

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PLOS MEDICINE

Health in Action

Advancing Cervical Cancer Prevention Initiatives in Resource-Constrained Settings: Insights from the Cervical Cancer Prevention Program in Zambia

Mulindi H. Mwanahamuntu^{1,2}, Vikrant V. Sahasrabuddhe³, Sharon Kapambwe^{1,2}, Krista S. Pfaendler⁴, Carla Chibwasha^{1,5}, Gracilia Mkumba^{1,2}, Victor Mudenda², Michael L. Hicks⁶, Sten H. Vermund³, Jeffrey S. A. Stringer^{1,5}, Groesbeck P. Parham^{1,2,5*}

PLoS Med 2011;8(5):e1001032.

BLIC HEALTH

Cervical cancer screening as a model

- Core primary care services for chronic conditions
 - Basic mental health services (references below)
 - Tuberculosis and other respiratory diseases; Hypertension
 - Essential drugs, including decentralized chemotherapy
- Core public health services for co-morbidities
 - Malaria control; Vaccinations; WASH (water and sanitation)
 - Emergency responses, e.g., COVID-19, Ebola, Zika

1: Wainberg ML, et al. Curtailing the communicability of psychiatric disorders. *Lancet Psychiatry* 2018;5(11):940-944.
2: Oquendo MA, et al. Building capacity for global mental health research: *Lancet Psychiatry* 2018;5(8):612-613.
3: Sweetland AC, et al. Closing the mental health gap in low-income settings *Ann Glob Health* 2014;80(2):126-33.