

Innovations and Frontiers in HPV Self-Sampling

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**MD Anderson
Cancer Center**

Making Cancer History®

**2023 PREVENT CANCER
DIALOGUE**
PREVENTION • SCREENING • ACTION



VIRTUAL
SUMMIT SERIES

Harnessing the Power of
Innovation to Improve
Cancer Prevention and
Early Detection

June 28, 2023

Disclosures

I have no conflicts of interest to disclose.

The global burden of cervical cancer is high



1 new diagnosis every minute
1 new death every 2 minutes

*Cervical cancer
can be prevented*



* and boys in countries where resources allow

90%

of girls* fully vaccinated with HPV vaccine by age 15

70%

of persons screened with a high-performance test

90%

of persons identified with cervical disease receive treatment

*Global Strategy
to achieve the elimination of cervical cancer as a public health problem
(incidence \leq 4 per 100,000 women-years)*

Achieving the 90-70-90 targets by 2030 would result in over 62 million cervical cancer deaths averted by 2120.



How are we going to get there?



HARNESS INNOVATIONS

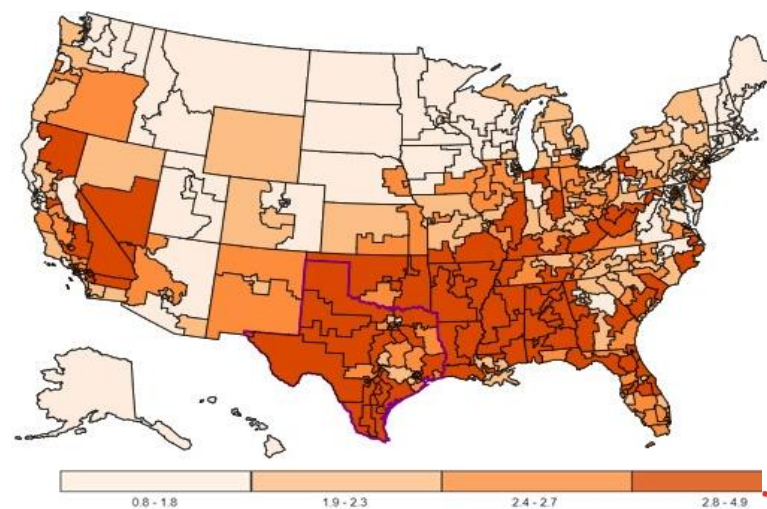
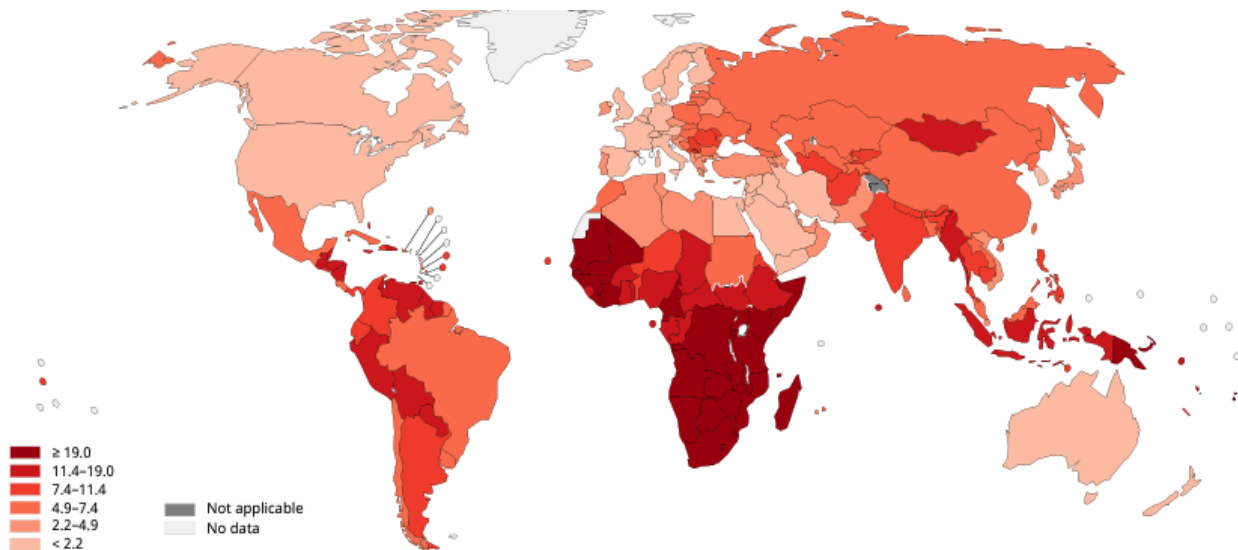
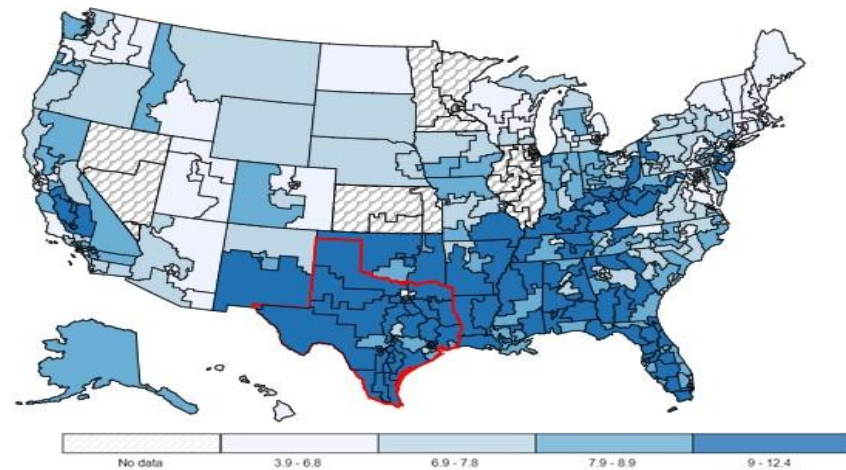
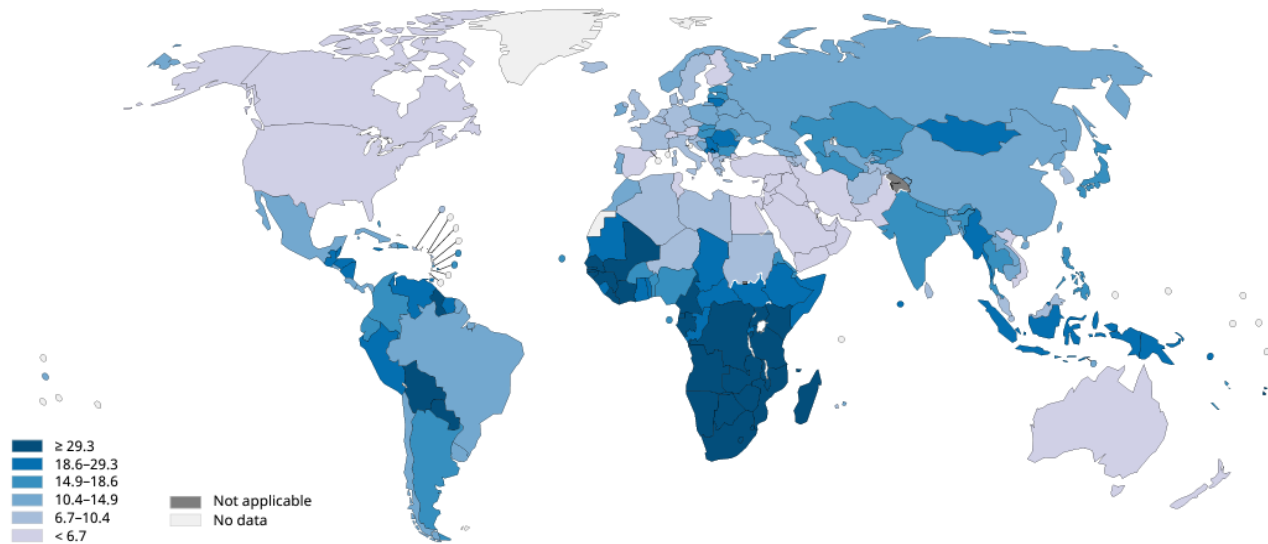


ACCELERATE AND
SCALE-UP IMPLEMENTATION



FOCUS ON EQUITY

Cervix Cancer: A Marker of Global Inequity

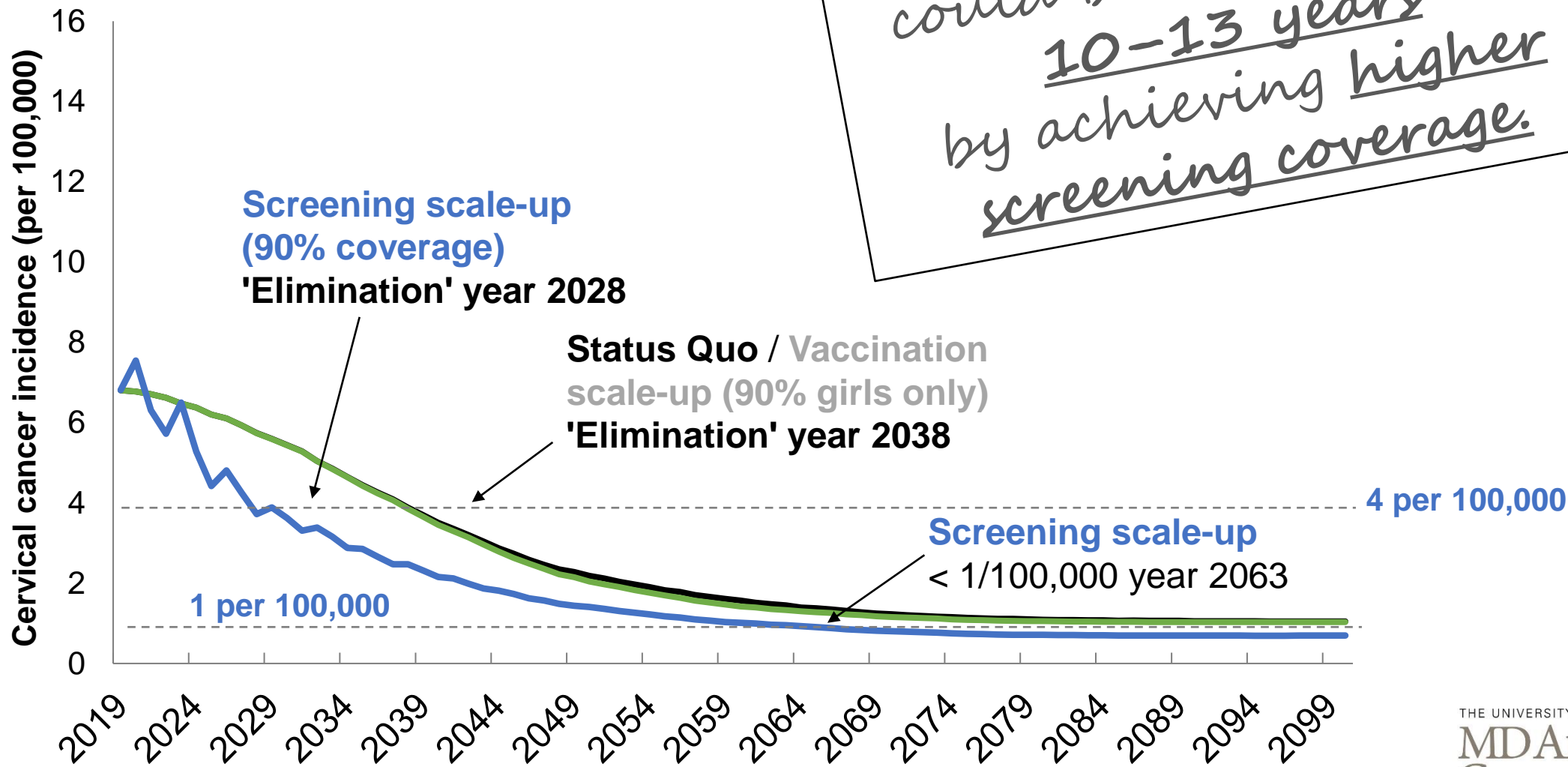


Globocan 2020

CDC 2020

The U.S. is on track to eliminate cervical cancer as a public health problem in the next two to three decades.

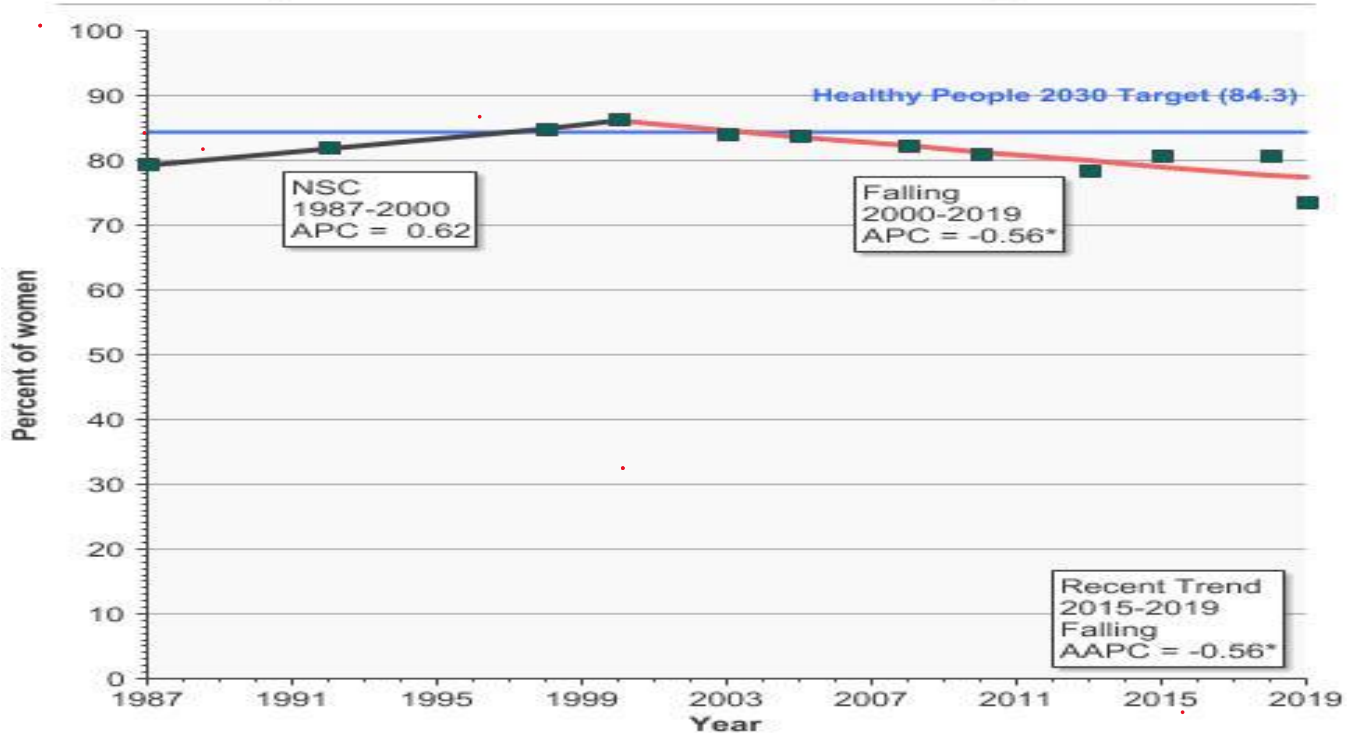
Time to elimination could be expedited by 10-13 years by achieving higher screening coverage.



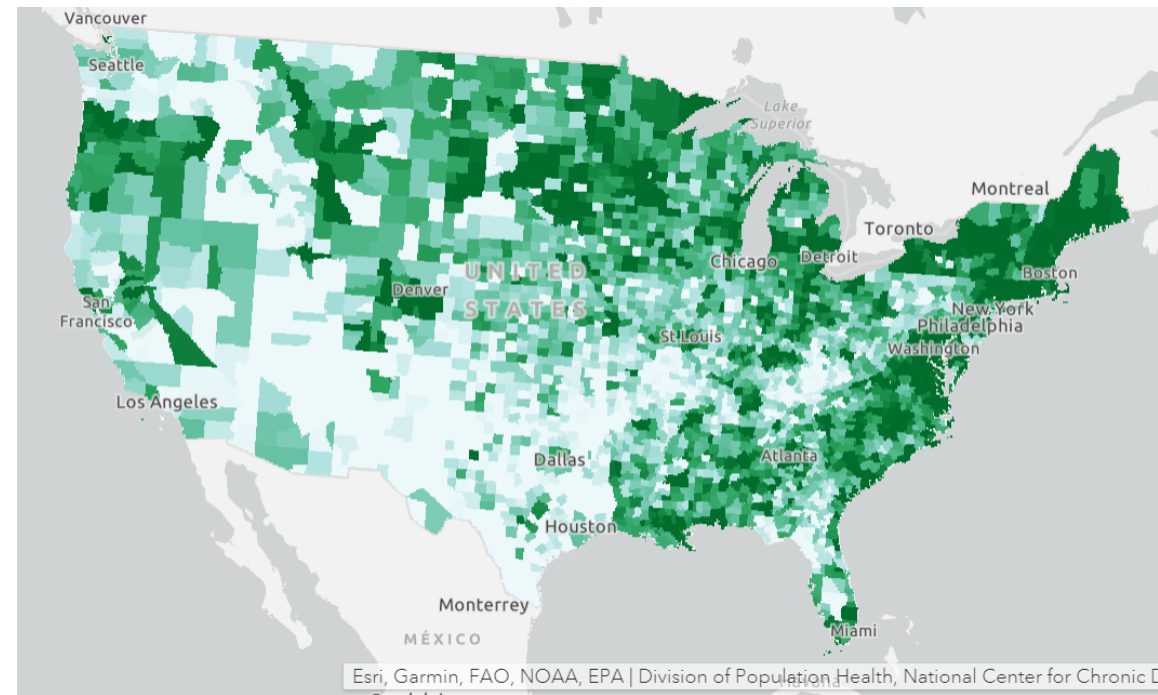
Burger et al, Lancet Public Health, 2020

Unfortunately, cervical cancer screening coverage has declined.

Percent of females aged 21-65 years who were up-to-date with cervical cancer screening, 1987-2019



NCI, 2021
 CDC Cancer Statistics Visualizations, 2022
 Suk et al, Lancet Public Health, 2022



Rates of overdue cervical cancer screening in 2019 by sociodemographic group

Racial and ethnic groups	
Non-Hispanic Black	22%
Non-Hispanic White	20%
Other (including Alaska Native and American Indian)	27%
Geographic groups	
Rural women	26%
Urban women	23%
Health insurance status	
Uninsured	42%
Public insurance	28%
Private insurance	18%

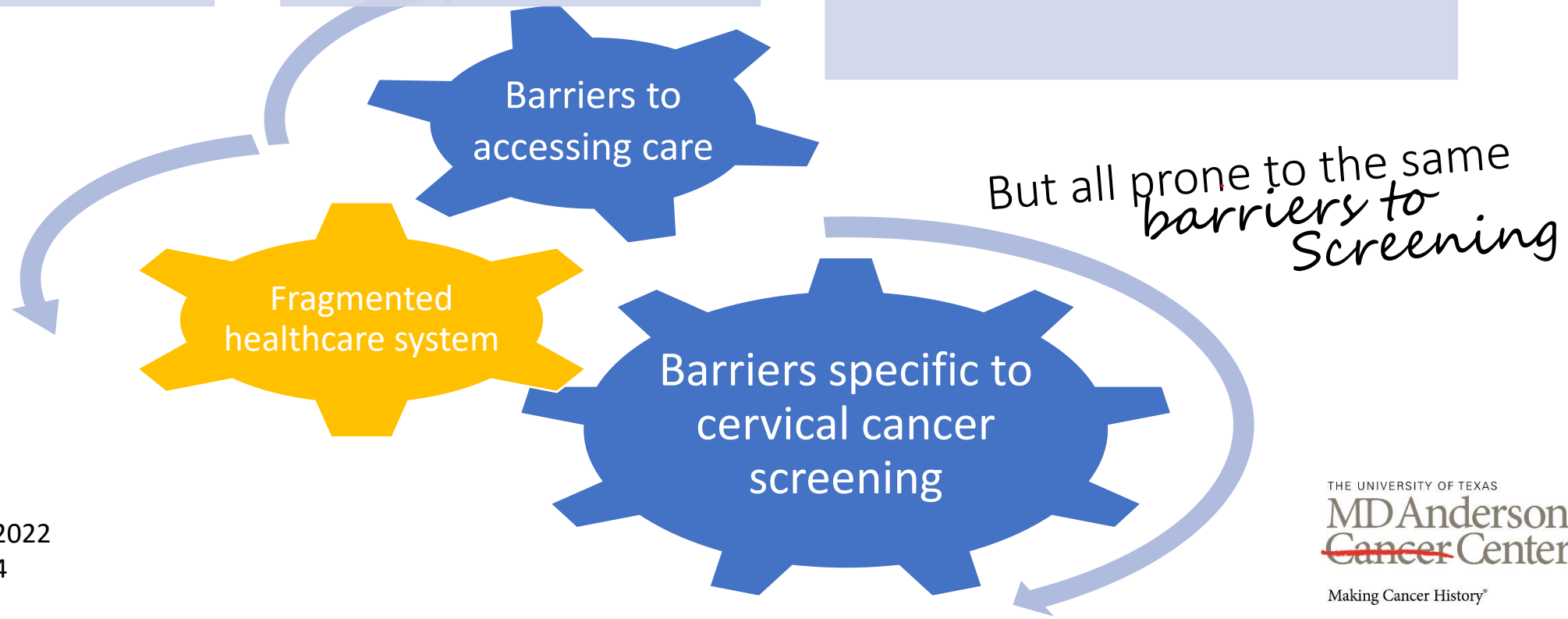
And the disparities are *profound.*

Several test options according to the current *Cervical Cancer Screening Guidelines**

Pap Smear
<ul style="list-style-type: none">• 21-65 Years• Every 3 Years

Pap Smear/High Risk HPV Co-test
<ul style="list-style-type: none">• 30-65 Years• Every 5 Years

PRIMARY High Risk HPV TEST <i>(Preferred)</i>
<ul style="list-style-type: none">• 25-65 Years• Every 5 Years



It's
time

Pap Smear

- 21-65 Years
- Every 3 Years

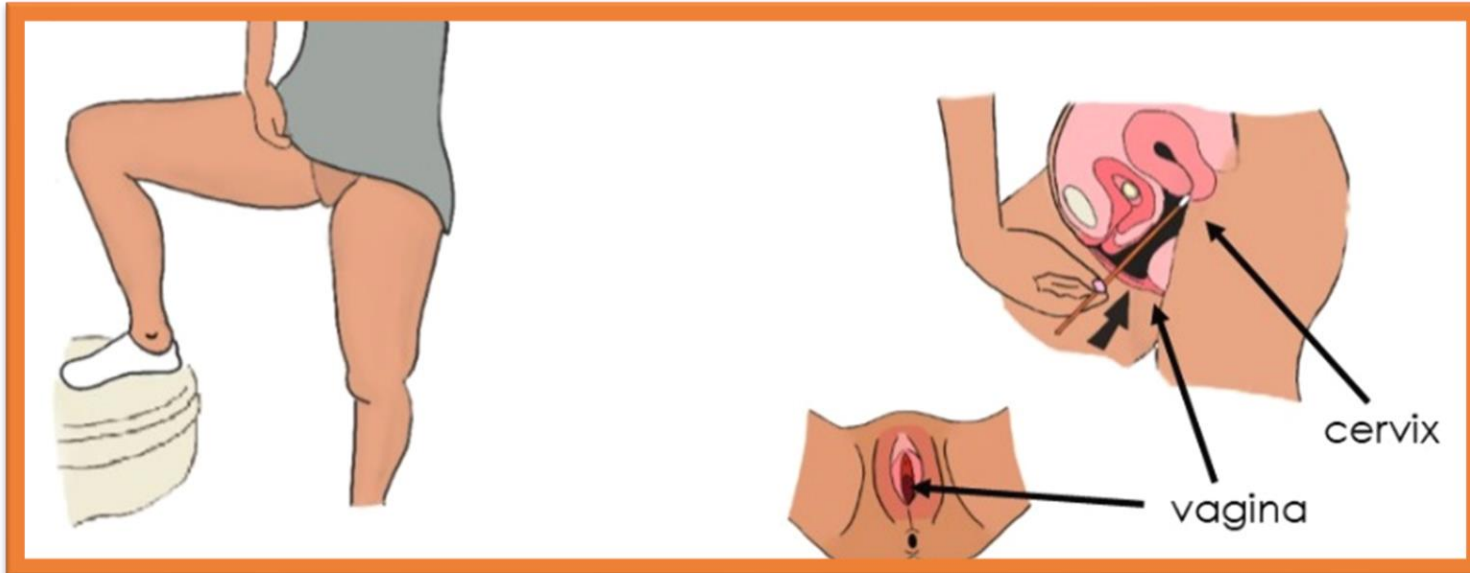
Pap Smear/High Risk HPV Co-Testing

- 30-65 Years
- Every 5 Years

PRIMARY High Risk HPV TESTING (Preferred)

- 25-65 Years
- Every 5 Years
- **Performed on samples collected by a provider or by self**

Paradigm Shift



Shifting Paradigms

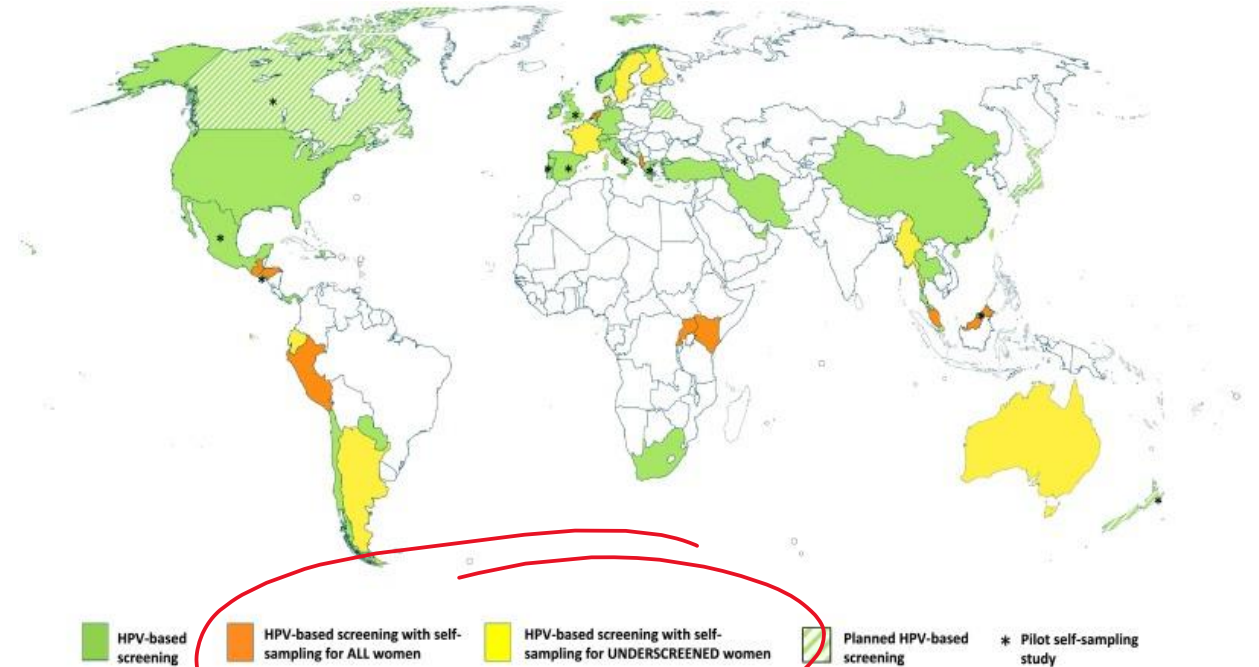
Equivalent sensitivity and specificity for detecting high-grade pre-cancer

	Pooled Estimates
Sensitivity	
Self-collected	96%
Provider-collected	96%
Specificity	
Self-collected	79%
Provider-collected	79%

Increased Participation

	Self-Sampling Participation	Control Participation	Difference	Relative Participation
Mailed kits	24%	10%	13%	2.5
Door-to-Door	93%	53%	39%	1.9
Offer at Clinic	50%	22%	28%	2.3

Self-Sampling in National Cervical Cancer Screening Programs



Arbyn et al, Lancet Oncol, 2018
 Costa et al, Br J Cancer, 2022
 Serrano et al, Prev Med, 2022

Regulatory Landscape of Self-Sampling in the U.S.

Goal: FDA approval of home-based self-sampling

'Last Mile' Initiative by National Cancer Institute

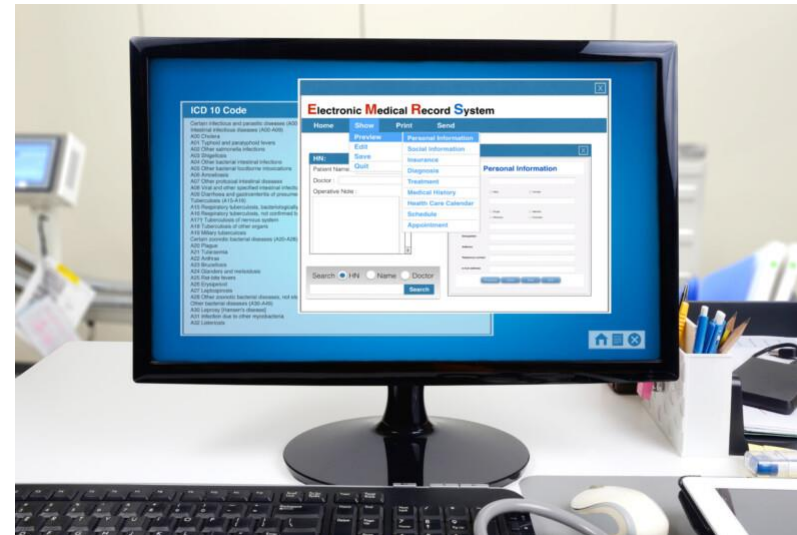
Public-private partnership to validate at-home self-sample HPV testing for FDA approval



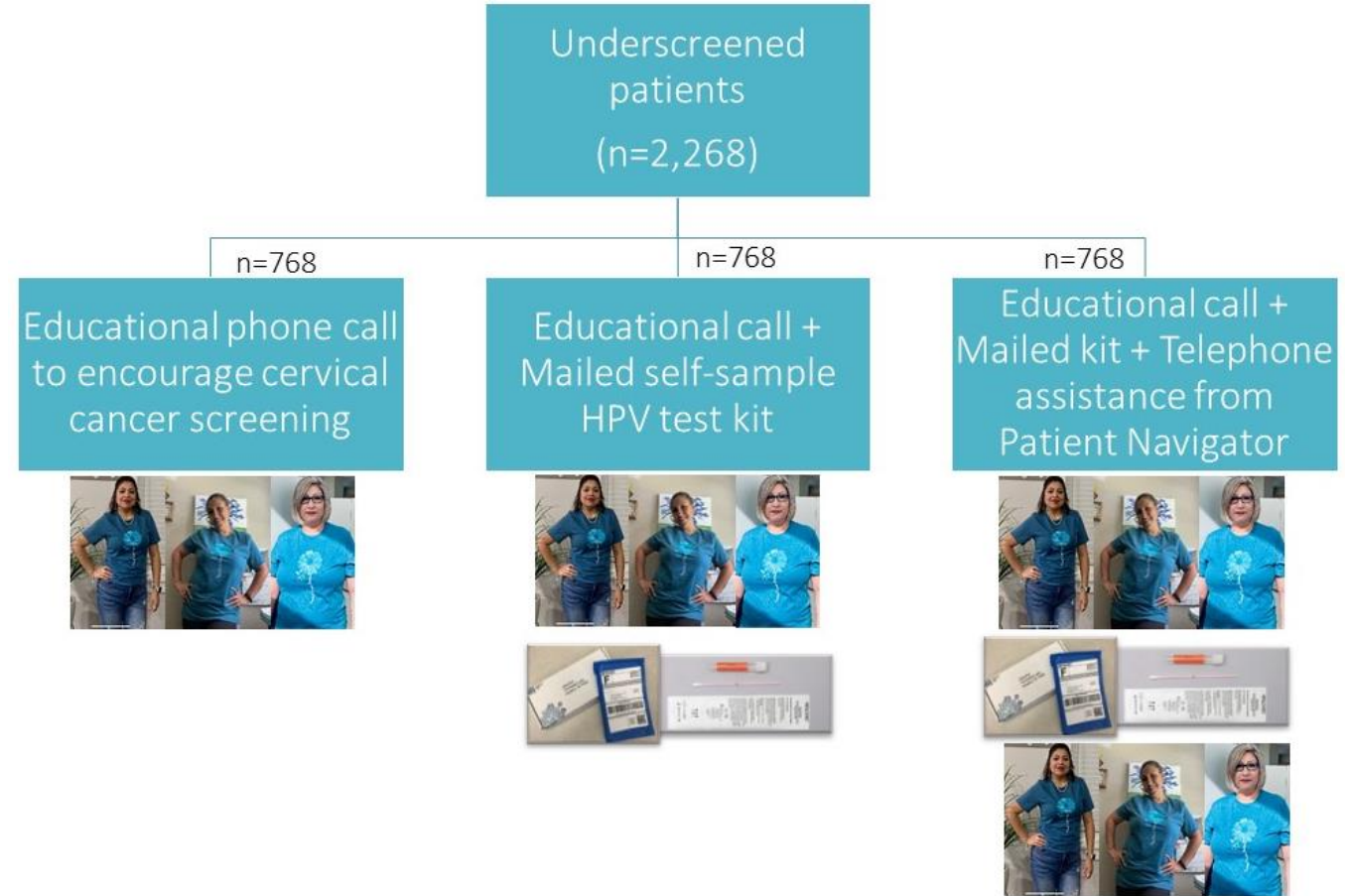
SHIP Trial: Self-Sampling for HPV to Improve Prevention of Cervical Cancer

Anticipated FDA approval: 2024-2025 (?)

New possibilities: Opportunistic Clinic-Based Self-Sampling



New Possibilities: Mailed Self-Sample HPV Testing



New Possibilities: Community-Based Self-Sample HPV Testing



Funding: MD Anderson Community Outreach and Engagement Fund for Underserved Texans (Montealegre)

How do we prepare?



Adopt and
Integrate Primary
HR-HPV Testing



Build capacity
and referral
networks to
provide clinical
follow-up



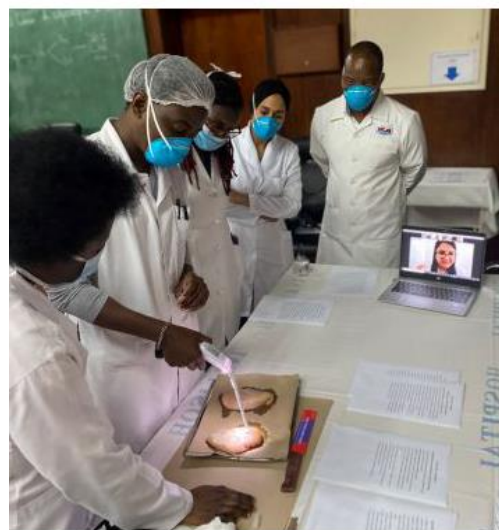
Implement
strategies to
ensure equitable
access to care
along to
screening to
treatment
continuum



Adapt and
develop
strategies to
ensure
contextual fit

CONTINUE TO
INNOVATE

And harness
*the power of
innovation*
to improve cancer
prevention &
achieve health
equity.



Kunrod et al, Science Trans Med, 2023
Salcedo et al, Int J Gyn Cancer, 2019
Smith et al, Lab Chip, 2023

Thank you!
¡Muchas gracias!



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