

The elimination of cervical cancer: How do we get there?

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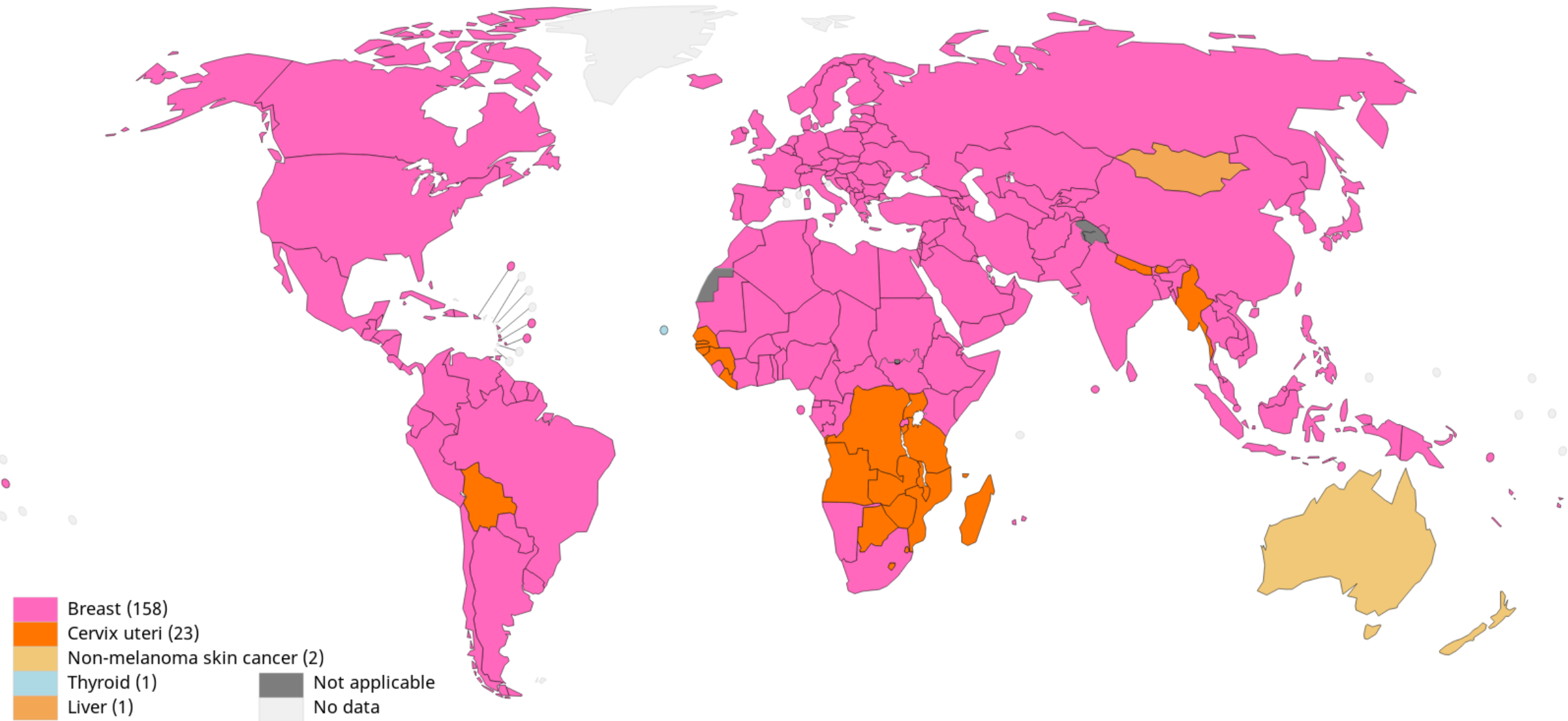
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NYU Grossman School of Medicine

I have no relevant financial relationships within the past 24 months

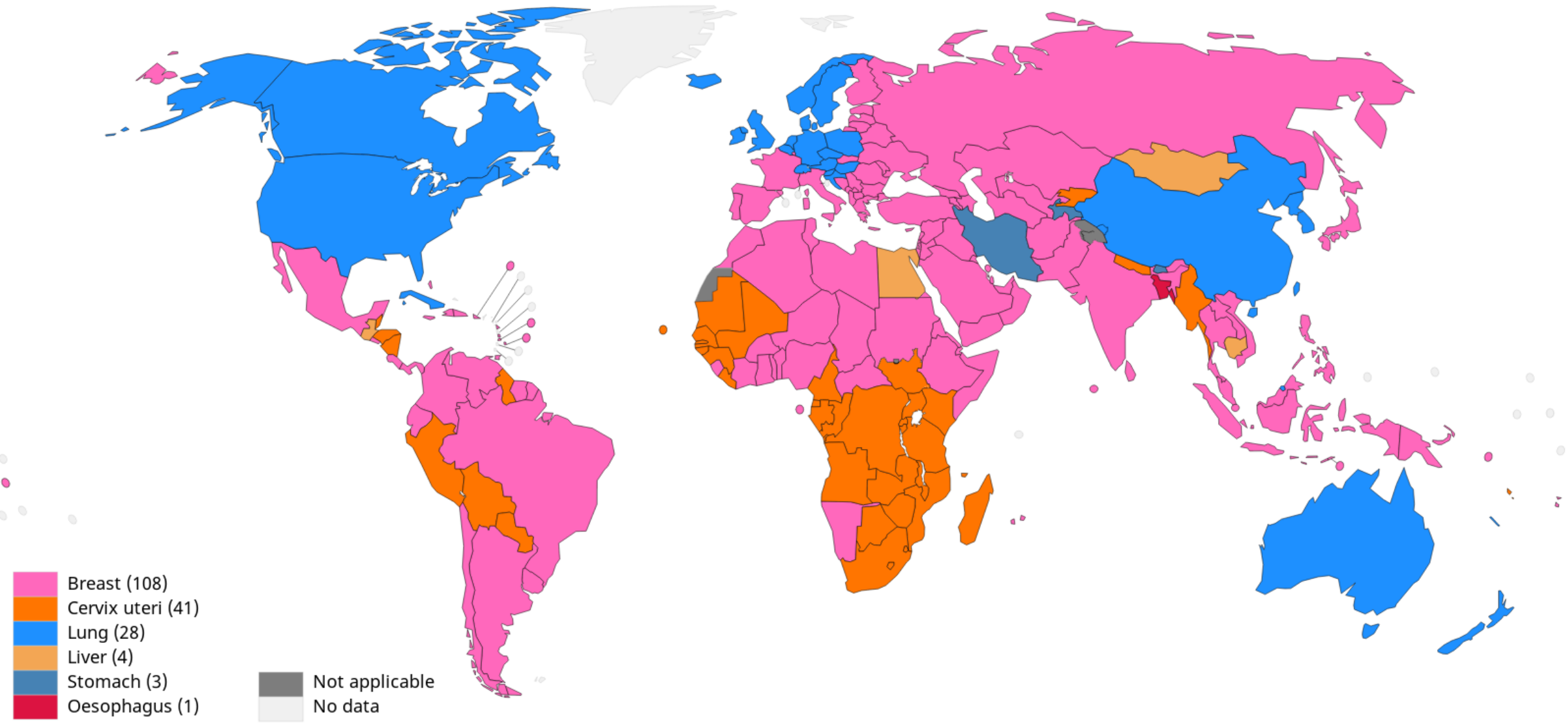
Top cancer per country, estimated age-standardized incidence rates (World) in 2020, females, all ages



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Data source: GLOBOCAN 2020
Graph production: IARC
(<http://gco.iarc.fr/today>)
World Health Organization

Top cancer per country, estimated age-standardized mortality rates (World) in 2020, females, all ages



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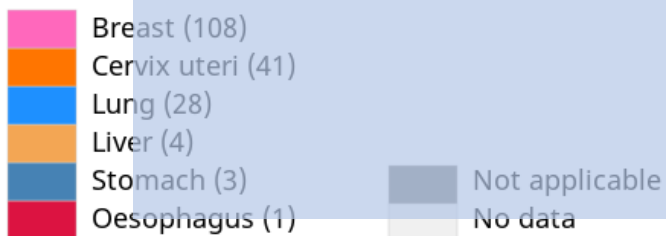
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Almost 9 in 10 women who die of cervical cancer live in a low-income or middle-income country....

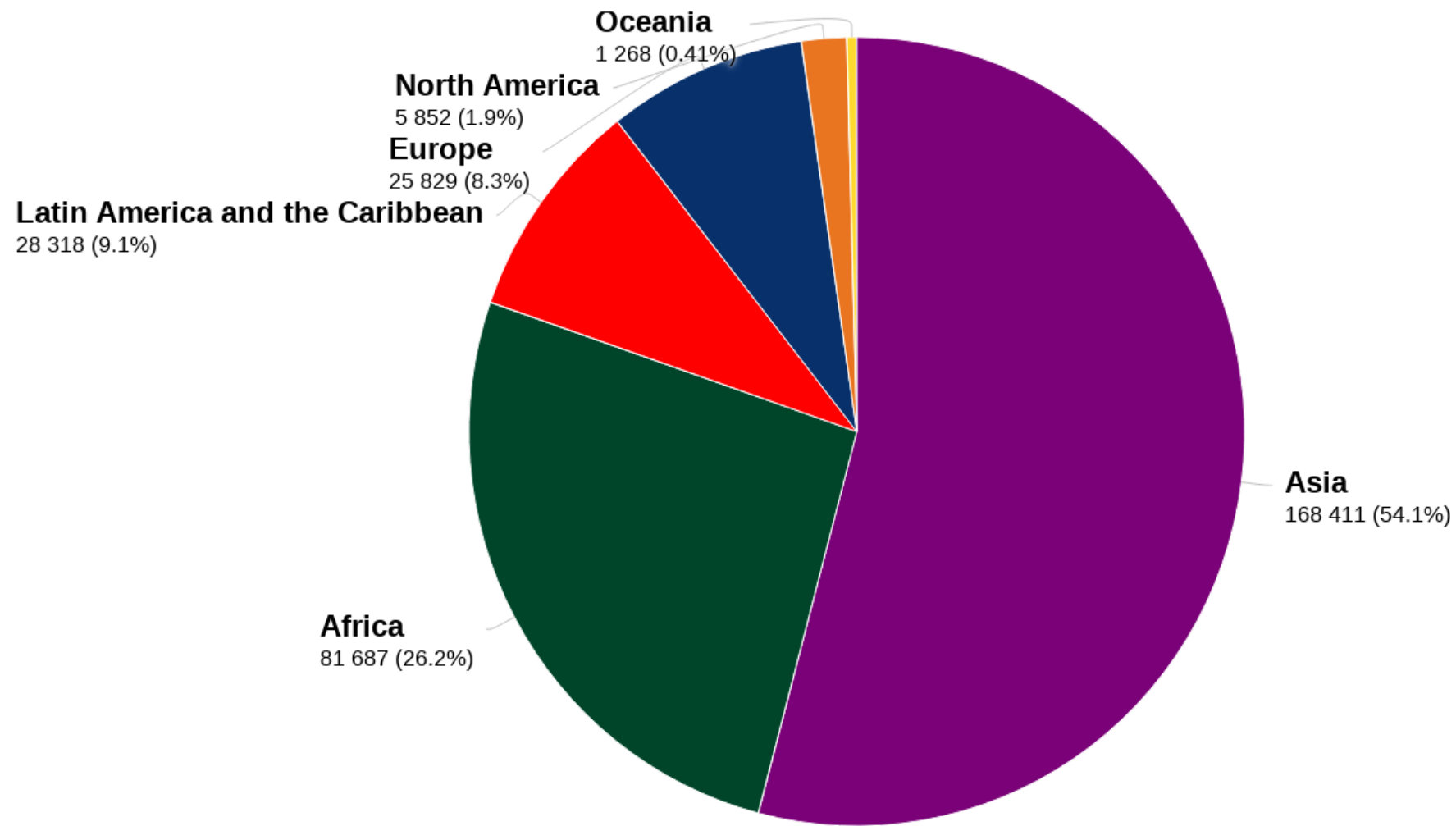
>350 000 women each year.....

1 woman every 2 minutes.....

ALL preventable.....



Estimated number of deaths in 2018, cervix uteri, all ages



Total : 311 365

WHO Director-General calls for all countries to take action to help end the suffering caused by cervical cancer



Woman being screened for cervical cancer in a rural clinic, Kenya

Jonathan Torgovnik



Dr Tedros Adhanom Ghebreyesus
WHO Director - General

“Cervical cancer strikes women in the prime of life. These women are raising children, caring for their families and contributing to the social and economic fabric of their communities.... But it doesn’t have to be this way. Cervical cancer is one of the most preventable and treatable forms of cancer, as long as it is detected early and managed effectively.

***Call to Action to Eliminate Cervical Cancer
Dr Tedros Adhanom Ghebreyesus, WHO Director-General
19 May 2018***

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90/70/90: A Global Strategy for elimination of cervical cancer



To reach elimination, efforts must be aligned and accelerated. Every country must reach the following global targets by 2030:

90% coverage of HPV Vaccination of girls (by 15 years of age);

70% coverage of screening (70% of women are screened with high-performance tests by the ages of 35 and 45 years) and 90% treatment of precancerous lesions;

Management of 90% of invasive cancer cases.

Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries

Karen Canfell, Jane J Kim*, Marc Brisson*, Adam Keane, Kate T Simms, Michael Caruana, Emily A Burger, Dave Martin, Diep T N Nguyen, Élodie Bénard, Stephen Sy, Catherine Regan, Mélanie Drolet, Guillaume Gingras, Jean-Francois Laprise, Julie Torode, Megan A Smith, Elena Fidarova, Dario Trapani, Freddie Bray, Andre Ilbawi, Nathalie Broutet, Raymond Hutubessy*

Canfell, Kim, Brisson et al Lancet 2020;395:591-603

These findings emphasise the importance of acting immediately on three fronts to scale up vaccination, screening, and treatment for pre-invasive and invasive cervical cancer. In the next 10 years, a one-third reduction in the rate of premature mortality from cervical cancer in LMICs is possible, contributing to the realisation of the 2030 UN SDGs. Over the next century, successful implementation of the WHO elimination strategy would reduce cervical cancer mortality by almost 99% and save more than 62 million women's lives.

Canfell K, Kim JJ, Brisson M, et al. Lancet. 2020;395(10224):591-603.

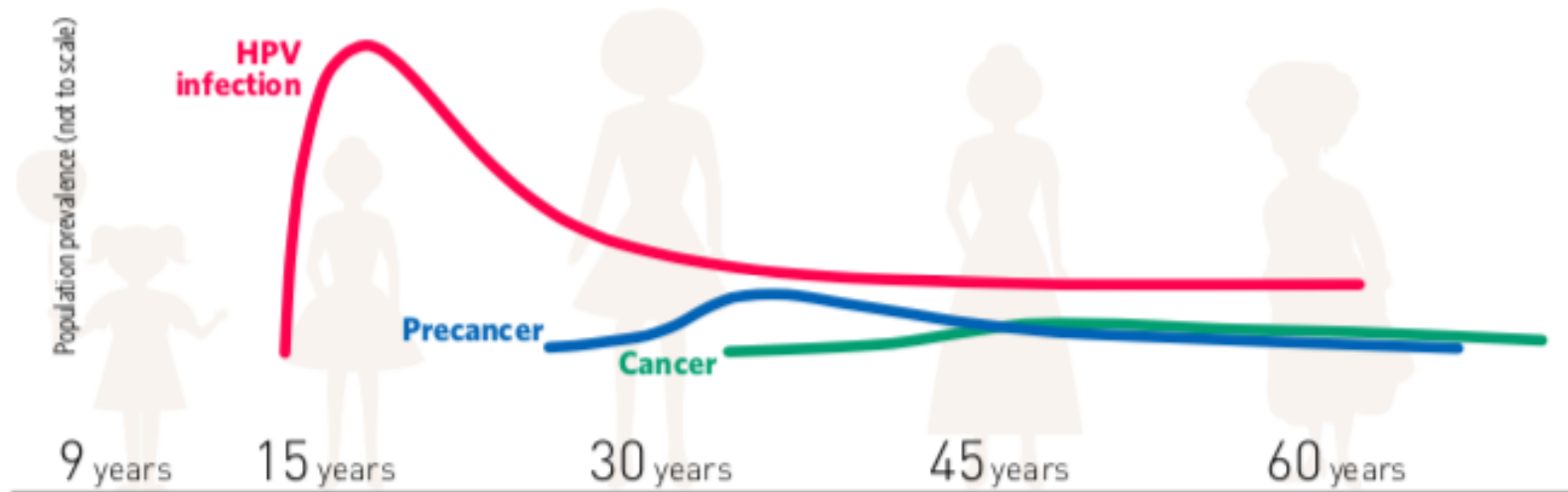
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What will it take to reach elimination targets
in any country?



Figure 1: The WHO comprehensive approach to cervical cancer prevention and control: Overview of programmatic interventions throughout the life course to prevent HPV infection and cervical cancer



PRIMARY PREVENTION
Girls 9-13 years

- HPV vaccination


Girls and boys, as appropriate

- Health information and warnings about tobacco use*
- Sexuality education tailored to age & culture
- Condom promotion/provision for those engaged in sexual activity
- Male circumcision



SECONDARY PREVENTION
Women >30 years of age
Screening and treatment as needed

- "Screen and treat" with low cost technology VIA followed by cryotherapy
- HPV testing for high risk HPV types (e.g. types 16, 18 and others)



TERTIARY PREVENTION
All women as needed
Treatment of invasive cancer at any age

- Ablative surgery
- Radiotherapy
- Chemotherapy



Interventions to close the gap...

- PAP + precancer Rx effective in reducing mortality but only in settings with adequate resources, high functioning health systems
- VIA challenges, cryotherapy difficult to scale
- HPV based testing – the future is now, but still learning: POC, loss to follow-up, and CE but not yet affordable in most settings with highest cervical cancer burden.
- HPV Self-sampling has great potential... could reach hardest-to-reach women
- thermal ablation approved now by WHO as alternative to cryotherapy
- AVE- NIH/NCI-led studies of automated visual assessment, machine learning algorithm, related research pipeline for clinical decision-support etc...

https://www.who.int/health-topics/cervical-cancer#tab=tab_1

<https://obgyn.onlinelibrary.wiley.com/toc/18793479/2021/152/1>

<https://obgyn.onlinelibrary.wiley.com/doi/10.1002/ijgo.13482>

TACKLING NCDs



HPV vaccination of girls and cervical screening & treatment of pre-cancers are considered very cost-effective interventions, or “Best-Buys” by WHO ...

<https://apps.who.int/iris/handle/10665/259232>

Integrated ***people-centred*** health services means putting people and communities, not diseases, at the centre of health systems, and empowering people to take charge of their own health rather than being passive recipients of services.

Evidence shows that health systems oriented around the needs of people and communities are more effective, cost less, improve health literacy and patient engagement, and are better prepared to respond to health crises.

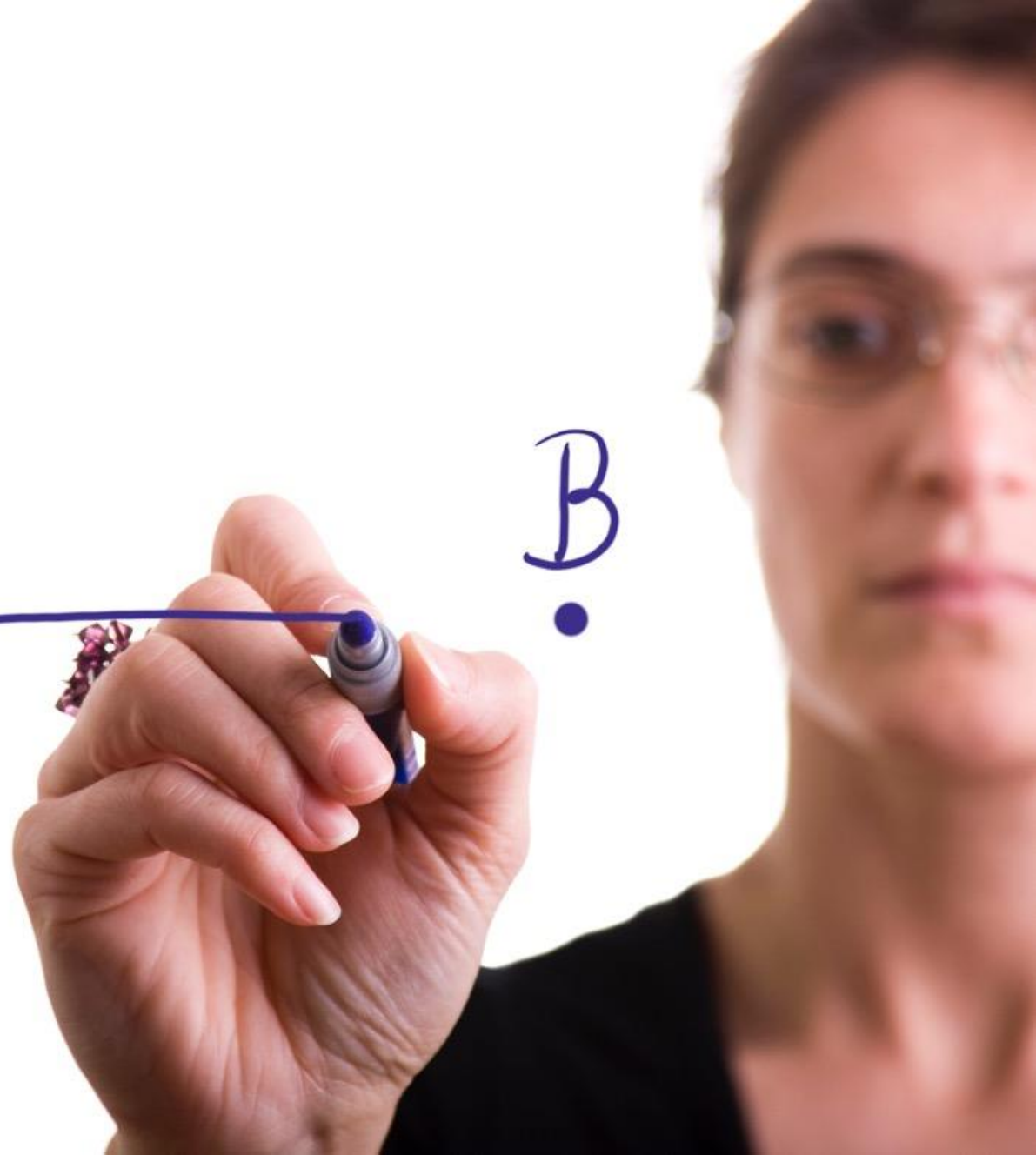
WHO 2016

<https://www.who.int/servicedeliverysafety/areas/people-centred-care/ipchs-what/en/>

**We know
what to do!**



**How do we
overcome
the know-
do gap?**



The role of innovations *and* implementation research



comment

Eliminating cervical cancer in the COVID-19 era

The COVID-19 pandemic, caused by the SARS-CoV-2 coronavirus, poses a clear and present danger to the health and well-being of populations. Here we discuss its indirect impact on global cancer prevention and control efforts, particularly for cervical cancer. We suggest some comparisons between the COVID-19 pandemic and the human papillomavirus-induced cancer burden, as well as opportunities for translating pandemic-control strategies into effective cancer control.

Ophira Ginsburg, Partha Basu, Sharon Kapambwe and Karen Canfell

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If access could be rapidly expanded to most women, premature mortality from cervical cancer would ***drop by one third in a decade.***

Over the longer term, if all three pillars of the WHO cervical cancer–elimination strategy are effectively implemented, ***more than 74 million cases of cervical cancer could be prevented and 62 million women’s lives could be saved over the course of the next century!***

An extended research-and-development pipeline is needed to generate effective and affordable options for HPV vaccines, for self-collected and point-of-care HPV-detection tests, and for more-affordable and more-accessible triaging and diagnostic tests for readily identifying those at highest risk of having pre-cancerous lesions, as well as safe, effective and affordable options for treating women with cervical pre-cancers and invasive cervical cancer.

An effective global partnership of public, private and civil-society organizations is needed now that will transcend political boundaries to accelerate the scale-up of HPV-vaccination programs, the development and global implementation of an HPV-detection test that is as simple, quick and affordable as a pregnancy test, and capacity building for the treatment of invasive cervical cancer.

THANK YOU!