

# Essential Training Package for HPV Vaccine Introduction

## Module 1

### Introduction to HPV Infection & Cervical Cancer Disease Cervarix™



**World Health  
Organization**

# Learning objectives



- At the end of the module, you will have learned to:
  - Explain the incidence & mortality of cervical cancer globally and regionally
  - Explain the cause of most cases of cervical cancer
  - Explain HPV transmission and disease progression
  - Discuss symptoms, prevention and treatment of cervical cancer



- Duration
  - 45'

# Key Issues

**1** What is cervical cancer, its incidence & its mortality?

**2** What causes cervical cancer?

**3** How does HPV infection lead to cervical cancer?

**4** What are the risk factors for cervical cancer?

**5** What are the symptoms, treatment and prevention of cervical cancer?



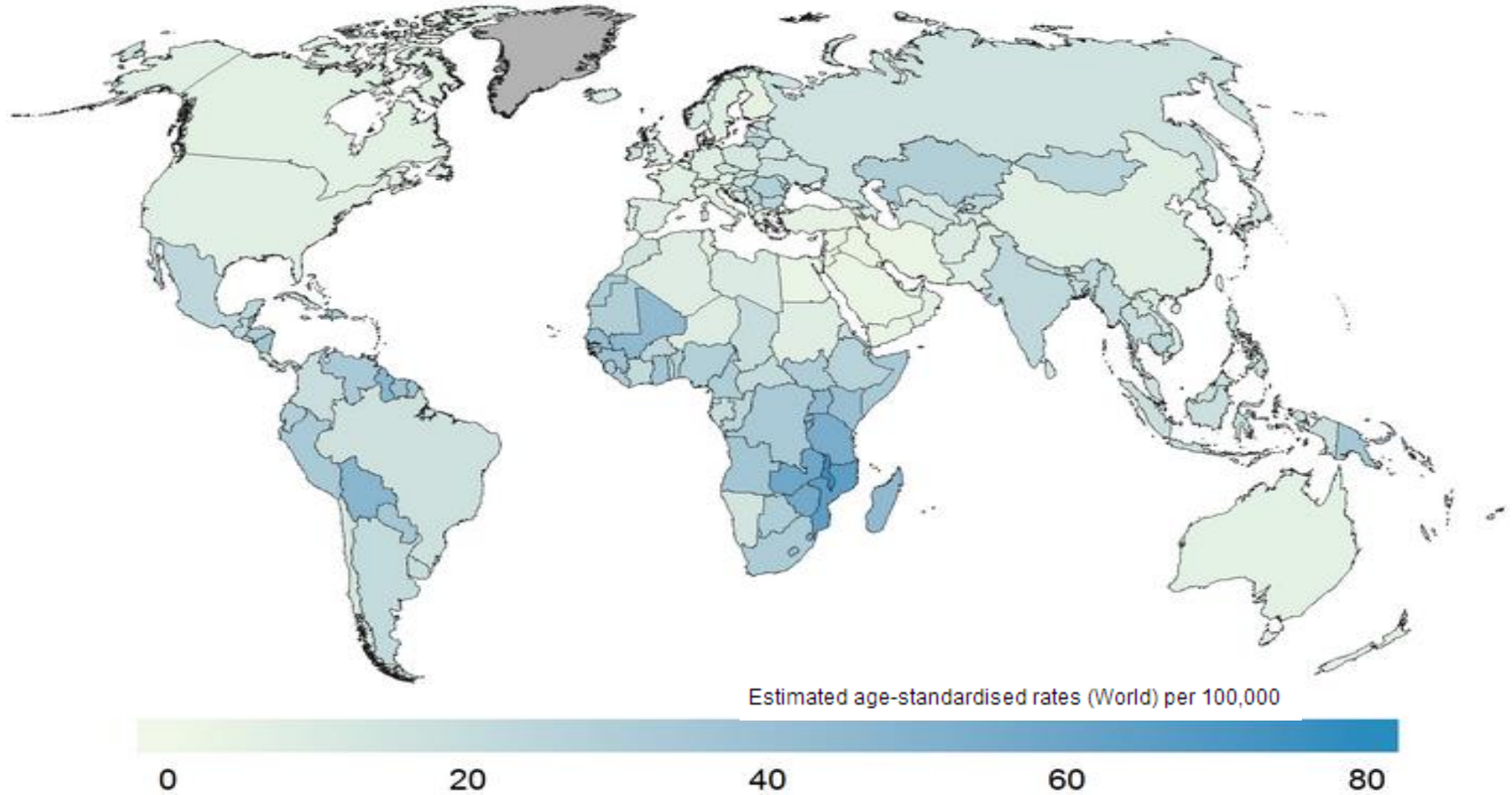
# Global Burden of Cervical Cancer

- The second most common cancer in women
- Every year:
  - 528,000 new cases diagnosed
  - 266,000 deaths
  - Over 85% in developing countries
- By 2050:
  - one million cases
  - 90% in developing countries



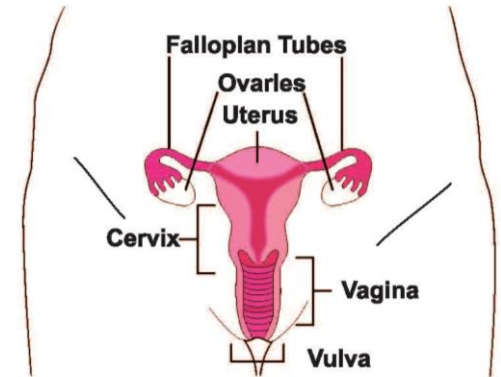
# Introduction

Estimated Cervical Cancer Incidence Worldwide in 2012



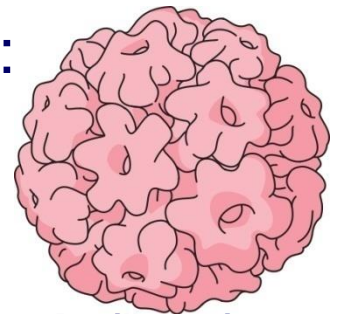
# What is cervical cancer?

- The cervix is the lower part of uterus (womb)
- Cervical cancer is the uncontrolled growth of abnormal cells in the cervix, which usually starts on the surface
- Cervical cancer is invasive, which means it can grow deep into the cervix and uterus
- It can spread to other parts of the body (metastasize) in some cases



# What causes cervical cancer?

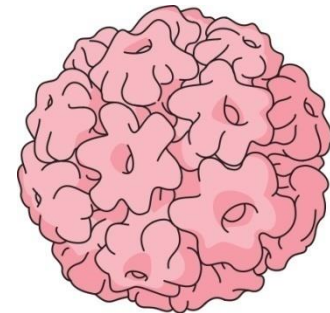
- Human papillomavirus (HPV) is the main cause of cervical cancer
- HPV is a common virus, which is
  - Easily spread by skin-to-skin contact during sexual activity with another infected person
- HPV types 16 and 18 are associated with about 70% of all cervical cancer cases
- Risk factors for HPV infection and cervical cancer:
  - Early sexual intercourse
  - Multiple sexual partners
  - Tobacco use



Human Papillomavirus

# Symptoms of advanced cervical cancer

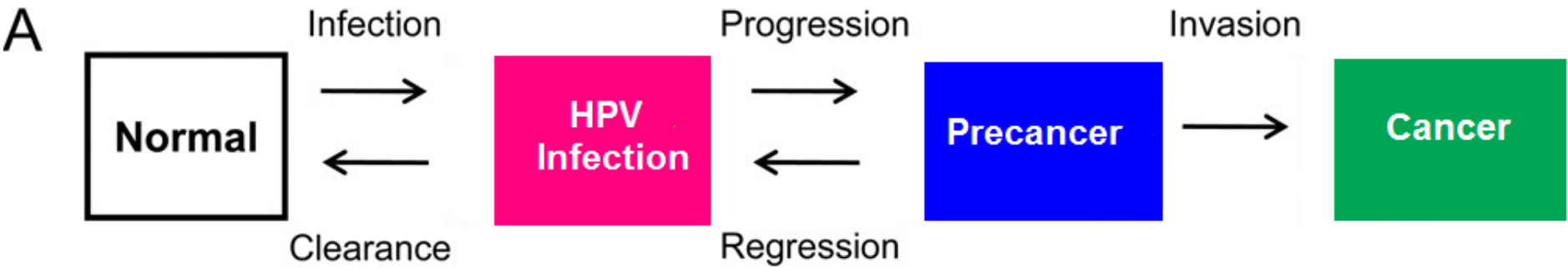
- HPV infection is often asymptomatic
- Symptoms appear after cancer reaches an advanced stage
- Main symptoms include:
  - Irregular vaginal bleeding or bleeding after sexual intercourse
  - Back, leg or pelvic pain
  - Fatigue, weight loss, loss of appetite
  - Vaginal discomfort or odorous discharge
  - Single swollen leg
- More severe symptoms (usually more advanced):
  - Severe anaemia
  - Renal failure
  - Fistulae
  - Lymphoedema



Human papillomavirus



# How does HPV infection lead to cervical cancer?



# Over what timespan does Cervical cancer develop?

**B**

Population prevalence (not to scale)

HPV infection

Precancer

Cancer

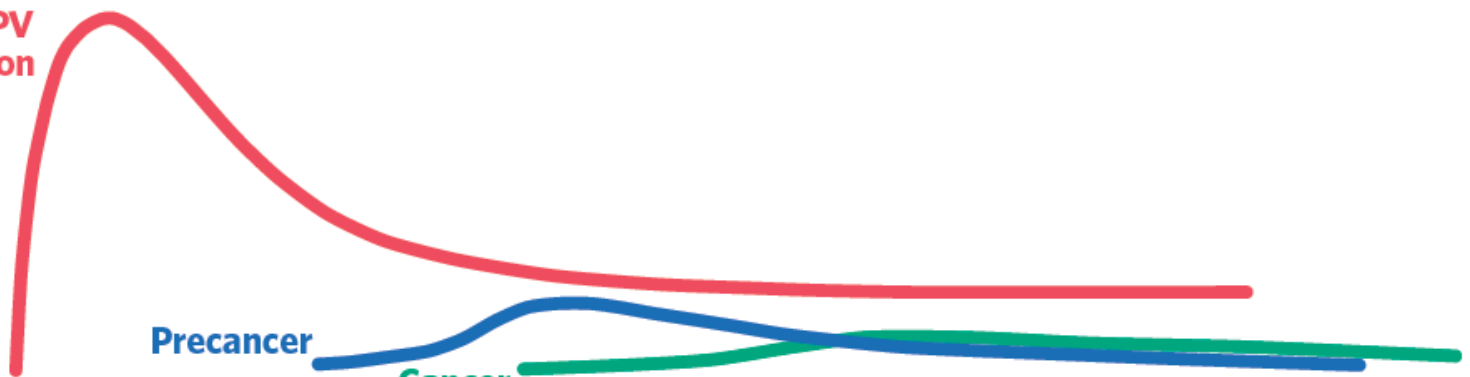
9 years

15 years

30 years

45 years

60 years



# Prevention and Treatment

## 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

\* Tobacco use is an additional risk factor for cervical cancer.

**HPV vaccination prevents 95% of HPV infections with types 16 & 18**



# Key messages (1/2)



- Cervical cancer is the 2<sup>nd</sup> most common cancer in women
- Cervical cancer affects an estimated 528,000 women each year and leads to 266,000 deaths (2012) over 85% of affected women live in developing countries
- Cervical cancer is caused by persistent infection with certain types of HPV virus – types 16 & 18 cause most cervical cancers
- HPV viruses are common and spread easily by skin-to-skin contact during sexual activity



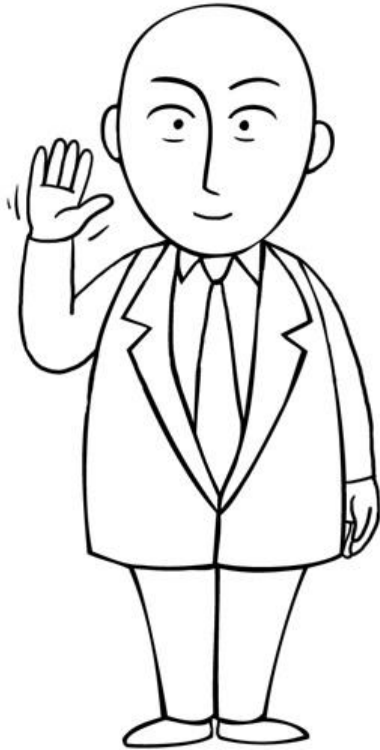
# Key messages (2/2)



- Risk factors for HPV infection and cervical cancer are:
  - early sexual intercourse,
  - multiple sexual partners
  - tobacco use
- Progress from infection to pre-cancerous lesions and cancer is slow but can be rapid in women with immune suppression
- Symptoms of cervical cancer tend to appear only after the cancer has reached an advanced stage
- HPV vaccines prevent over 95% of infections from HPV types 16 & 18



# End of module



**Thank you  
for your attention!**



# References

- Comprehensive cervical cancer prevention and control: a healthier future for girls and women. Guidance Note. WHO 2013
- HPV vaccine introduction into national immunization programmes: Information for programme managers and health workers. WHO 2014
- WHO HPV Vaccine clearing house:  
<http://www.who.int/immunization/hpv/en/>

