

Increasing burden of HPV-related cancers in Estonia

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Over 80% of all sexually active people who have not been vaccinated are infected with HPV at some point in their life

HPV (human papilloma virus):

- is the most common sexually transmitted infection in the world

- causes 4.5% of all cancers in the world

- has over 200 strains, most low-risk

 - carcinogenic subtypes HPV16, HPV18, HPV31, HPV45

 - strains 16 and 18 cause around 70% of all cancers attributable to HPV

HPV causes tumours of the:

- cervix, vagina, vulva, anus, penis, oropharynx, oral cavity, larynx

Health risks related to high-risk HPV strains could be eliminated if at least 80% of boys and girls were vaccinated against HPV

In Estonia, HPV vaccination for girls aged 12–14 started in **2018**

Since **2024** free immunization is available for all children aged 12–14

In addition, teenagers aged 15–18 can get a free HPV vaccine if they have not yet been immunized

Coverage with HPV vaccine has been **low** in Estonia –

vaccination coverage (2024) in 12–14-year-old children was **47%**

54% in girls, and 40% in boys

Data from the Estonian Cancer Registry
Incident cases diagnosed in 1995-2022

Joinpoint regression was used to model
age-standardized (world) rates and calculate
annual percentage change (APC)

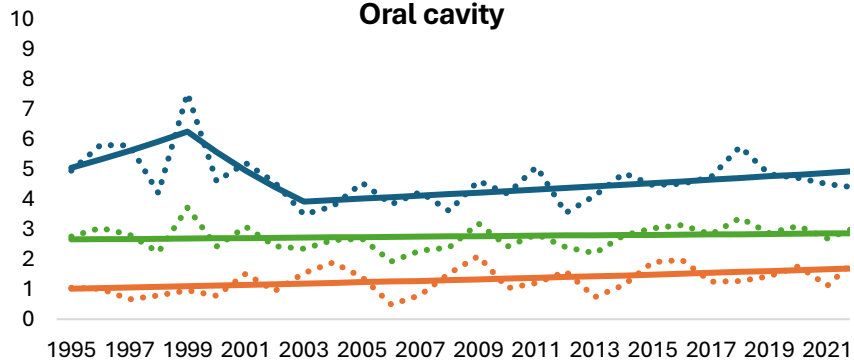
Site	ICD-10	New cases (%)
oropharynx	C01, C02.4, C05.1-2, C09-10	1340 (11.9)
oral cavity	C02-06, excl. C02.4 and C05.1-2	1719 (15.3)
anus	C21	434 (3.9)
larynx	C32	1916 (17)
vulva	C51	837 (7.4)
vagina	C52	210 (1.9)
cervix	C53	4534 (40.2)
penis	C60	280 (2.5)

The study included 11 270 cancer cases

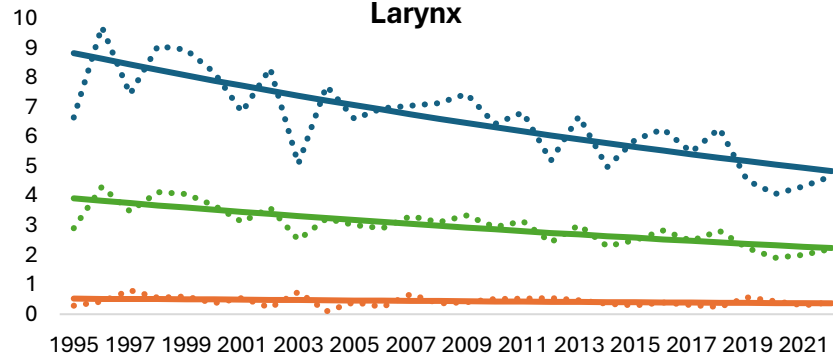
4413 in men, 6857 in women

most common: cancer of cervix, larynx, oral cavity, oropharynx

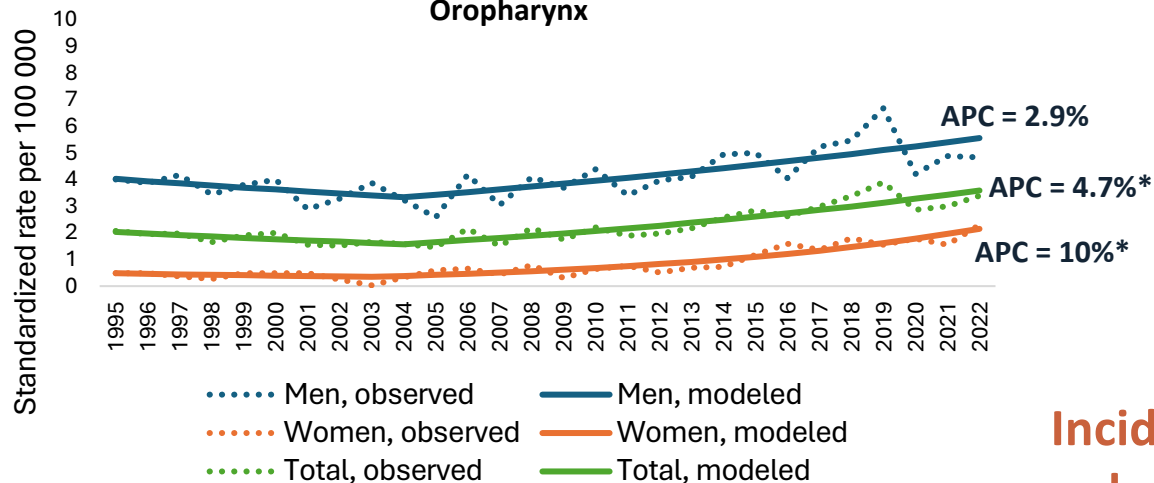
Oral cavity



Larynx

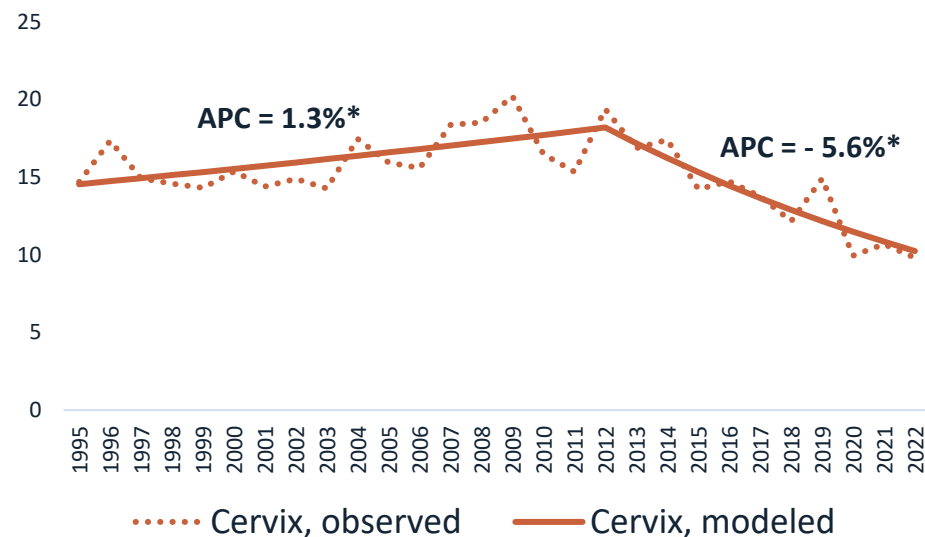
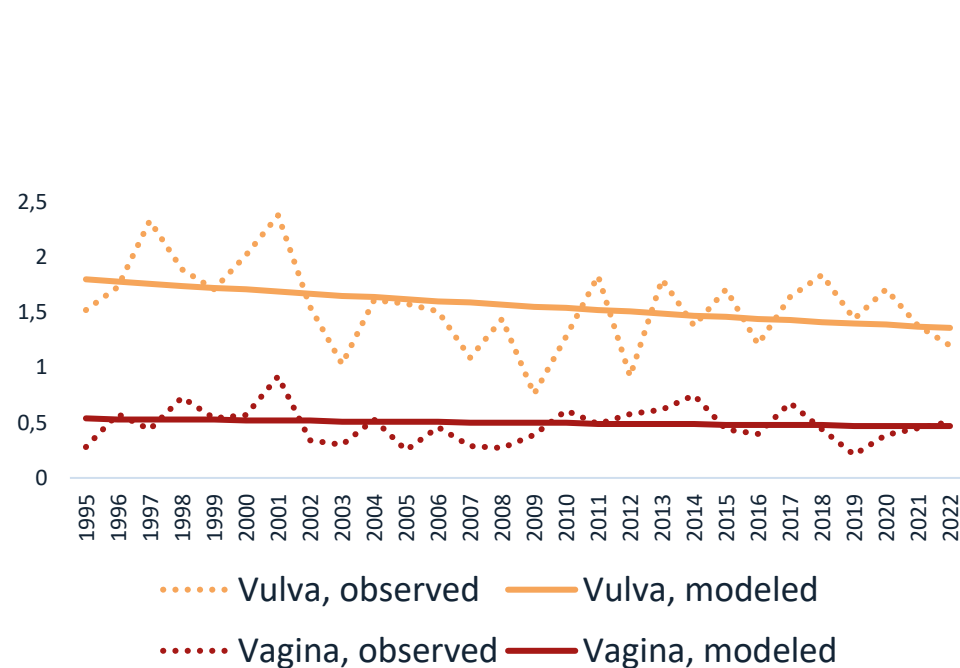


Oropharynx

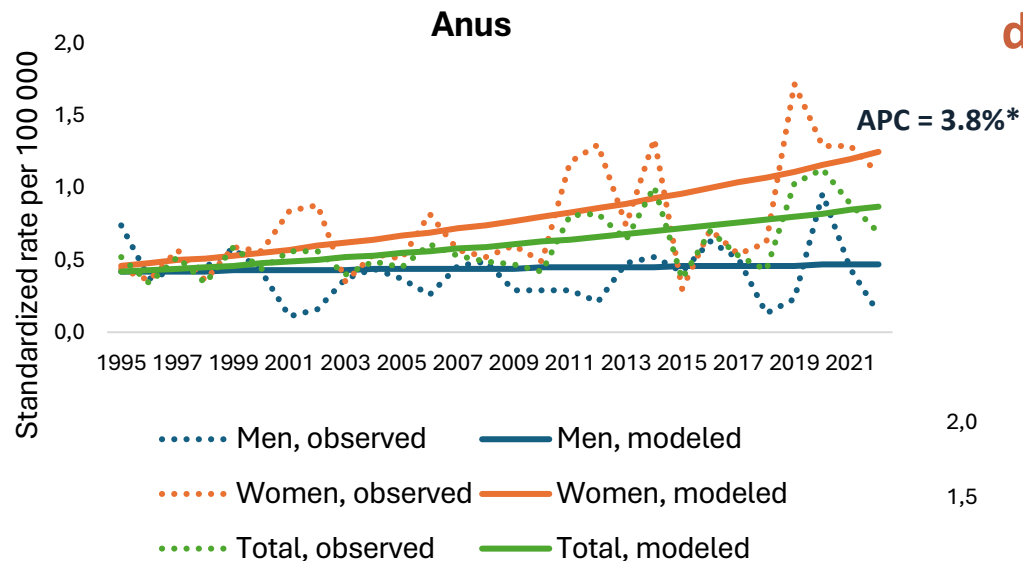


**Incidence has decreased
only for laryngeal cancer**

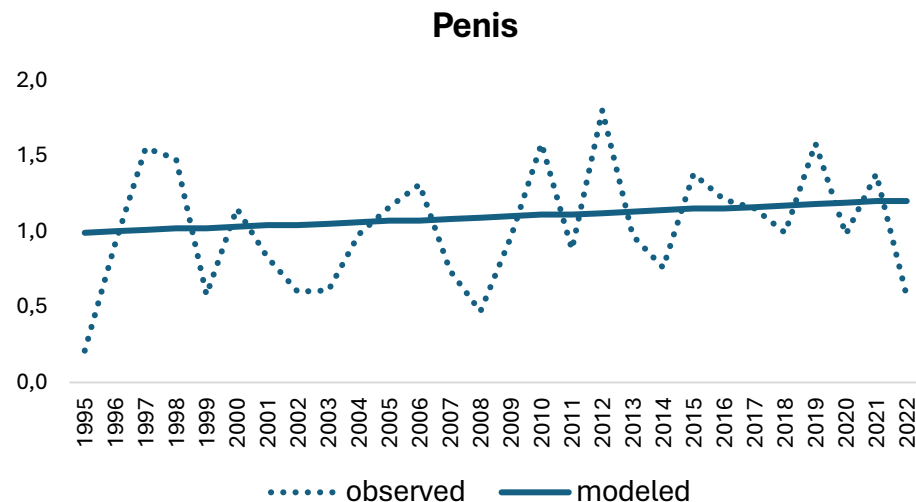
The incidence of cancers of vulva and vagina has slightly decreased, cervical cancer incidence increased until 2012



Anal cancer incidence has increased due to the rapid increase in women



The incidence of penile cancer has slightly increased



What Have We Learned?

Population-based screening has been effective in lowering cervical cancer incidence

Burden of other HPV-related cancers is rapidly increasing

- incidence is particularly increasing for oropharyngeal cancer (both sexes)

- anal cancer incidence is increasing in women

Declining smoking prevalence has decreased incidence of laryngeal cancer in men

- Efforts are needed to increase coverage of HPV vaccination
 - catch-up up to the age of 26 is recommended

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