PERCH | PROJECT

MILESTONE 17

WP4

SYNTHESIS OF RECORDED INTERVIEWS IN TASK 4.1.

PERCH
PartnERship to Contrast HPV

Co-funded by the European Union

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WORK PACKAGE 4 - INTEGRATION AND SUSTAINABILITY

Milestone 17 – Synthesis of recorded interviews in Task 4.1.

Document information:

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Table of content

Introduction

I. Project description

Background of PERCH

Human papillomavirus (HPV) is a DNA virus that consists of more than 100 subtypes, of which more than 40 are sexually transmitted and can infect anogenital and oropharyngeal mucosa. At least 14 HPV types are classified as 'high risk' and can cause cervical cancer (CC) in women, and a fraction of other anogenital cancers and head and neck cancers in both genders.

In 2020, according to data from the Global Cancer Observatory - IARC[1], cervical cancer (CC) was the 4th most common cancer among women worldwide. Cervical cancer is a highly preventable disease through HPV vaccination (primary prevention) and CC screening (secondary prevention) and is a treatable disease if detected promptly and properly treated. However, it still represents an important public health problem in Europe and worldwide, especially in poor countries including several Eastern European countries where access to public health services is limited and screening and treatment for the disease have not been widely implemented.

Although HPV vaccines have been available since 2006 and is progressively introduced into national immunisation plans, both introduction and coverage are yet to reach optimal levels globally in several countries in Europe. In order to achieve the 90% coverage target for HPV vaccination by 2030, as set in the global strategy for CC elimination by the WHO, many countries need to take actions to improve their specific vaccination coverages[2]. Moreover, the observed variation in the vaccination coverage between and within countries signals the presence of inequalities in terms of access to and information on vaccines.

Purpose of PERCH

The Project PERCH (PartnERship to Contrast HPV) is a European Joint Action (JA) which brings together 18 European countries and 34 partner organisations with the objective of contributing to the implementation of the Europe's Beating Cancer Plan, which aims to support Member States' efforts (MSs) to extend the roll-out of routine HPV vaccination of girls and boys to eliminate cervical cancer and other cancers caused by HPV in the coming decades.

PERCH starts by analysing how HPV vaccination and HPV screening are implemented and monitored in all participating countries. Determinants of vaccination hesitancy will then be analysed in order to increase knowledge and awareness, in particular on the benefits of the vaccine up-take. Training activities will also be provided to healthcare staff on vaccination communication. Finally, MSs will be supported to launch large-scale HPV vaccination campaigns before the end of the JA.

As part of its specific objectives, PERCH aims to improve:

[1] Singh D, Vignat J, Lorenzoni V, et al. Global estimates of incidence and mortality of cervical cancer in 2020: a baseline analysis of the WHO Global Cervical Cancer Elimination Initiative. Lancet Glob Health 2023; 11(2): e197-e206.
[2] Arbyn M, Gultekin M, Morice P, et al. The European response to the WHO call to eliminate cervical cancer as a public health problem. Int J Cancer 2021; 148(2): 277-84.

- capacities of MSs to plan and implement HPV vaccination campaigns by sharing knowledge and experience,
- data collection and monitoring of HPV vaccination and HPV screening,
- knowledge and awareness on HPV-related disease and prevention in specific target groups (girls and boys and their parents),
- knowledge and abilities for healthcare professionals in HPV vaccine communication.

Organisation of PERCH

PERCH involves 34 organisations from 18 European countries (17 participating countries and Ireland as an associate partner) for a duration 30 months. The activities of PERCH are distributed into seven complementary and interconnected Work Packages (WPs), with the aim not only to increase the HPV vaccination coverage, but also to pave the way for a longer-term goal of reducing the incidence and mortality of HPV-related cancers. Four WPs are mandatory (WP1 to WP4) and completed with three additional WPs (WP5, WP6 and WP7).

Table 1: Overview of PERCH WPs and their objectives

WORK PACKAGE NAME AND OBJECTIVE	
WP1	Project Management and Coordination To ensure a well-coordinated governance and management of the JA.
WP2	Dissemination To guarantee a well-coordinated communication and to maximise the dissemination of the JA's efforts and results.
WP3	Evaluation To monitor and evaluate the progress of the JA and to assure that the JA accomplishes its established objectives.
WP4	Integration in National Policies and Sustainability To frame the conditions to be fulfilled to reach or maintain high HPV vaccination coverage in all MS of the EU.
WP5	Monitoring To describe how HPV vaccination is currently monitored in the EU participating countries and to propose common data collection systems.
WP6	Improving Knowledge and Awareness to Increase Vaccine Uptake in Target Communities To support MSs to increase knowledge and awareness on HPV-related disease and prevention in adolescent girls and boys.
WP7	Training and Support in Vaccine Communication To provide support to healthcare professionals in terms of HPV vaccination communication training.

II. Implementation of HPV vaccination services

This document is part of Work Package 4 "Integration in National Policies and Sustainability". The general objective of WP4 is to frame the conditions to be fulfilled to reach or maintain high HPV vaccination coverage in EU Member States.

The general objective of WP4 will be achieved by the completion of six tasks:

Task 4.1 Setting up a comprehensive survey completed by interviews with key protagonists in all MSs.
Task 4.2 Integration of HPV vaccination activities at national level.
Task 4.3 Update of state of the art on effectiveness and safety of HPV vaccines in general and efficacy of a single-dose HPV vaccine.
Task 4.4 Assessing pricing of HPV vaccines.

Task 4.5 Integration and Sustainability Plan.
Task 4.6 Launching/piloting HPV vaccination campaigns in selected countries.

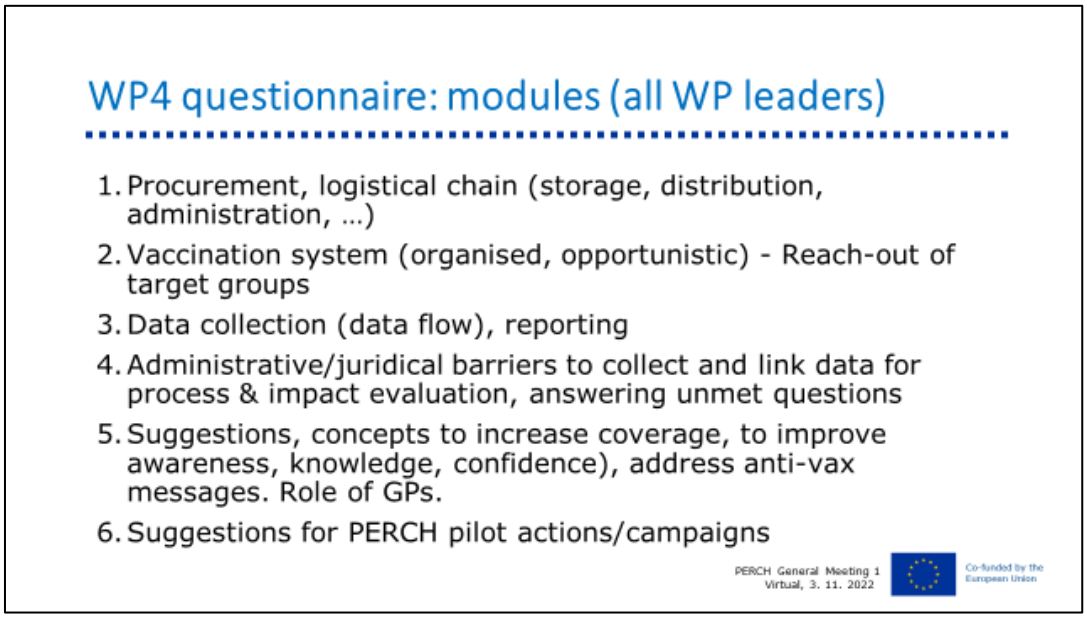
Task 4.1 aims at describing the scenarios currently implemented to contact and reach the target population and administer the HPV vaccines, assessing barriers, facilitators and solutions that impede/improve access to HPV vaccination, identifying weaknesses in the supply-administration chain and describing the general process of collection and compilation of HPV vaccination data.

This task is reported under Deliverable 4.1. Status report on implementation of HPV vaccination services. All 17 Member States were asked to take part in this task, as this WP is mandatory. (Note: there was no obligation for Ireland to participate as an associate partner).

III. Synthesis of recorded interviews in Task 4.1.

To gathered information for Deliverable 4.1., a 1-hour meeting was organised with each of the participating countries. The purpose of this meeting was to obtain an explanation of the implementation of HPV vaccination in their country and then to design the questionnaire, Interviews with stakeholders or contact persons involved in the European Joint Action PERCH were conducted by Hélène De Pauw, Marc Arbyn and Louise Mathieu between 23 January and 24 February 2023. In total, seventeen PERCH partner countries and one associated partner country (Ireland) were contacted and interviewed. Seventeen countries belong to the European Union whereas one country (Norway) is not an EU member state. The purpose of these interviews was (1) to collect general information about the organisation of HPV vaccination in the respective country, (2) to discuss about the content of the six modules of the comprehensive Questionnaire (see milestone MS 13), (3) to capture suggestions on possible questions to be included in the questionnaire and (4) to collect ideas for possible PERCH actions or campaigns that may result in HPV vaccination coverage increase in the member countries.

The following agenda was used to conduct interviews with each of the country.



Synthesis of recorded interviews

Belgium

Date and time: 9 January 2023, 15:00 –16:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Louise Mathieu (Sciensano), Paloma Carrillo (ONE)

Introduction

Paloma Carrillo (ONE) is a medical doctor specialised in preventive medicine and public health. She has been working on communicable diseases at regional, national, and international levels. For the last six years, she has focused on the vaccine-preventable diseases field. Her main interests are related to how immunisation programmes work in the different countries of the European Union. Currently, she works for the Belgian vaccination programme at the Office of Birth and Childhood (ONE), a public institution that develops birth and childhood policies in the French-speaking part of Belgium.

Discussion

General information on HPV vaccination

HPV vaccination monitoring

In Belgium, the vaccination rate is monitored through regular studies on vaccination rates organised and funded by the communities/regions. These studies on vaccination rates take place approximately every three to four years. The frequency and method are determined by the competent communities/regions, meaning that studies on vaccination rates do not necessarily occur in the same calendar year.

Immunisation plan and catch-up

HPV vaccination is recommended in Belgium around the ages of 11 to 13 and was extended to boys in 2019. HPV vaccination is offered free of charge to girls and boys as part of the organised vaccination programme of the communities (often referred to as "organised vaccination"); it is administered during the first year of secondary education in Flanders and the second year of secondary education in the French Community (Wallonia-Brussels Federation (FWB)). For each programme, it is recommended to administer the second dose six months after the first. Depending on the concerned communities, catch-up vaccination options are also available (in Flanders: up to 15 years (third year of secondary education); in FWB: up to 18 years (inclusive) for adolescents born from 2006 onwards).

Both in Flanders and in FWB, vaccination and catch-up can also be performed by private healthcare providers. Provided that age conditions are met, vaccinators have the choice to either order the vaccine from the organised vaccination programme for free (via the programme platform) or to receive partial reimbursement from the INAMI (National Institute for Health and Disability Insurance). When the vaccine is purchased at a pharmacy and partially reimbursed by INAMI, it is referred to as opportunistic vaccination.

Opportunistic HPV vaccination is thus also possible and partially reimbursed for girls aged 12 to 18 (inclusive) and since August 2022 also for boys aged 12 to 18, by the INAMI. In this case, vaccines are prescribed and purchased at pharmacies, then administered in medical practices. The bivalent HPV vaccine (Cervarix®) remains only reimbursed for young girls.

Data Collection Methods

Data on HPV vaccination as part of the organised vaccination programme of the communities are collected from estimates based on surveys conducted in the Flemish Region and FWB.

The method for measuring adolescent vaccination rates differs in Wallonia and Brussels compared to Flanders.
In Flanders, studies on vaccination rates are conducted among adolescents, collecting vaccination data for each child/adolescent from parents, supplemented by data from Vaccinnet, Pupil Guidance Centers (CLB), and the treating physician.
In Brussels and Wallonia, annual studies on vaccination rates are conducted among students in French-speaking schools on a four-year cycle. Vaccination data is directly collected by school health services, SPSE (School Health Promotion Service), and/or CPMS-WBE (Psycho-Medical-Social Center-Wallonia-Brussels Education). Since 2018-2019, these studies have been carried out directly by FWB, and since the school year 2020-2021, school health service data is only supplemented with e-vax, without contact with physicians and/or parents. For the HPV vaccine, the latest studies took place in the second year of secondary school in 2012-20134, 2016-20175, and 2019-20206. These vaccination rate studies survey schools under FWB jurisdiction. No data is collected from European schools, international schools, Dutch-speaking schools in Brussels, and German-speaking schools. Another significant limitation concerns the number of children whose vaccination status is unknown.
Regarding opportunistic vaccination, data on HPV vaccine reimbursement is available from INAMI and IMA (Intermutual Agency). Since INAMI's financial intervention is limited to girls and boys aged 12 to 18 (inclusive), and in the absence of a national vaccination register, we do not have data outside this age group.

Barriers and facilitators

A notable barrier pertains to certain religious groups who reject the vaccination due to their belief that they are not susceptible to HPV infection based on their lifestyle or behaviour.
On the facilitation side, ensuring accessibility and cost-free availability of vaccines to all recipients is crucial. Implementing systematic invitation letters accompanied by informational leaflets through School Health Services (SHS) at the onset of the school year serves as a facilitator, aligning with practices for other school-based vaccinations

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Croatia

Date and time: 26 January 2023, 12:00 –13:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Irena Barišić (CIPH)

Introduction

Irena Barišić is a medical doctor with a specialisation in gynaecology and obstetrics. Presently, she is employed at the Croatian Institute of Public Health, where she serves as the head of the Perinatal Care Monitoring Unit.

Discussion

General information on HPV vaccination

HPV vaccination

From the 2015/2016 school year voluntary and free vaccination is possible at the national level, while for years before that free vaccination was possible only in certain cities, municipalities, or counties. The Gardasil 9 vaccine has been administered to both girls and boys aged 9 to 25 since its registration. Anyone between the ages of 9 and 25 can get vaccinated free of charge and voluntarily at their personal request or at the request of their parents for those younger than 18. Since 2016, school doctors have organised an invitation to vaccinate the 8th grade of elementary school (education of parents at parent-teacher meetings and distribution of paper "invitation to vaccination and informed consent" forms). Starting from 2023, school doctors will invite pupils to vaccination from the 5th to the 8th grade of elementary school. The goal is for all parents to be actively invited for vaccination several times (if possible 4 times during elementary school).

HPV vaccination coverage

They do not have a register of HPV vaccination. In 2017, approximately 10% of 15-year-old students received vaccination. By 2019/2020, the coverage had increased, with 38% of first-grade high school girls and 24% of male students being fully vaccinated.
HPV vaccination coverage has shown improvement over the years, with notable percentages of vaccinated students in different age groups. Despite these efforts, challenges persist, including a lack of confidence in vaccination among younger demographics, likely influenced by the COVID-19 pandemic and anti-vaccine sentiments, particularly from conservative religious groups.

Vaccinators

Regarding healthcare practitioners, school doctors remain the primary vaccinators, although there is exploration into involving general practitioners in identifying unvaccinated individuals.

Campaign

To address these challenges, a targeted social media campaign is proposed, involving teachers, parents, and teenagers from selected schools. Additionally, there are considerations for pilot projects and campaigns to further promote vaccination. There are also discussions about the potential establishment of an HPV vaccination registry, although linking existing registries poses challenges.

Barriers in Croatia

Barriers to vaccination include resistance, misinformation, and inadequate health literacy, compounded by cultural beliefs and insufficient information flow from school doctors to parents. Misinformation, often spread online and even by some medical professionals, remains a

significant challenge. In Croatia, there is a widespread issue of low health literacy, particularly concerning knowledge about HPV and its vaccine. Cultural barriers also exist, with some parents associating vaccination with granting permission for sexual activity in their children. Moreover, there is a pervasive stigma surrounding vaccines and the proliferation of conspiracy theories regarding their efficacy.

Overall, while progress has been made, addressing these barriers requires a multifaceted approach, including targeted awareness campaigns, improved information dissemination, and collaboration across healthcare sectors to ensure widespread HPV vaccination coverage in Croatia.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Czech Republic

Date and time: 26 January 2023, 11:00 –12:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Ondřej Májek (UZIS)

Introduction

Ondřej Májek (UZIS) Head of Department of International Affairs and Scientific Lead of the National Screening Centre. Epidemiologist; his research interests include monitoring of population health indicators, monitoring of health programmes, use of modelling methods for assessing programme effectiveness and efficiency.

Discussion

General information on HPV vaccination

HPV vaccination

The Czech Republic has a national vaccination programme where HPV vaccination is covered by health insurance for girls and boys aged 13-14 years
HPV vaccination has been recommended since 2006 and has been reimbursed for girls aged 13 to 14 since 2012, with coverage by public health insurance extended to boys in 2018. From the age of thirteen to the age of fourteen of the insured; a covered service is also vaccination carried out after the expiry of the period specified in this provision, if the administration of one or more doses of vaccines has been postponed due to the health condition of the insured person of the covered vaccine. The amendment to the Public Health Insurance Act, which will allow paid vaccination against HPV for all girls and boys from the age of 11 to the age of 15, will be effective from January 1, 2024.

Vaccinators

In the Czech Republic, preventive examinations are conducted as part of primary care. Patients are entitled to general check-ups every two years, with more frequent visits for children under 3 years old. Annual gynaecological preventive examinations are provided from age 15. Vaccinations can be administered by general practitioners for children and adolescents, as well as by specialists in gynaecology and obstetrics. Healthcare providers typically inform patients or their parents/legal guardians about available services.

Reimbursement

The vaccination is provided free of charge for children aged 13–14, while other individuals need to cover the cost themselves. It is recommended for those aged 18-26 but available for all age groups. Additionally, in the Czech Republic, insurance companies offer bonus programmes for certain categories of insured individuals, with varying conditions and financial contributions for vaccination across different health insurance providers.

Data collection and linking register

Data on reimbursed care including vaccines available since 2010, dedicated registry was established in 2023. A comprehensive electronic database, known as the National Register of Reimbursed Health Services, aggregates data from all health insurance providers. This database encompasses individual-level records of all reimbursed health services, including details such as vaccination dates, vaccine information, and client age at the time of vaccination. Since 2023, a new electronic vaccination data collection system, referred to as the "vaccination module," has been implemented. This module extends its coverage to include vaccine administrations occurring outside the public health insurance system. Health service providers

transmit the data to health insurance companies, which subsequently relay the information to the Institute of Health Information and Statistics of the Czech Republic.

Individual linkage is only permissible within the National Health Information System. As of now, this linkage has not been executed, as the analysis of data within the National Registry of Reimbursed Health Care Services has been deemed satisfactory. However, linkage may be conducted as needed for epidemiological studies, health services research, and similar purposes in the future.

Barriers and facilitators

Limited understanding regarding the significance and advantages of HPV vaccination, particularly among parents, contributes to low health literacy.

Suggestions for improving HPV vaccination

- Launching extensive educational and awareness initiatives targeting the general populace, parents, and healthcare professionals to highlight the significance of HPV vaccination, by actively promoting communication on the importance of vaccination as a means of prevention.
- Improving access to vaccination by adapting the reimbursement system.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Germany

Date and time: 15 February 2023, 15:00 –16:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Louise Mathieu (Sciensano), Miriam Gerlich (BZgA)

Introduction

Miriam Gerlich (BZgA) STI Prevention Project Officer since 2014. Senior expert in managing collaborations between government authorities, medical bodies, patient organisations and public health scientists, among others in the field of HPV vaccination.

Discussion

General information on HPV vaccination

HPV vaccination

HPV vaccination has been recommended and reimbursed for girls in Germany since 2007. Since 2014 the recommendation has included standard vaccination for girls aged 9–14 (2 doses in months 0 and 6–12) and catch-up vaccination for girls aged 15–17 (3 doses in months 0, 2, 6). Both vaccination schedules should be completed within a year. In June 2018 the German Standing Committee on Vaccination (STIKO) recommended the gender-neutral vaccination of adolescents aged 9 to 14 years with catch-up through age 17. HPV vaccination has been reimbursed as a compulsory benefit of all the statutory health insurance schemes for both sexes aged 9–17 since January 2019.

Vaccinators and invitation

In Germany, only physicians are authorised to administer vaccinations, and there is no invitation or reminder system. Vaccinations, including those for HPV, are primarily administered in physician offices, with only limited pilot projects conducted in schools for HPV vaccination. Specifically for HPV vaccination, paediatricians, general practitioners, and gynaecologists are the primary vaccinators since they regularly see patients within the target age group at their practices. HPV vaccination depends on the physician or parent recognising the need once the child is eligible, leading to an opportunistic approach. There is thus no organised personalised invitation programme on a national, state or local level or by statutory health insurances.

Reimbursement

For those covered by statutory health insurance (about 90% of the German population), the vaccine is accessible in private practices. Privately insured individuals must purchase the vaccine from a pharmacy or their private practice physician and then seek reimbursement from their health insurance provider.

Data collection and linking register

They do not register data. The only vaccination data regarding HPV that they have in Germany is statutory health insurance claims data, meaning data that physicians use to claim reimbursement for services delivered to their statutory insured patients. The data is collected on state level. For epidemiological research the data is pseudonymised and transferred to the Robert Koch Institute; they then calculate vaccination coverage rates on a national level (but can also calculate coverages on state or district levels). All data derives from the same data source (health insurance claims data).

Barriers and facilitators

- Lack of organised recall systems, leading to missed vaccinations, especially among 9-14 year-olds who visit paediatricians less frequently.
- False information on severe side effects circulated online.
- Parents perceive HPV vaccination as less important compared to other vaccines, and awareness of the vaccination for boys is low.

Suggestions for improving HPV vaccination

Limited understanding exists regarding effective interventions to increase HPV vaccination rates in Germany. Initial evaluation projects have begun. However, suggested measures to potentially enhance coverage include implementing invitation/recall systems, providing healthcare professional training on addressing vaccine hesitancy, funding multimedia awareness campaigns, supporting school-based initiatives for health literacy, and improving stakeholder collaboration.

Varia

Publication for country situation on HPV vaccination and cervical cancer: yes

Estonia

Date and time: 24 January 2023, 15:00 –16:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Irina Filippova (Terviseamet), Kerli Reintamm (Terviseamet).

Introduction

Kerli Reintamm and **Irina Filippova** represents Terviseamet/Health Board (HPI). HPI is a governmental public health institute under the Ministry of Social Affairs with main responsibility on communicable disease surveillance and control and environmental health control.

Discussion

General information on HPV vaccination

Girls aged between 12-14 years are vaccinated free of charge in Estonia within the framework of the national immunisation schedule. As a rule, vaccination takes place at school, while being voluntary and based on parental consent being granted in the case of minors. The school nurse administers the vaccines.
If a child misses the vaccination, they can also come back later. They can also be vaccinated by their family doctor. But in general, the vaccination is administered at school.
Within the national vaccination schedule, there is also a catch-up vaccination for 13-14 year olds. But if you are 15, it is no longer free. However, if the girl started the vaccination at the age of 14, she can still receive the second doses free of charge if she has turned 15 in the meantime.

Informed consent is requested prior to vaccination and is attached with the approval of the vaccination so that it can be immediately uploaded into the health information system. The school sends the consent home with the child, the parents sign it and the child returns to the school, gives it to the school nurse who carries out the vaccination.
The school nurse provides health care in many schools, as well as other services besides vaccination.

Data collection
For the immunisation structure, immunisation data used to be collected directly from health care providers. But now it is collected through a health information system.
All health care providers who have vaccinated someone are required by law to report this to the national health information system. This tool is now used to estimate HPV vaccination coverage. The health information system is maintained by a third institution, can provide data and is the main source of information.

HPV vaccination coverage
Data for 2021: the average for 12 year old girls is about 60%. HPV vaccination started in 2018, so girls born in 2003 and younger are vaccinated against HPV.

Suggestions for improving HPV vaccination in Estonia

They plan to provide more support to the school nurse, at school level. They would like to include information such as study sessions in their vaccination curriculum (how the vaccine works, etc.). They are still looking at how to implement this.
They are also involved in a project which aims to identify vaccination barriers.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

France

Date and time: 24 January 2023, 14:00 –15:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Alexandre Cobigo (Institut national du cancer, INCa); Sarah Derhy (Institut national du cancer, INCa); Judith Mueller (Ecole des hautes études en santé publique, EHESP); Marc Arbyn (Sciensano)

Introduction

Judith Mueller (Ecole des hautes études en santé publique). Professor in Epidemiology, Department of Quantitative Methods in Public Health, Research attachment to INSTITUT PASTEUR, Epidemiology of Emerging, Member of the French NITAGs , Medical epidemiologist working on the implementation of vaccination programmes, their evaluation and vaccine acceptance. Judith works with the INCa as an expert.
Sarah Derhy works in the prevention department of INCa on HPV vaccination. She had the opportunity to work with Judith on acceptability surveys prior to the expansion of boys. She is the contact at INCa for other institutional actors. Sarah is also the referent for breast cancer screening.
Alexandre Cobigo is a project manager for the prevention department at INCa, trained in health promotion. He works more transversally on all risk factors, primary prevention and not on screening.

Discussion

General information on HPV vaccination

Vaccinators
HPV vaccination can be performed by a doctor or midwife; by a nurse on the prescription of a doctor or midwife; in a free information, screening and diagnostic centre, a family planning centre and some public vaccination centres. Vaccination centres depend on the department and can be more or less active in vaccination, including in schools (minor activity).

Target population
HPV vaccination is recommended to adolescent girls since 2007 and adolescent boys since 2020 (implemented in 1 January 2021).
Vaccination is opportunistic.
Girls and boys aged 11-14 years with a 2-dose schedule (M0-M6).
Catch-up vaccination for young women and men aged 15-19 years with a 3-dose schedule.

Vaccination against HPV is also recommended
- up to the age of 19, in immunocompromised boys and girls, at the same age as in the general population), and from the age of 9, in children (boys and girls) who are candidates for solid organ transplantation;
- up to the age of 26, in MSM since 2016.

Reimbursement
Cervarix or Gardasil9 : 60% covered by Health Insurance (the remaining amount is generally reimbursed by complementary organisations (mutual insurance companies)).
For the most disadvantaged, state-run programmes provides universal health coverage. For them, reimbursement of HPV vaccine is at 100%.

HPV vaccination coverage

For girls, Gardasil 9, full schedule (2 doses): 37.4 %
For boys, Gardasil 9, full schedule (2 doses): about 6%

Information on HPV vaccine
A large part of the information to parents is provided by general practitioners or health professionals. Every year, the INCa conducts communication campaigns aimed at the general public and particularly at parents.

Distribution, administration
The parent comes with the child to the general practitioner/paediatrician. The doctor provides a prescription. The parent goes to the pharmacy to buy the vaccine, and then returns to the doctor to get vaccinated. The Health Insurance covers 60% of the cost. The remaining 40% is paid by the parents but covered by private health insurance.
For the 2-3 departments in France that organise vaccination, they have to buy their vaccine doses.

Data collection and linking register
Health insurance (public section): there are codes that are assigned to medical acts. The data relating to the person vaccinated is available in this database. Data monitoring is good and the data is very exhaustive. The patient presents his Vital card (general regime, delivered free of charge by the Health Insurance) during any medical act and contains a social security affiliation number. The card allows the link to be made with the code, the information according to which the vaccine has been delivered. There is an exception during departmental vaccination campaign. These data do not necessarily enter the system because young people who have been vaccinated do not always present their card.
The link between the registers can be made if the person undergoes screening as part of organised programmes. However, linking registers has not been done yet.

School-based immunisation: a perspective?
A large national project, financed by the INCa via the Institute of Public Health Research, is currently evaluating a comprehensive intervention that includes 3 components:
1- information for young people and their parents via the school,
2- vaccination campaigns in schools,
3- training and support for general practitioners in vaccine promotion.
The idea behind this project is therefore to promote vaccination through schools, and also with easier access through schools.
The results of this trial will guide future decisions. It will probably depend on a political will to go further. Two ministries are involved in this issue: the Ministry of Education and the Ministry of Health.

Obstacles to HPV vaccination in France
School-based immunisation
School-based immunisation is the responsibility of the Ministry of Education. The lack of financial means of the Ministry of Education could be a first obstacle. It would therefore be necessary to use mobile vaccination teams. There is a lot of hesitancy around this vaccination in schools. School directors fear that parents might be very opposed to it. There is also the issue of sexuality among children/adolescents. Historically, France has also had problems with its vaccination campaigns against hepatitis B in schools.

Misinformation and vaccine hesitancy
There is also a historical hesitancy about the HPV vaccine in France, due in part to cases of Guillain-Barré syndrome. However, with the arrival of new data on HPV vaccine safety and Guilhain-Barré syndrome, attitudes are now changing in France. There are indications that

there is today an opening to significantly increase immunisation coverage, but only if the different stakeholders and mechanisms follow.
Nevertheless, there is still residual resistance at all levels. There is also a strong social gradient in vaccination coverage and knowledge of vaccines.

Suggestions for improving HPV vaccination in France and in general

- Introducing vaccination in schools
- Simplifying access to vaccination
    - Extending the range of health professionals who are entitled to vaccinate or prescribe, including pharmacists
    - Legislative changes for pharmacists so that they can vaccinate the under-16 population (ongoing)
- Communication at all levels
- Improvement of reminder tools
    - on doctors' software (number of doses)
    - trying reminder modalities e.g. by SMS
- Identify evidence-based interventions that show signs of effectiveness, in particular all actions that "reach out" to categories that are more difficult to reach, e.g. migrant population, disadvantaged socio-professional category.

Varia

Publication for country situation on HPV vaccination and cervical cancer in general: Yes

Greece

Date and time: 27 January 2023, 14:00 –15:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Anastasia Balasopoulou (1st YPE), Ioanna Dourou (1st YPE), Emmanouela Zouroudi (1st YPE)

Introduction

Anastasia BALASOPOULOU is employed at the 1st Health Region of Attica Directorate of Health, which is the First Health Region Authority, one of seven such authorities across the country. She is responsible for coordinating 23 hospitals, including 7/8 competitive, large, university hospitals, and 70 primary care units, which include family units and health centers located both in urban and rural areas. The region she oversees encompasses Attica, which surrounds Athens, and accounts for over 35% of the country's population.
Ioanna DOUROU, as the Project Manager and Desk Officer for the Joint Action (JA), oversees the administrative needs of the JA, organises meetings and events, and handles reporting duties. Additionally, she is a public health professor and a doctor specialising in public health, actively engaged in the First Health Region Authority of Attica. Furthermore, she collaborates with a social worker who focuses on the social aspects of resistance within the community.
Emmanouela ZOUROUDI, an administrative nurse in the PERCH programme, contributes to HPV vaccination studies as a member of the scientific community. With extensive experience in various hospitals, she has gained insight into gynaecological cancers and HPV-related issues.

Discussion

General information on HPV vaccination

The majority of gynaecological and paediatric care is privatised, with individuals opting for private care if they can afford it. Parents typically make the decision regarding private or public care, although specifics regarding usage rates and proportions are not entirely clear and require further clarification through literature review.

Despite the presence of paediatric hospitals in health centers and at least 43 healthcare facilities, a significant portion of the population opts for private doctors. Doctors play a crucial role in explaining, persuading, and administering the vaccine, rather than a structured, state-supported system.

As for options for receiving the vaccine for free:

- It is available at public health centers and some hospitals, though the decision often hinges on consultations with doctors.
- In the last years, vaccination has become mandatory, allowing parents who opt for private vaccination to receive reimbursement but still requiring them to make a choice.
- While HPV vaccination is now obligatory, it is not yet school-based.

Target population

In Greece, the HPV vaccination programme was targeted at 11–13-year-old girls (primary cohort) until March 2022, when a gender-neutral vaccination was introduced. The main primary target group for HPV vaccination is boy and girl aged from 9 years old until 11 years old.
The HPV vaccination programme in Greece is national, offering a 9-valent vaccine administered either on a two-dose or three-dose schedule for individuals aged 9 to 15, and a three-dose schedule for those 15 and older. The timing of doses varies accordingly.

Catch-up vaccination
The vaccine is provided free of charge to females and males up to 18 years old who missed vaccination in the recommended age group.

Mandatory vaccination
The vaccination is recommended as it is part of the national immunisation programme. However, it can also be considered mandatory as presenting a health care booklet, documenting administered vaccines, is required for enrolment in primary school. Proof of vaccination is required in a child's medical record. Although vaccination is not enforced or penalised, Greek paediatricians often remind parents about vaccines included in the national programme, typically leading to compliance.

Reimbursement
Public health centers and paediatric hospitals offer free vaccination services, catering to both mothers and children. Parents must pay 10% of the value of the vaccine if the child is in the correct age group. For person older than 18 years old, they have to cover the full amount, regardless of whether the vaccination takes place in private or public settings.

Data collection
- Based on available data, nearly 40% of adolescents and children within the eligible age range have received the HPV vaccination.
- While obtaining precise metrics is challenging in their country, they have a well-monitored electronic prescription system that tracks the number of vaccines ordered, providing a clear overview of prescription trends over the past decade.
- The system tracks vaccines purchased and ordered but there is no data on administered vaccines.
- Children have individual vaccination records, allowing tracking of received vaccines, although this information is not integrated into school records.

Suggestions for improving HPV vaccination in Greece
People do not trust HPV vaccination.
Recommendations for improving HPV vaccination in Greece:
- Addressing distrust among parents, legal guardians, and some healthcare professionals and politicians.
- Establishing a clear communication plan through official channels like the Ministry of Health, medical societies, and pharmaceutical companies.
- Launching a national awareness campaign through TV ads, podcasts, and local events to provide accurate information and counter misinformation.

Varia
Publication for country situation on HPV vaccination and cervical cancer in general: Yes

Hungary

Date and time: 2 February 2023, 12:00 –13:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Péter Csizmadia (NPHC)

Introduction

Péter Csizmadia (NPHC). Consultant. Project manager; expert in the field of the health promotion. As project manager play the lead role in planning, executing, monitoring, controlling, and closing out the project.

Discussion

General information on HPV vaccination

HPV vaccination

Children in Hungary can receive vaccination against HPV within the frameworks of school campaign vaccination in the 7th school year. Both girls and boys are eligible for the vaccination if they are at least 12 years old. Parents have to give their written declaration to claim the HPV vaccine for their children. The HPV vaccine administered is Gardasil9. There is no catch-up vaccination for older age group. They started vaccinating girls in the 7th grade of primary schools in the 2014/2015 school year. They expanded the programme to include boys starting from the 2020/2021 school year.

Procurement

They procure the logistic services for the National Immunisation Programme (NIP). As a result of the procurement, they enter into a contract with a pharmaceutical wholesaler which provides the central storage and transport of the vaccines to the local public health institutes. Vaccination procurement is not problematic in Hungary.

Invitation

The law outlines who should receive vaccinations, including those for HPV, which are administered at schools. Nurses at the schools take charge of organising the vaccination programme and ensure that both students and parents are informed about it.

Vaccinators

During the school campaign, the vaccinator is typically the school doctor, a physician affiliated with the school health service. These doctors are often general practitioners in the area, specialising either in adult or paediatric care, or they may be school doctors focusing on adolescent health. Vaccinations outside of the NIP are primarily carried out by general practitioners and gynaecologists/obstetricians.

Reimbursement

Vaccinations within the NIP are centrally procured and distributed to schools, provided free of charge. Outside of the NIP, individuals must purchase vaccines from pharmacies with a prescription.

Data collection and linking register

They do collect data on HPV vaccination. The register is an online system and this is a national registry.

For linking data, the data can be shared with somebody who has the authorisation for the management of these data. The main rule is that no individual or institution is permitted to manage personal and/or sensitive data, such as health information, unless expressly authorised by relevant legislation.

Barriers and facilitators

Vaccination coverage tends to be higher in economically disadvantaged regions of the county. Conversely, in wealthier areas, there is a higher prevalence of vaccine-hesitant or anti-vaccination beliefs among the well-educated population. Parents with higher levels of education are more inclined to adhere to vaccine-hesitant or anti-vaccine beliefs.

Suggestions for improving HPV vaccination

The HPV vaccination is optional, allowing parents to choose whether or not to vaccinate their children. Attempting to combat the anti-vaccine beliefs of parents is futile and ineffective. If increasing coverage is a priority, mandating vaccination is necessary.

Varia

Publication for country situation on HPV vaccination and cervical cancer: yes

Ireland

Date and time: 25 January 2023, 12:30 –13:30 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Yvonne Morrissey (HSE), Marc Arbyn (Sciensano), Louise Mathieu (Sciensano)

Introduction

Yvonne Morrissey works at the HSE National Immunisation Office (NIO). Senior expert in communications experience with implementation of immunisation programmes

Discussion

General information on HPV vaccination

The HSE School Vaccination Programme

The HPV vaccine has been offered to girls since 2010 as part of the school immunisation programme. The programme was extended in 2019 to include boys in first year of second-level schools. This programme will continue as normal throughout 2023 and is not part of the catch-up programme.
The HPV vaccine is given to first year students in secondary school by the school vaccination teams.
There is no requirement to restart the HPV vaccine schedule if the schedule is interrupted and more than one dose is required. The National Immunisation Advisory Committee (NIAC) in the Immunisation Guidelines for Ireland advises that interrupted immunisation courses need prompt resumption, without repeating them, ideally with the same vaccine brand.
The vaccine used as part of the school immunisation programme is called Gardasil 9.

Catch-up programme

Laura Brennan HPV vaccine catch-up programme is launched in 2022. Laura Brennan is a young woman who died at the age of 26 from cervical cancer.
Since its launch in 2022, the catch-up programme has offered free HPV vaccines to all boys and girls in second-level education who were previously eligible to receive the vaccine in school and who had not yet received it. It is also open to young women up to the age of 25 who have left secondary school and did not previously receive the vaccine. The HPV vaccine catch-Up programme will also include all males up to their 22nd birthday in August 2023.
By august catch-up vaccination will thus be open to those who have not received a HPV vaccine and are as follow:

- females who are 24 years of age or younger
- males who are 21 years of age or younger

1-dose vaccination

The National Immunisation Advisory Committee (NIAC) has recently advised that only one dose of HPV vaccine is required in those aged under 25. Anyone with a weak immune system will require three doses.

Screening

Women vaccinated through the initial catch-up HPV vaccination programme (2011/12 to 2013/14) first became eligible for cervical screening in 2019 at age 25.

Data collection and linking register

Data are obtained from the National Immunisation Office. Data on individual participant vaccination status are lacking. Thus the vaccination data and screening results are not linked at an individual level (IPD. Current work is in progress in Ireland to merge individual-level

vaccination data from the National Immunisation Office with the Irish cervical screening register, which will allow a more detailed assessment of the impact of vaccination on cervical disease in the future.

Barriers and facilitators

Vaccine hesitancy

The vaccine uptake is mainly due to parental concerns about vaccine safety that were spread by lobby groups.
The Irish National Immunisation Board established a steering group of relevant organisations to encourage all stakeholders to actively promote the vaccine.
Focus groups on parental attitudes to HPV vaccination were held and they increased their activity on social media.

Suggestions for improving HPV vaccination

Increase health literacy and communication (media, etc.) among parents, children and healthcare professionals

Varia

Publication for country situation on HPV vaccination and cervical cancer: No.

Italy

Date and time: 22 February 2023, 14:30 –15:30 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Louise Mathieu (Sciensano), Carmen Beatriz Visioli (ISPRO), Paolo Giorgi Rossi (AUSL-IRCCS), Raffaella Bucciardini (ISS), Luigino Dal Maso(CRO Aviano IRCCS)

Introduction

Carmen Beatriz Visioli is a Medical Doctor, specialised in Gynecology and Hygiene and Preventive Medicine. She has expertise in cancer epidemiology and has contributed to the analysis of several studies on the integration between HPV vaccine and screening.
Paolo Giorgi Rossi is an Epidemiologist, PhD, Director of AUSL-IRCCS Epidemiology Unit. He has experience in the evaluation of public health interventions. The Unit is also involved in co-creation projects on health promotion and cervical cancer screening. He is co-chairing the Italian multi-societal cervical cancer prevention guideline development, affording the integration between vaccination and screening, as a methodologist and expert in cervical cancer epidemiology, and for developing recommendations.
Raffaella Bucciardini is the Head of the Health Equity Unit at ISS – HEISS. She is a national and international coordinator in the field of global health and coordinates the PERCH project.
Luigino Dal Maso is a Senior Epidemiologist at the Unit of Epidemiology.

Discussion

General information on HPV vaccination

National vaccine plan
Italy has a national vaccination programme with the flexibility for regions to extend vaccination opportunities to additional groups, such as women up to 25 years old, HPV vaccination following treatment for CIN2 or CIN3, MSM, and individuals with immune deficiencies.

The initiative to provide active and cost-free HPV vaccination for girls at the age of twelve was introduced in 2007/2008, targeting birth cohorts from 1996/1997 as the primary focus. Additionally, vaccination recommendations were extended with regional differences to encompass a secondary target group, using a multi-cohort strategy (one or more cohorts between 12-18 years of age), alongside a catch-up strategy at 25 years old during the first cervical cancer screening, which has yet to be implemented across all regions.

The first available vaccines were bivalent (Cervarix: 3 doses at 0, 1-2, 6 months) and quadrivalent (Gardasil-4: 3 doses at 0, 2, 6 months). Between December 2013/March 2014, the vaccination regimen was updated to two doses (0,6-12 months) for those under 15 years old (under 14 years for Gardasil-4) and three doses for those 15 years and older (14 years and older for Gardasil-4). The availability of the nonavalent vaccine (Gardasil-9) for both genders started in 2017. Male vaccination cohorts in all Italian regions began with the 2006 birth cohort in 2018. Over time, vaccination recommendations expanded to include high-risk groups such as MSM, HIV-positive individuals, and women treated for preinvasive cervical lesions. Then in 2017 there was a debate which started again to enforce mandatory vaccination because there was a decrease in coverage. But HPV vaccination is recommended in Italy.

Target population
The main target groups for which it is recommended are girls and boys of 11 years old, in their 12th year of life. The age at which vaccination is not free anymore varies according to regional regulations, ranging from 14 to 26 years old.

Catch-Up vaccination and screening
A catch-up vaccination initiative is integrated into the first cervical screening episode. For vaccinated women before age of 15, they should ideally be invited for screening at 30 instead of 25, though the full implementation of this change is pending. Vaccination is currently proposed concurrently with cervical sampling. Catch-up vaccination is also available for targeted groups who missed vaccination during the COVID-19 Pandemic, managed at the regional level.

Implementation at regional level
All regions are mandated to provide minimum vaccination standards for both recommended and mandatory vaccinations. Nearly all regions operate active invitation systems for 11-year-old boys and girls, though the assessment of the current status is challenging due to the impact of COVID-19. Vaccination should be actively offered, although its integration into the first screening appointment varies across regions, with interruptions, delays, and vaccine shortages exacerbated by the pandemic. Only one region is trying to implement a school-based vaccination initiative, prompting discussions nationwide on its feasibility given the absence of clinics within schools and occasional resistance from educational institutions.

Price and reimbursement
Vaccines are provided free of charge. While the duration of free vaccination may vary by region, it is universally available for 11-year-old girls and boys. Some regions are extending free vaccination up to age 25, while others introduce co-payment systems. Additional vaccinations or targeting different age groups incur costs.

Data
Regional-level linkage exists between vaccine and screening registries, predominantly relying on provincial archives. Efforts are underway to centralise screening programme data at the regional level, enhancing the identification of vaccinated women and facilitating targeted interventions. While national ministers has some basic data, the responsibility for linkage lies with regional entities, complicating regional-level analysis due to anonymised and aggregated information. National-level screening data lack individual identifiers, limiting their utility for epidemiological evaluation.

Consent
Parents receive information and provide consent regarding data processing, aligning with the primary objective of data collection.

HPV vaccination coverage
HPV vaccination coverage varies across regions, influenced by healthcare system characteristics and organisation. https://www.salute.gov.it/imgs/C_17_tavole_27_1_7_file.pdf

Barriers/Enablers/Suggestions

Disparities in the healthcare system significantly impact vaccination coverage. Trust in the healthcare system, alongside its organisational structure, plays a crucial role. Key strategies to enhance vaccination coverage include ensuring invitations reach the target population, facilitating recalls for missed invitations, and offering appointment flexibility. General practitioners' involvement in primary prevention, particularly with HPV vaccination, remains challenging, with family paediatricians demonstrating greater collaboration. The presence of anti-vax, particularly among certain paediatrician groups, contributes to low coverage areas, such as in Rimini and the German-speaking community in Bolzano. Active invitation systems are pivotal in improving coverage and reducing inequalities, with maternal participation in screening linked to daughter vaccination.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Lithuania

Date and time: 31 January 2023, 14:00 –15:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Brigita Kairiene (NVSC), Daiva Razmuviene (NVSC), Gabriela Hartwig (NVSC), Rasa Liausedienne (NVSC).

Introduction

Brigita Kairiene: National Public Health Center (Minister of Health), Administrative personnel researcher, Master of Public Health. 18 years of experience in preparation, coordination and implementation of activities related to management of communicable and non-communicable diseases, national and international projects, JAs at national and international level. involved in Quality Management and Communication Department, part of PERCH. Main responsibility in the project PERCH: coordinator for Lithuania, administrative (reporting etc.) + active participation in all activities directed directly to vaccination.
Daiva Razmuviene: Doctor of hygiene and epidemiology, Chief specialist of preventative communicable disease from NPHC. More than 29 years of experience in the field of the management of vaccine preventable communicable diseases. Participating in the preparation of National immunoprophylaxis programmes (every 3-5 years), from 1992 the member of Coordinating Council for immunoprophylaxis.
Gabriela Hartwig: Master of medicine biology. 3 years of experience in dissemination activities related to communicable diseases, organisation of events, participating in different project's activities. NPHC, involved in Communicable Disease like HPV, HIV, STDs and vaccination coverage
Rasa Liausedienne: Doctor of hygiene and epidemiology, responsible for the management of vaccine preventable communicable diseases at the national level. NPHC, involved in CDs, management and provision, involved in air-borne disease and vaccines preventable diseases, responsible for vaccination coverage in Lithuania.

Discussion

General information on HPV vaccination

HPV vaccination organisation

- Vaccination information is provided according to the National Children's Preventive Vaccination Schedule.
- HPV vaccination is integrated into the children vaccination calendar, with all girls aged 11 to 12 receiving 2 doses. Vaccination for boys aged 11 years will start in February 2023.
- Gardasil 9 will be used starting from the 1st of February 2023, with Cervarix also available.
- Free HPV vaccination is financed through mandatory health insurance funds.

Catch-up vaccination

- Catch-up vaccination is offered only for girls, with 2 doses provided free of charge for girls up to 18 years old. The third dose is paid for by parents.

Vaccination administration

Vaccinations administered through family doctors or paediatricians in primary health care centers. Communication with parents primarily through these healthcare providers. Some health care institutions proactively encourage vaccination by sending SMS messages to parents of children registered at the primary healthcare institution. Conversely, other healthcare facilities discuss vaccination during preventive check-ups or when children visit due to illness, informing parents about the vaccination schedule for their children.

HPV vaccination coverage

- Coverage Data: NPHC collects vaccination data nationally, reporting a 61% coverage for 11-year-old girls in 2021.
- NPHC: 10 departments in every Lithuania county, covering the whole country, which are in charge of communicable diseases management. Their specific department collects data annually about vaccination rate in each county, from PHCCs. At national level, this data is summarised and they can calculate rates for Lithuania. National Public Health Centre collects information according Immunity status report (annually) and Report on preventive vaccinations (monthly).
- Overall vaccination coverage declined during the pandemic; reasons for this decline being assessed. Efforts are underway to evaluate the impact of COVID-19 on vaccination coverage and to improve coverage rates post-pandemic.

Increasing HPV vaccination coverage

- Strategies for improvement include disseminating more information on HPV vaccination, particularly in schools, and encouraging primary health care centers to actively inform parents.
- Encouragement for primary health care centers to actively inform parents about vaccination.
- Exploring synergies with a survey conducted by the European Commission to identify vaccination obstacles, particularly regarding HPV vaccination.

Access to individual patient data

- Limited access: NPHC does not have access to individual patient-level records; only receives summarised data from primary health care centers.

Barriers and facilitators

- **Barriers:** Mistrust of vaccines, safety concerns, and insufficient information about HPV infection and vaccination.
- **Facilitators:** Free vaccination for girls up to 18 years old and the possibility of creating individual vaccination plans.

Campaign Action?

Await the most recent data to assess the situation and determine further actions.

Varia

Publication for country situation on HPV vaccination and cervical cancer in general: Yes

Norway

Date and time: 30 January 2023, 10:00 –11:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Louise Mathieu (Sciensano), Berit Feiring (NIPH)

Introduction

Berit Feiring (NIPH). Senior Adviser Norwegian Institute of Public Health, experienced vaccinologist through 30 years. Introduced HPV vaccine into the Norwegian childhood vaccination programme.

Discussion

General information on HPV vaccination

HPV vaccination

- The first HPV vaccine was licensed in Norway in October 2006.
- Self-paid opportunistic vaccination, following a recommended three-dose schedule, has been available since then.
- Opportunistic vaccination occurs at a citizen's request to a physician and is not part of a vaccination programme.
- A routine HPV vaccination programme targeting 12-year-old girls in the 7th grade was introduced in 2009.
- Vaccine for boys in 7th grade (from 2018) : In 2018, boys in the 7th grade (birth cohorts 2006 and later) were included in the routine HPV vaccination programme, and they were offered the 2v vaccine in a two-dose schedule.

HPV vaccines

- Regular tenders are issued to decide which HPV vaccine is offered in the programme.
- From 2009 to 2017 (birth cohorts 1997–2004), girls in the routine programme received the quadri-valent vaccine in a three-dose schedule.
- From 2017 to date (birth cohorts 2005 and later), the bi-valent vaccine in a two-dose schedule has been offered.
- There was a switch of vaccine from Gardasil to Cervarix starting from 2017.

Currently, Norwegian girls and boys are vaccinated with Cervarix. There has been a debate whether they should instead receive the Gardasil 9 vaccine, which contains several more types of HPV than Cervarix. The potential impact of switching from Cervarix to Gardasil 9 has therefore been calculated.

HPV-vaccine may also be provided outside the programme, but has to be prescribed by a physician, and the individuals have to pay for the vaccine themselves. Both bivalent and nonavalent vaccines are available through the pharmacies.

Catch-up

- **Catch-up vaccination for women up to 26 years (2016-2019)**
  Catch-up vaccination was not initiated simultaneously with the routine programmes in Norway, but a delayed catch-up vaccination programme with the 2v vaccine in a three-dose schedule was effective from November 2016 through to June 2019, targeting women born in 1991 and later who had not been previously vaccinated in the routine programme. Catch-up vaccination was offered free-of-charge through primary care services.
- **Nowadays**

In Norway, they do not consider the vaccination of individuals aged 13-20 years who for any reason were not vaccinated when the vaccine was offered in 7th grade, as a catch-up programme. It is considered a continuous offer within the childhood immunisation programme.

Invitation and reminder
The primary target population is invited through the school-based vaccination system by the public health nurses through their routines for following up pupils in primary and secondary school.
Adolescents aged up to 20 years who have not had the HPV vaccine at school will be told by municipal health services about their right to get vaccinated and where to go for it.
Public health nurses usually check students' vaccination records before they finish secondary school (10th grade) to make sure they have not missed any vaccinations.

HPV vaccination coverage
Norway has a high vaccination coverage
Norway tops the statistics on HPV vaccination with a vaccination coverage of 91 per cent.

Data collection and linking register
There are 3 data sources:
1- Norwegian Immunisation Registry (SYSVAK)
2- Prescription Registry
3- Statistics Norway
Notification to the Norwegian immunisation registry is mandatory for all vaccinations within the childhood immunisation programme without the need for consent from either the vaccinated child or the parents/guardians.
The data is transferred electronically to SYSVAK from the electronic patient record systems.

Barriers and facilitators
One of the issues that can threaten public confidence and HPV vaccination coverage is public debate about the type of HPV vaccine used or "fake news" in social media.

Varia
Publication for country situation on HPV vaccination and cervical cancer: yes.

Poland

Date and time: 17 February 2023, 13:00 –14:00 CET
Location: Online (Webex)
Reporter: Louise Mathieu (Sciensano)
Attending: Hélène De Pauw (Sciensano), Iwona Paradowska-Stankiewicz (National Institute of Public Health, PZH), Ewa Augustynowicz (National Institute of Public Health, PZH)

Introduction

Iwona Paradowska-Stankiewicz and **Ewa Augustynowicz** represent the National Institute of Public Health. They work both at the Department of Epidemiology of Infectious Diseases and Surveillance.

Discussion

General information on HPV vaccination

Current situation

No national HPV vaccination programme has been established to date.

Recommended but not free of charge

HPV vaccinations in Poland are included in the list of recommended vaccinations, especially for adolescents and people before sexual-life initiation.
In 2021, the Agency for Health Technology Assessment and Tariff System issued a recommendation for the reimbursement of four-valent vaccinations for children over 9 years of age.
The only nationally partially funded vaccine is the bi-valent vaccine Cervarix. Since 1 November 2021, patients are able to buy the vaccine for a 50% reduced fee in all registered indications and recommendations.

Local/regional initiatives

Some regional and local authorities have set up programmes to provide the vaccine, especially to girls. The age for administration varies from 9 to 14 years old. The vaccine is reimbursed in these cases. Most of vaccine administration happens for girls, and sometimes boys, between 10 to 12 years old.

Administration of HPV vaccine

Process: you bring your child to the GP practice and ask for the vaccine. At the moment there is no way to get this vaccine than with the GP and through their prescription

HPV coverage

It is impossible to know. It is only registered by local places.

Future situation

- HPV vaccine will be introduced in the vaccination calendar around mid-2023
- They do not know yet which vaccine specifically will be used for this programme.
- HPV will not be mandatory, but recommended and free of charge (when it is mandatory, there are law issues).
- It is very experimental because it is the first time that a vaccine will have the same conditions as other mandatory vaccines without being mandatory.
- Process expected: once it will be in the calendar, the vaccines will be sent to a local health authority and the GPs ask them how many doses they need for vaccination.

Communication campaign

They will share information about this new situation through a communication campaign on their portal (the institute) to prepare the society and people to know about HPV vaccine.
The Ministry of Health plans to start “informal” communication and education regarding these activities, 3 to 4 months before the programme starts.

Registries

Current situation

- Registry: the system exists, outpatient clinic which does vaccination, as well as GPs fill a patient book. It is paper data collection. When the child is vaccinated, doctors or nurses fill out the special immunisation card for this patient.
- Polish public health authorities/ GPs are obliged to send at special times in the year information about how many children are vaccinated or how many did not.

Future situation

- This year, they plan on introducing a recording of each individual patient vaccination.
- Each GP will be responsible to post the information on how many children were vaccinated by what vaccines, how many doses, and which type of vaccine.

Obstacles to HPV vaccination in Poland

Attitudes towards vaccination

- Resistance concerns all vaccines in general.
- Hard to tell how parents will react to recommended free-of-charge vaccines.
- Regarding local programmes, there were optimists, and very enthusiastic about the changes that will be operated this year.
- GPs are also responsible for the vaccination. If they have time they encourage vaccination generally. Most of them provide information and they explain why it is important.
- Anti-vaccination movements are very active. During COVID, they were less visible. But now it will probably start again. The campaigns with COVID vaccine were very common and regular.
- They observed parents strongly expect free-of-charge vaccination. 60% of parents in a study stated they would like to provide the vaccine to their children.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Romania

Date and time: 24 January 2023, 10:00 –11:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Carmen Ungurean (NIPH)

Introduction

Carmen Ungurean is a senior public health expert with over 15 years of experience in cancer prevention. She specialises in developing, implementing, and evaluating public health policies. Carmen holds a master's degree in public health and is dedicated to improving public health outcomes, particularly in cancer prevention efforts.

Discussion

General information on HPV vaccination

The Romanian HPV vaccination experiment has encountered difficulties since its launch in 2008, mainly due to inadequate dissemination of information. Cervical cancer, the second most common cancer among Romanian women aged between 15 and 44, has prompted the Ministry of Health to launch a new vaccination campaign in 2020. There is a national immunisation programme in Romania that provides routine vaccines for children and also offers free vaccines for high-risk groups, including flu and hepatitis B vaccinations. The programme initially provided free HPV vaccines to girls aged 11-14, but in 2020, it extended the age group to 18. However, parents need to request the HPV vaccine through their family physician, who then orders it from facilities and schedules the vaccination. HPV vaccines are not available at pharmacies, and only the 9-valent vaccine is on the market.

Procurement

The procurement of vaccines is problematic due to delays in national tendering processes. Acquiring and distributing vaccines faces challenges, as budget planning occurs late in the year, leading to delays in vaccine procurement and distribution to family physician offices. Moreover, there is a shortage of family physicians, particularly in rural areas, leaving some regions without primary care coverage.

Vaccination administration

Family doctors are responsible for providing HPV vaccinations, which are free on request from the Ministry of Health. Girls and boys are encouraged to be vaccinated. Past vaccination attempts have failed due to low coverage, attributed to insufficient public awareness and acceptance. Despite the availability, dissemination and accessibility of vaccines in schools, acceptability has remained low.

In 2016, the Ministry of Health launched the National Cancer Plan to reduce the incidence of cervical cancer, accompanied by the first HPV vaccination media campaign in 2017. It faced significant reluctance and low acceptance rates, resulting in vaccine wastage. However, the vaccine has ceased to be free of charge, which has hampered the uptake of the vaccine.

Parents must now initiate contact with the family physician for the HPV vaccine, as health authorities do not reach out directly. Only vaccines provided through the national programme are recorded in the HPV vaccination registry, making it challenging to estimate coverage accurately.

Barriers and facilitators

Accessing HPV vaccination for girls aged 11-18 varies depending on the availability of vaccines and acceptance by family physicians. Some physicians may refuse to administer the vaccine, leading to delays in vaccination. Additionally, budget constraints may impact the inclusion of boys in the vaccination programme.

Suggestions for improving HPV vaccination

To improve the programme, it is essential to periodically survey the knowledge and attitudes of various population groups, including addressing misinformation and anti-vaccine beliefs. Professional organisations should take action against physicians who oppose vaccination, as seen during the COVID-19 pandemic. Overall, there needs to be better coordination in vaccine procurement, distribution, and information dissemination to enhance HPV vaccination coverage in Romania.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Slovakia

Date and time: 23 January 2023, 10:00 –11:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Daniela Kállayová (Ministry of Health of the Slovak Republic)

Introduction

Daniela Kállayová represents the Ministry of Health of the Slovak Republic, Department of Public Health, Screening and Prevention. Her team is mainly involved in the National Health Promotion and disease prevention plans.
Daniela is involved in the National Oncology Plan where they have a prevention Action Plan which aims to increase HPV vaccination coverage in Slovakia, as the country has very low coverage. Daniela has an expert position in the department.

Discussion

General information on HPV vaccination

The Ministry of Health in Slovakia does not collect data because Slovakia has a National Health Information Centre. This centre is responsible for national data collection.

Vaccination in the Slovak Republic is currently planned, organised, coordinated and controlled by the Public Health Office of the Slovak Republic in cooperation with regional public health offices in the Slovak Republic. The national public health authorities are responsible for the vaccination programme in general.

HPV vaccine is not a mandatory vaccination in Slovakia, but it is recommended.
Since 2020, there is a gender-neutral (boys and girls) HPV vaccination offered free of charge (fully covered) by public health insurance for children aged 12 years old.
After 12 years, boys/girls have to pay about 30-50% of the vaccine. The rest is covered by health insurance.
There is no National HPV Immunisation programme.

Vaccination coverage

The coverage of compulsory vaccines is good. The national public health authorities carry out an annual administrative check based on patients' medical documents.
HPV vaccination coverage, according data from May 2022: 30% in girls and <10% in boys.

Distribution, administration

The chief hygienist is responsible for the list of compulsory vaccines (type of vaccine, age, dose). There is also a working group responsible for routine vaccination. The vaccine procurement or supply chain is under the responsibility of pharmacies and distribution. The supply system is in the hands of paediatrician and pharmacist. The paediatrician is responsible for the implementation of the vaccination.
During a periodic check-up, the paediatrician must be aware of who is to be vaccinated. Vaccination takes place in the paediatrician's practice (rem.: the only exception was the vaccination against COVID). The paediatrician gives a prescription for the HPV vaccine, which must then be picked up from the pharmacy. The vaccine is then administrated at paediatrician's practice.

Obstacles to HPV vaccination in Slovakia

Financial aspect

HPV vaccination is fully covered only for children aged 12 years. This means that when the child is older, parents have to pay for the vaccine. The price of HPV vaccine is high.

Political obstacle

Currently, there is no will to make vaccination compulsory.
There are also some beliefs and misperceptions about Childhood Vaccination in Slovakia from political groups. Some of them, especially Christian conservatives, believe that increasing vaccination means a risk of increasing sexual activity among children.

Misinformation and vaccine hesitancy

The COVID-19 pandemic and vaccines induced vaccine hesitancy in the general population. Therefore, it is important for Slovakian health authorities to first increase parental confidence and knowledge about HPV vaccination before including it in the mandatory vaccination schedule. HPV vaccine hesitancy is also found among healthcare workers such as nurses.

Varia

Publication for country situation on HPV vaccination and cervical cancer: Yes

Slovenia

Date and time: 20 February 2023, 09:00 –10:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Urška Ivanuš (IOL), Nadja Sinkovec-Zorko (NIPH), Katja Turk (NIPH), Elizabeta Radelj Pepevnik (IOL), Louise Mathieu (Sciensano).

Introduction

Urška Ivanuš (IOL) (WP2): Head of National Cervical Cancer Screening Programme and Registry ZORA
(IOL), Head of National Screening Committee (MoH), Head of Department for cancer screening (IOL), President of Association of Slovenian Cancer Societies (NGO), national coordinator of EU-TOPIA-EAST project (H2020). Initiator and coordinator of the stakeholders for cervical cancer elimination in Slovenia.
Nadja Sinkovec-Zorko (NIPH): Centre for Communicable Diseases (NIPH), researcher in the field of HPV
vaccination; extensive knowledge about HPV and cervical cancer; involved in past activities for cervical cancer elimination in Slovenia.
Katja Turk (NIPH): Communication officer at the National Institute of Public Health, involved in PERCH, responsible for external communication on national campaigns including HPV and vaccination.
Elizabeta Radelj Pepevnik (IOL): Journalist working on PERCH projects in WP2. Department for public relations (IOL), expertise in coordination of activities, involved in past activities for cervical cancer elimination in Slovenia.

Discussion

General information on HPV vaccination

Organisation of vaccination in Slovenia
Slovenia's National vaccination programme includes two types of vaccinations:
1- Mandatory vaccinations for diseases like diphtheria and tetanus, enforced by financial penalties for non-compliance. Measles vaccination is also mandatory for kindergarten enrolment and some studies (e.g. health sector).
2- Recommended vaccinations, including HPV, where parents must provide consent either for or against vaccination.

HPV vaccination
Screening and vaccination are coordinated between schools and healthcare institutions. Immunisation schedules are followed in schools, with collaboration between schools and healthcare centers. Vaccination is integrated into routine healthcare checks, although not all children accept the vaccine. School doctors invite children for systematic health checks including HPV vaccination, requiring parental consent. Vaccination locations are typically near schools. Information is disseminated through schools to parents, facilitated by school doctors. Both boys and girls are targeted for vaccination (9-valent). **Primary target group:** girls and boys in the 6th grade, aged 11/12, with vaccinations free of charge for this group.

HPV vaccination coverage
- Started in 2009/2010 with approximately 50-55% coverage initially.
- Coverage fluctuated but increased to almost 60% before the pandemic.
- Coverage dropped below 50% for girls last year due to COVID-related disruptions.

- Factors influencing coverage include trust issues, logistical challenges, and misinformation about vaccination.
- Trust in vaccination remains a concern, with pandemic-related hesitancy observed.
- Parents' receipt of information and trust in the source, such as healthcare providers, affects vaccination decisions.
- They started calculating vaccination coverage for school children using data from the electronic registry (based on individual data) in the school year 2021/22. Prior to that, they relied on aggregated data provided by vaccination providers for previous school years.

Catch-up programme
Available for all eligible girls and boys, funded by health insurance.
Catch-up vaccinations are available for eligible individuals up to 26 years old. Consideration for expanding catch-up vaccination to additional generations of boys is ongoing.
Vaccinations can be administered during health checks or by appointment with a doctor.
Reporting and data collection for catch-up vaccinations improved with the implementation of electronic vaccination registries.

Consent and data registries
Parental consent is required for children under 15, while older children can decide independently.
Data reporting shifted from aggregated to individualised, improving coverage monitoring.
Electronic vaccination registries, established in 2017, have gradually improved data completeness. However, In the first years not all the doctors and healthcare centres were included or using the registry. Only some were reporting at the beginning and this percentage increased every year and only last year almost all the doctors reported. Also women and men can vaccinate at any age, as long as they pay. But this data is not registered.
Efforts to link vaccination and cancer registries for research purposes are ongoing.

Reimbursement and access
Vaccines are funded for children, with coverage extending until the age of 26.
School children receive vaccinations through healthcare centers, while older individuals may access vaccines through community centers or primary physicians.

Obstacles to HPV vaccination in Slovenia

Challenges with healthcare professionals

- Some healthcare professionals, particularly family doctors and gynaecologists, have hesitancy towards vaccination.
- Private doctors are less commonly chosen, but they are legally obliged to report vaccinations.
- Medical nurses play a crucial role in advocating for vaccination and influencing parental decisions.
- Survey data indicates that doctors are the most influential figures in vaccination decisions for parents and the general population.

Varia

Publication for country situation on HPV vaccination and cervical cancer: yes.

Spain

Date and time: 23 February 2023, 11:00 –12:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Maria Brotons (ICO), Joan Valls Marsal (ICO)

Introduction

Maria Brotons (ICO). Medical epidemiologist with over 10 years' experience in epidemiology and
prevention of HPV-related diseases. S
Joan Valls (ICO). Medical epidemiologist**, Data Scientist.** Focusing his research on cervical cancer epidemiology with particular attention to its prevention

Discussion

General information on HPV vaccination

HPV vaccination
HPV vaccination coordination and recommendations are managed at the national level by the Interterritorial Council of the National Health System (NHS), where each region is represented; however, these recommendations are not obligatory. Implementation of the vaccination programme is the responsibility of each region, with Spain comprising 19 Regional Ministries of Health.

Male vaccination recommendation starting in October 2022. Implementation at regional level started in 2022 and can be done until the end of 2024. Notably, there are exceptions across regions regarding the age of the primary target group for HPV vaccination: Asturias vaccinates at 10 years old, while Catalonia, Murcia, Navarra, and La Rioja vaccinate at 11-12 years old.

The method of vaccination delivery also varies by region, with 8 regions opting for school-based vaccination (covering 47% of the total target population) and 11 utilising primary care centers (covering 53% of the total target population).

Catch-up vaccination
Catch-up vaccination recommendations for females extend nationally up to 18 years old, but the endpoint varies by region, with some extending up to age 26, and others yet to establish an endpoint. Notably, there is no national recommendation for catch-up vaccination for males, except in Asturias, which offers catch-up vaccination for boys aged 12 during 2023 and 2024.

Invitation and reminders
The process of inviting and reminding individuals for vaccination also varies by Autonomous Region, with strategies ranging from identification during paediatric or primary care visits to outreach through NGOs and information campaigns.

Distribution, administration
Vaccination is prescribed by medical doctors, with administration typically carried out by nurses. Vaccines officially recommended are available at health care centres of the regional health services. Privately recommended vaccines require purchase from a pharmacy.

Data collection
Data management for immunisation programmes is the responsibility of each Autonomous Region, with aggregate data provided to the national level. Efforts are underway to establish a

National Information System on Immunisation that includes individual data; however, the Ministry of Health currently lacks this information.

Barriers and facilitators

Factors influencing HPV vaccination uptake include concerns about vaccine safety, information provided by healthcare professionals, language barriers, knowledge about the disease, and access issues. School-based immunisation and GP knowledge are identified as facilitators.

Varia

Publication for country situation on HPV vaccination and cervical cancer: yes.

Sweden

Date and time: month 2023, 10:00 –11:00 CET
Location: Online (Webex)
Reporter: Hélène De Pauw (Sciensano)
Attending: Marc Arbyn (Sciensano), Lina Schollin Ask (Public Health Agency of Sweden)

Introduction

Lina Schollin Ask: She is employed at the Public Health Agency of Sweden as a paediatrician with a background in vaccine research, holding a PhD in the field. Currently, she leads the team responsible for HPV vaccination initiatives within the agency. Her team focuses on various aspects such as communication, implementation, registry follow-up, and associated research endeavours. Additionally, they collaborate with an affiliated research group within the PERCH, which specifically concentrates on HPV vaccination. Her efforts primarily revolve around a national project in Sweden.

Discussion

General information on HPV vaccination

How can Sweden enhance vaccination coverage and address anti-vaccination sentiments?
They aim to increase awareness among healthcare professionals, particularly emphasizing the role of general practitioners (GPs) in certain regions. Their approach involves targeted actions, aligning with the Commission's emphasis on awareness campaigns.
Regarding vaccination strategies, they administer HPV vaccines in schools, which significantly impacts coverage rates in Sweden.

Apart from vaccinations in schools, are there other ways of reaching children?
Swedish vaccination programme initially targeted girls and boys in grades 5-6, ensuring coverage for ages 11 to 12. However, to streamline the process and reduce missed opportunities due to school transitions, they later limited vaccination to a single grade, typically when children are 11 years old. While school-based vaccinations are the primary method, children not attending school can receive vaccinations free of charge at primary care facilities. Although not mandatory, the majority of children are vaccinated through the school programme, resulting in a coverage rate of 92%. In particular, the inclusion of boys in the programme from September 2020 reflected the success observed with girls, even during the pandemic.

Is there a way to opt out of registration?
The Public Health Agency manages the registry, and they provide a dedicated webpage where individuals can submit a request for removal. It is feasible, but proactive action is required.

Do you have any suggestions on how to further improve coverage, considering it is already high in Sweden? What is the current vaccination coverage in Sweden?
For the initial dose, it stands at 92%, while for both doses, it ranges from 89-90% for both girls and boys. In Sweden, there is a strong foundation of trust in public health and vaccine acceptance among parents and the youth. Families typically have 9-12 appointments with the same nurse, making vaccination a routine matter. This consistency is crucial. Vaccination discussions can evoke strong emotions, but with familiar school nurses, children feel more at ease. Lina believe teachers should play a more active role in disseminating information about HPV and vaccination. The standard procedure is for parents to sign the consent form, followed by organising the vaccination visit at school. Their mission is to support school and child health, enabling school nurses to address questions and provide information. They have invested

considerable effort in educating nurses through informational materials and educational packages. They ensure that children receive information tailored to their level of understanding, focusing on the importance of early immunisation to prevent future health issues. They provide materials for school health personnel, including nurses, doctors, principals, teachers, and parents, in the form of 'easily digestible' fact sheets.

Is there a specific law governing HPV vaccination in Sweden, particularly concerning consent and data protection?

In Sweden, guardians of children must provide consent for vaccination, which is typically obtained through paperwork completed by both guardians. This process is facilitated by school nurses. All vaccinations, including HPV, are integrated into the national vaccination programme and must be registered in their national vaccine registry, which is managed by the Public Health Agency. Individuals can request removal of their data from the registry through their website.

Improving vaccination coverage depends on understanding and making effective use of existing systems.

Children have the right to receive information that is appropriate for their level of understanding, so they have dedicated effort towards this goal. They have avoided extensive discussions about sexuality. Instead, they emphasize to children, many of whom are quite young, that most infections occur in older individuals, and cancer typically develops later in life. Therefore, early immunisation is crucial for prevention. They create materials specifically for school health nurses, doctors, principals, teachers, and parents. These materials include easy-to-read fact sheets.

Varia

Publication for country situation on HPV vaccination and cervical cancer in general: Yes