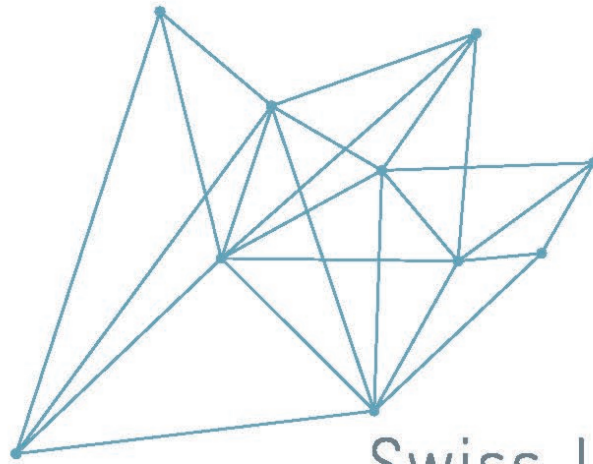




Swiss Learning
Health System

Human Papillomavirus Vaccination in Swiss General Practice

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Keywords

Human Papillomavirus, Vaccination, Primary Care, Prevention, Switzerland

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List of abbreviations

FOPH	(Swiss) Federal Office of Public Health
GP	General practitioner
HPV	Human Papillomavirus
SLHS	Swiss Learning Health System

Policy Briefs and Stakeholder Dialogues of the Swiss Learning Health System

The Swiss Learning Health System (SLHS) was established as a nationwide project in 2017, involving academic partners across Switzerland. One of its overarching objectives is to bridge research, policy, and practice by providing an infrastructure that supports learning cycles.

Learning cycles enable the continuous integration of evidence into policy and practice by:

- continuously identifying issues relevant to the health system,
- systemizing relevant evidence,
- presenting potential courses of action, and
- if necessary, revising and reshaping responses.

Key features of learning cycles in the SLHS include the development of **Policy Briefs** that serve as a basis for **Stakeholder Dialogues**.

A **Policy Brief** describes the issue at stake by explaining the relevant contextual factors. It formulates a number of recommendations to address the issue (evidence-informed recommendations, when available), and for each possible recommendation, it explains relevant aspects and potential barriers and facilitators to their implementation. Policy Briefs serve as standalone products to inform interested audiences on potential courses of actions to address the issue, as well as input for Stakeholder Dialogues.

A **Stakeholder Dialogue** is a structured interaction where a variety of key stakeholders are brought together for the purpose of defining a common ground and to identify areas of agreement and disagreement on how to solve issues in the Swiss health system. Based on a Policy Brief, stakeholders discuss the issue, recommendations, and barriers and facilitators, and work collaboratively towards a common understanding of the issue and the best course of action. The dialogue takes the form of a deliberation to ensure that stakeholders work together to develop an understanding and solutions that are acceptable to all parties.

Key Messages

Background and Context

Chronic Human Papillomavirus (HPV) infections are associated with the development of carcinoma in both women and men. Given the high burden of disease, prevention is of great interest. A vaccine against HPV infection is available in Switzerland and the Swiss Federal Office of Public Health recommend the vaccination for the female and male population aged 11 to 26.

General practice plays an important role in the field of primary prevention including vaccination. In the case of adult patients, the general practitioner is typically the primary point of contact for all medical queries. Consequently, young adults who have not yet been vaccinated can be identified in this setting and a catch-up vaccination can be carried out.

The Issue

HPV vaccination rates are low in Switzerland and numerous factors are contributing to the low vaccination uptake rates. Despite general reasons, such as vaccine hesitancy or lack of awareness and information that may apply to all types of vaccines, specific reasons within the general practice setting could be identified:

- The HPV vaccination programmes limit access to vaccination.
- Young adults rarely visit their general practitioners for preventive medicine. Accordingly, their immunisation status is rarely assessed.
- A gender gap focussing on the female gender can be observed. Men are correspondingly less frequently vaccinated.

Recommendations for Action

- Access to vaccination must be facilitated.
- More frequent determination of the vaccination status in acute care.
- Rise awareness about the importance to vaccinate young men.

Implementation Considerations

Barriers to implementation include:

- Competition for resources between HPV and other important health issues.
- Low health literacy of young adults regarding vaccination
- Behavioural changes are necessary

Facilitators to implementation include:

- Increased access to the vaccination
- Reduction of administrative burden and costs
- Increased health awareness among the population at risk

Background and Context

Human papillomavirus and burden of disease

Human papillomavirus (HPV) infection is a sexually transmitted disease caused by different strains of HPV. In up to 90%, HPV infections are cleared spontaneously within one to two years after infection (1). However, HPV infection can persist and become chronic. Chronic infections with high-risk strains can lead to the development of cancer, e.g. urogenital cancer and head and neck cancer (2).

The lifetime prevalence of HPV infection is about 85% in women and 91% in men (3) and the highest incidence rates of HPV attributable cancers can be found in sub-saharan Africa, south-eastern Asia but also central and eastern Europe (4). In Europe, the annual mean number of HPV-attributable cancer cases in both women and men is approximately 53,000. Of these, approximately two-thirds are attributed to cervical cancer. In fact, the main burden of disease caused by chronic HPV infections is the development of cervical carcinoma in women. Cervical cancer is the fourth most common cancer among women, with an estimated 3.7 million women in Switzerland at risk of developing the disease. In Switzerland, approximately 250 women are diagnosed with cervical cancer each year, resulting in approximately 100 deaths (5). Approximately 10% of all HPV-attributable cancer cases involve men, with head and neck, penile, and anal cancers being the most prevalent (6).

Prevention

Given the high burden of disease, prevention is of great interest. Since the late 1960s, cervical cancer screening has been implemented in Swiss healthcare and one could observe a decline in the incidence of cervical carcinoma by about 60%. However, the screening programme is of opportunistic nature and it is estimated that approximately 30% of the eligible population never participate. Furthermore, the programme addresses only women aged 21 to 70, with no equivalent programme in place for men (7).

In addition to screening for infections and precancerous lesions, vaccinations are an important part of prevention. In Switzerland, the vaccination has been recommended since 2007 for females and since 2015 for males (8). Since 2024, the vaccination has been recommended as a basic vaccine for both female and male adolescents aged 11 to 19, and as a catch-up vaccine for young adults aged 20 to 26 in the event that they missed the basic vaccine during their adolescence (9).

The current available nine-valent vaccine is intended to protect from seven different high-risk strains causing cancer and two low-risk strains causing genital warts. In Europe, 90% of all HPV-related cancers can be attributed to HPV strains covered by the current nine-valent vaccine (6). A number of studies have demonstrated that vaccination against HPV can significantly reduce the number of infections, precancerous stages and also the number of invasive cervical carcinomas (10, 11). The most significant advantage is achieved when the vaccination is administered at an earlier age, prior to the population being exposed to HPV.

The Issue

Cervical cancer screening is designed to identify precancerous lesions or to diagnose cervical cancer at an early stage. It is inherent to the nature of this screening that it only addresses women. To date, there has been no comparable programme for men. In addition, screening programmes have no influence on the transmission of HPV. In contrast, vaccination is gender-neutral and aims to prevent infection. It is therefore not only aimed at reducing the incidence of cervical carcinoma, but also that of carcinomas in male patients. A further advantage of vaccinating both sexes is that, assuming a correspondingly high vaccination rate, herd protection can be created for unvaccinated individuals.

Vaccination constitutes a pivotal element in the prevention of disease. However, HPV vaccination uptake rates are low in Switzerland.

Low vaccination uptake rates in Switzerland

In many countries, vaccination uptake rates for the HPV vaccination are low (12, 13). The WHO is aiming for a vaccination uptake rate of 90% among women (14). In Switzerland, the figures of the national surveillance report vaccination rates of about 71% in 16-year old female adolescents. Although vaccination rates among young men have risen slightly in recent years, they are still well below the vaccination rates for women, with the latest figures of about 49 % (8).

There are numerous factors contributing to the low vaccination uptake rates observed in Switzerland. The reasons for the low vaccination rates may be of a general or specific nature. General reasons, such as vaccine hesitancy, lack of awareness and information, access to the vaccination or financial reasons, may apply to all types of vaccines, including HPV. Specific reasons depend on the context. The HPV vaccination is recommended for adolescents and adults aged between 11 and 26 years. This implies that vaccinations can be administered at school, by a paediatrician, in gynaecology or in general practice. Each of these settings possesses a distinctive character and presents a unique set of challenges.

HPV vaccination in Swiss General Practice

General practice plays an important role in the field of vaccination. In the case of adult patients, the GP is typically the primary point of contact for all medical queries. Consequently, young adults who have not yet been vaccinated can be identified in this setting and a catch-up vaccination can be carried out.

In light of the limited resources available, the topic of HPV is competing with other aspects of healthcare that are equally deserving of attention from a medical standpoint. Furthermore, the general difficulties surrounding the topic of vaccination, coupled with context-specific challenges, contribute to the low rates of immunisation observed in this setting. In the context of HPV vaccination, certain challenges emerge within the general practice setting.

Current state of the HPV vaccination

A special feature of the HPV vaccination in Switzerland concerns access to the vaccination and the coverage of costs for the vaccination. Usually, all physicians are authorised to provide all vaccinations to the population (except for the yellow fever vaccination). Recommended basic and supplementary vaccinations in Switzerland are covered by the compulsory basic health insurance as soon as the individual deductible and co-payment thresholds are met. The circumstances surrounding HPV vaccination are distinct from those pertaining to other vaccines. At the patient level, the costs of the HPV vaccination are covered if the vaccination is administered as part of a cantonal HPV vaccination programme. Vaccinations outside of the programmes are subject to a deductible or a co-payment. It can therefore be concluded that the HPV vaccine is effectively provided free of charge to adolescents and young adults.

Nevertheless, physicians who wish to administer the HPV vaccine must register to participate in the relevant cantonal HPV vaccination programme. The cantonal HPV vaccination programmes regulate the procurement and reimbursement of vaccinations and vaccination services. It is necessary to obtain vaccinations separately and to maintain separate records of the vaccinations carried out. This results in an additional administrative burden, which, in the context of the generally high level of administration, is a deterrent for physicians. Similarly, some physicians do not register at all because they see too few patients in their practice to justify the effort (15).

As a result, access to vaccination is restricted at an organisational level.

Assessment of the vaccination status

The younger population is usually in better health condition than the older population (16). Accordingly, individuals of a younger age have a lower incidence of medical consultations in GP practices. The absolute number of contacts between GPs and potentially unvaccinated people is therefore limited. In addition, the underlying causes of such consultations tend to be more common acute illnesses or accidents. In Switzerland, GPs primarily ascertain HPV vaccination status during routine check-ups, travel medicine advice or when admitting new patients. The vaccination status of patients presenting with other acute conditions is checked with considerably less frequency (17). This indicates that in a population that seldom consults with a GP, a considerable proportion of potential opportunities for preventive care remain untapped due to the predominant focus of the consultation on acute care. Against this background, it must be considered that a consultation for an acute illness must also include a transition from acute treatment to prevention. Young adults may find this inappropriate (18).

Gender gap

The vaccination was designed to reduce the incidence of HPV-associated diseases. The primary burden of HPV-associated diseases is cervical cancer and cervical precancerous lesions in women. Accordingly, the vaccination was consistently been directed primarily at females (19). In Switzerland, the vaccination was initially only recommended for female adolescents and women. It was not until 2015 that the Federal Office of Public Health (FOPH) recommended that male adolescents and men should also be vaccinated (20). It is important to note that HPV-associated carcinomas can occur in men, men can be affected from genital warts, and vaccination in men can help to reduce HPV transmission by inducing a herd immunity. Vaccinations in men have a benefit of reducing disease burden at the population level as well as

in their own partner, should the partner not have been vaccinated, or the vaccine prove less effective.

The vaccination rate among men in Switzerland is significantly lower than among women. Despite the fact that general practitioners in Switzerland administer vaccines to a considerable number of men, the focus of vaccination remains disproportionate between the sexes, with a greater emphasis placed on women (17, 18).

Recommendations to address the low vaccinations rates in Swiss General Practice

Recommendation 1: Access to vaccination must be facilitated

As convenient and straightforward access to vaccination is a fundamental aspect of achieving high vaccination rates, the access to vaccination must become easier at the GP and patient level.

All obstacles preventing GPs from offering the HPV vaccination should be minimised. This primarily concerns the additional administrative burden associated with the cantonal HPV vaccination programmes. One potential approach would be to align the status of the HPV vaccination with that of other vaccinations. The necessity for separate orders for the vaccinations and parallel documentation and billing would thus be eliminated. The HPV vaccination would therefore be a vaccination like any other. Considerations between own patient numbers and the additional administrative effort required as a result cannot be a reason for restricting access to vaccinations.

Such a change could enhance the willingness of GPs to administer the vaccination, which would, in turn, facilitate a more convenient access to vaccination for patients. Vaccination rates could therefore be increased.

Recommendation 2: More frequent assessments of patients' vaccination status.

There is a necessity for increased awareness regarding the fact that young people, in general, have minimal interaction with their GPs. Consequently it is recommended that all consultations, irrespective of their nature, should be utilised to ascertain the vaccination status of patients in order not to lose opportunities due to the situational context. A heightened awareness may result in an increased number of consultations in which the topic of HPV and the HPV vaccination status could be addressed. Even in cases where patients are unable or unwilling to be vaccinated immediately, this measure would result in heightened awareness among patients, which could subsequently facilitate later vaccinations. A variety of approaches may be employed to ascertain the vaccination status of patients more frequently. One such approach could be active case finding within GP practices. However, a first step could be to increase awareness. It would be beneficial to raise awareness at the population level through the implementation of public campaigns, in addition to fostering awareness within medical practices.

Public campaigns on the topic of HPV primarily raise awareness of the topic and usually refer to healthcare professionals as contacts. However, contacts specifically for prevention remain rare or get lost in consultations for sports injuries, for example. A more targeted approach to communication may prove beneficial in this regard. For example: *“Seeing your GP about a sprained ankle? No reason not to talk to your GP about HPV.”*

Additionally, GPs may choose to proactively engage with young patients within their own practice. As an example, one possible strategy could be to provide advance notification that the

subject of HPV will be addressed during the forthcoming consultation, irrespective of the reason for the appointment. Such an approach would enable patients to be adequately prepared, thus avoiding any potential for them to be taken by surprise during the consultation. Moreover, patients may opt to explore the subject matter in advance and, if required, obtain supplementary information in the waiting room. The announcement to patients could be made in two ways: actively, by the staff, or passively, in the form of posters or flyers displayed in the waiting room. In addition to the information that the topic of HPV is being discussed, patients should also be informed of the rationale behind the discussion. Irrespective of how patients ultimately decide for or against vaccination, this approach may help to reduce reservations and increase patients' understanding of this measure.

Recommendation 3: Rise awareness about the importance to vaccinate males

In the last decade, there has been a shift in the focus of HPV vaccination from targeting girls and young women exclusively to an approach that encompasses individuals of all genders. A slight increase in vaccination rates among men has also been observed but still half of all male adolescents are not vaccinated (8).

Given the often inconsistent nature of HPV vaccination counselling for men and the continued focus on women (17, 18), it is essential to address this issue more specifically as part of national campaigns and continuous medical education. It is imperative that men are specifically addressed and informed that HPV-associated diseases impact not only women, but also their own health. It is recommended that men be encouraged to address the issue in a conscious manner, given that general practitioners do not consistently do so.

A systematic approach targeting adult males would be highly beneficial in this context. The FOPH could provide specific informational material for GPs. The current materials are of a very general nature, and the fact that men are particularly less well cared for is not readily apparent (21, 22).

Implementation Considerations

The following two tables present a summary of the potential facilitators (Table 1) and barriers (Table 2) for the implementation of the three recommendations discussed in the previous section.

Table 1: Facilitators			
	Patients	General practitioners	Stakeholders (e.g. FOPH)
Recommendation 1: Access to vaccination must be facilitated	- Primary care generally offers low-threshold access to the healthcare system and provides an opportunity for vaccination. - Better access to vaccination offers.	- The provision of vaccination is made more accessible. - Less administrative burden.	- Elimination of HPV programme specific administrative burden, e.g. organisation and running of the programmes - Cost savings due to less administration.
Recommendation 2: More frequent assessments of patients' vaccination status.	- Young adults are typically in good health and are aware that they seldom require contact with their GP. - Growing health awareness. - Greater acceptance of the discussion among pre-informed patients.	Pre-informed patients could facilitate the discussion with GPs during the consultation.	- Experience with public health campaigns. - Existing public health campaigns and information materials can be adopted. - It is possible to tackle shortcomings in a more focused manner through targeted public health campaigns.
Recommendation 3: Rise awareness about the importance to vaccinate young men	- Growing health awareness. - Increased awareness that the GP can be a contact person for sexual health (in comparison to the gynecologist for women)	- Counselling is core competence of GPs. - Information materials are effective tools to improve quality of care and are generally well perceived.	

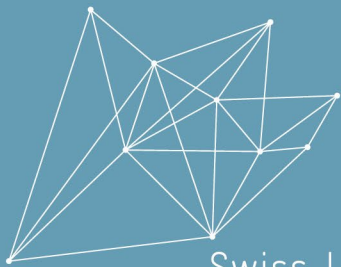
		The involvement of pre-informed patients could facilitate the discussion with GPs.	
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Table 2: Barriers			
	Patients	General practitioners	Stakeholders (e.g. FOPH)
Recommendation 1: Access to vaccination must be facilitated	Vaccinations for adults are typically subject to the deductibles / co-payments. Costs can be a deterrent to vaccination as an adult.	Change management as a challenge: Change/adaptation of the organization may trigger resistance from those who currently have HPV vaccination in their routine.	Risk of established processes being disrupted.
Recommendation 2: More frequent assessments of patients' immunisation status.	- Young patients, especially males, may not feel addressed. - Resistance due to the reason for treatment (acute care). - Unawareness of the own vaccination status.	Vaccination counseling may compete with other medical topics for time and resources due to the differing nature of the reason for encounter.	Competition for resources: Topic of HPV competes with other important health issues.
Recommendation 3: Rise awareness about the importance to vaccinate young men	- Low health literacy regarding vaccinations. - It is not feasible to reach all individuals within the target group.	An equal focus on both genders necessitates a change in behaviour.	- There has been a slight increase in the vaccination rate among men in recent years. - The vaccination recommendations for men have recently been adjusted and equalised with those for women.

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