



## POLICY BRIEF

# Strengthening vaccination services in prison settings

## Public health guidance

**CONTENTS:** • [p.1\\_Background and rationale](#) • [p.2\\_The RISE-Vac Project](#) • [p.2\\_The foundations: Equivalence of care, human rights, and independence](#) • [p.2\\_Methodology](#) • [p.3\\_Catch-up and booster vaccination](#) • [p.4\\_Vaccine-preventable cancers: HBV and HPV](#) • [p.6\\_Seasonal vaccinations: Covid-19 and Flu](#) • [p.8\\_Vaccination for individuals with specific conditions](#) • [p.10\\_Vaccine provision as part of continuity of care](#) • [p.12\\_Framework for monitoring vaccinations in prison](#) • [p.13\\_Framework for vaccination services in prison](#) • [p.14\\_Bibliography](#)

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## Background and rationale

Over 11 million people are detained worldwide, with more than 30 million transitioning between prisons and communities annually. In the WHO European Region, over 1.5 million individuals are in detention at any given time. There is a complex interplay between factors like poverty, limited healthcare access and social disparities, and the risk of crime, imprisonment and ill-health. Despite limited data and differences between countries, substantial evidence shows that people living in prison (PLP) disproportionately experience complex, co-occurring health problems, including vaccine-preventable diseases (VPDs), while being often underimmunised. Due to their infrastructure, poor ventilation, overcrowding and transient population, prison settings pose a high risk for the transmission of infectious diseases.

The fundamental health needs of those in detention, including juveniles, migrants, and individuals in pre-trial detention, are often inadequately met. Since most

PLP return to their communities after short periods of detention, their time in prison provides a crucial opportunity to address health inequalities and offer essential health interventions.

Vaccination represents one of the most efficient and cost-effective public health measures. However, prison vaccination services are often inconsistent and fragmented across regions and countries. Furthermore, the lack of unified vaccination guidelines for prison settings represents a significant gap in global public health efforts. **Providing expanded, age-appropriate, and non-coercive vaccination services tailored to the prison population will significantly improve the health status of PLP while reducing disease transmission within prisons.** As PLP return back to the community, the health benefits of vaccination extend beyond the prison walls, contributing to public health overall.

# The RISE-Vac Project

Launched in 2021, the **RISE-Vac project**, co-funded by the European Union’s 3rd Health Programme, aims to enhance vaccine availability and uptake in prisons across six European countries ([wephren.tghn.org/rise-vac/](http://wephren.tghn.org/rise-vac/)).

The project generated valuable evidence on vaccination strategies, services and tools to enhance vaccination offer and uptake, contributing to strengthening prison vaccination programs.

## The foundations: Equivalence of care, human rights and independence

The United Nations Standard Minimum Rules for the Treatment of Prisoners, known as the "Nelson Mandela Rules", emphasises equivalence, consent, autonomy, continuity of care, and the independence of healthcare staff in prisons. They assert that prison healthcare is a state responsibility, should be free of charge, and closely linked to public healthcare, upholding the principle of **equivalence of care**. The Bangkok Rules complement these by outlining gender-sensitive interventions in prisons, addressing the unique needs of women. In the aftermath of COVID-19, the United Nations issued the "United Nations System Common Position on Incarceration", calling for further attention to over-incarceration, overcrowding and the serious neglect of prison services for public safety, **health and human rights**. Health programs in prisons not only benefit the incarcerated population but also reduce disease transmission in the broader community. This approach is enshrined by the sentence "**Prison health**

**is part of public health"** as fostered by the WHO Health in Prison Programme.

Incarceration can be a time to provide high-quality healthcare to underserved, socially deprived groups if a **person-centred care** approach is adopted. Effective prison healthcare requires collaboration between prison governance and health services. **The whole-of-prison approach** calls for continuous collaboration between prison governance and healthcare services in the community. This would not only benefit provision of adequate and quality care for PLP during detention, but also ensure **continuity of care** during transitions into and out of prison.

Finally, maintaining **clinical independence** is essential in prison settings to ensure quality healthcare. The correctional environment can challenge optimal medical care, making independence a critical component as defined by international standards.

## Methodology

A multi-stage approach, including planning, evidence collection, consultation with experts, and drafting, was used to develop vaccination guidance. The guidance is structured along the following dimensions: catch-up and booster vaccination, vaccine-preventable cancers, COVID-19 and flu, vaccination for specific conditions and vaccine provision as part of continuity of care. Evidence was gathered through



Fig.1 - The multi-stage methodology used to develop this guidance.

literature reviews, focus groups, and surveys in prison settings and collated and synthesised in decision-making tables. A panel of multidisciplinary and multi-sectoral experts met to discuss and interpret

and contextualise the evidence. Their advice was incorporated into the final document, which was then circulated for feedback.

**The following considerations and options for implementation of routine vaccination services in prison settings are presented with an incremental approach, ranging from a minimum level to an expanded vaccination offer that would lead to equity of care and outcomes for PLP.**



## Catch-up and booster vaccination

In correctional facilities, maintaining an adequate level of immunisation coverage is crucial to prevent the transmission of VPDs due to suboptimal living conditions, overcrowding, and incomplete vaccination histories. Diseases like diphtheria, tetanus, and pertussis (DTP), as well as measles, mumps, and rubella (MMR), can cause severe complications and

rapidly trigger outbreaks. Varicella (chickenpox) and polio also pose serious health risks, particularly in under-immunised populations. The implementation of catch-up<sup>1</sup> and booster<sup>2</sup> vaccination programs helps protect PLP, staff, and the broader community, contributing to overall public health goals.

### Advices and options for implementation

Upon entry into prison, the immunisation status of all individuals should be assessed as part of the initial medical examination. This can be done through reviewing vaccination certificates, using immunisation information systems, or serological testing.

Catch-up and booster vaccination programs should be offered routinely to all adolescents in detention, in alignment with national and local immunisation plans.

Catch-up and booster immunisation programs for PLP should be embedded within a life-course vaccination framework and offered as part of a comprehensive package of preventive services.

With regard to prison staff, both custodial and medical, it is advisable that the vaccination programme, in terms of vaccination schedules and catch-up, is not inferior to that offered to PLP.

**1. Catch-up vaccination** focuses on individuals who missed vaccinations at the recommended ages. This includes those who were never vaccinated, missed scheduled doses, or did not complete a vaccine series. The goal of catch-up vaccination is to ensure complete immunisation coverage according to national or local immunisation programs.

**2. Booster vaccination**, on the other hand, provides an additional dose after the primary vaccination series to strengthen the immune system's memory of the pathogen, thereby enhancing defence mechanisms. Boosters can be administered weeks, months, or even years after the initial dose, depending on the vaccine and specific guidelines.

## › Implementation considerations

Admission to prison provides an opportunity for individuals to engage in preventive health services, including catch-up and booster vaccination doses as per national/regional immunisation plans. Catch-up vaccination or booster doses administration in prison settings are public health interventions aimed at increasing vaccination coverage among typically under-immunised populations.

Verifying immunisation status can be particularly difficult in prison settings. While this should ideally be performed through direct record linkage with the general population Immunisation Information System, it is possible to collect information on vaccination history and previous infections with VPDs as part of taking a medical history at reception or by performing serological testing to determine immunity levels. This process would allow the timely identification of immunisation gaps and prompt the active vaccination offer (and re-offer for those declining). When considering whether to perform a serological test or proceed directly with vaccination, it is essential to carefully evaluate the current epidemiological situation, vaccination coverage, and the characteristics of both the vaccine and the immunity related to the specific disease. An alternative is to offer a full course of immunisation to all eligible individuals with an incomplete or unreliable immunisation history without prior serological testing.

Prisons have strict schedules and limited healthcare resources, making organising and efficiently administering vaccines complex. Additionally, there may be resistance or hesitancy towards vaccination among PLP, often due to mistrust or misinformation. It is crucial to ensure privacy and confidentiality during vaccination procedures to overcome these barriers, as this can help encourage participation and build trust.

PLP includes children, migrants and people with diverse vaccination histories. Tailored approaches are required to meet specific health needs and ensure vaccination

interventions are effective and equitable.

The healthcare needs of **minors** in prison requires particular attention, given that they differ significantly from those of adults. It is fundamental that vaccination programs offered in juvenile prisons align with those in the general population to ensure that children and adolescents in detention receive timely and appropriate immunisations and complete vaccination schedules. Efforts should be made to educate minors and their guardians about the importance of vaccines to promote vaccine acceptance. **Foreign-nationals** in prison often have incomplete or undocumented immunisation records, which presents another significant challenge. Effective communication strategies must be developed to address language barriers and cultural differences, possibly involving interpreters or cultural mediators to ensure clear and respectful communication.

## › Outbreaks of VPDs in prison settings

Outbreaks of VPDs in prison settings represent a significant public health challenge. Heightened burden of disease and frequent under-immunisation increase the risk of more severe health outcomes.

While vaccination campaigns in response to outbreaks of VPDs are an essential measure that should be deployed rapidly, preparedness and prevention activities are equally fundamental.

Among these are improved monitoring, infection control measures (e.g. adequate environmental and personal hygiene standards, personal protection equipment (PPE, medical isolation) and regular health checks offered to PLP to identify cases of VPDs early and prevent outbreaks. Enhancing healthcare services, boosting staffing levels, and aligning prison health services with national systems can assist in reducing risks. Continuous training activities for PLP and custodial staff regarding vaccinations and VPDs symptoms are also crucial. Ultimately, prevention of VPDs, and other infectious diseases, outbreaks in prison settings would require a comprehensive strategy tackling overcrowding, low immunisation rate, and sub-optimal healthcare services.

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## Vaccine-Preventable Cancers: HBV and HPV

Hepatitis B, caused by the hepatitis B virus (HBV), manifests in both acute and chronic forms with varying degrees of severity. Chronic HBV infection significantly increases the risk of developing liver disease and

hepatocellular carcinoma. The virus is transmitted through contact with infected bodily fluids, but effective prevention is available through vaccines containing the hepatitis B surface antigen (HBsAg).

Human papillomavirus (HPV) is a prevalent viral infection that affects both men and women, leading to a range of conditions, including precancerous lesions. Persistent HPV infection is a major cause of various cancers, particularly cervical cancer. Transmission occurs primarily through sexual contact.

Vaccination against HPV is highly effective in preventing infection and associated cancers. PLP exhibit higher rates

of HBV infection compared to the general population due to increased exposure to risk factors, such as injecting drug use or unprotected sexual activities. Limited data available indicate that HPV infection is more prevalent in PLP, as compared to the general population. Detained women, in particular, experience higher rates of HPV-related abnormalities and cervical cancer, with lower screening rates and delayed diagnoses.

## › Vaccination against HBV

In line with existing WHO and ECDC / EMCDDA (EUDA) recommendations, all people transitioning through the prison system should be offered vaccination against HBV. Ideally, HBV screening should be offered as a complement; however, the lack of screening availability should not affect the assessment of vaccine eligibility or the subsequent offer.

ECDC / EMCDDA (EUDA) recommends offering HBV vaccination at the entrance to all PLP who have an unknown or incomplete prior vaccination history and/or negative serology.

Based on the limited evidence available, the HBV rapid vaccination schedule is more effective in promoting the completion of the immunisation course.

Prison staff, including all healthcare staff and custodial staff who have regular contact with PLP, should be offered HBV vaccination as part of a comprehensive occupational health package.

## › Vaccination against HPV

As part of the entry assessment, the following should be considered to provide adequate primary or secondary prevention interventions: HPV vaccination history, HPV infection risk, and history of HPV/Pap-test screening.

HPV catch-up vaccination should be offered to all people transitioning through the prison system who are eligible based on their age, gender and risk-factor criteria of their national vaccination programme and who have an unknown or incomplete prior vaccination history. In this setting, one-dose HPV vaccination shall be considered to increase coverage.

HPV catch-up vaccination should be offered to all young people transitioning through prisons and juvenile institutions.

HPV/Pap-test screening should be provided to all women transitioning through the prison system as per the national screening strategy.

Universal HPV vaccination<sup>3</sup> for those up to the age of 45 could be considered in prison with a gender-neutral approach, taking into account the greater risk of acquiring the infection and/or developing clinical sequelae among this population.

<sup>3</sup> "All HPV vaccines are indicated for use in females aged 9 years or older, and are licensed for use up to 26 or 45 years of age. Some HPV vaccines are also licensed for use in males." Human papillomavirus vaccines: WHO position paper (2022 update)

## Implementation considerations

Vaccinations against HBV and HPV have been identified as leading interventions for cancer prevention in the Europe Beating Cancer Plan and relaunched through the European Council Recommendation on vaccine-preventable cancer providing a robust strategic framework to scale-up these interventions. HBV and HPV vaccinations should be introduced in prison as part of integrated sexual health and harm reduction services, to provide a comprehensive prevention package against STI, and blood-borne viruses including HIV and HCV.

Scaling up HBV vaccination in prisons would reduce virus circulation and transmission within the prison population, ultimately reducing the risk of cirrhosis liver cancer and yielding significant public health benefits. Moreover, providing HBV vaccination in prisons has been shown to positively impact vaccination coverage among underserved populations, such as people who use drugs and foreign nationals, when they are in the community. This benefit is particularly significant for promoting equity among juvenile detainees. Evidence from three European countries indicates that adapting dosing schedules, with **accelerated schedules**, increases vaccine coverage among PLP.

However, access to vaccination services in prisons remains limited, with HPV vaccines available in only half of European countries. **Gender-neutral HPV vaccination offers** are common in Europe, but

differences in the definition of target age groups may exclude some populations, including PLP. Data shows low immunisation rates among detained youth, with HPV **vaccination at entry** as a key strategy to improve coverage and protect against HPV-related diseases. Challenges include lack of focus on youths' health needs, consent issues, and limited healthcare links. Despite scarcity of data on HPV prevalence among boys and men in detention, this is likely high due to behaviours such as anal intercourse or transactional sex. Universal HPV vaccination up to the age of 45 years in prisons could potentially lower infection rates, reduce healthcare costs, and benefit public health as released detainees reintegrate into society. While costs may be high initially, long-term savings from disease prevention justify investment in HPV vaccination programs for PLP. Financial implications and cost-effectiveness of such programs in prison settings require further research.

Evidence suggests that single-dose HPV regimens could make vaccination in prisons more feasible, reducing costs and logistical challenges. This is crucial in settings like prisons with high population mobility and few countries, such as England, have adopted this approach. Finally, **extending vaccination age limits** to include older women may be justified due to high infection rates observed among previously detained. While most studies focus on those under 26, there is growing evidence of benefits for older age groups. In Europe, vaccination is rarely recommended beyond 24-25 years old.

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## Seasonal vaccinations: Covid-19 and Flu

The COVID-19 pandemic, declared a global crisis in March 2020, posed significant challenges in managing prison outbreaks due to overcrowding and poor ventilation. The WHO recommended prioritising PLP and staff in national vaccination plans, leading to increased immunisation efforts from June 2021. By 2024, most countries had vaccinated over half of their PLP and a significant portion of prison staff. Historically, prisons and other detention facilities have been at a high risk of influenza outbreaks. Seasonal influenza viruses cause millions of infections and thousands of deaths in the European Union annually. Measures such as prevention, early detection, treatment, and

vaccination are crucial in mitigating the impact of influenza in prison settings. However, with limited data on vaccination coverage, influenza vaccination appears to be underutilised in prisons, outside outbreak response. Reported challenges in providing flu vaccines to PLP include constrained resources, absence of medical documentation, and insufficient staff.

A 2023 WHO desktop review revealed a significant gap in national pandemic preparedness concerning prisons. Out of 30 Member States with accessible pandemic plans, only seven mentioned prisons, and



of 36 Member States with COVID-19 plans, only six addressed the vulnerabilities of detained individuals. This underrepresentation indicates a **systemic oversight of prisons as high-risk environments for disease transmission**. The evidence underscores the urgent need to include prisons in national vaccination

strategies. Implementation should focus on integrating prisons into public health planning, addressing logistical challenges unique to the prison environment, ensuring equitable vaccine access for incarcerated individuals, and mitigating the potential impact of prison outbreaks on the broader community.

## › Covid-19 vaccination

In alignment with national and international vaccination campaigns, targeted seasonal COVID-19 vaccination should be offered to certain risk groups based on age, underlying health conditions and risk-factor criteria of their national vaccination programme.

COVID-19 vaccination could be administered concurrently with flu vaccination during seasonal campaigns to simplify logistics and promote uptake. Simultaneous administration of COVID-19 and influenza vaccines represents a pragmatic strategy tailored to the conditions and operational challenges of the prison environment.

A seasonal offer of COVID-19 vaccination could also be considered for prison staff, including officers and healthcare workers, as a measure to ensure business continuity by potentially reducing staff absenteeism due to illness. Although the cost-effectiveness of this approach is uncertain, especially given the limited effect of the vaccine on transmission, it may still be of value in minimizing operational disruptions during peak infection periods.

Considering the infrastructural constraints and overcrowding typical of prison premises, offering COVID-19 vaccination to PLP with underlying health conditions remains a priority to lower the risk of severe outcomes, as they are at higher risk for complications. While evidence regarding the impact of COVID-19 vaccination on transmission remains limited, particularly in enclosed settings, its administration may still provide individual-level health benefits and reduce severe disease, especially for those with underlying health conditions.

## › Flu vaccination

Flu vaccinations should be offered to PLP at the beginning of the season, to certain risk groups based on age, health conditions and risk-factor criteria of their national vaccination programme.

To ensure maximum coverage, vaccinations should be offered to all eligible people at the prison entrance or as soon as possible during the flu season.

In line with national campaigns, seasonal flu vaccination should be considered for prison staff, including prison officers and healthcare staff working in the prison environment. This measure would reduce the risk of introducing the virus into the prison premises, mitigate potential disruptions to prison operations, and ensure business continuity.

Considering prison premises' features, such as infrastructural constraints and overcrowding, a universal offer of seasonal flu vaccination could reduce virus transmission within prison facilities. This approach might then contribute to lowering the risk of infection for individuals with underlying health conditions who are at higher risk for severe outcomes - although evidence of this is currently lacking.

## Implementation considerations

People in prisons face high COVID-19 risks due to overcrowding and poor conditions but are often overlooked in pandemic responses. A 2021 study found that vaccinating all prison residents and staff before an outbreak was the most effective strategy at this stage of the pandemic. Despite this, prevention efforts in many countries focused more on screening and reducing overcrowding, with limited emphasis on vaccination. Prisons can spread pathogens to surrounding communities, underscoring the need to include them in national vaccination plans. The WHO recommends a simplified single-dose COVID-19 vaccine regimen to improve uptake, noting that any approved vaccine offers protection against severe illness, even if specific vaccines are unavailable.

Similarly, flu vaccination should be implemented early in the season in alignment with the specific age groups and health conditions in national initiatives. Additionally, vaccination could be offered to staff to reduce the introduction of flu into prisons.

Prisons should be recognised as a high-risk setting for the transmission of infectious diseases and should therefore be **included in national pandemic preparedness plans**. Prison-specific plans may be needed where the level of detail in national plans is insufficient to prepare for and respond to pandemic threats in congregate settings. This would require the involvement of prison authorities as stakeholders in the development of national pandemic preparedness

plans and in aligning prison-specific preparedness plans.

Influenza antibodies are highly specific, providing limited cross-protection against different types or subtypes of the virus. Immunity from vaccination diminishes over time, necessitating annual flu vaccines for ongoing protection. European countries generally recommend flu vaccination for individuals with underlying medical conditions like chronic pulmonary diseases, cardiovascular diseases, renal diseases, metabolic disorders, and immunosuppression. However, only 18 countries extend this recommendation to individuals on long-term aspirin therapy, and 21 to those with morbid obesity.

Despite the WHO identifying influenza as a major public health threat and recommending vaccination for patients with hepatitis and HIV, PLP remain under-immunised, even though they have high rates of HBV, HCV, and HIV infections.

In many countries, flu vaccines are not routinely administered to at-risk PLP but are provided mainly during outbreaks.

Vaccination efforts in prisons face challenges such as insufficient staff, lack of accessible medical records, limited vaccine supplies, and a shortage of skilled personnel to administer vaccines promptly.

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## Vaccination for individuals with specific conditions

Age, clinical conditions and behaviours can increase the risk of acquiring VPDs and/or developing serious consequences, especially during periods of

incarceration. The rationale of prioritising vaccination is to increase individual protection.

### • Individuals with comorbidities

Multi-pathological profiles should be assessed upon prison admission into prison in order to design an individualised immunisation plan and prioritise administration of vaccination as per individual need.

Vaccinations to consider, based on clinical characteristics and national recommendations are Flu and COVID-19, Pneumococcal vaccine, Herpes zoster vaccine, Meningococcal vaccines.



### • Pregnant women

Pregnant women in detention should be identified through pregnancy tests upon prison admission in order to ensure appropriate pre-, peri- and postnatal care, including an individualised immunisation plan. Vaccination during pregnancy has the scope of protecting the mother and the unborn child from serious consequences of certain VPDs and should include Flu vaccine, dT<sub>p</sub> vaccine and RSV vaccine. Hepatitis B (HB) vaccination of the newborn started within 24 hours after birth, in case of HBe positive mothers combined with HB immunoglobulin, is highly protective against vertical and later transmission of HB. Pregnancy constitutes a contraindication to certain live vaccines, such as MMR, due to the potential risks to the developing foetus.

### • Children born to mothers in detention

Children born and living with a primary caregiver in prison should be offered vaccinations according to the national programme with no delays.

The implementation of tailored vaccination schedules or the provision of additional vaccinations should be assessed and planned, taking into account the vulnerability of their immune system and the living environment, which is likely to increase the risk of acquiring airborne infections.

Faster access to vaccines for diseases such as hepatitis B, polio, measles and tuberculosis could be beneficial. Accelerated schedules, often with shorter intervals between doses than standard schedules, may be considered to provide protection as soon as possible.

### • Older individuals

Older adults should be offered additional vaccines in accordance with the national programme. These include influenza and COVID-19; Pneumococcal vaccine; Herpes zoster vaccine. The definition of the minimum target age for vaccination of older adults varies between countries (50-65 years) and by individual vaccine. As PLP may suffer from accelerated ageing, anticipating the minimum age for vaccination and extending the age range beyond that recommended for the general population may be considered.

### • People at increased risk of sexual transmission

Unprotected sexual activities, transactional sex and non-consensual sex are associated with an increased risk of acquiring and transmitting infectious diseases. MSM, people who engage in transactional sex, and people who engage in high risk sexual behaviours should be actively offered HAV, HBV and HPV vaccines as part of routine immunisation programmes, according to the national programme. PLP should be incorporated into vaccination campaigns against emerging infectious diseases, such as Mpox, in response to outbreak or epidemic events. The vaccination offer targeting PLP at increased risk of sexual transmission should be expanded in accordance with emerging evidence, which could potentially include the future use of MenB vaccine to prevent gonorrhoea. Vaccination services should be part of a comprehensive package of sexual health services that includes the provision of condoms, lubricants, dental dams and contraceptives, as well as STI screening at the point of entry and during stay. Additionally, it is advisable that gynaecological or andrological consultations be made available.

### • People at increased risk of parenteral transmission

PLP are susceptible to infection with pathogens transmitted via the parenteral route, which may occur through injecting drug use, the performance of tattoos and piercings in uncontrolled environments, and self-harm. DTP boosters should be offered at entrance to individuals with reported or self-disclosed risks of parenteral transmission if there is any doubt about their immunisation status. A booster dose of DTP should be offered after self-harm events following appropriate clinical guidelines. HBV vaccination should be offered at the entrance to all PLP with no/unknown vaccination history and/or negative serology (see previous section).

### • People involved in food preparation and distribution

PLP may perform a diverse set of working tasks in prison, including food preparation and distribution, waste management, and cleaning. In light of the potential occupational hazards and food safety concerns associated with these roles, HAV vaccination should be considered for these individuals.

## Implementation considerations

Vaccination availability in prison and vaccination offer approaches vary greatly across European countries. Pneumococcal, VZV, meningococcal, flu, HAV, DTP, HBV, and HPV vaccines are not available in prison settings in some countries, and where they are, definition of target groups are heterogeneous.

Identifying the individuals to be prioritised for targeted vaccination may be challenging in prison settings where self-disclosure of personal information or behaviours is suboptimal due a variety of factors including anxiety, mistrust, cultural and language barriers, fear of punishment. Alternative approaches to vaccine offer to overcome these challenges could be considered, including universal offer.

## Vaccine provision as part of continuity of care

Ensuring continuity of care for individuals released from prison is crucial for their health and as a public health strategy. The social challenges and critical barriers that people face upon release often lead to recidivism, reincarceration, and increased health risks, particularly for those with chronic conditions. One significant issue is the need for access to necessary vaccinations or the

failure to complete vaccination schedules, especially in detention contexts characterised by brief stays and high mobility, such as remand centres. An example is the difficulty of achieving the standard HBV vaccination regimen (three doses over six months).

### Key actions for improving vaccination delivery with a continuity of care approach include:

#### 1) Connections with Local Healthcare Services

Prison healthcare systems should establish strong ties with local vaccination departments through formal agreements. Together, they can determine optimal pathways for continuing vaccination schedules, particularly for multi-dose vaccines such as HBV and HPV. Prison healthcare staff should provide a referral letter or implement a referral system to ensure the vaccination process continues seamlessly after an individual is released.

#### 2) Tailored Vaccination Strategies

Utilising accelerated and/or shortened vaccine regimens can help achieve higher coverage rates.

#### 3) Enhanced Digital Information Systems

An effective prison health information system must integrate smoothly with community healthcare services. A continuous flow of information about an individual's vaccination history is critical, so there is no "interruption" during detention while respecting privacy regulations. The PMIS should at least provide the completion of vaccination schedules initiated in prison, which will continue in the community.

#### 4) Continuity of Care at the Time of Incarceration

Efficient communication with community healthcare services is essential to swiftly transfer medical records, including vaccination history, into the prison system. This would help preventing the loss of critical elements of the individual's medical history, which is vital for quality care, including continuing vaccinations.

## Implementation considerations

Vaccination programs in prison settings are crucial for preventing the spread of VPDs among PLP and prioritising this population is crucial for effective disease mitigation within prison and in the community.

Accelerated vaccination schedules, such as the 3-week schedule for Hepatitis B, show higher compliance and seroprotection rates than the standard 6-month schedule, making them more efficient in prison settings. Accelerated vaccination schedules for Hepatitis A and B have been successfully implemented in high-risk populations, such as MSM and people who inject drugs,

within prison settings, achieving significant coverage and compliance.

Ensuring continuity of care post-release is essential. Strategies include administering booster doses within prison premises and providing informational material to facilitate follow-up care.

Programs involving peer coaching and nurse case management can significantly improve vaccine completion rates among recently released homeless parolees, highlighting the importance of support systems in ensuring vaccination adherence.

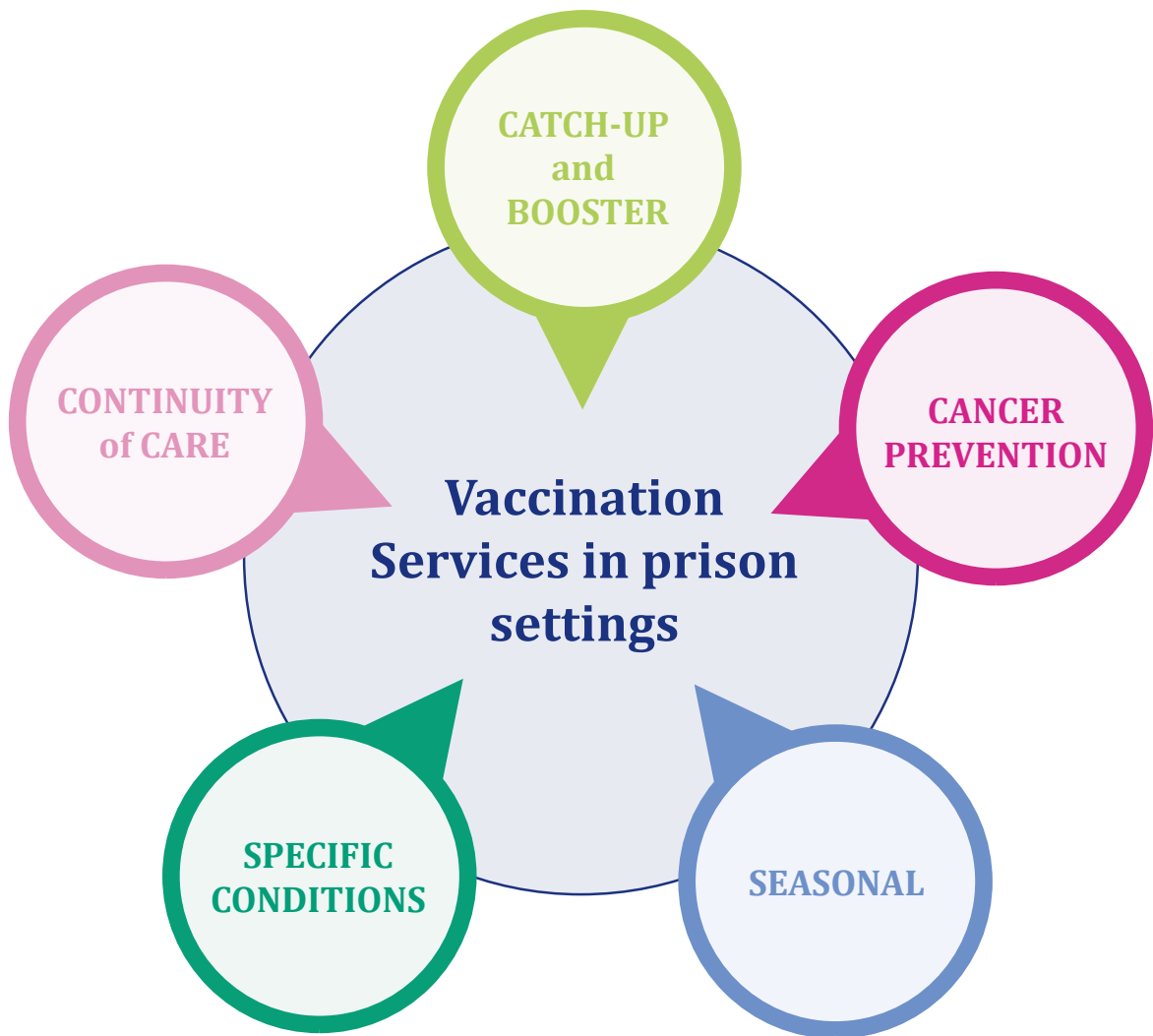


Fig.2 - The five dimensions of an expanded vaccination offer in prison settings

## Framework for vaccination services in prison

The following table outlines the key components of the framework for vaccination services in prison:

COMPONENT	KEY POINTS
VACCINATION SERVICE PROVISION	<ul style="list-style-type: none"> <li>• Vaccinations administered within prisons by healthcare teams to maximise engagement.</li> <li>• Access to a range of vaccinations based on eligibility criteria.</li> <li>• Offer vaccinations upon entry and conduct seasonal programs.</li> <li>• Use clinical records to identify eligible individuals.</li> <li>• Funding supports trained professionals delivering vaccinations.</li> </ul>
COMMUNITY ENGAGEMENT AND INCLUSION	<ul style="list-style-type: none"> <li>• Involve people in prison in intervention development.</li> <li>• Align resources with the priorities of the targeted population.</li> <li>• Projects like Rise-Vac engage PLP to create educational materials.</li> <li>• Develop community engagement models with input from socially excluded individuals to build trust and manage expectations.</li> </ul>
STAFF VACCINATION AND TRAINING	<ul style="list-style-type: none"> <li>• Higher infectious disease rates in prisons put staff at greater risk.</li> <li>• Vaccinating staff prevents illness, reduces absenteeism, and maintains operations.</li> <li>• Staff perceptions influence PLP vaccination decisions.</li> <li>• Training and educational interventions improve staff competence and vaccination uptake.</li> <li>• WHO emphasises the importance of staff training for preparedness.</li> </ul>

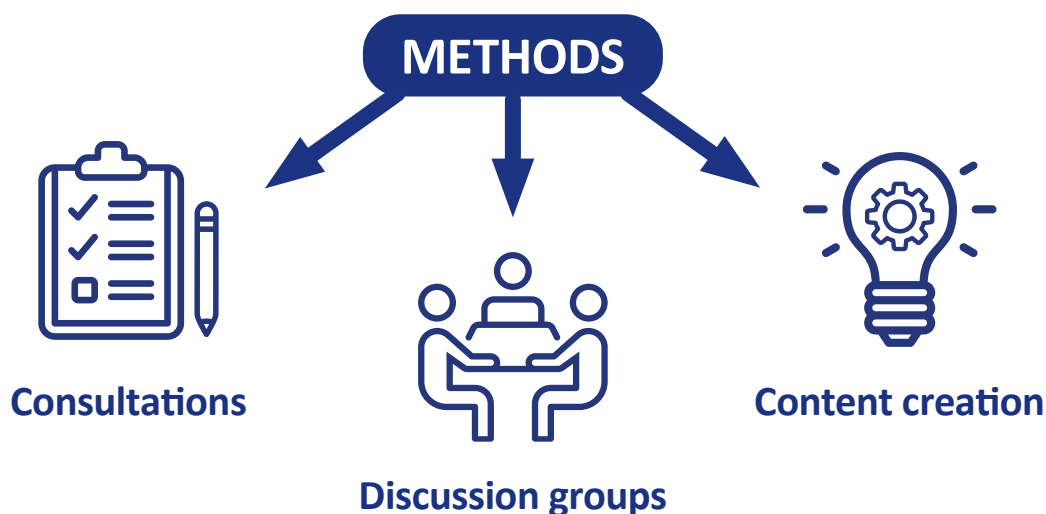


Fig.3 - Methods used to develop e-learning materials: consultations, discussion groups, and content creation.

## ➤ RISE-Vac learning materials

Through the RISE-Vac project, e-learning courses have been designed and piloted for vaccine-trained and non-vaccine-trained prison staff, along with

vaccine-focused brochures and animations for PLP. The learning materials are available in nine different languages. Working alongside the Prison Reform Trust, all materials have been co-produced with individuals with lived experience.

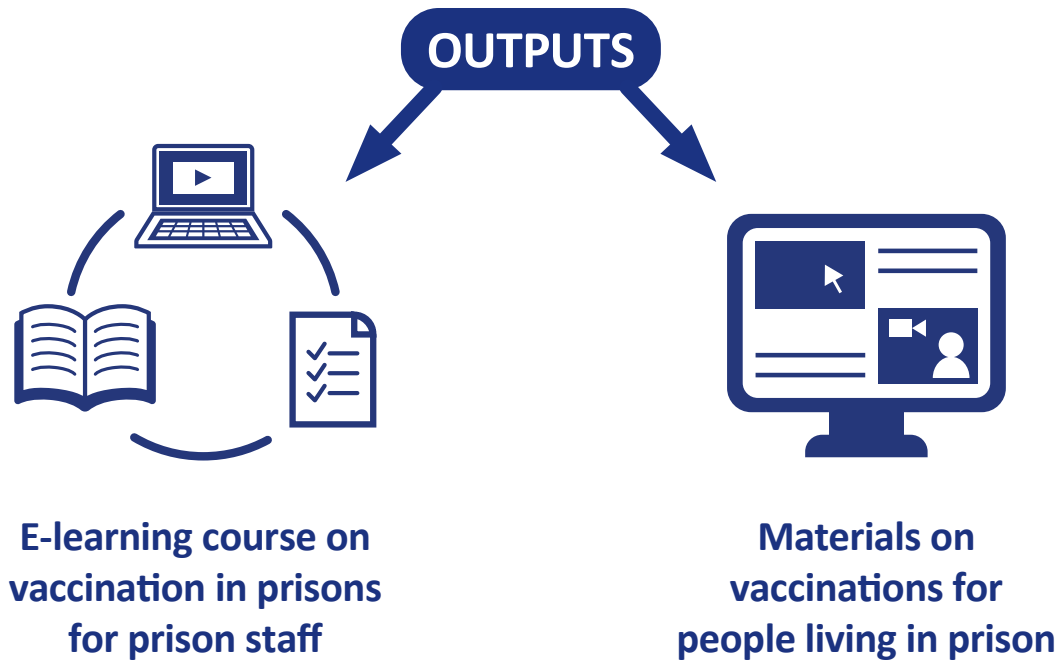


Fig.4 - The two type of outputs of the co-development process: e-learning course for prison staff) and materials for PLPs.

## Framework for monitoring vaccinations in prison

Health information systems (HIS) in many prisons remain underdeveloped and are frequently not integrated in national health information systems. In Europe, data indicates that approximately half of all countries still rely on paper-based health records in prisons, with most lacking interoperable health records at the prison-community interface. This disconnect hampers the ability to assess the impact of health systems, fully understand the health needs of detained individuals, and ensure continuity of care during and after their release. As a result, data on vaccination services and vaccination coverage in prison are sparse.

Comprehensive prison HIS and Immunisation Information System (IIS) are essential for monitoring vaccination provision and immunisation coverage. Each of these components should be integrated with

the general population HIS. Prison-based IIS should collect information on individual vaccination uptake during detention, including offering and refusal/acceptance of each first vaccination dose and boosters. In such a way, the IIS could also be used to plan and schedule vaccinations and support health staff to deliver vaccines among PLP. Ultimately, this would improve likelihood of vaccination schedule completion, including when the individual is transitioning across prison institutions or is released. At an aggregate level, data on vaccination uptake would allow the assessment of vaccination coverage among the prison population and the relative share of progress towards national or regional immunisation goals attributable to prison-based vaccination services. This information would have direct implications for organisational and planning purposes.

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