

**Qualitative research with
Ukrainian refugees and
health care workers to
inform interventions to
increase vaccination and
access to primary health
care services in Estonia**

June 2024

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Research team

Polina Alpatova and Tetiana Zub, Sociologist Research Agency, Ukraine

Jane Ester, Anni Kurmiste, Mikael Raihhelgauz, Moonika Raja and Mariliis Öeren, Think Tank Praxis, Estonia

Kristina Köhler, WHO Country Office in Estonia, Estonia

Brett Craig, Cath Jackson, Pernille Jorgensen and Sian Lickess, Vaccine Preventable Diseases and Immunization (VPI), Division of Communicable Diseases, Environment and Health and Division of Health Emergencies, WHO Regional Office for Europe, Denmark

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Ahtri 6a, Tallinn, 10151, Estonia

www.praxis.ee, praxis@praxis.ee

valid research

Socio
logist

praxis | mõttekoda

Abbreviations

FN – family nurse

GP – general practitioner

HCW – health care worker

RAP – rapid assessment procedures

WHO – World Health Organization

Executive Summary

Introduction

Due to the Russian Federation's military offensive against Ukraine that began on 24 February 2022, over seven and a half million people have fled to nearby countries including Estonia. As of 19 April 2024, 58 725 people from Ukraine have registered for temporary protection in Estonia. With no end to the war in sight, understanding how to better support these refugees is essential for tailoring primary health care services including childhood and adult influenza vaccination.

This qualitative study aimed to answer the following research questions:

1. What are the barriers and drivers experienced by caregivers (mothers of children aged 6–24 months) from the Ukrainian refugee community to having their children vaccinated in Estonia?
2. What are the barriers and drivers experienced by older adults (60+) from the Ukrainian refugee community to receiving influenza vaccination in Estonia?
3. What are the barriers and drivers experienced by general practitioners (GPs) and family nurses (FN) to providing primary health care services, including vaccination, to the Ukrainian refugee community?

Methods

The study was conducted from February to April 2024 in three cities: Tallinn, Tartu and Pärnu. Ten mothers of children aged 6–24 months and nine older adults who had not received influenza vaccination in the winter of 2023/24 were interviewed in Ukrainian by telephone or online. Five health care workers (HCWs) were interviewed in Estonian by telephone or online. The capability-motivation-opportunity for behaviour change (COM-B) framework informed the study. Data were analysed using a rapid approach to framework analysis.

Key findings

Primary health care services

Caregivers and older adults were generally confident in finding health information and accessing the health care system in Estonia, although two caregivers reported challenges in registering with a primary health care facility. All the caregivers and most older adults knew of the health portal. Caregivers with fully vaccinated children had used it, but only two older adults had used it.

The HCWs emphasised that they treat Ukrainian patients the same as Estonian patients. They communicate in Russian, Ukrainian and English so do not need interpretation services. The process for refugees registering with primary health care facilities was generally viewed as well-organised. Challenges included their patient lists filling up quickly, pressure from the

Health Insurance Fund to register new Ukrainian patients when there is no space, and no system to know if someone has left the country. A few HCWs noted that Ukrainian refugees sometimes request services (e.g., computed tomography scan, magnetic resonance imaging), and medications (e.g., antibiotics), which are offered without a referral or prescription in Ukraine but not in Estonia. Limited or no access to medical records was seen to complicate care.

Childhood vaccination

- Vaccination behaviours

Most caregivers reported that their youngest child had received their vaccinations in Ukraine or Estonia according to the national schedules, mostly without delays (classified as “fully vaccinated”). One caregiver (classified as “partially vaccinated-postponing”) explained that their youngest child’s vaccinations are postponed due to respiratory infections. The other two caregivers were classified as “partially vaccinated-refusing”. The HCWs explained that their role in childhood vaccination is the same for Ukrainian and Estonian children. There was mixed evidence of them tailoring their conversations to the different needs of hesitant and refusing caregivers, and potential language barriers were recognised.

- Level of knowledge and health literacy

All caregivers knew that vaccinations in the Estonian childhood vaccination schedule are available free of charge with a health insurance certificate and were aware of serious vaccine-preventable diseases. Those with fully vaccinated children were most knowledgeable about vaccination, those refusing vaccination were least knowledgeable. HCWs were highly knowledgeable about childhood vaccination, whilst acknowledging that some may be unfamiliar with the Ukrainian schedule.

- Attitudes and intentions

Caregivers with fully vaccinated children held positive attitudes towards vaccination, believing Estonian vaccines to be high quality and the health care system less corrupt than in Ukraine. The caregiver postponing vaccination also believed in vaccination, but worried about contraindications. The two caregivers refusing vaccination believed all vaccinations (especially multi-component vaccines) to be highly dangerous for a small child. However, they trusted the Estonian health care system more than the Ukrainian health care system. HCWs perceived Ukrainian and Estonian caregivers’ concerns and reasons for refusing, to be the same.

- Convenient access to vaccination

All but one caregiver (refusing vaccination) could confidently access childhood vaccination in Estonia. However, most had not received a reminder and commented that this would be helpful. HCWs also believed a national automated notification system for all caregivers would

be useful. They considered their vaccination system to work well for all caregivers, whilst acknowledging that Ukrainian caregivers need to be proactive to register for health care in Estonia and unregistered refugees may lack information on childhood vaccination. The absence of a child's documented vaccination history meant HCWs relied on caregivers for this information. They called for nationally led guidance and approach to accessing children's health records from Ukraine.

- Social support for vaccination

Caregivers with fully vaccinated children and the caregiver postponing vaccination all trusted HCWs and followed their recommendations. In contrast, those refusing vaccination had not received any information from HCWs, relying on their social circle and social media who held similar beliefs. They stated they do not trust HCWs in Estonia (only their GP in Ukraine), and were surprised that HCWs in Estonia do not try to persuade them to vaccinate, a different approach to Ukrainian HCWs.

Influenza vaccination for older adults

- Vaccination behaviours

None of the older adults had received influenza vaccination since living in Estonia. A few had been vaccinated in Ukraine or Lithuania (previous host country) in the winter of 2022/23. Five were classified as "postponing" (until they are older) and four as "refusing". As with childhood vaccination, the HCWs explained that their role in adult vaccination is the same for Ukrainians and Estonians. Some described tailoring their vaccination conversations to hesitant and refusing older adults, mentioning potential language barriers. However, they take a less pro-active approach to adult vaccination, respecting patient choice.

- Level of knowledge and health literacy

Most of the older adults lacked knowledge and had not seen any "official" information about the adult influenza vaccination programme in Estonia, i.e., they did not know that it is free for adults aged 60+ years. All knew about seasonal influenza vaccination and understood the basic principles of vaccination. However, there were misconceptions, that led to a belief that they do not need to get vaccinated. Those postponing vaccination wanted information on risks of influenza infection, vaccine safety (including those with underlying health conditions), and vaccine effectiveness from a variety of sources, e.g., mass media/social media, health portal and health care facilities. HCWs were highly knowledgeable about adult vaccination in Estonia.

- Attitudes and intentions

The common opinion amongst these older adults was that they do not need to be vaccinated against influenza, they do not feel "old" at 60 years. The adult influenza vaccination programme was seen as more "voluntary" in Estonia compared to more "directive" in Ukraine.

Those postponing vaccination expressed confidence in the Estonian health system and vaccines. However, they had some concerns about influenza vaccine safety especially for those with underlying health conditions, and doubts about vaccine effectiveness. Those refusing vaccination were generally suspicious of all vaccines, questioning influenza vaccination safety and effectiveness, especially in the longer term. All but one of the HCWs commented that older Ukrainian adults do not typically request the influenza vaccine, noting more requests for the COVID-19 vaccine. Overall, they believed that Ukrainian and Estonian older adults' concerns and reasons for refusing, are the same.

- Convenient access to vaccination

All the older adults said they could access influenza vaccination, free of charge from their GP practice if desired. They perceived no access barriers, although none had received a vaccination reminder. All HCWs stated that the processes for influenza vaccination (including invitation and vaccine administration) are the same for both Estonians and Ukrainian older adults, and generally work well. Most provide opportunistic influenza vaccination rather than inviting older adults to attend. They acknowledged that refugees need to be proactive in first registering at a primary health care facility and then requesting influenza vaccination.

- Social support for vaccination

In the absence of "official" information about influenza vaccination, older adults' main information sources were mass media, internet, acquaintances, friends, family and colleagues. Those postponing influenza vaccination expressed confidence in HCWs in Estonia and Ukraine and could be persuaded to get vaccinated. However very few had been encouraged to do so. Those refusing influenza vaccination said they are unlikely to be influenced by a HCW recommendation, as they tend to distrust them in Estonia and Ukraine. Many said that community norms for vaccination influence their own decisions however they (particularly those refusing) perceived low levels of influenza vaccination among the Ukrainian community in Estonia.

Conclusions and next steps

This study identified many successes and some ongoing challenges in the provision of primary care services (including childhood and adult influenza vaccination) to Ukrainian refugees living in Estonia. These findings were taken to a 1-day stakeholder workshop (May 2024) in Tallinn, supported by the Ministry of Social Affairs, the Health Board, and the WHO Country and Regional Offices. From this workshop a Communication and Intervention plan was developed (available from Kristina Köhler, WHO Country Office, Estonia (kohlerk@who.int)).

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1. Introduction

The Russian Federation's military offensive against Ukraine that began on 24 February 2022 has led to the largest population movement in Europe since the Second World War, with over seven and a half million people having fled to nearby countries including Estonia. As of 19 April 2024, 58 725 people from Ukraine have been registered for temporary protection in Estonia [1]. With no end to the war in sight, understanding how to better support refugees¹ who fled Ukraine and are staying in Estonia is essential for revising and tailoring primary health care services including vaccination.

Making health care services accessible, acceptable, convenient and attractive for people requires insights into both individual behavioural factors and the social and societal mechanisms which support the behaviour [2]. Research has shown that when people perceive crisis measures as consistent, competent, fair, objective, empathetic or sincere, this increases trust [3]. When such measures are also easily understood, people are able to make informed choices, protect themselves and follow recommended practices [3, 4]. Communication is only one part of health care service provision for refugees. Theoretical crisis models suggest that it is crucial to understand the perceptions of the population [5]; yet not enough is known about the complex interplay of health seeking behaviour (including vaccination) and the many factors that affect people fleeing war [6].

To date, in Estonia, the University of Tartu together with Think Tank Praxis have conducted a quantitative survey with the Ukrainian refugee community (n=1598, 2023) [7]. Access to health care services was one small part of this survey with just two questions on vaccination. These findings suggest that childhood vaccination coverage is lower among Ukrainian children compared to Estonians: 79% of respondents said that all their children had been vaccinated against the main vaccine-preventable diseases and 4% said that they do not vaccinate their children². The survey offers no insights on barriers and drivers to childhood vaccination and no data at all on adult influenza vaccination. Results from qualitative studies conducted in Poland, Romania, Slovakia and Slovenia show that Ukrainian refugees in these countries were interested to know more about both routine childhood and adult immunisation [8–11]. Thus, refugee perspectives on receiving adult influenza and childhood vaccines are unknown but considered essential for effective implementation.

¹ The word refugee is used in a very broad sense, meaning anyone who left Ukraine due to the war.

² According to Health Information System, in 2023, the coverage for measles, mumps, and rubella (MMR) vaccination among 2-year-olds and 14-year-olds in Estonia was respectively 84.4% and 72.9%. The coverage for diphtheria, tetanus, pertussis, poliomyelitis, Haemophilus influenzae infection, and hepatitis B (DTaP-IPV-Hib-HepB) vaccination was 83.5% among 2-year-olds, 72.9% among 3-year-olds, 63.6 % among 7-year-olds (DTaP-IPV), and 77.7% among 16-year-olds (only DTaP) (<https://www.tehik.ee/en/health-information-system>; the data are not publicly available).

Finally, it is well accepted that well-functioning health care systems are vital to achieve good vaccination coverage [12, 13], yet the perspectives of HCWs involved in primary health care provision and delivering vaccination to the Ukrainian refugee community in Estonia are absent from existing research.

The aim of this cross-sectional qualitative study was to undertake research with Ukrainian refugees living in Estonia and HCWs involved with primary health care provision, including vaccination, for the Ukrainian refugee community. This qualitative research provides detailed, exploratory insights on barriers and drivers to positive vaccination behaviours from the perspective of those involved in receiving and delivering immunisation, while focusing on the following research questions:

1. What are the barriers and drivers experienced by caregivers (mothers of children aged 6–24 months) from the Ukrainian refugee community to having their children vaccinated in Estonia?
2. What are the barriers and drivers experienced by older adults (60+) from the Ukrainian refugee community to receiving influenza vaccination in Estonia?
3. What are the barriers and drivers experienced by GPs and FNs to providing primary health care services, including vaccination, to the Ukrainian refugee community?

2. Methods

This study was approved by the Research Ethics Committee of the National Institute for Health Development (decision #1265, 08.12.2023) and Research Ethics Review Committee of the WHO (ERC.0004041).

2.1. Theoretical framework

The theoretical framework underpinning this research and analysis is the capability-motivation-opportunity for behaviour change (COM-B) framework, modified for vaccination behaviours (Figure 1) [2, 14]. This framework identifies inter-linked factors of capability, physical opportunity, social opportunity and motivation as influencing individuals' vaccination behaviours, providing a holistic approach to exploring barriers and drivers to positive vaccination behaviours (recommending, delivering, receiving vaccination). The interview guides were organised by the four COM factors and used to investigate the individual and contextual barriers/drivers to receiving and delivering primary health care services including vaccination.

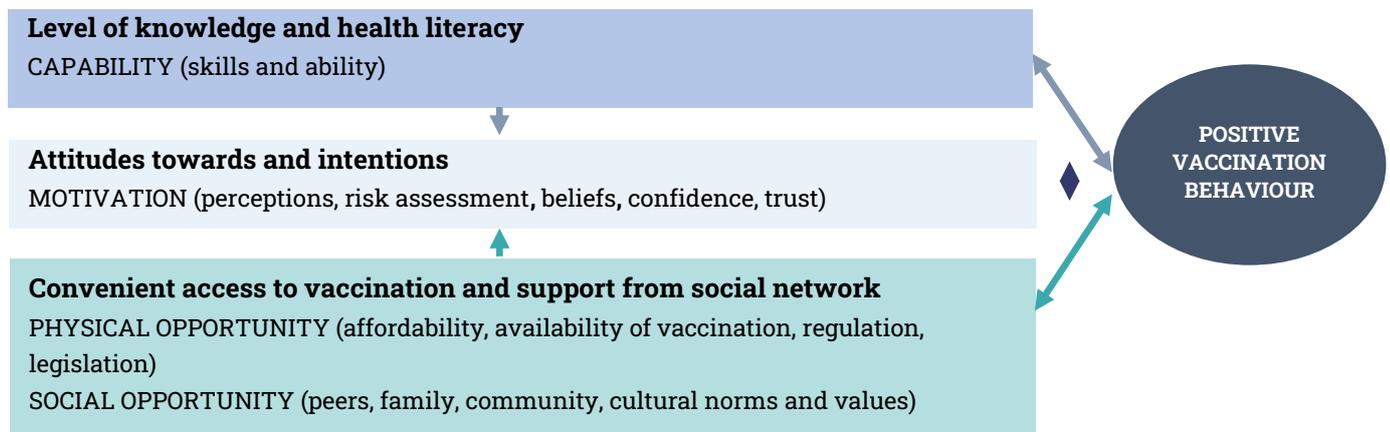


Figure 1. The COM-B model adapted to vaccination behaviour.

2.2. Setting and recruitment

The study was conducted in three cities; Tallinn, Tartu and Pärnu. These cities were included as they have the highest number of Ukrainian refugees, respectively 14 533, 2843 and 1423 as of May 21st 2024 [15].

Study information (flyers and social media tiles) was distributed by organizations working with the Ukrainian refugee community, e.g., the International Organization for Migration (IOM), Eesti Pagulasabi (Estonian Refugee Council), Social Insurance Fund, and a Facebook group in Estonia for Ukrainian refugees. This information contained a QR code which linked to an online survey where caregivers and older adults could complete some screening

questions and provide their contact details. The researchers then selected and contacted potential participants to discuss the study and, when appropriate, book the interview. The researchers also employed snowballing methods to find participants. All participants received a 650 UAH (~20€) compensation.

To recruit the HCWs, a list of primary health care centres that offer services for Ukrainian refugees was compiled (professional contact details were publicly available at Estonian Health Insurance Fund's web page³ and organisations were selected randomly). The directors of the selected organisations were contacted to invite their organisation to take part in the research, and to nominate a HCW who was regularly working with the refugees for interview. This HCW was asked to give verbal permission for their details to be shared with the Praxis researchers who then contacted them by email or phone, described the purpose of the study and, when appropriate, booked the interview. All participants received a 15€ gift card.

Before commencing the interview, all participants gave written and verbal informed consent to take part and to be audio-recorded.

2.3. Participants and data collection

In total, 24 people were interviewed between February and April 2024. Ten mothers of children aged 6–24 months and nine older adults who had not received influenza vaccination in the winter of 2023/24 and were interviewed in Ukrainian over the telephone or online. Five HCWs were interviewed in Estonian. Three interviews were done over the telephone and two online. Participants' characteristics are provided in Tables 1–3.

³ There was a separate web page that showed all centres that provided services for Ukrainian refugees. Currently the web page is inactive.

Table 1. Demographic characteristics of caregivers (n=10)

	No. of participants
Location	
Tallinn	7
Pärnu	3
Age of mother	
18–30 years	1
31–40 years	9
Age of youngest child	
< 1 year	5
1–2 years	5
Self-reported vaccination status of youngest child	
Fully vaccinated	7
Partially vaccinated (postponing)	1
Partially vaccinated (refusing)	2
Year of arrival in Estonia	
2023	2
2022	8
Type of housing	
Renting own place	9
Other	1

Table 2. Demographic characteristics of older adults (n=9)

	No. of participants
Location	
Tallinn	5
Pärnu	4
Sex	
Male	3
Female	6
Self-reported influenza vaccination status	
Received in 2022–23 winter season but not in 2023–24 season	2
Not received in 2022–23 nor 2023–24 winter season	7
Type of non-vaccination	
Postponing	5
Refusing	4
Year of arrival in Estonia	
2023	3
2022	6
Type of housing	
Renting own place	8
Other	1

Table 3. Demographic characteristics of health care workers (n=5)

	No. of participants
Location	
Tallinn	3
Tartu	2
Role	
Family doctor	3
Family nurse	2
Sex	
Female	5
Male	0
Age (years)⁴	M = 39.2, SD = 5.81, range: 33–46
Years in the HCW role	M = 8.5, SD = 8.96, range: 0.5–23

M – mean, SD – standard deviation

2.4. Data analysis

All interviews were audio-recorded, transcribed, and analysed using a rapid approach to framework analysis [18] to identify key findings and inform recommendations for interventions in a timely manner. We used RAP (rapid assessment procedure) sheets (Excel) to organize the qualitative data for analysis.

Two transcripts were translated into English, anonymised, and then shared with WHO Europe consultants for verification and feedback.

The RAP sheets were completed in Ukrainian or Estonian, and then translated into English and anonymised. The completed RAP sheets were used to identify barriers and drivers, organised by the COM factors [2, 10]. We explored any similarities and differences by urban/rural location and by vaccination status (for caregivers and older adults).

The findings of the study are presented under three topics: primary health care services, childhood vaccination and adult influenza vaccination, from the perspectives of Ukrainian refugees and HCWs. Barriers and drivers to childhood and adult influenza vaccination are organised by the four COM factors (Figure 1). Where there were differences in barriers or drivers by urban/rural location or vaccination status these are indicated. Otherwise, there were no differences.

⁴ As the sample was small and included younger HCWs, the views and experiences might somewhat differ among the general HCW population [16, 17].

3. Findings – Primary health care services

3.1. Ukrainian refugees

The caregivers generally reported that they know how to navigate the health care system in Estonia. Most had been helped with this by other Ukrainians living in Estonia, and one had received information from volunteers in the maternity hospital. All knew about the health portal and those with fully vaccinated children had used it. Two caregivers (both with partially vaccinated children – refusing) described some challenges. One said they had struggled to be accepted onto a primary health care facility register as they did not want to speak Russian. The other did not know how to change GP when they moved location in Estonia.

“Everything is very clear, again, they told me everything in the maternity hospital, what my next steps are: find a GP. The first appointment with the GP, they gave the vaccination schedule, I know on which day and month to come.”

Caregiver, fully vaccinated child

The older adults were similarly confident in finding health information and accessing the health care system. They talked about the convenient location of health facilities, good support from HCWs in navigating health services and the ease of communicating with HCWs, usually in Russian. Most knew about the health portal and were confident they could use it, although only two had actually used it. None of these older adults identified any challenges with access primary care services.

“Now I don’t need a support, I’ve been living here for almost two years and I have a connection with a doctor. It is enough to write or call that I am sick and all questions will be answered.”

Older adult, postponing

3.2. Health care workers

All five organisations (four primary health care facilities, one private facility) where the HCWs work, provide primary health care for Ukrainian refugees, and sometimes see refugees on a daily basis. The HCWs estimated that their health facilities currently serve between 100–400 refugees. All were highly motivated to help refugees and promote equality in access to primary care services. Indeed, one HCW lamented the lack of training for GPs to provide psychological support to refugees fleeing the war. It was consistently emphasised that HCWs do not differentiate between patients, so Ukrainian refugees are treated the same way as Estonian patients.

“We treat Ukrainian war refugees like any normal person.”

GP

The HCWs described how all patients, including refugees, are required to register with a primary health care facility, unless they are visiting private facilities, where such patient registries are not used. The consensus was that patient registration is generally well-organised and operates successfully. Ukrainian refugees with a health insurance certificate can easily register online or by phone and receive free health care, without this they must pay for their health care except emergency care. However, some HCWs commented that their patient lists fill up quickly, meaning there is sometimes no space to register new Ukrainian patients⁵ or the Health Insurance Fund may advise against registering refugees due to concerns that their stay may be temporary.

Further challenges were that there is no way for GPs to determine if refugees have left the country so can be removed from the patient list to make space for new patients. Often, staff have limited time to manage new applications, and health facilities feel under pressure from the Health Insurance Fund to add new Ukrainian patients.

“We were under a lot of pressure because when I took the list two years ago – well, right when this conflict started, it was a very small list – the smallest in the city. And we had an avalanche of these applications. There were so many of them, that my nurses couldn't do their work anymore. They just had to answer calls and advise on applications. And it was like a crazy year, that first year. And when, for example, we said that we couldn't make it anymore and we would take a week off adding someone on the list, then the next [...] immediately the Health Insurance Fund called to say, well, you have the responsibility to take.”

GP

The HCWs described the different ways they manage when they reach capacity, typically advising Ukrainian (and Estonian) patients to contact other health care service providers, including private providers, or call the Health Insurance Fund's Hotline to find out which GP has space available in their patient registry. In one facility, refugees were seen outside of the patient registry as they were not formally listed on the patient list. The HCW doing this explained that this approach ensures that refugees receive care even when they cannot be officially registered. One FN with a full patient list mentioned that they see refugees in their free time to ensure they receive the necessary care.

⁵ Up to 2000 people may be on the list of one GP, or 2400 if an assistant doctor also works for the GP [19].

“Well, I still add them to the list because they will continue to visit us anyway, and it makes sense to add them to the list because it all affects the examination and analyses fund as well. ... If they are not added, I understand that they are already using the money intended for other people's examinations.”

GP

The general perception among HCWs was that the services provided are well received by the Ukrainian refugees. They highlighted several services that are particularly in demand among refugees. These include the provision of health certificates, certificates of incapacity for work, primary health care checks, vaccinations, and services related to acute illnesses (such as seasonal viruses), chronic health conditions (diagnosis, management, prescriptions), respiratory diseases, and determining disability. Additionally, baby and child check-ups are also in significant demand. One HCW mentioned that refugees are more prone to contact the centre with small issues. Whilst, a few HCWs noted that refugees sometimes request services (e.g., computed tomography scan, magnetic resonance imaging), and medications (e.g., antibiotics), which are commonly offered without a referral or prescription by the Ukrainian primary health care system but not by the Estonian system.

“The GP directs, gives a referral to the specialist, and there the specialist can order such examinations as CT or MRI. But their system was different.”

FN

These HCWs were communicating with refugees in Russian, Ukrainian, or sometimes in English, so had no need to use interpretation services. Just occasionally refugees are unwilling to speak in Russian. However they perceived that a language barrier may exist for other health care facilities, which might deter them from registering Ukrainians refugees in their patient registry. Finally, limited or no access for HCWs to refugees' medical records, was seen to complicate patient care.

4. Findings – Childhood vaccination

4.1. Vaccination behaviours

4.1.1. Ukrainian refugees

Most of the caregivers reported that their youngest child had received their vaccinations in Ukraine or Estonia according to the national schedules, mostly without delays (classified as “fully vaccinated”). One caregiver (classified as “partially vaccinated-postponing”) explained that their youngest child’s vaccinations are consistently postponed due to respiratory infections. The other two caregivers were classified as “partially vaccinated-refusing” . One was against all childhood vaccinations, their youngest child having only received Bacillus Calmette–Guérin vaccine for tuberculosis in Ukraine due to a doctor’s insistence. The other believed their older child had developed dermatitis after vaccination. Their youngest child had received Bacillus Calmette–Guérin and rotavirus vaccines in Estonia, but they were against further vaccination.

4.1.2. Health care workers

The FNs and GPs were clear that their distinct yet complementary roles in the delivery of childhood vaccinations are the same for all children, Estonian and Ukrainian alike. The FNs are primarily responsible for the preparatory and administrative work (registering children, scheduling appointments, record keeping etc) and the actual administration of vaccinations. The GPs, on the other hand, focus on providing comprehensive information and engaging in discussions with caregivers about the importance of vaccinations.

There was mixed evidence from the HCWs’ accounts of them tailoring their vaccination conversations to the different needs of hesitant and refusing caregivers, and their approach was the same for Estonian and Ukrainian caregivers. Approximately half had received training on this with two actively using motivational interviewing techniques, and finding these methods somewhat effective in addressing caregivers’ hesitancy about vaccination.

For others, they described how they typically explain the importance of vaccination, discuss potential consequences if a child is not vaccinated, and provide evidence-based information to all caregivers.

“The main thing is that with the help of open questions and avoiding confrontation, a person is made to think about what they really want and what they really fear or [...].”
GP

One FN mentioned that it is generally easier to encourage hesitant caregivers compared to those who refuse vaccinations with three HCWs suggesting that more training is needed.

“Oh well, motivational interviewing of course for anti-vaxxers would be the number one thing one could train for.”
GP

They emphasised the importance of incorporating such training into ongoing professional development and refresher courses to enhance their skills and ensure they are well-prepared to handle vaccine hesitancy effectively.

4.2. Level of knowledge and health literacy

4.2.1. Ukrainian refugees

Mixed levels of knowledge of childhood vaccination was evident amongst the caregivers.

All knew that vaccinations in the Estonian childhood vaccination schedule are available free of charge with a health insurance certificate, indeed many who had given birth in Estonia reported receiving childhood vaccination information in the maternity hospital. The caregivers with fully vaccinated children were familiar with the Estonian schedule with some commenting on its similarity to the schedule in Ukraine. They (and the postponing caregiver) also knew how to access childhood vaccination in Estonia, namely via the GP. Notably the two refusing caregivers did not know the schedule and one (whose child had only been vaccinated at birth in Ukraine) did not know the process for childhood vaccination in Estonia.

“Maybe the schedules are different, I don't know. I just don't follow that schedule. They offer me – I refuse. I like the fact that if my child hasn't been vaccinated, I don't have any problems with kindergarten.”

Caregiver-refusing, partially vaccinated child

All the caregivers were aware of serious vaccine-preventable childhood illnesses, although the two caregivers declining vaccinations did not appear to understand their children are at risk. They were also the least knowledgeable on the purpose and basic principles of vaccination, and said they had not received any vaccination information on HCWs, instead relying on their social circle and social media. The postponing caregiver misunderstood contraindications to vaccination (hence postponing). Overall, those with fully vaccinated

children appeared most knowledgeable about the purpose and basic principles of vaccination, and stated they felt sufficiently informed by HCWs. The caregivers classified as declining were the least knowledgeable and were only interested in knowing more if this information was specific to their child.

4.2.2. Health care workers

All HCWs demonstrated good knowledge of childhood vaccination, understanding its importance and the specifics of the Estonian childhood vaccination schedule. However, they acknowledged that their staff may be unfamiliar with the Ukrainian health system (including the Ukrainian childhood vaccination schedule) and seemed unsure if vaccination uptake differed for Estonian and Ukrainian children, offering different opinions on this.

"I haven't seen any Ukrainian mother who didn't want to vaccinate her child."

GP

Potential language barriers to having good vaccination conversations with Ukrainian caregivers were also mentioned.

4.3. Attitudes and intentions

4.3.1. Ukrainian refugees

The caregivers with fully vaccinated children and the postponing caregiver expressed generally positive beliefs towards vaccination. They saw Estonian vaccines as high quality, with some commenting that the Estonian healthcare system is "less corrupt" than the Ukrainian system. Overall, they were of the view that the risk from serious diseases is greater than the risk of vaccination, and accepting of minor side effects. Some voiced concerns that multi-component vaccines overload a child's immune system, but they still accept them for their children. The postponing mother also held some different views, believing that a child can never be vaccinated if unwell (grounded in their misunderstanding described above) and feeling confident in relying on their child's natural immunity for protection, until the time when they are vaccinated.

“...it seems to me that there are more high-quality vaccines here [than in Ukraine]... In general, you know, when I gave birth to a child here, it seems to me that the system here is a little different. More honest... The quality of everything differs. That is why I have more trust in this medicine [Estonian medical system].”

Caregiver-postponing, partially vaccinated child

The two caregivers declining vaccinations held starkly different views, suggesting that vaccination can have serious side effects including developmental disorders and even death. They believed all vaccines to be dangerous for a small child, particularly live and multi-component vaccines, and for children with an underlying health condition or weakened immunity. However, they trusted the Estonian health system more than Ukrainian health system with one suggesting they might consider single vaccines for their child in a pandemic situation.

“I say, it seems to me that the single-component one is better, if at all... Well, for example, whooping cough, tetanus, it seems to me that it makes no sense at all to do this vaccination. Why? Because one can get infected only if steps on a rusty nail... Why should we administer it to a child...? If still to administer, it is better to use single-component ones, and there is really a risk to the child that they can get sick.”

Caregiver-refusing, partially vaccinated child

4.3.2. Health care workers

There was no clear consensus among the HCWs on the typical profiles of hesitant or refusing caregivers, but they were in agreement that their reasons are the same for Estonian and Ukrainian caregivers (indeed that is evident from the caregivers' accounts described above). The HCWs suggested that misconceptions, such as fears about "live attenuated vaccines" are common among hesitant caregivers, whilst refusing caregivers tend to prefer vaccines for single diseases rather than multi-component vaccines. Greater concerns exist among both refusing and hesitant caregivers for vaccines outside the regular childhood schedule, such as influenza and COVID-19 vaccines.

“Some make choices like “I’ll get this vaccine, but not that one,” based only on their own reasoning. [...] Well, we have, for example, combination vaccines, right; [...] some would like to vaccinate against only one disease. That is not possible because such a vaccine simply does not exist.”

FN

4.4. Convenient access to vaccination

4.4.1. Ukrainian refugees

All but one caregiver (who refused vaccinations) said they can access routine childhood vaccinations in Estonia. A few with fully vaccinated children mentioned they do not know how to access additional vaccinations (those outside of the national schedule). Most caregivers had not received any reminders in Estonia to bring their children for vaccination, and many commented that this would be helpful.

“I am waiting that the GP would offer it, that there are additional ones, whether you want to do the additional ones. Because I can’t always remember, at the time you come, you can’t always remember about the additional vaccination.”

Caregiver, fully vaccinated child

4.4.2. Health care workers

The HCWs unanimously reported that the processes for childhood vaccination are well organised and the same for Estonian and Ukrainian children. In three facilities, specific days are designated for children’s vaccinations, usually on Tuesdays or Wednesdays, allowing for both scheduled appointments and spontaneous walk-ins. The other two facilities offered vaccination every day.

Consistent with the caregivers’ experiences, these HCWs acknowledged the lack of a “formal” reminder system for childhood vaccinations in Estonia. Whilst they said they routinely raise the topic of vaccination in children’s health appointments, only two HCWs spoke of being proactive in reminding caregivers, e.g. by telephoning them. Most believed that a national automated notification system would be useful, reducing the chances of missed vaccinations due to forgetfulness or lack of awareness. It was also recognised that for Ukrainian caregivers to access vaccinations for their children, they need to be proactive in registering at a primary health care facility, and so there is probably a lack of information about childhood vaccination for unregistered refugees. Creating a single channel for refugees to receive information was seen as crucial. For example, a GP’s advice line dedicated to providing clear and accessible

information about vaccinations and other health care services could help refugees navigate the health care system more effectively.

A procedural challenge specific to vaccinating Ukrainian children was the absence of a vaccination card or difficulty in interpreting it meaning that the child's vaccination history is unknown. The HCWs explained that when this happens they rely on the caregivers' recollection and/or ask them to check with relatives or doctors in Ukraine. The consensus was that health care facilities alone cannot resolve these documentation issues and called for guidance on handling situations where a child's vaccination history is missing and a nationally-led approach to providing access to Ukrainian children's health records.

"We still proceed from trust and the statement that if the parent says that the child has received all the scheduled vaccines, then we assume that the child has received all the scheduled vaccines according to the Ukrainian scheme."

GP

4.5. Social support for vaccination

4.5.1. Ukrainian refugees

The caregivers with fully vaccinated children and the postponing caregiver all said they trust and follow HCW's recommendations for childhood vaccination. Many described conversations with HCWs had answered their questions and addressed their concerns. Some caregivers with fully vaccinated children also consult with family doctors in Ukraine if they have this opportunity.

"The last word would still be, probably, well, not a word... the last advice would be from a doctor from Ukraine if something would worry me here."

Caregiver, fully vaccinated child

The two caregivers refusing childhood vaccination only trusted their GP in Ukraine. They were clear they do not trust HCWs in Estonia about childhood vaccination, despite seeing the Estonian healthcare system as "less corrupt" than the Ukrainian system. They were surprised that HCWs in Estonia don't try to persuade them to vaccinate.

“Well, if a doctor (in Estonia) recommended vaccination, I would study this issue more. It seems to me that there is such a system here that, there are vaccinations, there is trust in the vaccinations because they are of high quality, but doctors... They don't want to study each person's body, they don't approach each person individually, they do everything according to the protocol.”

Caregiver-refusing, partially vaccinated child

Instead, they were drawing on the opinions of members of their social network who share similar vaccination beliefs.

4.5.2. Health care workers

There were no data from HCWs on social support for vaccination.

5. Findings – Influenza vaccination for older adults

5.1. Vaccination behaviours

5.1.1. Ukrainian refugees

None of the older adults had received influenza vaccination since living in Estonia. A few had been vaccinated in Ukraine or Lithuania (previous host country) in the winter of 2022/23. Five were classified as “postponing” (until they are older) and four as “refusing” based on their interview data.

5.1.2. Health care workers

Consistent with childhood vaccination, was limited evidence that these HCWs tailor their conversations to hesitant and refusing older adults (Estonian or Ukrainian). Three HCWs had received specific training and resources to support them in conversations about vaccinations, including MI. Just one HCW suggested that additional communication training could be beneficial.

What was noticeable was a more passive approach to recommending adult vaccinations (including influenza) compared to childhood vaccination, where caregivers are more actively approached. The HCWs described how they respect patient autonomy and choice, and they do not try to persuade any adults who refuse vaccination. Instead, they focus on explaining the importance of vaccination, the risks of not getting vaccinated, and providing advice in case of illness. One GP mentioned that adopting a calm manner and listening to patients' concerns can help them reconsider vaccination.

“...and then we chat about it a bit, and then they say, “Ah, what the heck – let's do it, if you say it's needed”.”

GP

Two HCWs admitted they don't provide any advice or information to older adults, while three just offer brief information on the importance of vaccination and its risks and benefits.

“Let's be honest, we don't have the resources to really fight with them. We do try to tell them, but as I said it's voluntary in our democratic country. We can't press too hard either.”

FN

5.2. Level of knowledge and health literacy

5.2.1. Ukrainian refugees

Most of these older adults lacked knowledge about the adult influenza vaccination programme in Estonia i.e. they did not know that it is free for adults aged 60+ years, with some assuming 65 years.

“We, the refugees, all have the right to free vaccinations, in Estonia the senior age is considered to be 65, but I know my colleague was vaccinated and they are not yet 65, and here it all depends on the medical insurance, if you have it, then a lot is done for free.”

Older adult, postponing

All knew about seasonal influenza vaccination and understood the basic principles of how vaccination works. However there was clear evidence of knowledge gaps and misunderstanding, that led to a belief that they do not need to have the influenza vaccination (see section 5.3.1). Participants (both postponing and refusing) accepted they may contract influenza but lacked understanding of how serious this can be. Some stated misperceptions that they have immunity from previous infection, healthy living and natural remedies, and that influenza infection can be treated with antibiotics.

None of these older adults had seen any “official” information about the influenza programme in Estonia.

“The information about influenza vaccination (for older adults) may exist somewhere, but it is not in Ukrainian. I didn't see an ad anywhere so I could translate it. It may exist somewhere however; it is probably in Estonian.”

Older adult, refusing

Those postponing influenza vaccination wanted information on reasons for receiving influenza vaccination, the risks of influenza infection, influenza vaccine safety and effectiveness, and possible side effects for people with underlying health conditions. They requested this from a variety of sources: mass media, internet, health portals, announcements/posters in health care facilities and social networks (e.g., Facebook). The

refusing group did not want any more information, stating they are not interested in learning more.

5.2.2. Health care workers

All HCWs demonstrated good knowledge of the adult influenza vaccination schedule. A key potential key barrier to having good vaccination conversations with Ukrainian older adults was language.

5.3. Attitudes and intentions

5.3.1. Ukrainian refugees

The common opinion amongst these older adults was that they do not need to be vaccinated against influenza, they do not feel “old” at 60 years and this view would be the same if they were still in Ukraine. Many said that COVID-19 vaccination has reduced their motivation to have influenza vaccination and some mentioned that the war in Ukraine has changed their perspective on what to worry about. There was a general perception that the adult influenza vaccination programme is more “voluntary” in Estonia compared to more “directive” in Ukraine.

“The programs in Estonia and Ukraine are similar, but the way they are delivered to people is more civilized here: they don’t force this on us and they don’t scare us – get vaccinated or die. I went to a doctor in Ukraine, they literally threatened me, do you know how many people are dying? You must get vaccinated! If you don't get vaccinated, you are an enemy of the people. In Estonia everything is unobtrusive.”

Older adult, postponing

There were also some differences in attitudes between the two groups. The postponing group believed that all vaccines protect against serious illness. They expressed confidence in the Estonian health system and vaccines. However, they had some concerns about influenza vaccine safety especially for those with underlying health conditions, and doubts about vaccine effectiveness.

“...we have an opinion, and we also read, watch, communicate with doctors and Estonians, and there were rallies against the vaccination because there were cases when people died after the vaccination – this immediately spread, plus people who have chronic diseases, cardiovascular diseases, asthmatic diseases, and lung diseases took the medicines that relieved an asthma attack, for example, before the vaccination and these medicines stopped working after the vaccination and they had to look for some new medicines, thereby there were complications.”

Older adult, refusing

The refusing group were generally suspicious of medicine (including all vaccines), believed that influenza vaccination is riskier than infection, and questioned its safety and effectiveness, especially in the longer term.

5.3.2. Health care workers

All but one HCWs commented that older Ukrainian adults do not typically request the influenza vaccine, noting more frequent requests for the COVID-19 vaccine.

“When, for example, October arrives, the people who live... well, our residents – they themselves already call “Oh, when will this free vaccine arrive? I heard and I would like to vaccinate myself”. Ukrainians – they don't ask.”

GP

There was a suggestion that Ukrainian refugees may be relying on unofficial information sources e.g., mass media, especially those who are not registered with a primary health care facility. Providing multilingual information materials in Russian and Ukrainian at health care facilities was seen as essential for raising awareness among refugees. Another idea was to establish a dedicated information channel, such as a GP's advice line, specifically for Ukrainian refugees. This channel could provide reliable and accessible information about vaccinations and other health-related topics, helping to dispel myths and encourage vaccination.

A few HCWs proposed that some older adults in the Ukrainian refugee community are opposed to vaccination. Slightly contradicting this, they also said that the reasons for influenza vaccine hesitancy or refusal are generally similar for both Estonian and Ukrainian older adults. Poor awareness of the Estonian adult vaccination programmes, uncertainty about vaccines due to the situation being the first time the older adult has considered vaccination in Estonia, and feeling unwell were reasons suggested for hesitant older adults. Additionally, poor knowledge and awareness of the importance of vaccination, a lack of trust in doctors as a source of information, family and friends' influence and knowing someone

who has had a negative experience with vaccination contribute to both hesitancy and refusal. These reasons among refusers include vaccination not being habitual, a low perceived risk of disease severity, questioning the need for vaccination, and reliance on mainstream media presenting inaccurate information.

5.4. Convenient access to vaccination

5.4.1. Ukrainian refugees

All the older adults said they could access influenza vaccination, free of charge from their GP practice if they wanted to. They perceived no access barriers, although none had received a reminder to attend for influenza vaccination.

“How could it be easier?... No support is needed, I can get the information and vaccination I need when it’s convenient for me.”

Older adult, postponing

5.4.2. Health care workers

All HCWs stated that the processes for adult influenza vaccination (including invitation and vaccine administration) are the same for both Estonians and Ukrainian older adults, and are generally perceived to work well for all older adults. In four facilities influenza vaccination is offered to older adults during unrelated appointments. This opportunistic approach was seen as an alternative to “time-consuming” outreach efforts like calling patients or sending mass mailings. Only one FN reported inviting older adults by telephone, from September to November. One GP mentioned that influenza vaccinations are limited to scheduled appointments, and spontaneous vaccinations are not permitted.

Consistent with the experiences of the Ukrainian older adults, these HCWs acknowledged that refugees need to be proactive in first registering at a primary health care facility and then requesting influenza vaccination. It was suggested to utilise the health portal to send notifications about upcoming adult vaccinations.

5.5. Support from social network

5.5.1. Ukrainian refugees

In the absence of “official” information about influenza vaccination, these older adults cited their main information resources as mass media, internet, acquaintances, friends, family and colleagues.

“The information that is there is enough for me because I prefer to get information first-hand – I talk to people who have had these vaccinations – they are all alive and feel well, nothing bad has happened to anyone.”

Older adult, postponing

Those postponing influenza vaccination identified their preferred key source of influence for vaccination to be their family doctor. They expressed confidence in health workers in Estonia and Ukraine and wanted to discuss their influenza vaccination decision with them. They said they could be persuaded to be vaccinated by a family doctor however very few had been told about opportunities for influenza vaccination in Estonia and they all lacked a direct recommendation.

“We want it to be like in Ukraine against COVID, the nurse called us and said “come, now a good medicine has arrived”.”

Older adult, postponing

The older adults who were refusing influenza vaccination said they are unlikely to be influenced by an influenza vaccination recommendation from a health worker, as they tend to distrust health workers in Estonia (and Ukraine).

Both groups talked about how community norms for vaccination influence their own decisions however they (particularly the refusers) perceived low levels of influenza vaccination among the Ukrainian community in Estonia.

“We have Estonian friends, they went and did it, but with my Ukrainian friends – we have a team of 45 people – no one ever thought about getting the influenza vaccination or even talked about it, about coronavirus yes, but not about influenza.”

Older adult, refusing

Those who were postponing, said that seeing other vaccinated adults in their community could motivate them.

5.5.2. Health care workers

Just one HCW acknowledged the significant impact that family and friends can have on vaccination decisions (both positive and negative), and reflected that prevalent attitudes within the Ukrainian refugee community in Estonia could be influential.

6. Conclusions and next steps

This study identified many successes and some ongoing challenges in the provision of primary care services (including childhood and adult influenza vaccination) to Ukrainian refugees living in Estonia.

The process for Ukrainian refugees registering for health care in Estonia is described as well-established. These caregivers and older adults were generally confident in navigating the health care system. The HCWs consistently emphasised that they treat Ukrainian patients the same as they treat Estonian patients. Key challenges were pressure on the patient registration system with patient lists filling up quickly and difficulties in tracking when patients leave. Limited or no access to refugees' medical records was seen to complicate patient care.

The childhood vaccination programme in Estonia is delivered in the same way to Estonian and Ukrainian children. These caregivers knew about the programme, and most could confidently access it. Both caregivers and HCWs noted the lack of an automated reminder system. Caregivers with fully vaccinated/postponed vaccination children trusted Estonian HCWs and had discussed vaccination with them. Those refusing vaccination for their children had not received any information from HCWs about vaccination. This would be the same for unregistered refugees. There was mixed evidence of HCWs tailoring their vaccination conversations to the different needs of hesitant and refusing caregivers, and potential language barriers were recognised. A key barrier for HCWs was the absence of a child's documented vaccination history meaning they rely on caregivers for this information.

The adult influenza vaccination programme in Estonia is the same for Estonians and Ukrainians. None of these older adults had seen any "official" information about the programme or been invited for influenza vaccination and most did not know it is free for adults aged 60+ years. They demonstrated many knowledge gaps and misperceptions. Those postponing vaccination wanted information and a direct recommendation from a HCW to be vaccinated (seen to be lacking in Estonia compared to Ukraine). HCWs confirmed this less pro-active approach to inviting or persuading adults to be vaccinated, respecting patient choice. Some described tailoring their vaccination conversations to the different needs of hesitant and refusing caregivers, mentioning potential language barriers.

These findings were taken to a 1-day stakeholder workshop (May 2024) in Tallinn, supported by the Ministry of Social Affairs, the Health Board, and the WHO Country and Regional Offices. From this workshop a Communication and Intervention plan was developed. This plan is available from Kristina Köhler, WHO Country Office, Estonia (kohlerk@who.int).

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