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Paediatric refugees from Ukraine: guidance for health care providers

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Summary

BACKG ROUND: With the invasion of Ukraine by the Russian Army in February 2022, refugees, the majority of whom are women and children, started fleeing the war to neighbouring countries. Even before the current escalation, the conflict in the eastern part of Ukraine has led to the internal displacement of more than 200,000 children, and many others have experienced attacks, e.g. on schools. This inevitably leads to limitations in health care delivery. During transit, overcrowding, poor shelter and vulnerability may further put refugees at increased risk for infectious diseases. This consensus document aims to provide information and guidance regarding health issues that paediatricians and general practitioners may face when caring for Ukrainian children.

METHODS: Members of the Migrant Health Reference Group of Paediatrics Switzerland and the Paediatric Infectious Disease Group in Switzerland developed this recommendation between March and April 2022 in a modified Delphi process.

RESULTS: A total of 50 recommendations were agreed on with a ≥80% consensus. These include the following topics: i) general aspects, including interpreter services, urgent health needs, personal history and general check-ups; ii) mental health, including how to search for signs of psychological distress without going into traumatic details; iii) vaccinations, including recommendations for evaluation and catch-up; iv) screening for tuberculosis, human immunodeficiency virus, and hepatitis B and C; and v) providing age-appropriate preventive and health service information.

CONCLUSION: This document provides current evidence and guidance when caring for paediatric refugees from Ukraine. The recommendations focus on Switzerland but may well be used in other countries. These are based on current evidence and may need to be adapted to individual situations and once further evidence becomes available.

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Introduction

With the invasion of Ukraine by the Russian Army in February 2022, refugees, the majority of whom are women and children, started fleeing the war to neighbouring countries. Because few men are allowed to leave Ukraine, most child refugees are separated from their fathers. While some refugees managed to leave early, others experienced attacks, hiding in bomb shelters and enduring a long and insecure journey. Even before the start of the current escalation, the conflict in the eastern part of Ukraine led to the internal displacement of more than 200,000 children, and many others have experienced attacks, e.g. on schools [1]. During transit, overcrowding, poor shelter and vulnerability may further put refugees at increased risk for infectious diseases [2, 3].

The Ukrainian national health system provides basic care free of charge, but access and the overall quality of care provided varies, especially due to a lack of resources [1]. Despite great improvements over the last years, under-5

Summary of recommendations

General	
Assess needs for an interpreter, inform any volunteer interpreters about confidentiality and ensure the patient and family can speak freely.	
Identify urgent health needs.	Acute or chronic disease needing urgent treatment or interruption of medication etc.
	Evaluate needs for isolation or protection.
Take a personal history including:	Chronic diseases and known health problems.
	Previous curative and preventive care and advice received.
	Transit, arrival date and current situation in Switzerland (accommodation, security, schooling, childcare, financial situation, family situation, social life, resources).
	Evaluate needs of the main caregivers (health, emotional wellbeing, ability and need to fulfil parental role, support in childcare).
Perform a thorough age-appropriate check-up as recommended by the checklist of Paediatrics Switzerland.	
Mental health	
Evaluate mental health needs and search for signs of psychological distress.	Avoid going into traumatic details.
	Ask for e.g. sleep disorders, nightmares, behaviour changes, hypervigilance, bedwetting, anxiety attacks, mutism, depression.
	Ensure that patient and family feel safe.
	Evaluate needs of child, adolescent, parent or caregiver for mental health support and specialised care.
Vaccination	
Ensure age-appropriate vaccination coverage.	Usually, only documented vaccinations should be considered received.
	Ensure vaccination coverage and update according to Swiss recommendations.
	Include poliomyelitis vaccines (IPV) in all indicated DTPa/dTpa booster vaccinations, including those for adolescents.
	The second dose of measles vaccination is only given at age 6 years in Ukraine; therefore, children under 6 years should receive a dose of MMR vaccine as soon as possible.
	Three doses of hepatitis B (day of birth, 2 months, 6 months) vaccine according to Ukrainian vaccination schedule can be accepted.
	Anti-tetanus toxin antibody concentrations may be determined 4 weeks after a single dose of a tetanus toxoid-containing age-appropriate combined vaccine (include poliomyelitis) to determine further catch-up vaccination needs.
Screening	
	Neonatal screening (Guthrie test) may be considered in all infants ≤6 months of age born in Ukraine.
	Tuberculosis testing should be offered and can be done using a skin test (TST) or blood test (IGRA) combined with other blood samples.
	HIV serology (HIV-1/2) should be offered, especially i) in the absence of a reliable negative HIV test in the mother during pregnancy or ii) in the presence of potential exposure or risk factors (see also text).
	Hepatitis B serology should be offered in the absence of prior hepatitis B vaccination.
	Hepatitis C serology should be offered to all.
Information	
	Give age-appropriate preventive information and inform about health services, cost coverage and where to go in case of an emergency (including emergency number 144 for vital emergencies).

mortality rates are still more than double those in Switzerland. Vaccination coverage has also improved over the last few years but is variable in the country. Outbreaks of vaccine-preventable diseases such as measles have frequently been reported, and circulating vaccine-derived poliovirus outbreaks have been registered [4, 5]. Multidrug-resistant tuberculosis and high rates of hepatitis C are a concern. The screening of pregnant women for human immunodeficiency virus (HIV) and HIV mother-to-child prevention programs are in place, but screening of pregnant women for hepatitis B and C is inconsistent [6]. Hepatitis A also circulates in the population, with increasing prevalence in older age [7]. Newborn screening and weekly home visits by a nurse for newborns are offered. For older children, regular check-ups by paediatricians or general practitioners are routine, and health certificate cards are supposed to be brought to schools at the start of every school year [1].

In Switzerland, the temporary protection "status S" was introduced on March 12, 2022, granting Ukrainians and people who had lived in Ukraine and could not return to their countries of origin a residency permit until the conflict is over and return is possible. Protection status S also includes social and medical assistance, school attendance and the permission to pursue gainful employment. Furthermore, travel and family reunion are possible. Protection status S is renewable on an annual basis but becomes a B permit if a return remains impossible after five years. In contrast to previous refugee waves, most refugees will not stay at refugee centres over extended periods because they are now rapidly distributed to host families, organised by the Swiss refugee council and other agencies. Host families must help guide their guests to seek care and adapt to the new situation but must also stay attentive to their own needs while hopefully providing a warm, secure welcome.

Refugees are assigned to the Swiss cantons, which are in charge of their integration and wellbeing. There they receive basic health insurance, and the cost of premiums and co-payments (deductibles and retention fees) are covered as long as supported by social care (https://www.sem.admin.ch/sem/en/home/sem/aktuell/ukraine-krieg.html).

Armed conflicts directly and indirectly affect the rights of children, especially concerning health. The United Nations Convention on the Rights of the Child (1989) clearly outlines their rights. By providing quality care, child health professionals play an essential role in upholding and promoting human rights.

This document provides information regarding health issues that paediatricians and general practitioners may face when caring for paediatric (here defined as all individuals <18 years of age) refugees from Ukraine. The recommendations have been made with a focus on Switzerland but may well be used in other countries. As with any recommendation, they may need to be adapted to individual situations.

Guideline development process

A working group was convened among members of the Migrant Health Reference Group of Paediatrics Switzerland and a previously established working group of the Paediatric Infectious Disease Group in Switzerland (PIGS) on March 9, 2022. A list of priority topics was determined by the writing group. Additional external experts were approached for specific topics. All authors were assigned sections with writing responsibilities. Virtual meetings were held to discuss the recommendations in a modified Delphi

process. Finally, all recommendations were voted on by an online tool using the survey Findmind by all co-authors. The threshold for recommendations was met if >80% voted for full agreement on an item.

Language

We estimate that not all Ukrainian refugees arriving in Switzerland will be able to communicate in either a Swiss national language or English. Most Ukrainians understand Ukrainian and Russian, and Polish may be understood by some refugees because the language is close to Ukrainian. Ideally, care is provided by health care providers fluent in these languages. In their absence, professional interpreters are the gold standard. High-quality interpreting in the presence of a language barrier is essential in the provision of health care and may reduce harm and unnecessary consultations and interventions. Health care workers can access interpreter services through the following agencies: www.inter-pret.ch/Vermittlungsstellen, www.inter-pret.ch/services-dinterpretariat, www.inter-pret.ch/agenzie-dinterpretariato. Unfortunately, financial coverage of interpreting services in health care has not generally been established in Switzerland, but the federal council has confirmed that non-medical support (which includes interpreters) may be required, which is then covered by basic health care insurance [8]. Volunteers may be an important additional help for short and less complex discussions. The organisation of such volunteers is mainly cantonal and regional. Assessing and documenting interpreter needs may be helpful before consultation and in the organisation of further consultations.

Recommendations

1. In the absence of language-congruent care providers, professional interpreters should ideally be used.

2. Ad hoc interpreting by health care staff or volunteers may be useful.

3. When organising an interpreter through an agency, state the exact language and the level of experience needed by the interpreter and clarify whether Russian interpreting is acceptable.

4. If volunteers are used, explain to them the rules of interpreting (e.g. confidentiality, interpreting what is said) and be aware of potential quality concerns.

5. When volunteers or family members interpret, try to, especially in case of potentially sensitive issues, assess whether full expression of concerns is possible for patients or caregivers.

6. Translation softwares can be used with precautions when no other options are available.

7. Avoid using minors for interpreting.

General paediatrics

Consultation for children and adolescents from Ukraine considers the following points: the general health and well-being of the child/ adolescent, and the accompanying person(s); the Ukrainian epidemiological and healthcare context; the experience of war and exile; the implication of the Swiss context; and psychosocial resources to cope with the new situation. The "Newly arrived child in Switzerland" section in the Swiss C hild Health Booklet should be completed, and the New Arrivals checklist may serve as a guide during consultations: https://www.paediatrie-schweiz.ch/unterlagen/migration/ → checklist for migrant children new to Switzerland, or: https://cdn.paediatrie-schweiz.ch/production/uploads/2022/05/2022.05.18-Migration_Checklist-new-arrivals-Update-MAY-2022.pdf.

As a first step, the need for urgent treatment or care must be assessed. Acute health problems, chronic diseases that need urgent attention, or the need for essential medications (e.g. children with type 1 diabetes or HIV infection) may warrant urgent action, as do potential needs for isolation or protection. Enquire about previous health concerns and curative and preventive care received (including level of care). Without going into details, ask about the escape, date of arrival in Switzerland, previous vaccinations, and any screening or vaccination done during the escape or at a reception centre, and screen for mental health needs (see *Mental health issues* section).

A complete age-adapted paediatric assessment according to paediatric checklists [9] should be performed. The extent of preventive assessments, care and information received in Ukraine may vary. Be aware of the nutritional state of the child, iron and calcium intake, and need for Vitamin D.

Notably, Ukrainian newborn screening only includes the following four diseases: phenylketonuria, congenital hypothyroidism, adrenogenital syndrome and cystic fibrosis. These diseases are also those most frequently detected in Switzerland. Several other diseases screened in Switzerland (https://www.neoscreening.ch/en/diseases/) may therefore not be detected in Ukrainian refugee children. They may present with feeding difficulties, vomiting, lethargy, liver abnormalities, muscular hypotonia, seizures, severe or opportunistic infections and require urgent diagnosis.

Exile comes with massive changes rendering psychosocial aspects of particular importance, such as the overall psychosocial context, housing, financial needs, legal status, adaptation to the new environment, school, extracurricular activities, making friends and other social activities. It may be helpful to connect families with volunteer organisations and NGOs who give support or organise social events and to potentially involve a social worker.

The change in family structure may put more weight on a single person's shoulders, increasing the need for support (e.g. daycare, school meals). Due to the extreme circumstances, some refugee parents and caregivers may be distressed to the point of seeing their ability to care well for their children compromised. Because stable, secure living conditions with reliable, emotionally available adults (parents, relatives, professionals) are important, the mental and physical health needs of the child's main caregiver(s) and requirements for support must be assessed.

Useful information for refugees in Ukrainian may be found here: https://www.migesplus.ch/en/topics/ukraine

Recommendations

8. Identify urgent health needs (e.g. acute illness, lack of essential medications for chronic disease) and evaluate needs for isolation or protection.

9. Ensure care for chronic conditions and developmental delays in coordination with specialists and school professionals.

10. Perform a thorough age-appropriate health check-up.

11. Performing a Swiss newborn screening ("Guthrie test") may be considered in all infants ≤6 months of age born in Ukraine, even in case of a previous screening in Ukraine.

12. Assess the psychosocial situation and adaptation to the new setting (living conditions, finances, school, friends, social activities, childcare resources, etc.) and need for assistance.

13. Enquire about the caregiver's resources and unmet needs to cope and fulfill the parental role (e.g. emotional availability and stability, health problems).

14. Inform about national and local resources for migrants.

15. Give age-appropriate prevention recommendations.

16. Give information on the health system and what to do in case of acute disease or an emergency (including the emergency phone number 144) and inform about costs covered.

17. Provide the caregiver with documentation of vaccinations given, results from examinations and laboratory analysis, and treatment plans as written documents and, if available, in electronic format. Photographs of documents taken by the caregiver may help avoid loss of information.

Vaccinations

The main differences between the vaccination schedules in Ukraine and Switzerland are that the second dose of measles, mumps and rubella (MMR) vaccination is only given at age 6 years and booster doses for poliomyelitis vaccination are given as oral live-attenuated vaccines at age 6 years and 14 years [10]. Bacillus Calmette-Guérin (BCG) vaccination is universally recommended at birth. Vaccinations against pneumococci, meningococci, varicella zoster virus, human papillomavirus (HPV), and tick-borne encephalitis are not included in the Ukrainian basic immunisation recommendations. Missing vaccinations should be administered as soon as possible.

A picture and translation of a Ukrainian vaccination chart are available on the webpage of Paediatrics Switzerland: https://www.paediatrieschweiz.ch/unterlagen/migration/.

Measles, mumps and rubella

Optimal MMR protection requires two doses of vaccine, with the first dose recommended at 9 months and the second dose at 12 months of age in Switzerland. MMR is recommended at 12 months and 6 years of age in Ukraine. Therefore, children under 6 years of age are unlikely to be fully protected with two doses. Notably, only documented immunisations are valid, and it should usually not be assumed that MMR has been administered when there is no documentation available. Extra doses of MMR are not harmful because pre-existing immunity will eliminate the attenuated vaccine viruses before they can replicate.

Recommendations

18. Any child ≥9 months of age and adolescents without a documented MMR immunisation should receive a first dose of MMR in the absence of contraindications after arrival in Switzerland. A second dose should follow >1 month later at a minimum age of 12 months.

19. Any child ≥12 months of age and adolescents with one documented MMR immunisation ≥1 month ago should receive a second dose of MMR in the absence of contraindications after arrival in Switzerland.

20. These recommendations also apply to individuals who have received one or more single measles, mumps or rubella vaccinations until all three components have been administered at least twice.

21. Serological investigations to determine specific immunity against measles, mumps or rubella should *not* be applied routinely because of variable test sensitivity.

Varicella

Optimal protection against varicella requires a reliable history of the disease or two doses of vaccine. When taking the history of previous varicella infection, it is important to ensure the person asked understands the word varicella and is familiar with the disease. In Switzerland, varicella immunisation is recommended for all individuals 11–40 years of age not yet immunised and without a reliable history of having had varicella. Furthermore, varicella immunisation is recommended before 11 years for certain risk groups [11] and those staying in refugee centres [12]. Since varicella vaccination is not universally recommended in Ukraine, children and adolescents are unlikely to be immunised.

Recommendations

22. Any child or adolescent ≥11 years of age without two documented varicella immunisations should be asked whether they have had "chickenpox". Pictures of the disease may be helpful in taking this history. If the disease history is uncertain or negative, a first dose of varicella vaccine (or MMRV if indicated) should be administered in the absence of contraindications. A second dose should be given 4–6 weeks later.

23. Any child or adolescent ≥11 years of age with one documented varicella immunisation ≥1 month ago should receive a second dose in the absence of contraindications.

24. Any child over 9 months who has not had chickenpox or two doses of varicella immunisation should be immunised with two doses if the following risk factors are present: expected immunosuppression, nephrotic syndrome and severe atopic dermatitis, HIV without immunosuppression, being a close contact of a person with named risk factors [11, 13], or in case of a prolonged stay in a refugee centre.

25. Serological investigations to determine specific immunity against varicella (VZV-IgG) may be applied in cases of doubt about the varicella disease history as an alternative to two vaccinations.

Hepatitis B

The prevalence of chronic hepatitis B virus (HBV) infection in the general Swiss population is estimated to be 0.3% [14]. In children, the seroprevalence is unknown but likely to be very low.

Ukraine is considered a country with intermediate HBV prevalence, but the prevalence was low among children, with HBs antigen positivity below 0.5% [15]. Universal HBV vaccination of infants is recommended in Ukraine at birth and 2 and 6 months of age, but vaccination coverage rates have been shown to be low as part of an assessment in recent serosurveys. Broad regional variability ranges from 28% to 80% coverage rates [10, 15].

Recommendations

26. In children with complete HBV vaccination according to the Ukrainian recommendation, no further immunisations are needed.

27. In children with partial immunisation according to Ukrainian recommendation, catch-up vaccination should be started so that three doses have been given, with an interval of ≥4 months between the second and third dose. Every previous dose counts.

28. In children with no previous or unknown HBV vaccination, serological screening for anti-HBsAg and anti-HBc (infection) and quantitative anti-HBs (immunisation) should be done.

29. If the quantitative result of anti-HBs is ≥100 IU/L, the child is considered fully immunised and protected; no further action is needed. If anti-HBs is ≥10 but <100 IU/L, at least a single booster dose against hepatitis B is recommended. If an infection is excluded and anti-HBs is negative, a full immunisation series against hepatitis B is recommended.

30. In case of diagnosis of an acute or chronic HBV infection, the patient should be referred to a paediatric gastroenterologist and/or infectious diseases specialist.

Poliomyelitis

Poliomyelitis is included in every booster in the Ukrainian vaccination schedule until the age of 14 years, which is different to the Swiss schedule where the last (fourth) dose is recommended at 4–7 years of age [10]. Due to suboptimal vaccination coverage in Ukraine, poliomyelitis boosters are currently recommended for long-term travel to Ukraine [5]. For this reason, Ukrainian children should be updated for poliomyelitis coverage to ensure that they will be immunised according to their national vaccination schedule on return.

Recommendations

31. Include poliomyelitis vaccines in all indicated DTPa/dTpa booster vaccinations, including those for adolescents.

32. If immunisation documents are available, ensure that the patient has received at least three doses of poliomyelitis vaccine and complete if needed.

33. If immunisation documents are unavailable: if a complete catch-up is done for DTPa/dTpa (see other vaccines section), include IPV for each dose.

Other vaccines

In Ukraine, immunisations against diphtheria (d, D), tetanus (T) and pertussis (whole cell, not acellular vaccine) are recommended in a 3+1 schedule at 2, 4, 6 and 18 months of age, followed by DT at 6 years of age and dT every 10 years thereafter [10]. Vaccination against pneumococci, meningococci, varicella zoster virus, HPV and tick-borne encephalitis are not included in the Ukrainian national immunisation recommendation and should be offered at appropriate ages following the Swiss immunisation recommendations [11]. Vaccination coverage against severe acute respiratory syndrome coronavirus type 2 (SARS-CoV-2) was limited in Ukraine, reaching 35% of the population [16].

Recommendations

34. All documented vaccinations should be considered and updated according to the Swiss immunisation recommendations appropriate for age.

35. Serological investigations to determine specific immunity should not be used routinely since their accuracy is usually not high enough to warrant the effort and expenses.

36. For determining the need for tetanus catch-up immunisations, anti-tetanus toxin antibody levels may be determined 4 weeks after a single dose of a tetanus toxoid-containing age-appropriate combined vaccine (i.e., DTaP-IPV based or dTpa-IPV). Anti-tetanus toxin antibody levels may then be interpreted as follows: ≥1000 IU/L: no further tetanus immunisation is needed; ≥500 and <1000 IU/L: single additional dose 6 months after the first one; <500 IU/L: two further doses 2 and 6 months after the first one.

37. Alternatively, individuals can be considered unimmunised and given a full course of catch-up immunisation. If significant local reactions occur during the immunisation series, anti-tetanus toxin antibody levels should be measured to investigate for over-immunisation, and the immunisation series should be terminated if levels are high (≥1000 IU/l).

38. Because several vaccines recommended in Switzerland are not included in the Ukrainian immunisation schedule, these require catch-up (see tables 1–3).

39. COVID-19 and influenza vaccinations should be offered according to Swiss recommendations.

Tuberculosis

Tuberculosis (TB) is a rare disease in Switzerland, with an annual incidence of 5 per 100,000, compared to Ukraine with an annual incidence of 73 per 100,000 [17]. In children and adolescents, most TB cases in Switzerland are identified in individuals of foreign origin [18, 19]. In addition, the risk of TB exposure may be increased in those living in refugee camps or exposed to crises caused by armed conflict, forced population displacement or natural disasters [20]. Previous Swiss recommendations mentioned TB screening only in refugee children <5 years of age, but more recent evidence suggests that the prevalence is higher in children ≥5 years [21] compared to those below 5 years of age. In addition, screening and treatment of TB infection were shown to be cost-effective in children and adolescents [22, 23]. In children with fever, prolonged respiratory symptoms or failure to thrive, TB should be considered. The likelihood of TB disease may also be estimated using the TB screen website, http://www.tb-screen.ch/app/

intro.php, which has an audio part in Ukrainian. Though mainly developed for adults, it may also be used in adolescents. Be aware that sensitivity particularly early in the disease may be limited because children more often have few or no symptoms [24, 25].

Recommendations

40. Screening for TB infection should be offered to all children and adolescents arriving from Ukraine.

41. An interferon gamma release assay or a tuberculin-skin test (TST) should be used for screening, depending on availability of the test. Because children and adolescents from Ukraine have high rates of Bacillus Calmette–Guérin

Table 1:
Vaccination schedule for unimmunised children and adolescents.

	Primary vaccinations (intervals, in months from 0)				DTPa/dTpa booster vaccinations (age, as per routine vaccination schedule)		
Age [1]	**0**	**1** [4]	**2**	**8**	**4–7 y**	**11–15 y**	**25 y**
3–5 mo	DTP_a-IPV-Hib-HBV, PCV-13		DTP_a-IPV-Hib-HBV, PCV-13	DTP_a-IPV-Hib-HBV, PCVC-13	DTP_a-IPV	dTp_a-IPV	dTp_a
6–11 mo [2,3]	DTP_a-IPV-Hib-HBV, PCV-13	DTP_a-IPV-Hib-HBV[5], PCV-13		DTP_a-IPV-Hib-HBV, PCV-13	DTP_a-IPV	dTp_a-IPV	dTp_a
12 mo–3 y [2,3]	DTP_a-IPV-Hib-HBV, PCV-13, MMR[5]		DTP_a-IPV-Hib-HBV, PCV-13, MMR[5]	DTP_a-IPV, HBV	DTP_a-IPV	dTp_a-IPV	dTp_a
4–7 y [2,3]	DTP_a-IPV-Hib-HBV, MMR[5]		DTP_a-IPV, MMR[5], HBV	DTP_a-IPV, HBV		dTp_a-IPV	dTp_a
8–10 y [6,7]	dTp_a-IPV, MMR[5], HBV		dTp_a-IPV, MMR[5], HBV	dT-IPV, HBV		dTp_a-IPV	dTp_a
11–15 y	dTp_a-IPV, MMR[5] + VZV[8], HBV[9]		dT-IPV, MMR[5] + VZV[8]	dT-IPV, HBV[9]			dTp_a
≥16 y	dTp_a-IPV, MMR[5] + VZV[8]		dT-IPV, MMR[5] + VZV[8]	dT-IPV			dTp_a
HPV [10]	11–14-y-old girls	2 doses at 0, 4-6 mo					
	15–19-y-old women	3 doses at 0, 2, 6 mo					

[1] For clarification of the age groups, e.g. 4–7 years means from the 4th birthday until the day before the child turns 8.

[2] In infants and children up to 7 years of age, 1 or more doses of hepatitis B vaccination can be given using a hexavalent vaccine.

[3] In this age group, children can be vaccinated against hepatitis B with a three-dose schedule using either the hexavalent (0, 2, 8 mo) or the monovalent vaccine (0, 1, 6 mo).

[4] Interval of 1 mo for early protection.

[5] Two doses of MMR vaccine are given from 9 months of age, with an interval of at least 1 mo between doses. The second dose should be given ≥12 months of age. MMR vaccination should optimally be administered before the age of 2 y, although it can be given at any age.

[6] Because of potentially severe local reactions, a vaccine containing reduced doses of diphtheria toxoid (d) and pertussis (p_a) is used in children 8 years of age and older.

[7] For children incompletely vaccinated against diphtheria and tetanus who have not received any pertussis vaccine, see table 3.

[8] Vaccination against varicella is recommended for children aged 11–15 y without a history of chickenpox. A catch-up is recommended for adolescents and adults <40 y of age without a history of chickenpox.

[9] For this age group, a two-dose schedule (4–6 mo apart) can be used but only for HBV vaccines that are approved for this schedule.

[10] This vaccine is recommended for female adolescents 11–14 y of age and is given as a two-dose schedule. Unvaccinated young women 15–19 y of age should be given the vaccine using a three-dose schedule.

Table 2:
Vaccination schedule for incompletely immunised children and adolescents.

		Number of previously received doses of DTPa-IPV(-Hib) [1] [schedule with intervals between doses in months]				
Age		**1**	**2**	**3**	**4**	**5**
6–11 mo		2 doses DTP_a-IPV-Hib [0, 6]	1 dose DTP_a-IPV-Hib			
12–14 mo		1 dose DTP_a-IPV-Hib, 1 dose DTP_a-IPV [0, 7]	1 dose DTP_a-IPV			
15 mo–3 y		3 doses DTP_a-IPV [0, 2, 8]	2 doses DTP_a-IPV [0, 6]	1 dose DTPa-IPV		
4–7 y	1st dose <6 mo	3 doses DTP_a-IPV[2] / DT + IPV [0, 2, 8]	3 doses DTP_a-IPV[2] / DT + IPV [0, 2, 8]	2 doses DTP_a-IPV [0, 6]	1 dose DTP_a-IPV	
	1st dose ≥6 mo	3 doses DTP_a-IPV[2] / DT + IPV [0, 2, 8]	2 doses DTP_a-IPV [0, 6	1 dose DTP_a-IPV		
8–10 y	1st dose <6 mo	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	2 doses dTp_a-IPV [0, 6]	1 dose dTp_a-IPV	
	1st dose 6–12 mo	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	2 doses $dT(p_a{}^2)$-IPV [0, 6]	1 dose dTp_a-IPV		
	1st dose ≥1 y	2 doses $dT(p_a{}^2)$-IPV [0, 6]	1 dose dTp_a-IPV			
11–15 y	1st dose <6 mo	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	3 doses $dT(p_a{}^3)$-IPV [0, 2, 8]	3 doses $dT(p_a{}^3)$-IPV [0, 2, 8]	2 doses $dT(p_a{}^3)$-IPV [0, 6]	1 dose dTp_a-IPV
	1st dose 6–11 mo	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	3 doses $dT(p_a{}^3)$-IPV [0, 2, 8]	2 doses $dT(p_a{}^3)$-IPV [0, 6]	1 dose dTp_a-IPV	
	1st dose 1–3 y	3 doses $dT(p_a{}^2)$-IPV [0, 2, 8]	2 doses $dT(p_a{}^3)$-IPV [0, 6]	1 dose dTp_a-IPV		
	1st dose ≥4 y	2 doses $dT(p_a{}^2)$-IPV [0, 6]	1 dose dTp_a-IPV			

[1] HBV doses to be added as necessary for completion of a two-, three- or four-dose schedule (age-dependent).

[2] Only two (first and third) of these doses should contain the pertussis component.

[3] Only one (first) of these doses should contain the pertussis component.

(BCG) vaccination, false-positive TST results may occur; therefore, a TST cut-off of 10 mm should be considered positive.

42. Measles vaccination may temporarily suppress the response to TB testing, causing false-negative results. Therefore, TST and IGRA should be done simultaneously with measles vaccination or delayed by 1 month after measles vaccination.

43. The following symptoms should trigger rapid evaluation for TB disease: persistent cough (>2 weeks), unremitting cough, weight loss or failure to thrive, persistent (>1 week) unexplained fever (>38 °C), persistent and unexplained lethargy or reduced playfulness activity reported by the parent or caregiver.

Human immunodeficiency virus

Ukraine has a rate of newly diagnosed HIV infections of 37.5 per 100,000, being the second-highest in Europe after the Russian Federation [26]. From 2018 to 2020, an average annual number of 73 new HIV infections occurred due to mother-to-child transmission [26]. Since 2002, a nationwide prevention of mother-to-child transmission (PMTCT) program has been set up, with more than 97% of pregnant women now being tested for HIV at least once, and an opt-out policy [27, 28]. In 2018, 95% of pregnant women living with HIV in Ukraine received antiretroviral therapy (ART). The vertical transmission rate is currently estimated at 3–4% [28]. Most vertically infected children are asymptomatic in the first year after infection, and a substantial proportion (up to 25% in some cohorts) of vertically infected children remain asymptomatic into adolescence [29]. Forced migration and war are known to increase the risk of HIV transmission [30]. In the eastern provinces of Ukraine, access to and provision of care have been affected by conflict over an extended time [31]. Early initiation of ART in all HIV-infected age groups has consistently been demonstrated to improve long-term health outcomes. Therefore, routine testing and referral of individuals with positive tests are key [32]. Informing about full cost-coverage and a non-judgmental attitude against HIV-infected individuals from health care workers in Switzerland may be worth mentioning when discussing HIV testing because the need for unofficial out-of-pocket payments and stigmatisation have been reported in Ukraine [28].

Recommendations

44. HIV screening by serology (HIV-1/2) should be offered, especially i) in the absence of a reliable negative HIV test in the mother during pregnancy or ii) in the presence of potential exposure or risk factors (also see text).

45. Refer to a paediatric HIV clinic urgently (<1 week) in case of newly confirmed HIV infection or in case of interrupted or lacking treatment, before restarting ART.

46. Adolescents on ART should be referred to an HIV clinic within 1 month for routine check-up, addressing adherence and counselling and a potential treatment switch to a simple course treatment.

Hepatitis C

In Switzerland, the hepatitis C virus (HCV) antibody prevalence is 0.7% in the general population [33]. Ukraine has a considerably higher HCV prevalence, estimated to be as high as 5% of the general population, of whom 3.6% have chronic HCV infection [34]. Many Ukrainians do not know their HCV serostatus and, consequently, are not on treatment. Children in general represent only a small proportion of the total of HCV-infected individuals, with mother-to-child transmission being responsible for most new cases. Spontaneous clearance of HCV occurs mostly in the first 2 years of life in about 40% of infected children.

Recommendation

47. HCV screening by serology should be offered to all children and adolescents arriving from Ukraine.

Mental health issues

For refugee families coming from a war zone, even if they have not been directly exposed to violence, it is important to detect the warning signs of psychological suffering, in the paediatric patients as well as in their main caregiver(s) (table 4). These include sleep disorders, nightmares, behaviour changes, hypervigilance, bedwetting, anxiety attacks and mutism. An empathic approach while giving overall support is necessary. This includes being ready to listen when caregivers or children want to share but not pushing anyone to talk about hurtful issues when they are not ready to do so. For potential questions to ask, see table 5.

All refugee families are emotionally affected by the current situation, irrespective of having been exposed to violence directly or not. Stress is accumulated through the experience of war, violence brought by other human beings, the loss of objects and family structure, and aspects of exile [35]. The absence of parental support may further aggravate the situation. The experience of war and exile may aggravate pre-existing mental health issues. Good living conditions, positive experiences and the feeling of security are very helpful to regain wellbeing and trust in life. Children, adolescents and family members may be reassured that re-

Table 3:
Recommended complementary immunisations.

	Primary vaccinations (intervals, in months from 0)		
Age	**0**	**2**	**6**
2–4 y	MCV-ACWY [1]		
5–19 y	MCV-ACWY [1]		
>11 y (males)	HPV	(HPV) [2]	HPV [3]

[1] Quadrivalent meningococcal vaccine containing conjugated serogroups A, C, W and Y (MCV-ACWY).

[2] Those ≥15 years of age should receive three doses (0, 2, 6 mo schedule).

[3] (4–)6 months after the first dose for those aged 11–14 years; 4 m after the second dose for those aged ≥15 y.

actions such as flashbacks and sweating are common in people with similar experiences. A reduction of stressors, not staying alone, doing something that increases their overall wellbeing and sense of security, distraction and taking oneself out of a triggering situation, etc. may help. In cases of multiple symptoms, especially if they are strong, persistent, and having an important impact on the quality of life or if parents are unable to cope, help should be organised. Besides local psychiatric and psychological services for children and adolescents, the Swiss Red Cross offers help for children and parents traumatised through war [36, 37]: https://www.redcross.ch/de/unser-angebot/unterstuetzung-im-alltag/ambulatorium-folter-kriegsopfer; https://www.migesplus.ch/publikationen/wenn-das-vergessen-nicht-gelingt.

Recommendations

48. Search for signs of psychological distress (see table 4).

49. Evaluate needs of children, adolescents, parents or caregivers for mental health support or specialised care.

50. Enquire whether the family, child or adolescent feels safe now, and if not, evaluate appropriate next steps and act (e.g. contact social services or placing agencies, mental health professionals, or in case of crime, the police).

Implementation

The implementation of these recommendations may be challenging, depending on the setting. For Switzerland, the rapid arrival of many refugees has accelerated distribution to the cantonal level. The organisation and coordination of health care for refugees arriving in a certain canton is the duty and responsibility of the individual Swiss canton. The general recommendation of the Federal Office of Public Health is that this is done by designated medical staff familiar with refugee procedures. Therefore, specific additional resources must be provided by the cantons to enable health care workers to perform this task.

The current recommendations have been formulated to support health care providers in Switzerland in caring for recently arrived paediatric Ukrainian refugees. They are based on the best current knowledge and estimates, and once further evidence will be available, the recommendations may require modifications.

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Table 4:
Signs of psychological distress.

Non-specific signs, especially in younger children	Flashbacks/recurring ideas	
	Sleeping disorders/nightmares, hypersomnia	
	Hypervigilance/agitation/excitement (child may seem very well)	
	Sadness, withdrawal, loss of investment/vitality	
	Irritability	
	Separation anxiety	
	Death anxiety, excessive fears	
	Panic attacks	
	Identification with aggressor	
Other signs	Development:	Arrested development
		Regression (loss of language, enuresis, etc.)
	School/Social:	Absenteeism/school refusal
		Difficulties with concentration, learning, school performance
		Difficulties in social interactions, aggression, passivity, inhibition, mutism, separation anxiety
		Avoidance
Somatic symptoms (very frequent)	Pain (headache, abdominal pain, etc.)	
	Enuresis/encopresis	
	Malaise/fainting	
	Frequent, unexplained accidents	

Table 5:
Potential questions to guide discussion on mental health.

Traumatic exposure	How did things go for your family, for the parents / child / adolescent?
	Do you / does your family feel safe today?
Symptoms	How did your child react to all this? Is she/he improving?
	Is the child/adolescent different from before?
	How are sleep, appetite, mood (sad/agitated)? Are functional disorders, enuresis etc. present?
To the child	Do you remember anything? Have you seen difficult things? Do you understand why you have left?
	Were you/are you still scared?
	How is it going here? Are you going to school? What do you like to do?
To the parent	How are you? How do you feel?
	Do you have flashbacks, nightmares, hypervigilance, sadness/despair? Do you have news of family members/friends?
	How do you think your child is reacting?

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