

REGULAR ARTICLE

Underutilisation of psychiatric care among refugee adolescents in Stockholm

Lisa Berg^{1,2} | Gunnar Ljunggren^{3,4} | Anders Hjern^{2,5} ¹Department of Public Health Sciences, Stockholm University, Stockholm, Sweden²Centre for Health Equity Studies, Stockholm University/Karolinska Institutet, Stockholm, Sweden³Division for Family Medicine, Department of Neurobiology, Care Sciences and Society, Karolinska Institutet, Stockholm, Sweden⁴Academic Primary Health Care Centre, Region Stockholm, Stockholm, Sweden⁵Clinical Epidemiology, Department of Medicine, Karolinska Institutet, Stockholm, Sweden**Correspondence**Anders Hjern, Centre for Health Equity Studies, Karolinska Institutet/Stockholm University, 106 91 Stockholm, Sweden.
Email: anders.hjern@chess.su.se**Funding information**

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Abstract**Aim:** Refugee children have been shown to underutilise psychiatric services in Scandinavia. The aim of this study was to investigate determinants of psychiatric care utilisation in adolescents in refugee families.**Methods:** The study used regional data on healthcare use linked to sociodemographic data from national registers in a total population of 93 537 adolescents in the Stockholm County born in 1995-2000, including 18 831 with a refugee background. Cox regression analyses were fitted to estimate Hazard ratios (HRs) of psychiatric care utilisation in the age-span 11-18 years.**Results:** Psychiatric care use was lower in the large majority of adolescents in refugee families that originated in low- and middle-income countries, with adjusted HRs 0.34 (95% CI 0.28-0.42) and 0.51 (95% CI 0.46-0.56), respectively, compared with the Swedish majority population. Among the foreign-born refugee adolescents, psychiatric care use increased with duration of residence in Sweden and was higher in children who obtained residency as asylum seekers compared with those who settled in family reunification.**Conclusion:** Adolescents in newly settled refugee families with a background in low- and middle-income countries should be a priority in mental health assessment of refugee children and referral to psychiatric care facilitated for children in need.**KEYWORDS**

adolescents, healthcare utilisation, mental health, migration, psychiatric care, refugee

1 | INTRODUCTION

During the last decade, increasing numbers of refugee children have arrived in Europe, fleeing wars and political persecution in the Middle East, East Africa and Afghanistan.¹ Sweden has been one of the countries in Europe that have received the greatest numbers per

capita, with around 150 000 children applying for asylum in 2015 alone.¹

Previous research has shown increased risks of mental health problems in refugee children, particularly depression, anxiety and post-traumatic stress disorder (PTSD).^{2,3} Two longitudinal studies in Scandinavia in the 1990s of children from the Middle East and Chile showed a very

Abbreviations: 95% CI, 95% confidence intervals; ADHD, Attention Deficit Hyperactive Disorder; HR, Hazard Ratios; ICD-10, The tenth edition of the international classification of diseases; PTSD, Post-Traumatic Stress Disorder; SAS, Statistical Analytic Software; STATIV, The National Immigration and Emigration database; WHO, World Health Organization.

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high prevalence of poor mental health during the first years after settlement that decreased over time, but remained on a higher level than the majority populations at follow-up of 6-8 years after settlement.⁴⁻⁶ The high rates during the first years were suggested to be associated with experiences of war and persecution in the country of origin, stress during the flight and stress of adjustment to the new country including long waiting periods in uncertain asylum inquiries,^{4,7,8} while family problems and socioeconomic situation in the country of exile were more important risk factors 6-8 years after settlement.^{5,6}

In contrast to the high risk of mental health problems found in foreign-born refugee children, studies of children born in Norway in refugee families with an origin in Vietnam⁹ and children born in Sweden in families with an origin in Africa and Asia in Sweden¹⁰ have shown lower rates of psychiatric problems and better well-being compared with the majority populations. These findings suggest that the high risk of mental health problems in refugee children is relevant primarily for children who are refugees themselves.

Despite the higher rates of mental health problems in foreign-born refugee children, studies of use of child and adolescent psychiatric care in Scandinavia have consistently shown a lower use than in the majority population.¹¹⁻¹⁴ For young adult refugees in Sweden, similar barriers into psychiatric care for adults have also been described.¹⁵

Some previous studies have emphasised cross-cultural aspects of child and adolescent psychiatric care.^{11,12} The World Health Organization (WHO), which continuously provides information on the availability of mental health services and resources in the WHO member states, has shown that there are large discrepancies for child and adolescent mental health services between different world regions, with a much lower availability in low- and lower-/middle-income countries.¹⁶

In Sweden, migrant children, including asylum seekers and undocumented children, have the same rights to health care as children in the majority population, and this care is provided without user fees. Newly settled refugee children should, according to national guidelines, be offered a broad health assessment, an assessment that also should include needs for care for mental health problems and referral to psychiatric care when such needs are identified.¹⁷ Thus, economic or legal barriers to psychiatric care cannot explain the lower use.

The aim of this study was to study determinants of psychiatric care utilisation in children in refugee families that can facilitate action to improve their access to this care. We were particularly interested in the importance of availability of child psychiatric care in the country of origin of the parents, the reason for residence permit (asylum vs family reunification) and how care utilisation changed with increasing time after settlement.

2 | METHODS

2.1 | Study population

The study population in this study was created from children born in 1995-2000 who were residents in Stockholm County the year of

Key notes

- Previous studies have shown that newly settled refugee children have high rates of introverted mental health problems.
- This study shows a low use of child psychiatric services in newly settled adolescent refugees that is particularly pertinent for those originating in low- and middle-income countries where such services are scarce.
- Action is needed to lower barriers for psychiatric care for refugee children by facilitating referrals from refugee health assessments and schools.

their 15th birthday, according to the Swedish Register of the Total Population.¹⁸ The main populations of interest were children in refugee families, foreign-born as well as Swedish-born. These children were identified through their parents, thus excluding minors without resident parents in Sweden, that is unaccompanied minors. Swedish-born children with two Swedish-born parents were added as a comparison group. The total study population consisted of 93 537 individuals, of which 18 831 were children of refugees. The parents of the children were identified in the Multi-Generation Register.¹⁹ Linkage of different registers is made possible through the unique personal identity number assigned to all Swedish residents at birth or immigration. These numbers are replaced with random reference numbers before data are made available for research. This study has been approved by the Stockholm Region Ethics Committee (Dnr 2016/1610-31/5).

2.2 | Immigrant and refugee background

The national Immigration and Emigration database (STATIV, by Swedish acronym) provided relevant refugee data of the parents and the child such as year of immigration, reason for obtaining residency (asylum, family reunification, quota refugees). Information on own and parents' country or region of birth was retrieved from the Swedish Register of the Total Population.¹⁸ Maternal country of origin was used to categorise the family's background as low-, middle- or high-income country according to the World Bank classification of 2011.²⁰

A child was categorised as having a refugee background if they themselves or at least one parent had been granted residence permit as a refugee. The foreign-born refugee children were either categorised as "Asylum" or "Family reunification" refugees based on the grounds for their residence permit. Children in families who were granted residency as "quota refugees", thus having been granted asylum before arriving in Sweden, made up around 3% of the children in refugee families and were categorised in the "Asylum" category. The Swedish-born children with a refugee background were

categorised as “Swedish-born” if they were born in Sweden with two refugee parents and “Mixed” if they had one Swedish-born and one refugee parent.

Duration of residence in Sweden in 2016 was calculated as years since receiving residence permit for foreign-born children and years since their mother received residence permit if they were born in Sweden. For children with one Swedish-born parent and one foreign-born parent, time in Sweden was calculated using information from the foreign-born parent.

2.3 | Outcome

The study population was followed up during 2011-2017 from age 11 to 18, the latter being the upper age limit for child and adolescent psychiatry in Stockholm. The outcome variable for use of child and adolescent psychiatric services was defined as the first visit to a child psychiatric during 2011-2017 registered in the regional healthcare database in Stockholm region, which includes all visits to the child psychiatric services in the region irrespective of profession of the healthcare provider. The year 2011 was the first year when this new database provided comprehensive data from child psychiatric clinics. Main diagnosis set by the clinics according to the WHO ICD-10²¹ classification at the last visit to during the study period was used to categorise the main type of mental health problem that was treated by the clinic.

2.4 | Covariates

The Register of the Total Population in Sweden provided demographic data such as date of birth and gender. Parental education and disposable income the year before entering the study period were taken from the national longitudinal integrated database for health insurance and labour market studies.²² Parents' highest achieved educational level was categorised as compulsory school, upper secondary school, university or missing. Disposable household income was created by Statistics Sweden according to a Nordic algorithm where all incomes reported to the Swedish Tax Agency are summarised and deducted by the tax paid and then divided by consumer units of the household. Quintiles of disposable household income were calculated within the study population each calendar year.

2.5 | Statistical analyses

Cox proportional hazard models of person time in the study were used to calculate Hazard Ratios (HR) and 95% confidence intervals (CI) with the first visit to a child and adolescent psychiatric clinic during the study period as the outcome. Person time was accumulated from January 1, 2011, until, whichever came first, the date of the first visit to a child psychiatric clinic in the Stockholm region, date of new residency outside of the Stockholm region, date of death, date of the 18th birthday or December 31, 2017. Model 1 was adjusted

TABLE 1 Characteristics of the study population (total n = 93 537)

	Swedish-born with two Swedish-born parents	Swedish-born with one Swedish-born and one refugee parent	Swedish-born with refugee parents	Foreign-born refugee children		P
				Asylum	Family reunification	
	n (%)	n (%)	n (%)	n (%)	n (%)	
Sex						
Girls	36 362 (48.7)	1296 (48.2)	4234 (49.8)	2442 (48.8)	1260 (47.8)	.284
Boys	38 344 (51.3)	1392 (51.8)	4271 (50.2)	2561 (51.2)	1375 (52.2)	
Parents' highest education						
Compulsory school or less	1371 (1.8)	145 (5.4)	1022 (12.0)	1367 (27.3)	881 (33.4)	<.001
Upper secondary school	25 933 (34.7)	937 (34.9)	3588 (42.2)	1517 (30.3)	684 (26.0)	
University	47 402 (63.5)	1606 (59.8)	3895 (45.8)	2119 (42.4)	1070 (40.6)	
Household income quintiles						
Missing	657 (0.88)	21 (0.78)	61 (0.72)	411 (8.2)	118 (4.5)	<.001
1st quintile	6555 (8.8)	644 (24.0)	3847 (45.2)	2412 (48.2)	1790 (67.9)	
2nd quintile	13 545 (18.1)	667 (24.8)	2216 (26.1)	1119 (22.4)	457 (17.3)	
3rd quintile	16 370 (21.9)	571 (21.2)	1171 (13.8)	616 (12.3)	182 (6.9)	
4th quintile	17 654 (23.6)	503 (18.7)	848 (10.0)	345 (6.9)	74 (2.8)	
5th quintile	19 925 (26.7)	282 (10.5)	362 (4.3)	100 (2.0)	14 (0.5)	
All N (% of total)	74 706 (79.9)	2688 (2.9)	8505 (9.1)	5003 (5.3)	2635 (2.8)	

Note: Numbers are column percentages unless otherwise stated.

TABLE 2 Use of child and adolescent psychiatric services (total n = 93 537), percentages

	Swedish-born with two Swedish-born parents	Swedish-born with one Swedish-born and one refugee parent	Swedish-born with refugee parents	Foreign-born refugee children		P
				Asylum	Family reunification	
	%	%	%	%	%	
Sex						
Girls	18.1	22.6	9.4	11.2	5.8	<.001
Boys	12.6	17.6	9.7	9.0	4.4	<.001
Parents' highest education						
Compulsory school or less	25.9	20.7	7.6	9.4	4.7	<.001
Upper secondary school	17.5	19.1	9.5	10.3	5.3	<.001
University	13.8	20.5	10.2	10.4	5.3	<.001
Household income quintiles						
Missing	19.2	14.3	11.5	11.2	5.9	<.001
1st quintile	20.0	16.5	7.5	7.5	4.9	<.001
2nd quintile	17.6	20.4	10.2	13.3	4.4	<.001
3rd quintile	15.8	19.6	13.8	12.0	6.6	<.001
4th quintile	15.3	25.1	11.1	12.5	9.5	
5th quintile	11.7	19.5	9.7	12.0	7.1	
Parental origin economical level						
Low-income country	-	10.1	7.0	10.2	3.7	<.001
Middle-income country	-	16.3	10.5	9.7	5.8	<.001
High-income country	-	21.7	14.8	14.6	0	<.001
All, (% (n))	15.3 (11 416)	20.0 (538)	9.6 (813)	10.1 (505)	5.1 (134)	<.001

for year and birth and sex only, with the addition of household disposable income as a covariate in Model 2. All analyses were performed separately for boys and girls, and interaction analyses were performed to investigate whether there were statistically significant differences. All analyses were conducted using SAS version 9.4 (SAS Institute Inc).

3 | RESULTS

The study population consisted of 93 537 adolescents aged 11-18 years during follow-up. Of these, 80% had two Swedish-born parents, 9.1% were Swedish-born with two refugee parents, 5.3% were foreign-born who had received residency on grounds of asylum, 2.8% had settled in Sweden in family reunification with refugee parent(s), and 2.9% were Swedish-born with one Swedish-born and one refugee parent (Table 1). Families with a refugee background had lower disposable household income overall. There were also considerable socioeconomic differences between refugee categories, with lower educational levels and lower household income in families with a background in middle- and low-income countries (Table 1).

The majority of the refugees, 69%, originated in middle-income countries, primarily from Iraq and Syria, while 22% originated in low-income countries, primarily from the Horn of Africa (Table S1).

During the follow-up period, 15% of the children in the Swedish majority population had at least once been in contact with child and adolescent psychiatry (Table 2). In general, this was more common among girls (18%) than among boys (13%). Children with one refugee parent had the highest use of child psychiatric care (20%), compared to refugee children who had received residency on asylum grounds (10%), Swedish-born with refugee parents (10%) and refugee children who had obtained residency as family reunification (5%). Among the refugees, children with parents originating from high-income countries used psychiatric care more than those from middle- and low-income countries. In the Swedish majority population, children whose parents had short education and low-income used child psychiatric services more, while the opposite pattern was present for children in all three refugee categories (Table 2).

Table 3 provides an overview of the ICD-10 diagnoses at the last visit at the child psychiatric clinic. The most common diagnoses overall were anxiety syndrome, depression and ADHD. Neuropsychiatric diagnoses were rare in the recently settled refugee children (7%), but increased gradually with parental time in Sweden to 33% in the Swedish-born children in the refugee families. PTSD had the opposite pattern, accounting for 41% in the most recently settled children vs 9% in the children who had lived in Sweden for more than 10 years. The pattern of diagnosis in Swedish-born children in refugee families and those with one refugee parent was quite similar to

TABLE 3 Main diagnosis at last visit (column percentages)

	All	Swedish-born with two Swedish-born parents	Swedish-born with one Swedish-born and one refugee parent	Swedish-born with refugee parents	Foreign-born refugee children (10+ y in Sweden at age 16)	Foreign-born refugee children (5-9 y in Sweden at age 16)	Foreign-born refugee children (<5 y in Sweden at age 16)
	%	%	%	%	%	%	%
Neuropsychiatric conditions							
ADHD	15.5	15.1	19.3	19.0	20.1	15.8	6.1
Autism spectrum disorders	7.1	7.2	5.8	9.2	4.8	4.0	0.8
Mental retardation	2.5	2.5	2.4	2.8	2.6	0.7	0
Obsessive-compulsive disorder (OCD) (F42)	3.0	3.2	2.2	2.3	2.6	1.1	0
All	28.1	28.1	29.7	33.3	30.1	21.6	6.9
Stress-related and introverted problems							
Anxiety syndrome	20.4	21.0	18.0	17.5	17.9	14.0	15.3
Depression	19.6	20.4	18.6	13.2	14.9	11.5	14.5
Severe stress, incl. PTSD	6.1	5.3	5.9	6.7	9.2	20.1	41.2
Phobic syndromes	3.3	3.5	2.6	2.0	1.3	2.2	2.3
All	49.4	50.2	45.1	39.5	43.2	47.2	73.3
Miscellaneous							
Eating disorders	3.2	3.5	2.2	2.0	1.3	1.4	2.3
Outacting	2.5	2.3	3.0	3.9	4.4	4.0	2.3
"Miscellaneous"	8.4	8.3	10.8	8.1	11.4	7.2	6.9
Bipolar, schizophrenia, substance use	0.7	0.6	0.6	2.1	1.3	2.5	0
All	14.9	14.7	16.5	16.1	18.3	15.1	11.5
Other	7.6	7.0	8.7	11.2	8.3	15.5	8.4

TABLE 4 Use of psychiatric services

	Model 1	Model 2
	HR (95% CI)	HR (95% CI)
Swedish-born with two Swedish-born parents	1	1
Swedish-born with one Swedish-born and one refugee parent	1.23 (1.13-1.34)	1.21 (1.11-1.32)
Swedish-born with refugee parents	0.59 (0.55-0.63)	0.55 (0.52-0.60)
Foreign-born refugee children: high-income country	0.94 (0.72-1.24)	0.92 (0.70-1.21)
Foreign-born refugee children middle-income country	0.55 (0.50-0.60)	0.51 (0.46-0.56)
Foreign-born refugee children low-income country	0.41 (0.34-0.50)	0.34 (0.28-0.42)

Note: Model 1 adjusted for birth year and sex. Model 2: adds parental education

that of the Swedish majority population. The pattern of diagnoses within the refugee population compared with the majority population was similar for boys and girls (Table S2).

Among the most recently settled refugee children, children who had received residency on grounds of asylum had a higher incidence

of PTSD compared with those who had grounds of family reunification, 47.5% vs 20.0% ($P < .001$ not in tables).

Relative to adolescents with two Swedish-born parents, HR for those with one Swedish-born and one refugee parent was increased (adjusted HR 1.21, 95% CI 1.11-1.33; Table 4). HRs were, however,

	All	Family reunification refugee children	Asylum refugee children
	HR (95% CI)	HR (95% CI)	HR (95% CI)
Swedish-born with Swedish parents	1	1	1
Swedish born with refugee parents	0.59 (0.55-0.63)	-	-
Refugee children: 10 + y	0.61 (0.54-0.70)	0.37 (0.28-0.50)	0.74 (0.64-0.86)
Refugee children: 5-9 y	0.52 (0.47-0.59)	0.32 (0.24-0.41)	0.63 (0.55-0.72)
Refugee children: <5 y	0.45 (0.38-0.53)	0.25 (0.17-0.36)	0.59 (0.48-0.72)

Note: Adjusted for birth year and sex.

decreased for Swedish adolescents with two refugee parents HR 0.55, 95% CI 0.52-0.60) and for foreign-born children in refugee families from low- and middle-income countries, HRs 0.51 (95% CI 0.46-0.56) and 0.34 (95% CI 0.28-0.42), respectively (Table 5). In Swedish-born children with two refugee parents, being boy vs girl was associated with a higher use of child psychiatric services, relative to the Swedish majority population ($P < .001$). No other effect modification by gender was identified on the $P < .05$ level (Table S3).

Care use increased with increased duration of residency and was higher in Swedish-born children in refugee families, compared with the other refugee categories and lower in adolescents that had received residency on grounds of family reunification than on grounds of asylum (Table 5).

4 | DISCUSSION

Our findings demonstrate a lower utilisation of child and adolescent psychiatric care among the large majority of adolescents from refugee families originating in low- and middle-income countries in Stockholm, compared with adolescents with Swedish-born parents. There was a considerable heterogeneity within the refugee population, with the lowest use among refugee adolescents with an origin in low-income countries, for those having received residency on grounds of family reunification and for those who had a short duration of residence in Sweden. The diagnostic pattern in the newly settled refugee children was dominated by PTSD, anxiety and depression, with ADHD and other neuropsychiatric conditions being the most common diagnoses in children in refugee families who were born in Sweden or had lived in Sweden for more than 10 years.

Refugee children in families originating in low-income countries used psychiatric care the least. The minority of the refugee adolescents that had a background in a high-income country had a similar utilisation compared with the Swedish majority population with children originating in middle-income countries in an intermediate position.

TABLE 5 Use of psychiatric health care services in relation to duration of residence at age 16

These results are similar to a previous cross-sectional study in the southern Swedish county of Scania where lower levels of psychiatric care expenditures were found among children of immigrant parents with a background in low- or middle-income countries, compared with children with Swedish-born parents.¹³ Similarly, in a national cohort of Swedish-born children lower levels of prescriptions of ADHD medication were seen for children to parents born in non-European low- and middle-income countries.¹² It seems likely that this consistent pattern reflects a lack of familiarity with Western child psychiatry. In low-income countries, child psychiatric services are, according to WHO, more or less non-existent.¹⁶ In addition to parents, teachers are also important in the referral of children to psychiatric services, as demonstrated in a previous study of children with an immigrant background in Stockholm.²³ Labelling of child problems in the school setting may be influenced by preconceptions about children in ethnic minorities. In a North American context, Morgan et al²⁴ has shown that minority children with behavioural and emotional problems less often receive appropriate support in schools, compared to majority peers. They suggest that teachers with a majority background tend to attribute certain behaviours of minority children to his/her cultural background. Such mechanisms could be at play also in the Stockholm school context and lead to a lower referral rate.

The diagnostic pattern in the newly settled foreign-born refugee adolescents was dominated by introverted stress-related problems, with PTSD as the most common diagnosis. This is consistent with the mental health problems found in interview studies in Scandinavia in this population.^{5-7,25} The very low use of psychiatric services found in the recently settled refugee children is very unsatisfactory considering the high load of introverted mental health problems found in these interviews' studies. The Swedish-born adolescents in refugee families utilise child psychiatric more, despite their lower needs found in a national Swedish study of 15-year-olds.¹⁰ Thus, psychiatric care utilisation does not seem to match needs at all in children in refugee families in Sweden.

Language barriers, for example problems with communicating with health professionals and understanding information about the

healthcare system, probably also influence help-seeking behaviours. Increasing time in the new country lower many of these potential barriers to care, such as language skills, and familiarity with the healthcare system and Western psychiatry. It seems likely that this explains much of the higher use in children in families with a longer duration of residency in Sweden.

Overall, patterns of utilisation of child psychiatric services were quite similar between foreign-born refugee boys and girls, although Swedish-born boys in refugee families used services more than girls in these families. A similar higher use in boys was found in a Danish study by Barghadouch et al¹¹ One may speculate that one reason behind these gender differences in the Swedish-born refugee adolescents is the male preponderance in neuropsychiatric conditions that was the most common diagnosis in this group. It seems probable that such conditions more often are identified in the school setting, and thus is more independent of the familiarity with Western child psychiatry than the introverted symptoms that are more common in girls.

Children in families with one Swedish-born and one refugee parent had a slightly higher utilisation of child psychiatric services compared with the majority population. This is congruent with the slightly lower level of psychological well-being found in these children in the national survey of 2009,¹⁰ and suggests that these children do receive care in relation to need on a similar level with the majority population.

Children settling in family reunification had a considerably lower utilisation of psychiatric care than those settling as asylum seekers. There are several possible explanations for this. One is that all asylum-seeking children pass through a stressful transitional period which in more recent years often have included incarcerations, physical and sexual violence, dangerous boat and bus trips and an often lengthy stressful asylum inquiry.²⁶ Children who settle in family reunification less often than asylum seekers offered the health assessment that the Swedish refugee reception programme stipulates, since they sometimes arrive after their parents have completed the refugee reception programme in the municipality. Children settling as family reunification has made up a quite large proportion of the refugee children received in Sweden during the last decades, but there have been few studies with them in focus. Further studies are needed to clarify their needs for mental health support during the first years in exile.

4.1 | Strengths and limitations

Strengths of the current study include the use of register data covering a large study population, comprising all children and adolescents residing in the county of Stockholm during 2011-2017 and the longitudinal design. However, the registers used for the current study do not include information on actual health status, and thus, one limitation is the lack of information on healthcare need. Another important limitation is the lack of information on psychiatric care use in children in asylum-seeking families during the asylum process and children to undocumented parents.

This study was made in the specific context of child psychiatry in the Stockholm region, the largest of Sweden's 21 healthcare organisations with around one fourth of the total Swedish population. These services in Stockholm can be accessed by self-referral from parents as well by referral from other health services including school health units. The services have considerable resources at its disposal, as demonstrated by the fact that as many around 10% of the adolescents in Stockholm in the age 13-17 years have at least one contact annually with these services.²⁷ Thus, child psychiatric services in Stockholm are probably more readily accessible than in most other contexts, which further underlines the generalisability of the low utilisation pattern found in refugee children in this study.

4.2 | Implications

Our findings demonstrate that newly settled refugee children in Stockholm do not receive psychiatric care on par with their needs, despite the lack of economic barriers to care. All refugees and their families in Sweden are offered a health assessment funded by the state. Traditionally, this assessment has had a main focus on infectious disorders.¹⁷ This assessment has a potential to improve the access of refugee children to psychiatric care if mental health is given a higher priority and referral to psychiatric care facilitated for children in need. School staff need to be aware of their important role as facilitators of psychiatric care for the newly settled refugee children²⁸ and open their doors for evidence based school-based prevention for the newly settled children.²⁹ Psychiatric clinics could lower barriers for access to care for the newly settled refugee children by actively reaching out to refugee communities and organisations and to adapt their services to the special needs of refugee children and their families in terms of language, cultural beliefs and the use of trauma-informed treatment methods.³⁰

CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

ORCID

Anders Hjern  <https://orcid.org/0000-0002-1645-2058>

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.

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