

# Health Determinants among Refugees and the Impact of Differences in Access to Health Service: a Propensity-Matched Comparative Study for Syrian, Afghan and Iraqi Refugees in Germany and Austria

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## Background

In recent years, Europe has been the destination of large inflows of refuge-seeking individuals, totaling more than 4.6 million individuals in a period of five years for the EU-28 countries [1].

A large proportion of asylum seekers and refugees (AS&R) originated from Syria, Afghanistan and Iraq. The political, societal and scientific discourse to date has focused mainly on the effects on the economies and welfare systems of the receiving countries in Europe [2–4], but less attention has been paid to health of AS&R and their access to health services [5–8].

Health Determinants of AS&R are numerous, and they include circumstances they have before fleeing, during their journey, as well as after their arrival in a host country [9,10]. Access to health care services has been shown to be a key factor: Absence of formal access barriers is accompanied by better health, mitigates social exclusion, and might reduce public health expenditures [11,12].

Germany and Austria have been important receivers of asylum seekers in Europe in recent years [1]: during the last 5 years, about 1.8 million asylum applications have been filed in Germany and 197,000 in Austria [1]. Both countries grant health insurance and access to health services to AS&R in different ways. In Germany, the access is limited up to the first 15 months upon arrival, and AS&R only receive basic treatment. In Austria, upon submission of an asylum application, AS&R can make use of all health care services provided by the medical insurance system.

The aim of this paper is to provide insights on self-rated health of AS&R in Germany and Austria, and to explore whether the different access to health care services may be associated with possible health differences between the two countries.

## Methods

This study uses data from the IAB-BAMF-SOEP-Refugee Survey 2016 (for Germany, n=4,527) and from the Refugee Health and Integration Survey 2018 (ReHIS) (for Austria, n=515). The analyses are restricted to AS&R who are Syrian, Afghan or Iraqi nationals, aged 18-59, who immigrated between 2013 and 2016 (n=2,854 for Germany, n=374 for Austria).

Our main variable of interest is self-rated health (SRH). Answer options ranging from 1 (“very good”) to 5 (“poor”) were dichotomized into “(very) good” (vgSRH) and “less than good”. For multivariate analyses, sex, nationality, age, partnership status, and education were included as main control variables, and additionally, length of stay in Austria/Germany and length of asylum process in some of the analyses. Average Marginal Effects (AME) were estimated to explore determinants for SRH by carrying out country specific probit regression models. Additionally, Propensity Score Matching (PSM) was performed to control for compositional differences and to evaluate non-confounded country differences.

## Findings

AS&R in Germany reported vgSRH less often than their peers in Austria: Whereas the share was 72% in Germany, it totaled to 89% in Austria. The difference in vgSRH between the two countries is highly statistically significant ( $p < 0.001$ ). In both countries, females, older AS&R and Afghan nationals less often reported vgSRH.

Performing multivariate analyses, the results largely repeat. Among AS&R in Germany, sex, nationality, age and education are significantly associated with vgSRH: men, Syrians, younger individuals and AS&R with higher levels of education reported vgSRH significantly more often (Table 1, Model 1 for Germany). Regarding partnership status, there are no statistically significant differences. In Austria, Afghans and persons aged 45-59 years reported vgSRH significantly less often. The estimated coefficients are also statistically significantly at the 10%-level for females, for the age-group 30-34 years, and for those with high education levels (Table 1, Model 1 for Austria). Overall, effects are similar in Germany and Austria, with the exception that being divorced or widowed is detrimental in Germany but not in Austria.

Regarding refugee specific characteristics – length of stay and length of the asylum process – there is no clear effect. (Table 1)

**Table 1: (Very) Good self-rated health (average marginal effects), by country**

	Model 1 Germany	Model 1 Austria	Model 2 Germany	Model 2 Austria	Model 3 Germany	Model 3 Austria
Sex						
Male (ref.)	0	0	0	0	0	0
Female	-0.08***	-0.11+	-0.09***	-0.10+	-0.08***	-0.07
Nationality						
Syria (ref.)	0	0	0	0	0	0
Iraq	-0.06**	-0.05	-0.04+	-0.05	-0.06**	-0.06
Afghanistan	-0.09***	-0.18**	-0.07**	-0.19**	-0.09***	-0.19***
Age						
18-24 years (ref.)	0	0	0	0	0	0
25-29 years	-0.07**	-0.00	-0.07**	-0.00	-0.07**	-0.02
30-34 years	-0.06*	-0.10+	-0.07*	-0.09+	-0.06*	-0.11*
35-39 years	-0.13***	-0.07	-0.13***	-0.07	-0.13***	-0.09+
40-44 years	-0.15***	-0.09	-0.15***	-0.08	-0.15***	-0.10
45+ years	-0.33***	-0.40***	-0.34***	-0.40***	-0.33***	-0.40***
Partnership status						
Never married (ref.)	0	0	0	0	0	0
Married, living with partner	0.00	0.06	0.01	0.06	0.00	0.06
Married, not living with partner	-0.05	-0.03	-0.05	-0.03	-0.06	-0.02
Married, no information on partner	0.09	0.05	0.09	0.05	0.08	0.05
Widowed/divorced/no answer	-0.19***	0.08	-0.19***	0.07	-0.19***	0.07
Education						
Low level (ISCED 0-1) or n.a. (ref.)	0	0	0	0	0	0
Medium level (ISCED 2)	0.06*	0.01	0.05*	0.01	0.05*	-0.01
High level (ISCED 3-6)	0.09***	0.08+	0.09***	0.08+	0.09***	0.07+
Length of asylum process						
0-3 months (ref.)			0	0		
4-6 months			-0.01	-0.01		
7-14 months			0.04	0.04		
15 months and more			0.08*	0.03		
Decision still open				-0.04		
No information			0.06			
Length of stay						
0-18 months					0	0
19-24 months					-0.02	0.09
25-30 months					0.01	0.14
31-36 months					0.04	0.22
37 months and more					-0.00	0.21
N	2,854	374	2,854	374	2,854	374

Sources: IAB-BAMF-SOEP 2016, ReHIS 2018

Significance levels: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ , + $p < 0.1$

The matched sample for the comparative analysis consists of 374 AS&R in Austria and 506 AS&R in Germany. Applying PSM, the SRH differences between Germany and Austria decrease, but they do remain statistically significant: the average probability to report vgSRH (Average Treatment Effect, ATE) is 12 percentage points higher in Austria than in Germany (95% CI: 0.04; 0.20). (Table 2)

**Table 2: Model specifications and outcome of propensity score matching**

<b>Criterion</b>	<b>Value</b>
Matching variables	Sex, nation, age group, partnership status, education
Maximum number of nearest neighbors	5
Caliper width	0.3
Number of matched individuals in Germany	506
Number of matched individuals in Austria	374
Mean bias	3.3
LR chi <sup>2</sup>	346.95 (p<0.001) before matching; 5.40 (p=0.979) after matching
Rosenbaum's bounds $\Gamma$	2.7 (p=0.031) – 2.8 (p=0.052)
<b>ATE (95%CI)</b>	<b>0.12 (0.04; 0.20)</b>

## Discussion and Conclusion

The results show that the vast majority of AS&R in Germany and Austria rate their health as very good. Variance in SRH is evident with regard to age and education, confirming that certain health determinants of non-migrant populations also apply to the AS&R population. Significant sex differences in favor of men emerge only in Germany, but show the same tendency in Austria. Almost no significant impact was found for refugee-specific characteristics.

AS&R in Germany assess their health as being worse than those in Austria. This difference is only partially explained by compositional differences. Balancing the samples in terms of age, sex, education, nationality and partnership status, the probability of vgSRH for refugees in Germany is 12 percentage points lower than in Austria, which might be explained by limited access to health service of AS&R in Germany. Earlier studies report unmet health needs and problems to access medical treatment and care of AS&R in Germany [14]. However, unobserved heterogeneity (e.g. in terms of integration or health needs), selectivity into the host country, host-country specific characteristics (e.g. integration measures, ethnic networks, levels of marginalization) and period effects might mediate the effects.

This study is one of the first to analyze health differences of AS&R in two European countries. The results do not indicate generally higher health needs among AS&R, but identify a considerable heterogeneity of SRH assessment. Thus, strategies to reduce health burdens of AS&R might cover comprehensive care, better professional health advice for some subgroups and culturally sensitive treatment. The comparative approach allows identifying general determinants and country-specific health differences. Nationally diverse health policies might (partly) shape health of AS&R, while the restrictive German model appears suboptimal. Further studies might consider additional countries to analyze the impact of health policies on health outcomes, to elaborate further health determinants of AS&R and to evaluate health challenges associated with refugee migration.

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