

Supplementary Online Appendix
Syrian Refugee Inflows, Health-Care Access, and Childhood
Vaccination in Turkey
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S1. List of Variables

Outcome variables:

- Infectious diseases: A dummy variable equal to 1 if the child had any infectious diseases in the last six months. Here, infectious diseases are defined as infectious and communicable diseases such as measles, varicella, and mumps.
- Upper respiratory diseases: A dummy variable equal to 1 if the child had an upper respiratory disease in the last six months.
- Lower respiratory diseases: A dummy variable equal to 1 if the child had a lower respiratory disease in the last six months.
- Cancer: A dummy variable equal to 1 if the child had cancer in the last six months.
- Diabetes: A dummy variable equal to 1 if the child had diabetes in the last six months.
- Diarrhea: A dummy variable equal to 1 if the child experienced diarrhea in the last six months.
- Anemia: A dummy variable equal to 1 if the child had anemia in the last six months.
- Number of vaccines: Total number of vaccines a child received. Since we only assessed hepatitis B, DPT, tuberculosis, and measles, this variable has a maximum value of 8.
- Hepatitis B completed: A dummy variable equal to 1 if the child received three doses of the hepatitis B vaccine.
- Diphtheria, pertussis, and tetanus completed: A dummy variable equal to 1 if the child received three doses of the diphtheria, pertussis, and tetanus vaccine.
- Tuberculosis completed: A dummy variable equal to 1 if the child received the tuberculosis vaccine.
- Measles completed: A dummy variable equal to 1 if the child received the measles vaccine.
- Doctors per capita: Number of doctors divided by the total population, including natives and refugees, in the region.
- Midwives per capita: Number of midwives divided by the total population, including natives and refugees, in the region.
- Nurses per capita: Number of nurses divided by the total population, including natives and refugees, in the region.
- Hospital beds per capita: Number of hospital beds divided by the total population, including natives and refugees, in the region.

Covariates:

- Household head's educational attainment (mutually exclusive categories):
 - Completed primary school: A dummy variable equal to 1 if the household head completed primary school (i.e., completed 5 years of schooling).
 - Completed secondary school: A dummy variable equal to 1 if the household head completed secondary school (i.e., completed 8 years of schooling).
 - Completed high school: A dummy variable equal to 1 if the household head completed high school (i.e., completed 11 years of schooling).
 - Completed a level above high school: A dummy variable equal to 1 if the household head completed any educational degrees above high school, such as college or above (i.e., completed more than 11 years of schooling).
- Mother's educational attainment (mutually exclusive categories):
 - Completed primary school: A dummy variable equal to 1 if the mother completed primary school (i.e., completed 5 years of schooling).
 - Completed secondary school: A dummy variable equal to 1 if the mother completed secondary school (i.e., completed 8 years of schooling).

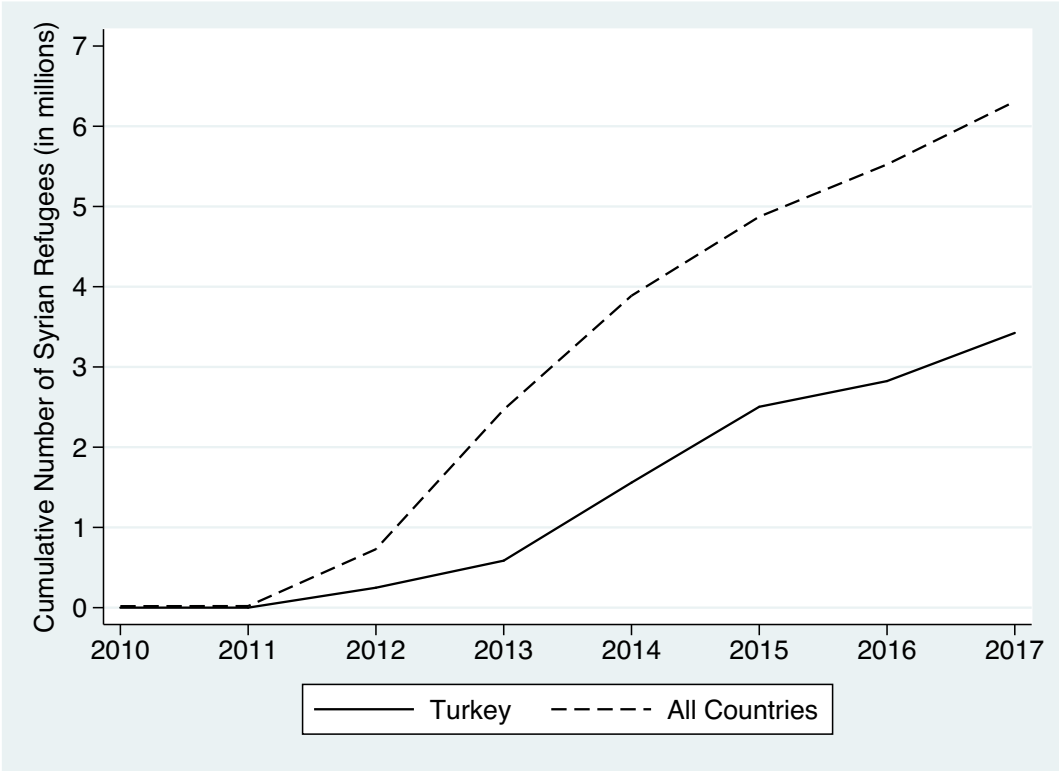
- Completed high school: A dummy variable equal to 1 if the mother completed high school (i.e., completed 11 years of schooling).
- Completed a level above high school: A dummy variable equal to 1 if the mother completed any educational degrees above high school, such as college or above (i.e., completed more than 11 years of schooling).
- Mother's age: The current age of the mother.
- Child's age: The current age of the child.
- Female: A dummy variable equal to 1 if the child is female.
- Non-Turkish speaker: A dummy variable equal to 1 if the mother does not speak Turkish (i.e., the TDHS interview was conducted in a language other than Turkish).
- Lives in a rural area: A dummy variable equal to 1 if the mother lives in a village.
- Province dummies: Dummy variables for each of the 81 provinces where the respondent lives.
- Region dummies: Dummy variables for each of the 26 regions where the respondent lives.

Additional outcome variables:

- Time spent with children at home: A dummy variable equal to 1 if the respondent is the person who is primarily spending time with children at home, including playing games, reading books, and watching TV.
- Time spent with children outside the home: A dummy variable equal to 1 if the respondent is the person who is primarily spending time with children outside the home, including going to the park, movies, etc.
- Doctors (in log): The natural logarithm of the total number of doctors.
- Midwives (in log): The natural logarithm of the total number of midwives.
- Nurses (in log): The natural logarithm of the total number of nurses.

S2. Figures and Tables

Figure S2.1. Number of Syrian Refugee Inflows



Source: The data come from the official number of Syrian refugees reported by the UNHCR online database.
Note: This figure shows the cumulative number of Syrian refugees in Turkey and around the world between 2010 and 2017.

Table S2.1. Recommended Child Immunization Schedule in Turkey

	At birth	1st month	2nd month	4th month	6th month	12th month	18th month	24th month
Hepatitis B	I	II	—	—	III	—	—	—
BCG	—	—	I	—	—	—	—	—
DTaP-IPV-Hib	—	—	I	II	III	—	B	—
Pneumococcus	—	—	I	II	III	B	—	—
Measles, mumps, and rubella	—	—	—	—	—	I	—	—
Varicella	—	—	—	—	—	I	—	—
Hepatitis A	—	—	—	—	—	—	I	II
Oral polio	—	—	—	—	I	—	II	—

Source: This information was provided by the Turkish Ministry of Health.
Note: BCG refers to tuberculosis; DTaP refers to diphtheria, tetanus, and pertussis; IPV refers to inactive polio vaccine; Hib, Haemophilus influenzae B. The letter B refers to repeated doses of vaccines.

Table S2.2. Reduced-Form Effects on Infectious and Noninfectious Disease Prevalence

	(1)	(2)	(3)	(4)	(5)
<i>Infectious diseases</i>					
Distance instrument	0.019*** (0.004)	0.019*** (0.003)	0.019*** (0.004)	0.023*** (0.004)	0.023*** (0.002)
Observations	14,740	14,740	14,740	14,740	14,740
Outcome mean	0.10	0.10	0.10	0.10	0.10
<i>Upper respiratory diseases</i>					
Distance instrument	0.008* (0.004)	0.008* (0.005)	0.009* (0.005)	0.017*** (0.004)	0.013*** (0.004)
Observations	14,747	14,747	14,747	14,747	14,747
Outcome mean	0.37	0.37	0.37	0.37	0.37
<i>Lower respiratory diseases</i>					
Distance instrument	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.007** (0.003)	0.006** (0.003)
Observations	14,747	14,747	14,747	14,747	14,747
Outcome mean	0.09	0.09	0.09	0.09	0.09
<i>Cancer</i>					
Distance instrument	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)	−0.000 (0.000)
Observations	14,771	14,771	14,771	14,771	14,771
Outcome mean	0.00	0.00	0.00	0.00	0.00
<i>Diabetes</i>					
Distance instrument	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	−0.000 (0.000)	0.000 (0.000)
Observations	14,762	14,762	14,762	14,762	14,762
Outcome mean	0.00	0.00	0.00	0.00	0.00
<i>Diarrhea</i>					
Distance instrument	0.001 (0.004)	0.001 (0.004)	−0.000 (0.004)	0.005 (0.004)	0.006* (0.004)
Observations	14,746	14,746	14,746	14,746	14,746
Outcome mean	0.29	0.29	0.29	0.29	0.29
<i>Anemia</i>					
Distance instrument	−0.002 (0.002)	−0.002 (0.002)	−0.001 (0.002)	0.001 (0.002)	−0.001 (0.002)
Observations	14,667	14,667	14,667	14,667	14,667
Outcome mean	0.09	0.09	0.09	0.09	0.09
Region and year fixed effects	x	x	x	x	x
Individual characteristics	x	x	x	x	x
Log trade volume	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x
12 region-specific linear trends	—	—	—	x	—
12 region-year fixed effects	—	—	—	—	x

Source: Data come from the 2008–2016 Turkish Health Surveys which can be accessed through the Turkish Institute of Statistics website (<https://www.tuik.gov.tr/Home/Index>) with permission.

Note: Columns (1)–(5) report reduced-form estimates obtained using the distance instrument as an explanatory variable. All specifications control for 26 region and year fixed effects, as well as the individual characteristics, including the child's age, gender, and indicator variables for the educational attainment of the household head. Columns (2)–(5) also control for the 26 region-level trade volume, and Columns (3)–(5) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) add 12 region-specific linear time trends and 12 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the 26-region level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.3. Placebo Test for the Effects of Refugee Inflows on Infectious and Noninfectious Disease Outbreaks Using Pre-treatment Data

	OLS				IV			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Infectious diseases</i>								
Refugee share	−0.099 (0.215)	−0.067 (0.217)	−0.141 (0.221)	0.156 (0.233)	−0.155 (0.192)	−0.148 (0.194)	−0.199 (0.198)	0.022 (0.243)
Observations	4,835	4,835	4,835	4,835	4,835	4,835	4,835	4,835
Outcome mean	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<i>Upper respiratory diseases</i>								
Refugee share	−0.483 (0.482)	−0.594 (0.480)	−0.199 (0.514)	−0.447 (0.479)	−0.586 (0.492)	−0.610 (0.516)	−0.379 (0.526)	−0.297 (0.488)
Observations	4,839	4,839	4,839	4,839	4,839	4,839	4,839	4,839
Outcome mean	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
<i>Lower respiratory diseases</i>								
Refugee share	0.300** (0.133)	0.282** (0.134)	0.314** (0.149)	−0.132 (0.089)	0.198 (0.135)	0.194 (0.135)	0.205 (0.157)	−0.109 (0.093)
Observations	4,835	4,835	4,835	4,835	4,835	4,835	4,835	4,835
Outcome mean	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<i>Cancer</i>								
Refugee share	0.009 (0.006)	0.010 (0.007)	0.005 (0.008)	0.000 (0.012)	−0.004 (0.011)	−0.004 (0.011)	−0.008 (0.011)	−0.010 (0.015)
Observations	4,854	4,854	4,854	4,854	4,854	4,854	4,854	4,854
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diabetes</i>								
Refugee share	0.012 (0.013)	0.010 (0.014)	0.023 (0.023)	0.035* (0.020)	0.013 (0.021)	0.013 (0.021)	0.021 (0.028)	0.022 (0.022)
Observations	4,847	4,847	4,847	4,847	4,847	4,847	4,847	4,847
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diarrhea</i>								
Refugee share	−0.338 (0.237)	−0.314 (0.237)	−0.115 (0.242)	0.014 (0.247)	−0.364 (0.302)	−0.359 (0.309)	−0.246 (0.359)	−0.026 (0.267)
Observations	4,839	4,839	4,839	4,839	4,839	4,839	4,839	4,839
Outcome mean	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
<i>Anemia</i>								
Refugee share	−0.145 (0.201)	−0.166 (0.203)	−0.217 (0.204)	0.230 (0.204)	−0.360** (0.171)	−0.366** (0.171)	−0.412** (0.201)	0.087 (0.206)
Observations	4,782	4,782	4,782	4,782	4,782	4,782	4,782	4,782
Outcome mean	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Region and year fixed effects	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	—	x	x	x
Baseline trade × year fixed effects	—	—	x	x	—	—	x	x
12 region–year fixed effects	—	—	—	x	—	—	—	x

Source: Data come from the 2008–2010 Turkish Health Surveys which can be accessed through the Turkish Institute of Statistics website (<https://www.tuik.gov.tr/Home/Index>) with permission.

Note: We assign the 2016 values of the refugee share and instrument variables for each province to 2010 data. Columns (1)–(4) report OLS estimates obtained using the share of Syrian refugee inflows in the region population as an explanatory variable. Columns (5)–(8) report IV estimates from instrumenting the share of Syrian refugee inflows in the region population by the distance instrument. All specifications control for 26 region and year fixed effects, as well as the individual characteristics, including the child's age, gender, and indicator variables for the educational attainment of the household head. Columns (2)–(4) and (6)–(8) also control for 26 region-level trade volume, and Columns (3)–(4) and (7)–(8) control for the interaction of the baseline trade volume with year dummies. Columns (4) and (8) also control for 12 region–year fixed effects. The variables are described in appendix S1. Standard errors are clustered at the 26 region level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.4. Effects of Refugee Inflows on Infectious and Noninfectious Disease Prevalence after Controlling for the 12-region GDP and Unemployment Rate

	OLS						IV					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Infectious diseases</i>												
Refugee share	1.055*** (0.266)	1.052*** (0.252)	1.188*** (0.267)	1.167*** (0.248)	1.418*** (0.204)	1.431*** (0.146)	1.209*** (0.200)	1.209*** (0.188)	1.301*** (0.227)	1.272*** (0.207)	1.537*** (0.205)	1.534*** (0.150)
Observations	14,740	14,740	14,740	14,740	14,740	14,740	14,740	14,740	14,740	14,740	14,740	14,740
Outcome mean	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<i>Upper respiratory diseases</i>												
Refugee share	0.443* (0.219)	0.435* (0.233)	0.593** (0.273)	0.579* (0.286)	0.861*** (0.249)	0.759*** (0.267)	0.539** (0.274)	0.536* (0.293)	0.641** (0.322)	0.637** (0.318)	1.068*** (0.272)	0.884*** (0.249)
Observations	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747
Outcome mean	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
<i>Lower respiratory diseases</i>												
Refugee share	0.386* (0.204)	0.383* (0.197)	0.482** (0.215)	0.513** (0.216)	0.272 (0.179)	0.285** (0.119)	0.570*** (0.172)	0.570*** (0.172)	0.643*** (0.177)	0.579*** (0.200)	0.453** (0.203)	0.408** (0.176)
Observations	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747	14,747
Outcome mean	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
<i>Cancer</i>												
Refugee share	0.001 (0.005)	0.001 (0.005)	−0.002 (0.008)	−0.004 (0.009)	−0.005 (0.013)	−0.006 (0.012)	−0.004 (0.007)	−0.004 (0.007)	−0.007 (0.009)	−0.008 (0.009)	−0.011 (0.013)	−0.011 (0.013)
Observations	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diabetes</i>												
Refugee share	0.007 (0.013)	0.006 (0.014)	0.008 (0.017)	0.009 (0.017)	−0.003 (0.021)	0.001 (0.019)	0.010 (0.015)	0.010 (0.016)	0.012 (0.018)	0.014 (0.018)	0.001 (0.021)	0.002 (0.018)
Observations	14,762	14,762	14,762	14,762	14,762	14,762	14,762	14,762	14,762	14,762	14,762	14,762
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diarrhea</i>												
Refugee share	−0.003 (0.253)	−0.005 (0.244)	−0.129 (0.259)	−0.164 (0.232)	0.198 (0.217)	0.298 (0.181)	0.053 (0.240)	0.052 (0.230)	−0.012 (0.238)	−0.064 (0.231)	0.283 (0.274)	0.423* (0.238)
Observations	14,746	14,746	14,746	14,746	14,746	14,746	14,746	14,746	14,746	14,746	14,746	14,746
Outcome mean	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
<i>Anemia</i>												
Refugee share	−0.196 (0.137)	−0.199 (0.128)	−0.103 (0.156)	−0.142 (0.139)	−0.013 (0.123)	−0.109 (0.138)	−0.138 (0.145)	−0.139 (0.135)	−0.078 (0.159)	−0.093 (0.139)	0.062 (0.123)	−0.040 (0.141)
Observations	14,667	14,667	14,667	14,667	14,667	14,667	14,667	14,667	14,667	14,667	14,667	14,667
Outcome mean	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	x	—	x	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	x	—	—	x	x	x	x
12-region GDP and unemployment	—	—	—	x	x	x	—	—	—	x	x	x
12 region-specific linear trends	—	—	—	—	x	—	—	—	—	—	x	—
12 region-year fixed effects	—	—	—	—	—	x	—	—	—	—	—	x

Source: Data come from the 2008–2016 Turkish Health Surveys which can be accessed through the Turkish Institute of Statistics website (<https://www.tuik.gov.tr/Home/Index>) with permission.

Note: Columns (1)–(6) report OLS estimates obtained using the share of Syrian refugee inflows in the region population as an explanatory variable. Columns (7)–(12) report IV estimates from instrumenting the share of Syrian refugee inflows in the region population by the distance instrument. All specifications control for 26 region and year fixed effects, as well as the individual characteristics, including the child's age, gender, and indicator variables for the educational attainment of the household head. Columns (2)–(6) and (8)–(12) also control for 26 region-level trade volume, and Columns (3)–(6) and (9)–(12) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(6) and (10)–(12) add 12-region GDP and unemployment. Columns (5)–(6) and (11)–(12) add 12 region-specific linear time trends and 12 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the 26-region level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.5. Effects of Refugee Inflows on Infectious and Noninfectious Disease Prevalence, excluding Gaziantep, Adiyaman, and Kilis

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Infectious diseases</i>										
Refugee share	1.087*** (0.300)	1.082*** (0.285)	1.224*** (0.296)	1.576*** (0.201)	1.544*** (0.149)	1.281*** (0.200)	1.278*** (0.189)	1.365*** (0.231)	1.710*** (0.196)	1.712*** (0.153)
Observations	14,567	14,567	14,567	14,567	14,567	14,567	14,567	14,567	14,567	14,567
Outcome mean	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<i>Upper respiratory diseases</i>										
Refugee share	0.387 (0.240)	0.373 (0.250)	0.529* (0.289)	0.679** (0.289)	0.522 (0.308)	0.502 (0.307)	0.495 (0.326)	0.588* (0.347)	0.975*** (0.348)	0.699** (0.293)
Observations	14,572	14,572	14,572	14,572	14,572	14,572	14,572	14,572	14,572	14,572
Outcome mean	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
<i>Lower respiratory diseases</i>										
Refugee share	0.499*** (0.165)	0.495*** (0.162)	0.601*** (0.179)	0.473*** (0.126)	0.458*** (0.103)	0.728*** (0.174)	0.725*** (0.185)	0.795*** (0.165)	0.739*** (0.230)	0.645*** (0.222)
Observations	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571	14,571
Outcome mean	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
<i>Cancer</i>										
Refugee share	0.000 (0.005)	0.000 (0.005)	-0.004 (0.008)	-0.020* (0.010)	-0.022*** (0.008)	-0.006 (0.008)	-0.006 (0.008)	-0.009 (0.010)	-0.027** (0.011)	-0.030*** (0.010)
Observations	14,595	14,595	14,595	14,595	14,595	14,595	14,595	14,595	14,595	14,595
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diabetes</i>										
Refugee share	-0.003 (0.007)	-0.004 (0.008)	-0.002 (0.012)	-0.023 (0.021)	-0.019 (0.021)	0.001 (0.011)	0.001 (0.012)	0.002 (0.015)	-0.018 (0.021)	-0.017 (0.020)
Observations	14,586	14,586	14,586	14,586	14,586	14,586	14,586	14,586	14,586	14,586
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diarrhea</i>										
Refugee share	0.060 (0.263)	0.056 (0.254)	-0.073 (0.274)	0.328 (0.281)	0.365 (0.239)	0.127 (0.244)	0.125 (0.235)	0.064 (0.242)	0.434 (0.387)	0.547 (0.333)
Observations	14,570	14,570	14,570	14,570	14,570	14,570	14,570	14,570	14,570	14,570
Outcome mean	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
<i>Anemia</i>										
Refugee share	-0.139 (0.139)	-0.145 (0.132)	-0.043 (0.164)	-0.124 (0.127)	-0.263** (0.106)	-0.068 (0.155)	-0.071 (0.151)	-0.012 (0.171)	-0.031 (0.133)	-0.170 (0.123)
Observations	14,492	14,492	14,492	14,492	14,492	14,492	14,492	14,492	14,492	14,492
Outcome mean	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
12 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
12 region-year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2016 Turkish Health Surveys which can be accessed through the Turkish Institute of Statistics website (<https://www.tuik.gov.tr/Home/Index>) with permission. The sample excludes Gaziantep, Adiyaman and Kilis.

Note: Columns (1)–(5) report OLS estimates from the share of Syrian refugee inflows in the region population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the region population by the distance instrument. All specifications control for 26 region and year fixed effects, as well as the individual characteristics, including the child's age, gender, and indicator variables for the educational attainment of the household head. Columns (2)–(5) and (7)–(10) also control for 26 region-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume with year dummies. Columns (4)–(5) and (9)–(10) add 12 region-specific linear time trends and 12 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the 26-region level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.6. Effects of Refugee Inflows on Infectious and Noninfectious Disease Prevalence, excluding Istanbul, Ankara, and Izmir

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Infectious diseases</i>										
Refugee share	1.053*** (0.258)	1.050*** (0.245)	1.158*** (0.265)	1.408*** (0.205)	1.394*** (0.122)	1.171*** (0.200)	1.170*** (0.189)	1.254*** (0.227)	1.503*** (0.201)	1.492*** (0.119)
Observations	13,994	13,994	13,994	13,994	13,994	13,994	13,994	13,994	13,994	13,994
Outcome mean	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
<i>Upper respiratory diseases</i>										
Refugee share	0.434* (0.221)	0.426* (0.242)	0.480* (0.277)	0.750** (0.272)	0.607* (0.298)	0.409* (0.239)	0.406 (0.258)	0.446 (0.292)	0.875*** (0.276)	0.715** (0.279)
Observations	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001
Outcome mean	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
<i>Lower respiratory diseases</i>										
Refugee share	0.370* (0.204)	0.368* (0.198)	0.452** (0.217)	0.269 (0.157)	0.250*** (0.088)	0.566*** (0.172)	0.565*** (0.173)	0.643*** (0.176)	0.446** (0.177)	0.354** (0.144)
Observations	14,004	14,004	14,004	14,004	14,004	14,004	14,004	14,004	14,004	14,004
Outcome mean	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<i>Cancer</i>										
Refugee share	0.002 (0.005)	0.002 (0.005)	−0.000 (0.008)	−0.003 (0.014)	−0.003 (0.012)	−0.003 (0.007)	−0.003 (0.007)	−0.005 (0.010)	−0.006 (0.014)	−0.007 (0.012)
Observations	14,025	14,025	14,025	14,025	14,025	14,025	14,025	14,025	14,025	14,025
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diabetes</i>										
Refugee share	0.007 (0.013)	0.007 (0.014)	0.009 (0.018)	−0.007 (0.023)	0.001 (0.020)	0.010 (0.015)	0.010 (0.016)	0.011 (0.019)	−0.006 (0.021)	0.001 (0.019)
Observations	14,018	14,018	14,018	14,018	14,018	14,018	14,018	14,018	14,018	14,018
Outcome mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Diarrhea</i>										
Refugee share	−0.005 (0.266)	−0.007 (0.259)	−0.084 (0.267)	0.317 (0.207)	0.358* (0.178)	0.116 (0.222)	0.116 (0.215)	0.084 (0.221)	0.437 (0.289)	0.498** (0.238)
Observations	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001	14,001
Outcome mean	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
<i>Anemia</i>										
Refugee share	−0.204 (0.132)	−0.207 (0.124)	−0.141 (0.153)	−0.024 (0.136)	−0.140 (0.163)	−0.172 (0.143)	−0.173 (0.133)	−0.125 (0.162)	0.025 (0.135)	−0.086 (0.158)
Observations	13,928	13,928	13,928	13,928	13,928	13,928	13,928	13,928	13,928	13,928
Outcome mean	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
12 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
12 region-year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2016 Turkish Health Surveys which can be accessed through the Turkish Institute of Statistics website (<https://www.tuik.gov.tr/Home/Index>) with permission. The sample excludes Ankara, Istanbul and Izmir.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the region population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the region population by the distance instrument. All specifications control for 26 region and year fixed effects, as well as the individual characteristics, including the child's age, gender, and indicator variables for the educational attainment of the household head. Columns (2)–(5) and (7)–(10) also control for 26 region-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) and (9)–(10) add 12 region-specific linear time trends and 12 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the 26-region level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.7. Reduced-Form Effects on Health-Care Professionals and Hospital Beds

	(1)	(2)	(3)	(4)	(5)
<i>Doctors per capita</i>					
Distance instrument	−0.017*** (0.004)	−0.017*** (0.004)	−0.017*** (0.004)	−0.018*** (0.005)	−0.017*** (0.006)
Observations	891	891	891	880	880
Outcome mean	1.45	1.45	1.45	1.45	1.45
<i>Midwives per capita</i>					
Distance instrument	−0.005* (0.003)	−0.005* (0.003)	−0.005 (0.003)	−0.007 (0.005)	−0.008 (0.005)
Observations	891	891	891	880	880
Outcome mean	0.81	0.81	0.81	0.80	0.80
<i>Nurses per capita</i>					
Distance instrument	−0.014** (0.006)	−0.014** (0.006)	−0.011* (0.006)	−0.016** (0.007)	−0.016** (0.008)
Observations	891	891	891	880	880
Outcome mean	1.80	1.80	1.80	1.79	1.79
<i>Hospital beds per capita</i>					
Distance instrument	0.003 (0.009)	0.003 (0.009)	0.001 (0.009)	−0.007 (0.013)	−0.006 (0.014)
Observations	891	891	891	880	880
Outcome mean	2.53	2.53	2.53	2.53	2.53
Region and year fixed effects	x	x	x	x	x
Log trade volume	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—
5 region-year fixed effects	—	—	—	—	x

Source: Data come from the 2008–2018 Health Statistics Yearbooks published annually by the Turkish Ministry of Health.

Note: Columns (1)–(5) report reduced-form estimates obtained using the distance instrument as an explanatory variable. All specifications control for province and year fixed effects. Columns (2)–(5) also control for province-level trade volume, and Columns (3)–(5) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4) and (5) add 5 region-specific linear trends and 5 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.8. Effects of Refugee Inflows on the Number of Health-Care Professionals and Hospital Beds

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Doctors (in log)</i>										
Refugee share	0.373*** (0.030)	0.372*** (0.030)	0.341*** (0.026)	0.323*** (0.043)	0.344*** (0.046)	0.332*** (0.077)	0.333*** (0.077)	0.273*** (0.088)	0.312*** (0.078)	0.372*** (0.083)
Observations	891	891	891	880	880	891	891	891	880	880
Outcome mean	6.65	6.65	6.65	6.67	6.67	6.65	6.65	6.65	6.67	6.67
<i>Midwives (in log)</i>										
Refugee share	0.290*** (0.031)	0.290*** (0.031)	0.264*** (0.023)	0.224*** (0.037)	0.216*** (0.039)	0.357*** (0.092)	0.357*** (0.092)	0.318*** (0.087)	0.298*** (0.104)	0.270*** (0.098)
Observations	891	891	891	880	880	891	891	891	880	880
Outcome mean	6.06	6.06	6.06	6.07	6.07	6.06	6.06	6.06	6.07	6.07
<i>Nurses (in log)</i>										
Refugee share	0.533*** (0.063)	0.533*** (0.065)	0.520*** (0.061)	0.439*** (0.055)	0.453*** (0.056)	0.708*** (0.168)	0.708*** (0.168)	0.700*** (0.170)	0.553*** (0.133)	0.600*** (0.143)
Observations	891	891	891	880	880	891	891	891	880	880
Outcome mean	6.86	6.86	6.86	6.89	6.89	6.86	6.86	6.86	6.89	6.89
<i>Hospital beds (in log)</i>										
Refugee share	0.609*** (0.184)	0.608*** (0.182)	0.542*** (0.153)	0.393*** (0.103)	0.400*** (0.110)	0.916*** (0.328)	0.917*** (0.327)	0.825*** (0.298)	0.605*** (0.224)	0.645*** (0.248)
Observations	891	891	891	880	880	891	891	891	880	880
Outcome mean	7.19	7.19	7.19	7.22	7.22	7.19	7.19	7.19	7.22	7.22
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region–year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2018 Health Statistics Yearbooks published annually by the Turkish Ministry of Health.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and year fixed effects. Columns (2)–(5) and (7)–(10) also control for province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) and (9)–(10) add 5 region–year fixed effects and 5 region-specific linear time trends, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.9. Placebo Test for the Effects of Refugee Inflows on Health-Care Professionals and Hospital Beds Using Pre-treatment Data

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Doctors per capita</i>										
Refugee share	0.023 (0.038)	0.024 (0.037)	0.081* (0.044)	0.051 (0.042)	0.063 (0.044)	−0.024 (0.075)	−0.023 (0.075)	0.079 (0.088)	−0.020 (0.126)	0.078 (0.105)
Observations	324	324	324	320	320	324	324	324	320	320
Outcome mean	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
<i>Midwives per capita</i>										
Refugee share	0.023 (0.056)	0.024 (0.055)	0.039 (0.048)	0.040 (0.043)	0.075 (0.046)	−0.017 (0.069)	−0.017 (0.069)	0.006 (0.061)	−0.060 (0.118)	0.061 (0.060)
Observations	324	324	324	320	320	324	324	324	320	320
Outcome mean	0.81	0.81	0.81	0.79	0.79	0.81	0.81	0.81	0.79	0.79
<i>Nurses per capita</i>										
Refugee share	0.163 (0.173)	0.152 (0.182)	0.238* (0.137)	0.216 (0.134)	0.251* (0.132)	0.052 (0.233)	0.035 (0.241)	0.184 (0.188)	0.641** (0.309)	0.135 (0.224)
Observations	324	324	324	320	320	324	324	324	320	320
Outcome mean	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
<i>Hospital beds per capita</i>										
Refugee share	0.066** (0.032)	0.065* (0.033)	0.066* (0.033)	0.068*** (0.024)	0.095*** (0.033)	0.002 (0.067)	0.001 (0.068)	−0.004 (0.070)	−0.014 (0.077)	−0.009 (0.098)
Observations	324	324	324	320	320	324	324	324	320	320
Outcome mean	0.64	0.64	0.64	0.62	0.62	0.64	0.64	0.64	0.62	0.62
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region-year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2011 Health Statistics Yearbooks published annually by the Turkish Ministry of Health.

Note: We assign the 2016 values for the refugee share and instrument variables for each province to 2011 data. Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and year fixed effects. Columns (2)–(5) and (7)–(10) also control for province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) and (9)–(10) add 5 region-specific linear time trends and 5 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.10. Effects of Refugee Inflows on Health-Care Professionals and Hospital Beds with 26 Region Controls

	OLS						IV					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Doctors per capita</i>												
Refugee share	-0.442*** (0.081)	-0.443*** (0.082)	-0.436*** (0.084)	-0.434*** (0.079)	-0.435*** (0.091)	-0.418*** (0.148)	-0.656*** (0.204)	-0.656*** (0.204)	-0.662*** (0.217)	-0.676*** (0.222)	-0.985*** (0.303)	-0.632*** (0.174)
Observations	891	891	891	891	891	891	891	891	891	891	891	891
Outcome mean	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
<i>Midwives per capita</i>												
Refugee share	-0.234*** (0.019)	-0.235*** (0.019)	-0.239*** (0.021)	-0.244*** (0.024)	-0.293*** (0.068)	-0.308*** (0.086)	-0.194*** (0.064)	-0.193*** (0.064)	-0.196*** (0.068)	-0.212*** (0.068)	-0.693*** (0.228)	-0.395*** (0.089)
Observations	891	891	891	891	891	891	891	891	891	891	891	891
Outcome mean	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
<i>Nurses per capita</i>												
Refugee share	-0.520*** (0.116)	-0.519*** (0.114)	-0.457*** (0.090)	-0.465*** (0.095)	-0.570*** (0.180)	-0.613*** (0.235)	-0.546*** (0.198)	-0.547*** (0.196)	-0.437** (0.184)	-0.470** (0.186)	-1.444*** (0.520)	-0.993*** (0.316)
Observations	891	891	891	891	891	891	891	891	891	891	891	891
Outcome mean	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
<i>Hospital beds per capita</i>												
Refugee share	-0.265* (0.141)	-0.266* (0.138)	-0.321*** (0.117)	-0.340*** (0.109)	-0.553*** (0.145)	-0.634*** (0.181)	0.096 (0.360)	0.098 (0.359)	0.030 (0.349)	-0.046 (0.318)	-0.745** (0.328)	-0.921*** (0.268)
Observations	891	891	891	891	891	891	891	891	891	891	891	891
Outcome mean	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53	2.53
Province and year fixed effects	x	x	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	x	—	x	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	x	—	—	x	x	x	x
26-region GDP and unemployment	—	—	—	x	x	x	—	—	—	x	x	x
26 region-specific linear trends	—	—	—	—	x	—	—	—	—	—	x	—
26 region-year fixed effects	—	—	—	—	—	x	—	—	—	—	—	x

Source: Data come from the 2008–2018 Health Statistics Yearbooks published annually by the Turkish Ministry of Health.

Note: Columns (1)–(6) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (7)–(12) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and year fixed effects. Columns (2)–(6) and (8)–(12) also control for province-level trade volume, and Columns (3)–(6) and (9)–(12) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(6) and (10)–(12) control for 26-region GDP and unemployment. Columns (5)–(6) and (11)–(12) add 26 region-specific linear time trends and 26 region fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.11. Effects of Refugee Inflows on Health-Care Professionals and Hospital Beds, excluding Gaziantep, Adiyaman, and Kilis

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Doctors per capita</i>										
Refugee share	-0.892*** (0.189)	-0.902*** (0.196)	-0.923*** (0.235)	-0.931*** (0.295)	-0.864*** (0.317)	-1.172*** (0.381)	-1.174*** (0.383)	-1.212*** (0.411)	-1.023*** (0.370)	-0.935** (0.385)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
<i>Midwives per capita</i>										
Refugee share	-0.287*** (0.081)	-0.294*** (0.080)	-0.314*** (0.086)	-0.218* (0.122)	-0.267* (0.142)	-0.165 (0.151)	-0.166 (0.152)	-0.167 (0.169)	-0.017 (0.192)	-0.065 (0.208)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	0.82	0.82	0.82	0.80	0.80	0.82	0.82	0.82	0.80	0.80
<i>Nurses per capita</i>										
Refugee share	-1.168*** (0.321)	-1.156*** (0.317)	-0.927*** (0.337)	-0.988*** (0.365)	-1.033*** (0.363)	-0.768* (0.400)	-0.766* (0.395)	-0.557 (0.434)	-0.865 (0.557)	-0.858 (0.546)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
<i>Hospital beds per capita</i>										
Refugee share	0.620* (0.360)	0.601* (0.349)	0.465 (0.380)	0.192 (0.574)	0.216 (0.625)	0.921 (0.610)	0.919 (0.607)	0.843 (0.650)	0.664 (0.776)	0.857 (0.870)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	2.56	2.56	2.56	2.57	2.57	2.56	2.56	2.56	2.57	2.57
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region–year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2018 Health Statistics Yearbooks published annually by the Turkish Ministry of Health. The sample excludes Gaziantep, Adiyaman and Kilis.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and year fixed effects. Columns (2)–(5) and (7)–(10) also control for province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) and (9)–(10) add 5 region-specific linear time trends and 5 region–year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.12. Effects of Refugee Inflows on Health-Care Professionals and Hospital Beds, excluding Istanbul, Ankara, and Izmir

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Doctors per capita</i>										
Refugee share	−0.452*** (0.084)	−0.452*** (0.085)	−0.461*** (0.092)	−0.421*** (0.092)	−0.409*** (0.094)	−0.678*** (0.212)	−0.678*** (0.212)	−0.720*** (0.238)	−0.612*** (0.206)	−0.584*** (0.204)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41	1.41
<i>Midwives per capita</i>										
Refugee share	−0.235*** (0.019)	−0.235*** (0.020)	−0.239*** (0.022)	−0.267*** (0.022)	−0.278*** (0.025)	−0.190*** (0.066)	−0.190*** (0.066)	−0.192*** (0.072)	−0.214*** (0.072)	−0.243*** (0.073)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	0.82	0.82	0.82	0.81	0.81	0.82	0.82	0.82	0.81	0.81
<i>Nurses per capita</i>										
Refugee share	−0.530*** (0.118)	−0.529*** (0.116)	−0.480*** (0.098)	−0.459*** (0.099)	−0.456*** (0.107)	−0.583*** (0.205)	−0.584*** (0.204)	−0.492** (0.195)	−0.562*** (0.210)	−0.558*** (0.215)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	1.79	1.79	1.79	1.78	1.78	1.79	1.79	1.79	1.78	1.78
<i>Hospital beds per capita</i>										
Refugee share	−0.270* (0.141)	−0.271* (0.138)	−0.345*** (0.113)	−0.495*** (0.113)	−0.494*** (0.125)	0.068 (0.349)	0.069 (0.348)	−0.042 (0.329)	−0.271 (0.314)	−0.244 (0.334)
Observations	858	858	858	847	847	858	858	858	847	847
Outcome mean	2.52	2.52	2.52	2.53	2.53	2.52	2.52	2.52	2.53	2.53
Region and year fixed effects	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region-year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2008–2018 Health Statistics Yearbooks published annually by the Turkish Ministry of Health. The sample excludes Ankara, Istanbul and Izmir.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and year fixed effects. Columns (2)–(5) and (7)–(10) also control for the province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 2008 with year dummies. Columns (4)–(5) and (9)–(10) add 5 region-specific linear time trends and 5 region-year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.13. Reduced-Form Effects on Vaccination Outcomes

	(1)	(2)	(3)	(4)	(5)
<i>Number of vaccines</i>					
Distance instrument	−0.035* (0.020)	−0.034* (0.019)	−0.044* (0.026)	−0.117*** (0.040)	−0.099** (0.041)
Observations	9,261	9,261	9,233	9,233	9,233
Outcome mean	5.86	5.86	5.86	5.86	5.86
<i>Hepatitis B completed</i>					
Distance instrument	−0.003 (0.003)	−0.003 (0.003)	−0.006 (0.004)	−0.018*** (0.006)	−0.017** (0.007)
Observations	8,488	8,488	8,462	8,462	8,462
Outcome mean	0.62	0.62	0.62	0.62	0.62
<i>Diphtheria, pertussis, and tetanus completed</i>					
Distance instrument	−0.011*** (0.004)	−0.011*** (0.004)	−0.013** (0.005)	−0.020*** (0.006)	−0.020** (0.008)
Observations	8,541	8,541	8,514	8,514	8,514
Outcome mean	0.67	0.67	0.67	0.67	0.67
<i>Tuberculosis completed</i>					
Distance instrument	−0.004** (0.002)	−0.004* (0.002)	−0.006** (0.002)	−0.009*** (0.003)	−0.009** (0.004)
Observations	9,210	9,210	9,182	9,182	9,182
Outcome mean	0.87	0.87	0.87	0.87	0.87
<i>Measles completed</i>					
Distance instrument	−0.011*** (0.003)	−0.011*** (0.003)	−0.013*** (0.004)	−0.021*** (0.005)	−0.024*** (0.007)
Observations	9,074	9,074	9,046	9,046	9,046
Outcome mean	0.65	0.65	0.65	0.65	0.65
Province and survey year fixed effects	x	x	x	x	x
Individual characteristics	x	x	x	x	x
Log trade volume	—	x	x	x	x
Baseline trade × survey year fixed effects	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—
5 region-survey year fixed effects	—	—	—	—	x

Source: Data come from the 2003, 2008, 2013, and 2018 Turkish Demographic Health Surveys data, which can be accessed through the DHS website (<https://dhsprogram.com/data>).

Note: Columns (1)–(5) report reduced-form estimates obtained using the distance instrument as an explanatory variable. All specifications control for province and survey year fixed effects, as well as the individual characteristics, including the child's age, gender, and month of birth indicator variables, and indicator variables for the mother's educational attainment, whether she lives in a rural area, and whether her mother tongue is Turkish. Columns (2)–(5) also control for the province-level trade volume, and Columns (3)–(5) control for the interaction of the baseline trade volume in 1998 with year dummies. Columns (4)–(5) add 5 region-specific linear time trends and 5 region-survey year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.14. Placebo Test for the Effects of Refugee Inflows on Vaccination Outcomes Using Pre-treatment Data

	OLS				IV			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Number of vaccines</i>								
Refugee share	15.434* (8.489)	14.738** (7.314)	13.526** (5.990)	11.233* (6.318)	16.935** (7.994)	16.771** (7.813)	9.267 (5.725)	3.719 (7.051)
Observations	5688	5688	5673	5673	5688	5688	5673	5673
Outcome mean	5.54	5.54	5.54	5.54	5.54	5.54	5.54	5.54
<i>Hepatitis B completed</i>								
Refugee share	2.087** (0.922)	2.198** (0.955)	1.978** (0.882)	1.650 (0.996)	3.778*** (1.382)	3.834*** (1.397)	2.206** (1.080)	1.617 (1.328)
Observations	5108	5108	5094	5094	5108	5108	5094	5094
Outcome mean	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
<i>Diphtheria, pertussis, and tetanus completed</i>								
Refugee share	3.096** (1.215)	3.113** (1.243)	2.973** (1.159)	3.702*** (1.375)	3.216* (1.655)	3.222* (1.686)	2.259 (1.713)	3.096 (2.148)
Observations	5208	5208	5193	5193	5208	5208	5193	5193
Outcome mean	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
<i>Tuberculosis completed</i>								
Refugee share	0.403 (1.396)	0.296 (1.428)	0.181 (1.299)	−0.461 (1.157)	0.144 (1.296)	0.101 (1.293)	−0.637 (1.048)	−1.841 (1.177)
Observations	5654	5654	5639	5639	5654	5654	5639	5639
Outcome mean	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
<i>Measles completed</i>								
Refugee share	0.607 (0.754)	0.550 (0.741)	0.478 (0.721)	−0.056 (0.895)	1.198 (0.872)	1.191 (0.889)	0.573 (0.799)	−0.162 (1.177)
Observations	5544	5544	5529	5529	5544	5544	5529	5529
Outcome mean	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Province and survey year fixed effects	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	—	x	x	x
Baseline trade × survey year fixed effects	—	—	x	x	—	—	x	x
5 region-survey year fixed effects	—	—	—	x	—	—	—	x

Source: Data come from the 2003 and 2008 Turkish Demographic Health Surveys data, which can be accessed through the DHS website (<https://dhsprogram.com/data>).

Note: We assign the 2013 values for the refugee share and instrument variables for each province to 2008 data. Columns (1)–(4) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (5)–(8) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and survey year fixed effects, as well as the individual characteristics, including the child's age, gender, and month of birth indicator variables, and indicator variables for the mother's educational attainment, whether she lives in a rural area, and whether her mother tongue is Turkish. Columns (2)–(4) and (6)–(8) also control for the province-level trade volume, and Columns (3)–(4) and (7)–(8) control for the interaction of the baseline trade volume with survey year dummies. Columns (4) and (8) add 5 region-survey year fixed effects. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.15. Effects of Refugee Inflows on Vaccination Outcomes with 26 Region Controls

	OLS						IV					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Number of vaccines</i>												
Refugee share	-0.642 (0.568)	-0.675 (0.550)	-0.765 (0.599)	-0.627 (0.630)	-2.868 (1.812)	-1.429 (1.210)	-2.436* (1.397)	-2.371* (1.386)	-2.977* (1.667)	-2.639* (1.571)	-8.965*** (3.293)	-7.577** (3.709)
Observations	9,261	9,261	9,233	9,233	9,233	9,233	9,261	9,261	9,233	9,233	9,233	9,233
Outcome mean	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86	5.86
<i>Hepatitis B completed</i>												
Refugee share	-0.055 (0.123)	-0.061 (0.113)	-0.082 (0.116)	-0.045 (0.143)	-0.383** (0.169)	-0.245 (0.166)	-0.239 (0.210)	-0.235 (0.211)	-0.392 (0.280)	-0.368 (0.287)	-1.387** (0.562)	-1.851** (0.811)
Observations	8,488	8,488	8,462	8,462	8,462	8,462	8,488	8,488	8,462	8,462	8,462	8,462
Outcome mean	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
<i>Diphtheria, pertussis, and tetanus completed</i>												
Refugee share	-0.302** (0.117)	-0.316*** (0.105)	-0.325*** (0.104)	-0.289** (0.118)	-0.486*** (0.184)	-0.282 (0.179)	-0.789** (0.314)	-0.781** (0.310)	-0.865** (0.342)	-0.848** (0.348)	-1.560*** (0.502)	-2.002** (0.802)
Observations	8,541	8,541	8,514	8,514	8,514	8,514	8,541	8,541	8,514	8,514	8,514	8,514
Outcome mean	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
<i>Tuberculosis completed</i>												
Refugee share	-0.205*** (0.059)	-0.213*** (0.057)	-0.232*** (0.059)	-0.236*** (0.064)	-0.254** (0.123)	-0.186* (0.104)	-0.284** (0.124)	-0.284** (0.122)	-0.387*** (0.146)	-0.353** (0.138)	-0.484** (0.226)	-0.499* (0.273)
Observations	9,210	9,210	9,182	9,182	9,182	9,182	9,210	9,210	9,182	9,182	9,182	9,182
Outcome mean	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
<i>Measles completed</i>												
Refugee share	-0.242* (0.142)	-0.245* (0.132)	-0.257** (0.120)	-0.250 (0.159)	-0.416** (0.169)	-0.396* (0.223)	-0.792*** (0.278)	-0.786*** (0.285)	-0.884*** (0.315)	-0.964*** (0.351)	-1.834*** (0.566)	-2.796*** (0.995)
Observations	9,074	9,074	9,046	9,046	9,046	9,046	9,074	9,074	9,046	9,046	9,046	9,046
Outcome mean	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Province and year fixed effects	x	x	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	x	—	x	x	x	x	x
Baseline trade × year fixed effects	—	—	x	x	x	x	—	—	x	x	x	x
26-region GDP and unemployment	—	—	—	x	x	x	—	—	—	x	x	x
26 region-specific linear trends	—	—	—	—	x	—	—	—	—	—	x	—
26 region-year fixed effects	—	—	—	—	—	x	—	—	—	—	—	x

Source: Data come from the 2003, 2008, 2013, and 2018 Turkish Demographic Health Surveys data, which can be accessed through the DHS website (<https://dhsprogram.com/data>).

Note: Columns (1)–(6) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (7)–(12) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and survey year fixed effects, as well as the individual characteristics, including the child's age, gender, and month of birth indicator variables, and indicator variables for the mother's educational attainment, whether she lives in a rural area, and whether her mother tongue is Turkish. Columns (2)–(6) and (8)–(12) also control for province-level trade volume, and Columns (3)–(6) and (8)–(12) control for the interaction of the baseline trade volume in 1998 with survey year dummies. Columns (4)–(6) and (10)–(12) control for the 26-region GDP and employment. Columns (5)–(6) and (11)–(12) add 26 region-specific linear time trends and 26 region-survey year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.16. Effects of Refugee Inflows on Vaccination Outcomes, excluding Gaziantep, Adiyaman, and Kilis

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Number of vaccines</i>										
Refugee share	−0.675 (0.843)	−0.732 (0.803)	−0.898 (0.828)	−3.187 (2.150)	−2.414 (1.962)	−3.159 (2.005)	−3.089 (1.991)	−4.221* (2.398)	−9.080** (4.264)	−6.355* (3.456)
Observations	8,663	8,663	8,635	8,635	8,635	8,663	8,663	8,635	8,635	8,635
Outcome mean	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88
<i>Hepatitis B completed</i>										
Refugee share	0.049 (0.140)	0.041 (0.121)	0.007 (0.125)	−0.381 (0.261)	−0.265 (0.225)	−0.238 (0.293)	−0.235 (0.293)	−0.508 (0.413)	−1.437* (0.763)	−1.070* (0.629)
Observations	7,967	7,967	7,941	7,941	7,941	7,967	7,967	7,941	7,941	7,941
Outcome mean	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
<i>Diphtheria, pertussis, and tetanus completed</i>										
Refugee share	−0.302** (0.117)	−0.316*** (0.105)	−0.325** (0.104)	−0.548*** (0.174)	−0.429** (0.174)	−0.789** (0.314)	−0.781** (0.310)	−0.865** (0.342)	−1.410*** (0.467)	−1.260** (0.510)
Observations	8,541	8,541	8,514	8,514	8,514	8,541	8,541	8,514	8,514	8,514
Outcome mean	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
<i>Tuberculosis completed</i>										
Refugee share	−0.227** (0.100)	−0.232** (0.099)	−0.259*** (0.090)	−0.371 (0.223)	−0.255 (0.174)	−0.294* (0.165)	−0.295* (0.165)	−0.476*** (0.184)	−0.579** (0.294)	−0.414* (0.238)
Observations	8,614	8,614	8,586	8,586	8,586	8,614	8,614	8,586	8,586	8,586
Outcome mean	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
<i>Measles completed</i>										
Refugee share	−0.187 (0.228)	−0.191 (0.210)	−0.210 (0.189)	−0.429** (0.181)	−0.316 (0.195)	−0.893* (0.466)	−0.886* (0.472)	−1.049** (0.530)	−1.652** (0.736)	−1.550** (0.767)
Observations	8,485	8,485	8,457	8,457	8,457	8,485	8,485	8,457	8,457	8,457
Outcome mean	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Province and survey year fixed effects	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × survey year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region-survey year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2003, 2008, 2013, and 2018 Turkish Demographic Health Surveys data, which can be accessed through the DHS website (<https://dhsprogram.com/data>). The sample excludes Gaziantep, Adiyaman and Kilis.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and survey year fixed effects, as well as the individual characteristics, including the child's age, gender, and month of birth indicator variables, and indicator variables for the mother's educational attainment, whether she lives in a rural area, and whether her mother tongue is Turkish. Columns (2)–(5) and (7)–(10) also control for province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 1998 with survey year dummies. Columns (4)–(5) and (9)–(10) add 5 region-specific linear time trends and 5 region-survey year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.

Table S2.17. Effects of Refugee Inflows on Vaccination Outcomes, excluding Istanbul, Ankara, and Izmir

	OLS					IV				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Number of vaccines</i>										
Refugee share	-0.534 (0.588)	-0.568 (0.572)	-0.216 (0.698)	-2.198* (1.166)	-1.947* (1.068)	-2.139* (1.258)	-2.122* (1.257)	-1.779 (1.388)	-5.981** (2.479)	-5.423** (2.479)
Observations	8,041	8,041	8,013	8,013	8,013	8,041	8,041	8,013	8,013	8,013
Outcome mean	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
<i>Hepatitis B completed</i>										
Refugee share	-0.068 (0.118)	-0.077 (0.109)	-0.026 (0.130)	-0.323** (0.140)	-0.284** (0.133)	-0.284 (0.213)	-0.284 (0.213)	-0.236 (0.222)	-0.937** (0.390)	-0.873** (0.410)
Observations	7,334	7,334	7,308	7,308	7,308	7,334	7,334	7,308	7,308	7,308
Outcome mean	0.61	0.61	0.62	0.62	0.62	0.61	0.61	0.62	0.62	0.62
<i>Diphtheria, pertussis, and tetanus completed</i>										
Refugee share	-0.257** (0.109)	-0.276*** (0.097)	-0.222** (0.100)	-0.417*** (0.144)	-0.336** (0.150)	-0.719** (0.289)	-0.719** (0.284)	-0.669** (0.299)	-1.102*** (0.414)	-1.022** (0.461)
Observations	7,389	7,389	7,362	7,362	7,362	7,389	7,389	7,362	7,362	7,362
Outcome mean	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
<i>Tuberculosis completed</i>										
Refugee share	-0.219*** (0.064)	-0.227*** (0.064)	-0.190*** (0.067)	-0.346*** (0.111)	-0.274*** (0.093)	-0.338*** (0.130)	-0.341*** (0.131)	-0.303** (0.139)	-0.632*** (0.245)	-0.496** (0.217)
Observations	7,994	7,994	7,966	7,966	7,966	7,994	7,994	7,966	7,966	7,966
Outcome mean	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
<i>Measles completed</i>										
Refugee share	-0.201 (0.134)	-0.200 (0.122)	-0.151 (0.109)	-0.334*** (0.116)	-0.305** (0.134)	-0.730*** (0.255)	-0.730*** (0.259)	-0.687*** (0.258)	-1.198*** (0.388)	-1.267*** (0.470)
Observations	7,864	7,864	7,836	7,836	7,836	7,864	7,864	7,836	7,836	7,836
Outcome mean	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
Province and survey year fixed effects	x	x	x	x	x	x	x	x	x	x
Individual characteristics	x	x	x	x	x	x	x	x	x	x
Log trade volume	—	x	x	x	x	—	x	x	x	x
Baseline trade × survey year fixed effects	—	—	x	x	x	—	—	x	x	x
5 region-specific linear trends	—	—	—	x	—	—	—	—	x	—
5 region-survey year fixed effects	—	—	—	—	x	—	—	—	—	x

Source: Data come from the 2003, 2008, 2013, and 2018 Turkish Demographic Health Surveys data, which can be accessed through the DHS website (<https://dhsprogram.com/data>). The sample excludes Ankara, Istanbul, and Izmir.

Note: Columns (1)–(5) report OLS estimates obtained using the share of Syrian refugee inflows in the province population as an explanatory variable. Columns (6)–(10) report IV estimates from instrumenting the share of Syrian refugee inflows in the province population by the distance instrument. All specifications control for province and survey year fixed effects, as well as the individual characteristics, including the child's age, gender, and month of birth indicator variables, and indicator variables for the mother's educational attainment, whether she lives in a rural area, and whether her mother tongue is Turkish. Columns (2)–(5) and (7)–(10) also control for the province-level trade volume, and Columns (3)–(5) and (8)–(10) control for the interaction of the baseline trade volume in 1998 with year dummies. Columns (4)–(5) and (9)–(10) add 5 region-specific linear time trends and 5 region-survey year fixed effects, respectively. The variables are described in appendix S1. Standard errors are clustered at the province level. ***, **, and * denote significance at the 1, 5, and 10 percent levels, respectively.