"Tremendous Medical Problem"?
# Immigration's Impact on Community Health

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PERCEPTIONS

Research Design: Survey

- Survey of 1,561 individuals through MTURK
- Questions described a male subject in a vignette
- **Treatment:** mentioning whether or not the subject is an **immigrant** (randomly assigned)
  - Additional treatments: the question included picture of a white man (named John), a non-white man (named Juan), or no picture (and no name)
  - **Dependent variable:** likelihood that subject practices various good health habits, combined into a single **health score.**

Findings
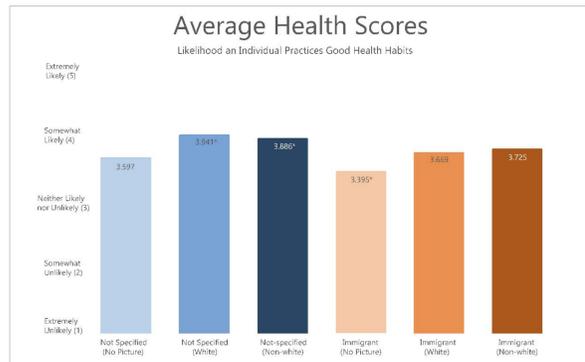
We calculated a 'health score" by combining three different survey questions from among the six we asked respondents: rating of likelihood the subject has regular check-ups with his doctor, washes hands regularly, and practices good personal hygiene.

Treatment Effect on Average Health Score

Regressor	Regression Coefficient (*Robust Std. Error*)	Confidence Interval
Immigrant, no picture	-.206 (.072)*	[-.346, -.066]
Immigrant, white	.065 (.074)	[-.081, .211]
Immigrant, non-white	.124 (.075)	[-.024, .271]
Not specified, white	.338 (.073)*	[.346, .066]
Not specified, non-white	.287 (.075)*	[.194, .482]
Male	.035 (.043)	[-.141, .434]
Republican	.0497 (.048)	[-.049, .119]
White	.047 (.047)	[-.046, .139]
Constant: Not specified, no picture	3.534 (.065)*	[3.407, 3.661]
Regression summary statistics		
R^2	.0476	
SER	.83649	
n	1,537	

*= statistical significance at .01

- When survey respondents knew the subject was an **immigrant**, but were not shown a picture of him, they were significantly **less likely to give the subject a higher health score**
- When the subject was **not** specified as an immigrant, respondents were **more likely to give the subject a higher health score**, significantly when they were shown a picture of either a white or non-white subject

Causal Logic for Research

When approaching public policy options for immigration issues, it is important to distinguish between perceptions of immigrants and the actual effects they have on various aspects of the United States. Some critics of immigration argue that immigrants arrive in the United States with diseases or other health threats to American communities. One justification given by President Trump for a border wall was given in December of 2018 when he cited the "tremendous medical problem" that comes with immigration. The rhetoric of anti-immigration politicians and pundits stirs up fears of community health threats. Some believe higher levels of immigration make communities sicker. Based on survey results published by the Pew Research Center, 53% of Americans feel that "legal immigration in the United States should be decreased" (PEW 2018). However, according to Dr. Paul Spiegel, the director of the Center for Humanitarian Health at John Hopkins School of Public Health, "there is no evidence to show that migrants are spreading disease" (NBC News 2018). A quantitative analysis can determine whether Americans actually need to be alarmed about immigration and its effect on public health to better shape public policy.

1. **Does immigration affect community health in the United States?**

2. **Is there a mismatch between perceptions and reality involving immigration?**
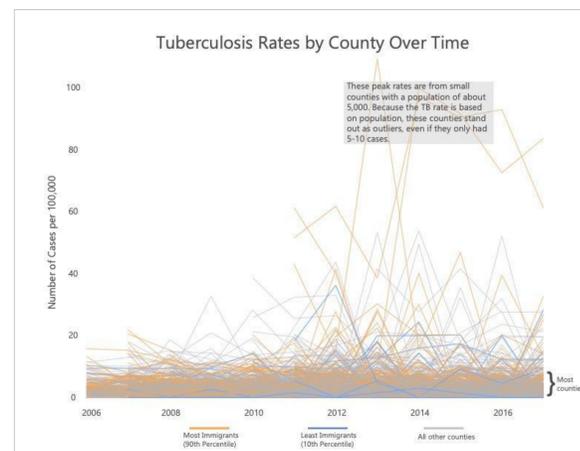

Most counties have below 20 cases of tuberculosis per 100,000 members of the population. Counties with immigration rates in the 90th percentile follow this same trend. *All in all, there is not a strong link between immigration rates and tuberculosis rates.*

REALITY

Research Design: Panel Data Analysis

- **Independent variable:** county population proportion that is "foreign born" on the U.S. Census or American Community Survey (**Immigration**)
- **Dependent variable:** county's tuberculosis rate (cases per 100,000) as a measure of **community health.**
- Collected over 10,000 observations through state health agencies' websites
- Analyzed the data using a fixed effects regression model

Findings
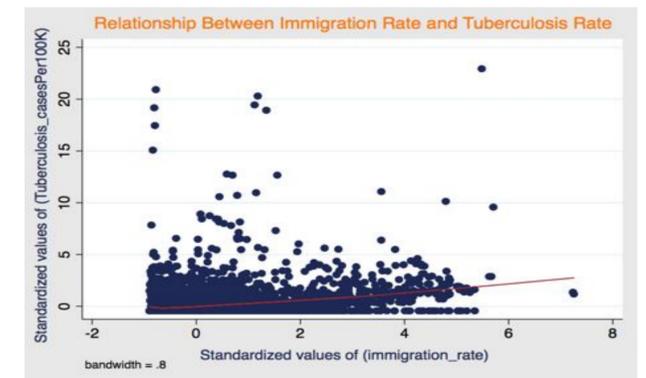
- When immigration rates increase by one standard deviation, or 6.2%, there was only a **0.34 percentage point increase** in tuberculosis rates.
- Meaning, **if there were 6.2% more immigrants in a specific county holding all else constant, then we were 99% confident that only 0.34 more cases of TB per 100,000 were possible in developing in the county.**
- As we can see in the figure "Relationship Between Immigration Rate and Tuberculosis Rate," above, **there is a low correlation rate between immigration rate and tuberculosis rate per 100,000** individuals in a given population when the two are standardized. To be exact, the two variables are only correlated approximately 29.04%.
- This means **when there is an increase in the tuberculosis rate per 100,000 in a county, this increase can only be attributed to a rise in immigration rate by a weight of 29.04% of the total correlation between the two**.
- As we can see in the figure, most tuberculosis rates remain **localized around 5 cases per a population size of 100,000 people**, whereas outliers exist due to low population sizes.

Fixed Effects Model of Immigration's Effect on TB Rates

Regressors	Regression Coefficient (*Robust Std. Error*)
immigration_rate_std	0.336*** (0.0215)
2005.year	0.0162 (0.347)
2006.year	-0.337** (0.158)
2007.year	-0.362** (0.152)
2008.year	-0.354** (0.152)
2009.year	-0.448*** (0.151)
2010.year	-0.470*** (0.150)
2011.year	-0.531*** (0.149)
2012.year	-0.508** (0.149)
2013.year	-0.535*** (0.149)
2014.year	-0.547*** (0.149)
2015.year	-0.558*** (0.149)
2016.year	-0.598*** (0.149)
2017.year	-0.611*** (0.149)
Constant	0.526*** (0.147)
Regression summary statistics	
n	10,288
R-squared	0.419
Adjusted R-squared	0.345
SER	0.809

Statistical significance marked as*** p<0.01, ** p<0.05, * p<0.11