

Health Implications of Late-Age Immigration in the United States

Despite occasional references to immigration as a partial solution to population aging, the United States has witnessed an increase in late-age immigration in large part because U.S. citizens are allowed to sponsor parents outside of the numerical quotas imposed on other extended relatives (Carr and Tienda, 2013). This research examines variation in health status of U.S. immigrants according to age at immigration using the 2004 – 2013 National Health Interview Survey Sample Adult Core Supplement (NHIS). Specifically, I evaluate two well-known hypotheses in the immigration and health literature: the healthy immigrant hypothesis and acculturation. The healthy immigrant hypothesis states that immigrants to the United States are healthier than their native-born U.S. counterparts and healthier than the population in the sending country (Jasso et al. 2004; Frisbie et al. 2001). The acculturation hypothesis shows deterioration in health status for immigrants of all ages with length of U.S. residence (Jasso et al. 2004; Frisbie et al. 2001). As such, this research will address two pertinent questions. Are late age immigrants healthier than immigrants who grow older in the United States? The healthy immigrant hypothesis and theories of acculturation would suggest that the answer to this question would be yes. However, I will further argue that late-age immigrants migrate for different reasons than immigrant seniors who have aged in situ. Because the majority of late-age immigrants come to the United States primarily to join other family members rather than work, they do not *need to be* healthy for labor force participation purposes.

The country of origin composition of the foreign-born population has shifted between 2003 and 2011. In 2003, one third of the inflow of legal permanent residents was immigrants born in Asia. By 2011, this proportion rose to 40%; largely driven by an increase in immigration from South Asia (Migration Policy Institute 2013). There has been a decrease in immigration from Europe. In 2011, 8.5% of legal permanent residents were from Europe, almost a 50% decrease from 2003 (Migration Policy Institute 2013). The changing composition of the US foreign born population by age and country of origin may have effects on the overall health status of population. It is well documented that the health status of immigrants varies by country of origin (Hummer et al. 1992; 2007; Palloni and Arias 2004). The degree of variation in health status by country of birth differs by region of birth (Hamilton and Hummer 2011).

Even at the oldest ages, immigrants are healthier than their US counterparts (Markides and Eschbach 2005). There is evidence that this advantage fades with generational status (Acevedo-Garcia et al. 2010). Additionally, there has been some evidence of a salmon bias among immigrants. That is, immigrants come to the United States healthy and if and when severe illness sets in, emigrate to the sending country. The health of older age immigrants has been the focus of intense public policy, public health, and public interests for decades due to its impact on both immigration and health care reforms. Historically, the immigrant population had been shown to be healthier and younger than their U.S.-born counterparts. However, as of 2011, the US immigrant population had a median age 42.1 compared to 35.9 for the native population (Migration Policy Institute 2013).

In the limited research on health status of immigrant seniors few distinguish between late-age and immigrants and those who arrived during their prime working ages or as youth. Frank and Akresh (2013) found an inverse relationship between socioeconomic status and body mass index, among contemporary immigrant groups. They show that the effect of time spent in the United

States depends on source country; however, they are unable to clarify differences between age at arrival and length of U.S. residence because the time interval for assessing duration in their survey is small. Riosmena, Wong, and Palloni (2013) examine the immigrant health advantage among older immigrants but focus their research on male immigrants from Mexico. They show that time spent in the United States is inversely associated with obesity and self-rated health; however, their results did not reach statistical significance. Owing to data constraints, these studies are unable to distinguish between aging in place and late-age immigration in accounting for the lower health status of immigrant seniors. The current research will build upon these studies by 1) using multiple measures of health in the analyses; 2) focusing on time spent in the United States and age at arrival as key independent variables; and 3) including an analysis of who are the older age migrants.

This research contributes to a better understanding of the health of the aging population in the United States by examining variations in health status of immigrant seniors according to age-at-arrival and time spent in the United States. The past and current literature clearly demonstrates the relationship between health and nativity status (Cunningham et al. 2008; Hamilton and Hummer 2011), across country of origin and racial groups (Frisbie et al. 2001; Read et al. 2005). Increasingly, current literature shows a rise in the number of older immigrants to the United States (Terrazas 2009; Carr and Tienda, 2013) from all sending countries. This phenomena, coupled with the increased attention to health care and health care policy, deserves particular attention because health declines with age. Can the same assumptions be made regarding the healthy immigrant hypothesis given the changing demographic immigrants to the United States?

In this paper, I examine multiple distinct aspects of late-age immigration and its relationship with physical health. First, I will use multiple measures of health status, including body mass index, diabetes, functional limitations, hypertension, and self-rated health. Second, and most important, I will analyze health differences in the older age immigrant population by gender and time in the United States. I will use logistic regression to analyze differences in the odds of individuals having an adverse health outcome. I will assess these differences by time spent in the United States and age at immigration and test if they withstand additional demographic and socioeconomic controls.

Data

I use the 2004-2013 restricted Sample Adult Core Supplements of the National Health Interview Survey (NHIS). The NHIS data are cross-sectional random household sample drawn from the civilian, non-institutionalized U.S. adult population (National Center for Health Statistics 2014). The sample adult supplement contains the detailed information on health status. The use of the restricted data files offers a unique opportunity for a more accurate measure of current age of older respondents, age at immigration, time spent in the United States, and country of birth. The data are restricted to immigrants ages 50 years and older who immigrated to the United States at the time of survey. After these restrictions, the analytic sample consists of 19,096 respondents.

Tables 1 and 2 contain the weighted descriptive statistics of the data sample by time spent in the United States and age at immigration. Time spent in the United States and age at immigration were estimated using the year the respondent came to the United States to stay, the year of the respondent's birth, and respondent's age. Almost 12% of the sample immigrated to the United

States at age 50 or older. Fifteen percent of the sample has been in the United States for less than 15 years and 3.3% has been in the United States for less than five years.

Analysis and Results

Table 1: Weighted Descriptive Statistics by Time in the United States (Percentages unless otherwise noted.)

Data for Immigrants Ages 50 or Older

National Health Interview Survey <i>Time in the United States</i>						
<i>Dependent Variable</i>	Under 1yr	1-4 yrs	5-14 yrs	15-29 yrs	30 yrs or more	Total
Diabetes	17.8	17.4	16.5	19.8	21.0	20.1
Functional Limitation	19.6	37.5	38.1	37.5	45.4	42.0
Hypertension	26.9	47.0	41.3	41.9	47.0	44.8
Self-Rated Health (poor/fair)	9.7	20.5	23.3	24.3	23.5	23.5
<i>Independent Variables</i>						
Age (mean yrs)	59.5	59.9	59.7	59.7	64.9	62.7
sd (yrs)	9.7	7.9	8.6	8.7	9.8	9.7
Male	45.2	47.9	46.2	27.0	45.2	46.1
Married	75.7	67.6	68.4	69.3	63.7	65.9
High Sch Grad	24.8	19.2	22.1	21.3	22.8	22.2
More than HS	41.3	39.7	40.0	43.9	45.2	44.1
<i>Region of Birth</i>						
Mexico/Central/Caribbean	35.9	35.6	36.4	40.4	42.8	41.2
South America	12.3	9.7	10.4	7.6	4.9	6.4
Europe	5.6	7.9	7.0	8.5	22.8	16.6
Russia (and Former USSR)	3.9	3.6	6.5	3.6	0.9	2.4
Africa	5.0	5.4	5.0	3.2	1.5	2.5
Middle East	11.4	2.9	3.1	4.1	2.4	3.0
Indian SubContinent	3.3	8.2	6.3	4.9	2.6	3.8
Asia	10.6	8.2	8.6	9.3	6.9	7.8
SE Asia	12.0	16.8	14.1	16.0	8.4	11.4
Elsewhere	0.0	1.6	2.7	2.4	6.0	4.5
Missing	-	-	0.0	0.1	0.6	0.4
N (#)	118	432	1985	4581	9833	16949
N (% Weighted)	0.7	2.6	11.7	27.0	58.0	100.0
N (# unweighted)	91	449	2047	5087	11422	19096

Table 2: Weighted Descriptive Statistics by Age at Migration to United States (Percentages unless otherwise noted.)

Data for Immigrants Ages 50 or Older

	National Health Interview Survey			
	<i>Age at Migration</i>			
	<18	18-49	50+	Total
<i>Dependent Variable</i>				
Diabetes	18.7	20.0	22.9	20.1
Functional Limitation	44.3	39.0	54.9	42.0
Hypertension	41.5	43.9	56.3	44.8
Self-Rated Health (poor/fair)	21.3	22.2	35.4	23.5
<i>Independent Variables</i>				
Age (mean yrs)	61.3	61.9	70.1	62.7
sd (yrs)	10.1	9.1	9.3	9.7
Male	47.0	46.1	44.1	46.1
Married	63.0	68.5	57.0	65.9
High Sch Grad	23.3	22.2	20.0	22.2
More than HS	50.1	44.1	32.6	44.1
<i>Region of Birth</i>				
Mexico/Central/Caribbean	44.9	41.2	34.2	41.2
South America	3.1	7.1	8.6	6.4
Europe	27.5	14.9	5.9	16.6
Russia (and Former USSR)	0.9	2.0	7.2	2.4
Africa	0.9	2.9	3.3	2.5
Middle East	1.5	3.1	5.3	3.0
Indian SubContinent	0.8	4.4	6.1	3.8
Asia	5.7	7.9	11.4	7.8
SE Asia	4.7	12.7	16.6	11.4
Elsewhere	8.6	3.7	1.5	4.5
Missing	1.4	0.1	0.0	0.4
N (#)	3710	11256	1984	16949
N (% Weighted)	21.9	66.4	11.7	100.0
N (# unweighted)	3985	12799	2312	19096

References available upon request