Infant Mortality of Asian Americans

Asian Americans constitute one of the fastest growing racial and ethnic groups in the United States. According to the 2000 U.S. census, about 4.2 percent (or 11.9 million people) reported Asian alone or in combination as a racial category. (Grieco 2001 and Barnes 2002). As the sources of immigration have diversified, the Asian American population has become increasingly heterogeneous. According to Census 2000, Chinese Americans are the largest Asian group, while Filipinos were the second largest specified Asian group in the United States (Barnes 2002). We examine infant mortality among four Asian American subgroups: Chinese, Japanese, Filipinos and Other Asian Americans. Variations of infant mortality among those Asian American subgroups are well documented by previous studies (Singh and Yu 1995, Hummer and et. al. 1999).

The Asian American population is now predominantly foreign-born and immigrants play an undeniable role in this group. The immigrant advantages in infant survival over their native born counterparts have been well established for many racial and ethnic groups. The picture also varies among Asian American groups: immigrated Asian Americans usually have lower infant mortality than their native born counterparts. However, few studies have examined the immigrant advantage of infant death by age of infant death. Does the infant mortality difference between the foreign born and native born groups vary by age of infant death? Do the infant mortality differentials among Asian American subgroups change with age of infant death? Previous studies did not answer those questions.

The overall purpose of this paper is to examine the differences in infant morality among Asian Americans, with special attention given to the effect of infant death age. We use the National Center for Health Statistics (NCHS) linked birth/infant death files for 1995-2000 to examine 1) if immigrant advantage in infant death varies by age of infant death among the Asian American population; 2) if infant mortality differentials among Asian American subgroups vary by age of infant death.

Data

Data for this study are from the National Center for Health Statistics (NCHS) linked birth/infant death files polled for the years 1995-2000. There are total of 992,392 Asian American live births in the pooled dataset, including 125,106 whose mothers are US born and 867,286 whose mothers are foreign-born. 4,777 of the infants died during the first year of life. Table 1 shows the distribution of survival/death status by mother's race/ethnicity and nativity group for 1995-2000.

Methods

SAS life table estimates and logistic regression models are used to estimate the infant death risk.

Results

Immigrant advantages in infant mortality by age of infant death among Asian Americans

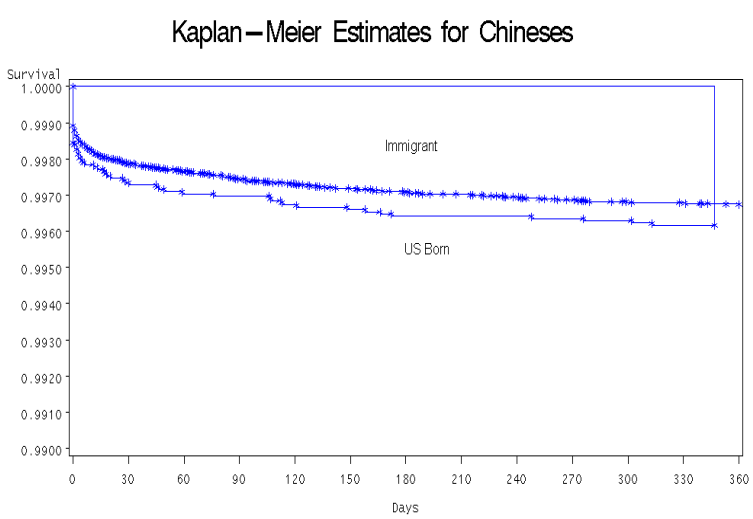
The large proportion of immigrants in the Asian American population means that researchers need to consider seriously the dramatic role of immigration in this minority group. Much previous research has concluded that immigrants on average show lower infant mortality than their U.S. born counterparts. Our preliminary results confirm the immigrant advantages in infant mortality among Chinese, Japanese, Filipino and other Asian American subgroups. Figure 1 displays the Kaplan-Meier estimates for infant survival probabilities of these four Asian American subgroups by mothers' immigration status. From figure 1 we can see that foreign born mothers have higher infant survival probabilities than native born mothers among all of the four subgroups. However, this advantage is not constant. Table 2 presents the infant death hazards for those separate groups by age of infant death. From Table 2 we can see that all of the Asian American subgroups except Filipinos show a similar picture: the immigrant advantage in infant mortality appears under one day; then it disappears during the following four weeks before it reemerges. Although the immigrant advantage is evident for the whole first year for Filipinos, the overall magnitude of the advantage is the same as the other Asian American subgroups. The immigrant advantage for Filipino Americans is more obvious in the first day and after the first four weeks than the other time.

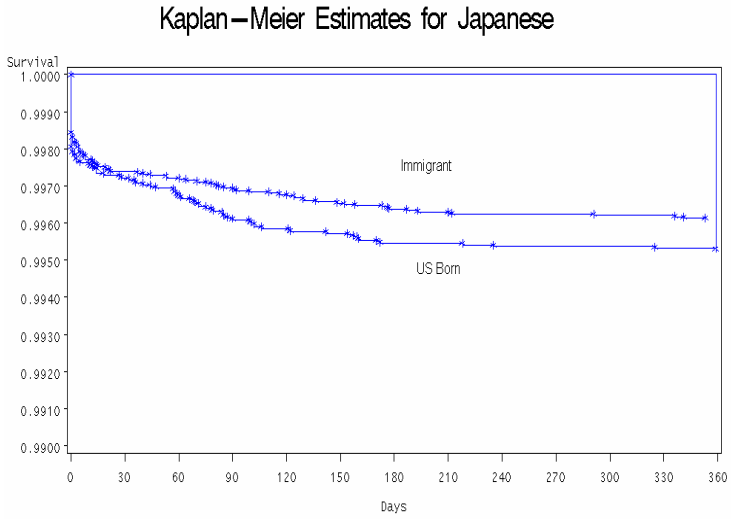
Heterogeneity of infant mortality by age of infant death among Asian Americans

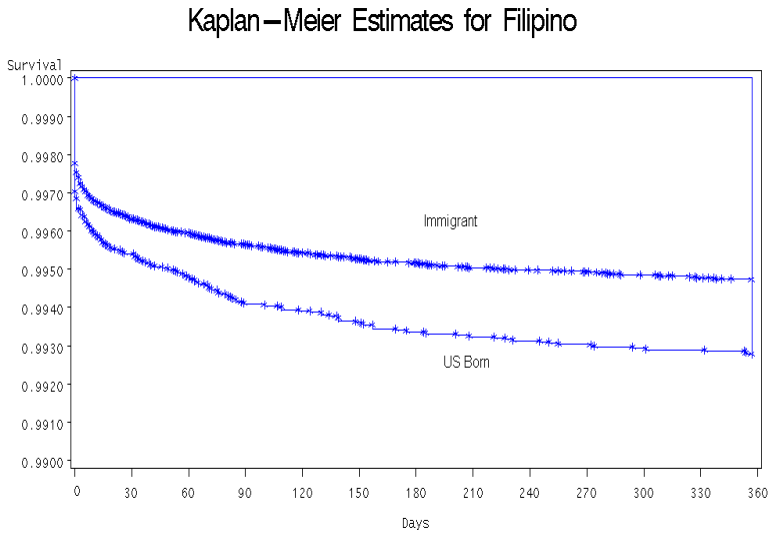
The Asian American population has a high degree of heterogeneity because of its highly diversified immigration sources. Owing to data limitations, our study just focuses on four Asian subgroups, including Chinese, Japanese, Filipinos and Other Asian Americans. Consistent with previous research, we find that Chinese and Japanese Americans have lower infant mortality than Filipinos and Other Asian Americans. However, those advantages also vary by age of infant death. Our preliminary results have provided evidence for variations of infant mortality differences among those Asian American subgroups by age of infant death. (Logistic regression results are not ready to provide.)

Table 1: Frequency of Infant Survived/Died by Mother's Race/Ethnicity and Nativity Group, 1995-2000

	Chinese		Japanese		Filipinos		Other Asians		Total	
	US Born	**Immigrant**	**US Born**	**Immigrant**	**US Born**	**Immigrant**	**US Born**	**Immigrant**	**US Born**	**Immigrant**
Survived	16108	156949	22096	29631	29342	148459	56818	528212	124364	863251
Died	62	512	104	115	213	785	363	2623	742	4035
Total	16170	157461	22200	29746	29555	149244	57181	530835	125106	867286







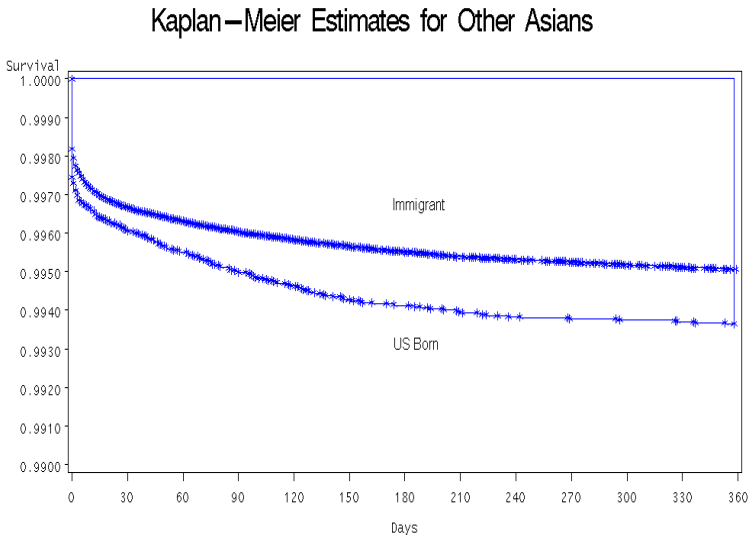


Figure 1: Kaplan-Meier Survival Estimations for Chinese, Japanese, Filipinos and all other Asian Americans

Table 2: Life Table Estimates of Infant Mortality for Asian Americans by Age of Infant Death for Mother's Race/Ethnicity and Nativity Group, 1995-2000

All Asians

	US Bron				Immigrant				Immigrant/USBorn
Days	Survival	Hazard	Total	Died	Survival	Hazard	Total	Died	Hazard Ratios
[0-1)	0.9976	0.002417	125106	302	0.9983	0.001748	867286	1515	0.7232106
[1-28)	0.9964	0.000046	124804	154	0.9969	0.00005	865771	1168	1.086957
[28-365)	0.9941	6.816E-6	124650	286	0.9953	4.644E-6	864603	1352	0.681338

Chinese

	US Born				Immigrant				Immigrant/USBorn
Days	Survival	Hazard	Total	Died	Survival	Hazard	Total	Died	Hazard Ratios
[0-1)	0.9985	0.001547	16170	25	0.9989	0.001087	157461	171	0.7026503
[1-28)	0.9975	0.000037	16145	16	0.9979	0.000037	157290	157	1
[28-365)	0.9962	3.866E-6	16129	21	0.9967	3.477E-6	157133	184	0.8993792

Japanese

	US Born				Immigrant				Immigrant/USBorn
Days	Survival	Hazard	Total	Died	Survival	Hazard	Total	Died	Hazard Ratios
[0-1)	0.9981	0.001939	22200	43	0.9985	0.001548	29746	46	0.7983497
[1-28)	0.9973	0.000028	22157	17	0.9974	0.000039	29700	31	1.392857
[28-365)	0.9953	5.903E-6	22140	44	0.9961	3.803E-6	29669	38	0.6442487

Filipinos

	US Born				Immigrant				Immigrant/USBorn
Days	Survival	Hazard	Total	Died	Survival	Hazard	Total	Died	Hazard Ratios
[0-1)	0.9970	0.002982	29555	88	0.9978	0.002227	149244	332	0.7468143
[1-28)	0.9954	0.000059	29467	47	0.9964	0.000051	148912	205	0.8644068
[28-365)	0.9928	7.878E-6	29420	78	0.9947	4.953E-6	148707	248	0.6287128

Other Asians

	US Born				Immigrant				Immigrant/USBorn
Days	Survival	Hazard	Total	Died	Survival	Hazard	Total	Died	Hazard Ratios
[0-1)	0.9974	0.002557	57181	146	0.9982	0.001821	530835	966	0.7121627
[1-28)	0.9962	0.000048	57035	74	0.9967	0.000054	529869	775	1.125
[28-365)	0.9937	7.459E-6	56961	143	0.9951	4.951E-6	529094	882	0.6637619

References

Barnes, Jessica S. and Claudette E. Bennett. 2002. "The Asian Population:2000." Census 2000 Brief. U.S. Department of Commerce. U.S. Census Bureau.

Frisbie. Parker W., Youngtae Cho and Robert A. Hummer. 2001. "Immigration and the Health of Asian and Pacific Islander Adults in the United States." American Journal of Epidemiology 153:372-380.

Fuentes-Afflick Elena and Nancy A. Hessol. 1997. "Impact of Asian Ethnicity and Natioanl Origin on Infant Birth Weight". American Journal of Epidemiology 145:148-155.

Hummer, Robert A., Monique Biegle, Peter B. De Turk, Douglas Forbes, W. Parker Frisbie, Ying Hong and Starling G. Pullum. 1999. "Race/ethnicity, Nativity, and Infant Mortality in the United States." Social Forces 77:1083-1117.

Grieco, Elizabeth M and Rachel C. Cassidy. 2001. "Overview of Race and Hispanic Origin." Census 2000 Brief. U.S. Department of Commerce. U.S. Census Bureau.

Lin-Fu JS. 1988. "Population Characteristics and Health Care Needs of Asian Pacific Americans." Public Health Reports 103:18-27.

Singh, Gopal K. and Stella M. Yu. 1995. "Infant Mortality in the United States: Trends, Differentials, and Projections, 1950 through 2010." American Journal of Public Health.