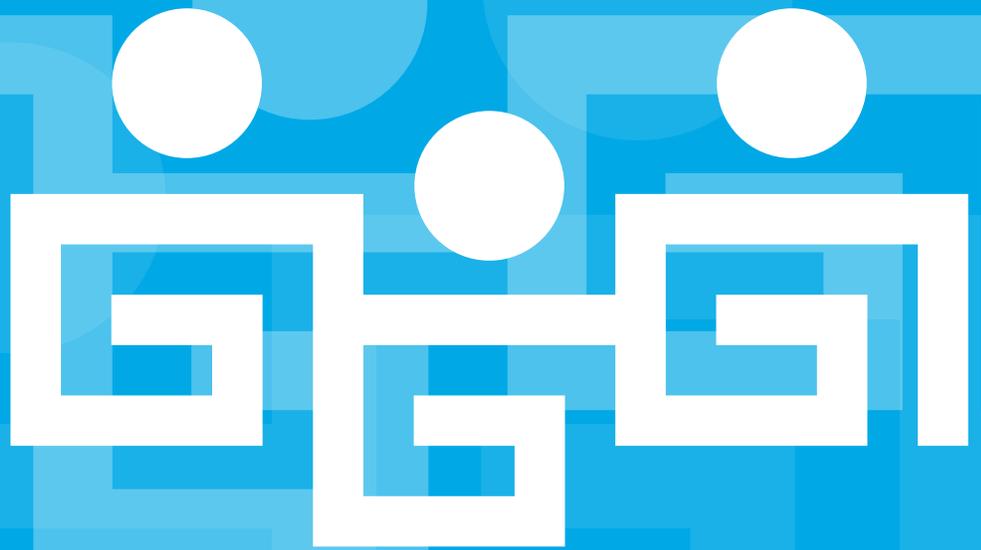


# **KOREAN NEEDS ASSESSMENT OF THE BAY AREA 2014-2015**

## **POLICY BRIEF**

**DISCOVERING UNDER-RECOGNIZED CARDIOVASCULAR  
DISEASE AND RISK FACTORS FOR HEART ATTACK AND  
STROKE AMONG BAY AREA KOREANS**



Korean  
Community  
Center  
of the East Bay



**AUTHORS:**

Ivey, S., Lee, J., Kim, H., Tseng, W., Hwang, N., Yoo, E., Cha, D., Kim, C., Kim, T., Shon, Y., Yang, H.

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For questions and additional copies, please contact KCCEB at 510-547-2662 or [junelee@kcceb.org](mailto:junelee@kcceb.org). You may also obtain a PDF file copy of this report online at [www.kcceb.org](http://www.kcceb.org).

# DISCOVERING UNDER-RECOGNIZED CARDIOVASCULAR DISEASE AND RISK FACTORS FOR HEART ATTACK AND STROKE AMONG BAY AREA KOREANS



## Significance

Heart disease is the leading cause of death in the United States, even after adjusting for age; although for Asian and Pacific Islanders (API), it has often taken a back seat to cancer (the primary cause of death for many API populations). However, when API deaths from heart disease in 2013 (13,311 men and women) are combined with deaths from cerebrovascular diseases/stroke (4,205), the total number of deaths from these 2 conditions is higher than all deaths from cancers (which totals 15,703 men and women) (Centers for Disease Control, 2013). A recent study that used mortality data from the US examined mortality for both heart disease and stroke. While mortality rates for heart disease among Koreans were not higher than rates for non-Hispanic whites, mortality from stroke was higher for all Asian American groups examined, including for Koreans, and even more so for Korean women (Jose et al., 2014). However, there is not yet enough data about cardiovascular diseases of all types among Asian American subgroups, and risk factor profiles are still not well-understood for unique populations such as these subgroups.

Among Korean Americans specifically, cancer rates are disproportionately high for Korean men, and remain the number one cause of death in Korean men, even after examining combined deaths from heart disease and stroke. However, for Korean women, deaths from cancer in one study were very comparable to the combined deaths from heart disease and stroke (Hastings et al., 2015). Accordingly, it is important to consider risk factors for Koreans specifically, and for Korean American

men and women who may have different risks. The importance of examining heart disease and stroke together in this brief stems from the notion that these two conditions and certain other conditions are characterized by a common set of risk factors. By addressing those risk factors, rates of heart attack and stroke could be reduced.

The Asian American population is growing rapidly in the United States. It is estimated to grow by 128% from 2014 to 2060 (Colby & Ortman, 2015). Given that 25% of the foreign-born people in the United States are Asian American and that California is one of the states with the largest numbers of both Asian Americans and Korean Americans, it is very important to understand the cardiovascular risks for Korean Americans and to examine rates of known risk factors for cardiovascular disease by age and gender among Korean Americans.

As a proactive response to the lack of data, Korean Community Center of the East Bay (KCCEB) and Health Research for Action at UC Berkeley School of Public Health conducted a survey in the San Francisco Bay Area. 342 Korean American adults participated via phone, in-person interviews, and online between July 2014 and February 2015 in the San Francisco Bay Area. The following are results of the survey and recommendations.

## Discussions

The results from our study indicated that Bay Area Koreans had a higher rate of self-reported cardiovascular disease (7.0%) than did Korean adults in California (2.6%), Asian adults in California (4.4%), and adults overall in California (6.4%) (CHIS, 2011). Some common risk factors for cardiovascular diseases are high blood pressure, diabetes, smoking, physical activity, cholesterol, and diet, so we address these risks below where possible.

***Koreans in the Bay Area are at elevated risk for hypertension.*** Hypertension, or high blood pressure, is a risk factor for both heart disease and stroke, especially for Korean American adults. The percent of deaths among individuals with hypertension is higher for every Asian American adult population, compared with non-Hispanic White adults (Jose et al., 2014). In 2011, a quarter of Korean American adults (24.7%) had high blood pressure (CHIS, 2011). Given the high rate of hypertension, it is important to study prevention and treatment methods to control hypertension in Korean Americans (Jose et al., 2014). Regarding the rate of hypertension, our study showed a high rate of self-reported hypertension from Koreans in the SF Bay Area (31%). This rate was substantially higher than the rate reported by Korean adults in California (24.7%), Asian adults in California (20.6%), and the overall population of California (27.3%) (CHIS, 2011).

***Koreans in the Bay Area showed higher levels of Type II Diabetes than other Asian subgroups in California.*** Another risk factor for cardiovascular disease is type II diabetes mellitus, the form of diabetes that is most common among adults. Diabetes appears as the 4th most common cause of death in U.S. mortality lists and is strongly linked to risk for heart disease. The complications from diabetes are often related to damage to the

heart and blood vessels as diabetes progresses (International Diabetes Federation, 2001). In comparison to non-Hispanic White adults, the risk of diabetes mellitus was 18% higher in Asian Americans (American Heart Association, 2013), but varies by sub-population. Out of all Asian ethnic sub-groups, the rate of diabetes in elderly Korean American men was higher than reported for any other ethnic group, including Black and Hispanic populations (Kim et al., 2001). Our study showed that 18% of Koreans in the Bay Area self-reported having diabetes (of any type). This was substantially higher in comparison to Koreans in California (10.6%), Asians in California (7.0%), and the overall population of California (8.4%) (CHIS, 2011).

Table 3. Health Status

	Valid %
<b>Self-rated health (fair/poor) (n=333)</b>	37
Male (fair/poor) (n=133)	29
Female (fair/poor) (n=199)	43
<b>Diabetes (yes, n=323)</b>	18
<b>Age-adjusted Diabetes (yes, n=323)</b>	14
Of those who have diabetes...	
Type 1 diagnosis	26
Type 2 diagnosis	69
Diabetes during pregnancy (n=144)	8
Other type	5
<b>High Blood Pressure (yes, n=331)</b>	31
<b>Age-adjusted High Blood Pressure (yes, n=331)</b>	25
Taking medication (yes, of n=101 with hypertension)	76
<b>Heart disease (yes, n=331)</b>	8
<b>Age-adjusted Heart Disease (yes, n=331)</b>	7

***Koreans are at greater risk of cardiovascular disease due to high rates of first-hand smoking and second-hand smoke exposure.*** Additionally, for Korean American men, the smoking rates are high, and contribute to both heart disease and cancer (Palaniappan et al., 2010). Smoking is perhaps the most significant risk factor for cardiovascular diseases, and smoking cessation reduces the risk for both heart disease and stroke. Both men and women in the Korean group had

higher rates of smoking and lower quit rates than seen in other Asian American sub-groups (An et al., 2008). Among non-smokers, exposure to second-hand smoke has been increasing (Kim et al., 2014). In a study that examined the second-hand smoke exposure of Korean Americans living in California, 50% were exposed to second-hand smoke at baseline. A follow-up two years later showed that the percentage of those who had been exposed to second-hand smoking had increased to 60.4%. The exposure to second-hand smoke was found to be associated with acculturation, employment, and being surrounded by those who smoked (Kim et al., 2014). A study conducted by Malek showed that women were more likely to be exposed to second-hand smoke than men (Malek et al., 2015). Our study population reported an overall smoking rate of 9%, compared to 12.9% for Koreans surveyed in CHIS 2011. However, San Francisco Bay Area male smoking rate (16%) was significantly higher than that of women (3%).

**Physical activity levels are low.** Health behaviors such as low rates of physical activity also have an association with heart disease. Especially among Asian Americans, physical inactivity is a significant risk factor, as 11.8% reported not engaging in any physical activity and only 30.5% engaged in regular physical activity (CHIS, 2011). Furthermore, a study conducted in 2011 showed that only 16.7% of Asian adults met the 2008 federal physical activity guidelines (American Heart Association, 2013) of 150 minutes/week of moderate physical activity. Another study found that women, younger age groups, less acculturated individuals, married males, and people with lower education level engage in less physical activity (Hofstetter et al., 2008).

Results from our survey for physical activity levels showed that only 14% met the CDC guideline for physical activity, walking at least 150 minutes in a week. However, 26.4% of Koreans in the California CHIS reported walking or exercising at least 30 minutes, 5 times/week which was slightly higher than all Asian groups in California (23.9%), and the overall population of California (26.2%) (CHIS, 2011).

Table 12. Secondhand Smoking by Sex

	Male	Female
<b>Secondhand Smoking (n=110, respondents can choose more than one option)</b>	%	%
Not exposed	20	44
Home	8	10
Car	3	3
Work (indoor)	6	11
Work (outdoor)	27	18
Other person's home or car	8	18
Outdoor	35	42
Restaurant	15	15
Casino	3	4
Other	15	7
	<b>Male</b>	<b>Female</b>
<b>Complete control to avoid tobacco smoke (n=105)</b>		
All the time	29	29
Most or fair amount of time	21	21
About half of the time	12	10
Less than half of the time	6	9
Rarely/Never	32	32

**Level of blood cholesterol is also a risk factor for cardiovascular disease.** The rate of high total cholesterol among Asian American adults was 10.3% with the rate of low high-density lipoprotein (HDL, or “good cholesterol”) of 14.3% (Aoki et al., 2014). In addition, foreign-born Asian adults had twice the rate of low high-density lipoprotein (15.4%) than did U.S.-born Asian adults (7.7%) (Aoki et al., 2014). A similar comparison between men and women showed that the rate of low HDL in Asian men (24.5%) was approximately five times higher than that of Asian women (5.1%) (Aoki et al., 2014). Given that the rate of low HDL differs significantly across place of birth and gender, studies suggest that these factors may be involved in determining the level of HDL cholesterol.

Although we did not study cholesterol levels in our survey, results from the CHIS 2011 indicate that a quarter of the Asian American population in California reports high total cholesterol levels. This rate is slightly greater than the rate observed for the overall population of California (CHIS, 2011). More information is needed on levels of different types of cholesterol among Korean Americans.

***Koreans in California eat fewer vegetables than Koreans in Korea, and have higher levels of obesity, which may increase with a new BMI standard for Asians.*** Another significant health behavior that is associated with heart disease is dietary intake. We did not collect dietary intake information in the Bay Area needs assessment. However, data from CHIS 2011-2012 show that Korean adults in California had a much lower fruit and vegetable dietary intake (20.0%) than all other Asian sub-groups in California (27.8%), and less than the overall population in California (27.2%) (CHIS, 2011). Another study that compared dietary intake and health-related behaviors of Korean American women born in U.S. and Korea showed that U.S.-born women consumed fewer vegetables and fruit than those women born in Korea (Park et al., 2005). In addition, fat intake was higher in U.S.-born women than in Korea-born women (Park et al., 2005). Also, the percentage of those who were overweight or obese was much higher in U.S.-born Korean American women (31.4%) than in Korea-born women (9.4%) (Park et al., 2005). These findings suggest that changes in living conditions and acculturation of Korean immigrants may affect dietary intakes in ways that may negatively impact their risk of heart diseases, a phenomenon seen for other populations migrating to the US (Marmot & Syme, 1976). This deserves additional study in California's Korean community.

## Recommendations

Risk for heart disease and stroke can be reduced. A broad range of investments need to be made in Korean American communities, including building capacity for cardiovascular risk reduction in community organizations located in our Bay area communities.

- Increase adoption and enforcement of local policies that tax sweetened products such as sweetened sugar beverages, and regulate the sale, distribution, and marketing of sweetened sugar products, investing in community activity to work with merchants, store owners and/or grocery associations to support healthier food product options;
- Tobacco smoking cessation and second hand smoke reduction is critical. Identify and support effective and culturally-appropriate tobacco control strategies and programs to maximize the impact among Korean populations with high tobacco use rates and minimize exposure to second-hand smoke;
- Conduct culturally-specific community-based interventions to promote healthy lifestyles, including community-wide campaigns, social support interventions, school-based physical activity programs, and environmental and policy approaches such as safe neighborhoods for walking, which seems to be popular;
- Develop and train community health workers as front-line public health workers who serve as a bridge between communities and healthcare systems to prevent cardiovascular diseases and promote healthy living; community health workers can also be trained as health coaches for conditions such as hypertension and diabetes to increase adherence;
- Promote effective interactions between healthcare and community interventions

via CBOs with direct contact and trusted networks in our Korean community; faith-based interventions have had success in other communities and should be examined as one venue for interventions (smoking cessation, empowerment around second-hand smoke reduction, measurement of blood pressure, potentially other screenings);

- More research in Korean Americans is needed in areas such as blood pressure control, cholesterol epidemiology, and prevention in youth (physical activity, tobacco resistance, healthy diets).

## References

All references cited in the text are available in the on-line. [<http://kcceb.org/konabayarea/>]



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