BACKGROUND
• Heart disease is the leading cause of death among Americans, with a larger burden in ethnic minorities due to increased cardiometabolic risk factors.
• The burden of multiple cardiometabolic factors in ethnic subgroups has not been well described for U.S. Asian subgroups compared to other races.

OBJECTIVE
To investigate the clustering of cardiometabolic risk factors (diabetes, hypertension, and obesity) by race/ethnicity in a well-characterized contemporary northern California cohort receiving healthcare.

METHODS
Design: Cross-sectional study using electronic health data
Setting: Kaiser Permanente Northern CA (KPNC)
Population: White, Black, Hispanic, Filipino and Chinese adults aged 40-84 years who were KPNC health plan members in 2016 and who had weight data from that year (Table 1)

Study Variables:
• Diabetes (DM): in KPNC Diabetes Registry based on inpt or outpt DM diagnosis, lab criteria or pharmacotherapy
• Hypertension (HTN): office diagnosis during 2015-2016 or HTN diagnosis on the problem list in December 2016
• Obesity: defined by WHO standard (BMI ≥30) threshold for all race/ethnicities (incl. Filipino, Chinese) and also a lower Asian-specific (BMI ≥27.5 kg/m²) threshold 2
• Clustered risk factors (OUTCOME): DM + HTN + Obesity

RESULTS
• Risk factor clustering varied by age, race ethnicity and the BMI criteria used for obesity in Asians

Table 1. Demographic Characteristics of Study Cohort

<table>
<thead>
<tr>
<th>Age (y)</th>
<th>White (N)</th>
<th>Black (N)</th>
<th>Hispanic (N)</th>
<th>Filipino (N)</th>
<th>Chinese (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-64</td>
<td>187,287</td>
<td>26,373</td>
<td>70,500</td>
<td>23,661</td>
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<td>65-74</td>
<td>76,722</td>
<td>7,289</td>
<td>12,618</td>
<td>6,521</td>
<td>7,274</td>
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<tr>
<td>75-84</td>
<td>35,376</td>
<td>3,324</td>
<td>6,005</td>
<td>2,539</td>
<td>3,636</td>
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<tr>
<td>Women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40-64</td>
<td>204,669</td>
<td>33,854</td>
<td>76,400</td>
<td>32,688</td>
<td>28,283</td>
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<tr>
<td>65-74</td>
<td>87,278</td>
<td>9,642</td>
<td>14,827</td>
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<tr>
<td>75-84</td>
<td>42,868</td>
<td>4,674</td>
<td>7,721</td>
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<tr>
<td>85-84</td>
<td>334,815</td>
<td>48,170</td>
<td>98,948</td>
<td>45,279</td>
<td>40,258</td>
</tr>
</tbody>
</table>

Hatched area shows CCR in Asians using the standard obesity threshold (BMI ≥30)

Figure 1: Clustered Risk Factor Prevalence by Ethnicity

Figure 2: Clustered Risk Factors in Men and Women

REFERENCES

IMPLICATIONS
• Indication of Asian-American ethnicity in the health record would facilitate identification of Filipinos, who may benefit from earlier metabolic assessment, management, and closer monitoring by clinicians & population health programs to reduce their CVD risk.

CONCLUSION
• The burden of clustered risk factors is high for Black, Hispanic, and Filipino adults, particularly among older adults and men.
• Using an Asian BMI threshold for obesity unmasked a high prevalence of clustered risk factors among Filipino adults, especially men.
• The large differences in clustered risk factors between Chinese and Filipino also emphasize the need to consider not just race but also ethnicity in population health management.

RESULTS
• In all ethnic groups but Blacks, men were more likely than women to have clustered risk factors (Figure 2)
• Use of an Asian BMI threshold for obesity doubled the proportion of Filipinos with clustered risk factors
• Race/ethnic differences by sex were seen (Figure 2)
  In men, Filipinos had the highest proportion with clustered risk factors, followed by Hispanic & Black
  In women, Blacks had the highest proportion with clustered risk factors, followed by Hispanic & Filipino

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