

Understanding and Reducing Ethnic Disparities in Preventable Hospitalizations Principal Investigator: Tetine Sentell, PhD

Native Hawaiians and other Pacific Islanders (NHOPI) suffer disproportionately from both DM and CVD morbidity and mortality¹ and often lack access to effective chronic disease management and/or culturally appropriate care.¹⁻³ Yet few studies have examined the underlying cause(s) of these cardiometabolic health disparities in NHOPIs or their relationship to potentially preventable hospitalizations.

Preventable hospitalizations (PH) and re-hospitalizations (PrH) are measured with standardized methods developed to identify hospitalizations that are potentially avoidable with access to timely and effective health care.^{4, 5} PH not only strain finite health care resources with unnecessary and costly utilization, but also burden individuals and families with unnecessary suffering.⁵ PH and PrH have thus become the focus of considerable current policy attention.^{6, 7} Cardiovascular (CVD) and diabetes (DM) are a particularly important area of focus as they result in the most common PH, and incur substantial costs.⁶

As national hospitalization data typically combines NHOPI with Asians, previous studies of PH have either not included NHOPI, or have combined them with Asians, obscuring disparities.^{1, 8-12} Thus, our knowledge base currently lacks: (1) baseline information on prevalence and cost burden of PH among NHOPI, (2) an understanding of the factors predicting PH in NHOPI, and (3) effective interventions to reduce PH in NHOPI.

Hawai'i is home to approximately 25% of the US NHOPI population.¹³ Because of this, hospital data in Hawai'i has unique detail about NHOPI racial/ethnic groups not captured in national samples that can allow us to fill in these knowledge gaps.

Recently we analyzed administrative data extracted from the Hawai'i Health Information Corporation (HHIC), a statewide organization that houses an extensive data warehouse of all hospitalizations in the state of Hawai'i. Our initial results found strong evidence of disparities in DM-related PH and PrH with rates for PH in Native Hawaiians more than 1.5 times greater than for whites.^{14 15}

Based on these preliminary results and the growing literature in this area, we propose to fill the gaps in knowledge on CVD and DM-related PH. *We hypothesize that NHOPI suffer disproportionately from PH and PrH and that a tailored, evidence-based intervention can help to reduce these disparities.* Study aims are:

Specific Aim 1: Determine racial/ethnic differences in prevalence and cost of CVD- and DM-related preventable hospitalizations and re-hospitalizations across a 10-year period.

Hypothesis: NHOPI will have a higher rate of both PH and PrH than whites and will incur a great cost burden.

Specific Aim 2: Use a mixed-methods approach to identify contextual, demographic, and health service utilization risk factors associated with CVD and DM-related PH and PrH over a 2-year period in the largest tertiary care hospital in the state of Hawai'i.

Hypothesis 1: Significant factors will vary across racial/ethnic groups and for PH vs. PrH types (e.g., amputation vs. short-term diabetes complications).

Hypothesis 2: Cost of care, access, and health literacy will be stronger predictors of PH and PrH among NHOPI than whites.

Specific Aim 3: Design and pilot test a culturally relevant, evidence-based intervention to improve CVD and DM-related PH and PrH rates among NHOPI high-risk populations.

Hypothesis: Evidence-based, culturally-relevant interventions can reduce PrH disparities for vulnerable NHOPI groups.

Reducing PH impacts four key health care goals— reducing cost, improving quality, increasing health equity, and relieving suffering. Our study uses a sequential, mixed methods approach to add critical insight towards these goals. We will provide: (1) detailed quantitative data on previously unstudied PH and PrH disparities in NHOPI, (2) theory-driven evidence about factors predicting PH in NHOPI, including patient perspectives and factors not typically available in administrative data (such as health literacy); and (3) results from a pilot intervention designed to reduce PrH in vulnerable NHOPI patients. Through this multi-faceted approach, we will gain novel insight into a complex phenomenon. When our study aims are achieved, scientific knowledge of clinical practice will be advanced, leaving us able to more efficiently focus attention and finite resources to relieve health inequity for NHOPI and other vulnerable groups.

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