US Pacific Islanders are one of the fastest growing population groups in the US, and serious disparities in health outcomes exist in this group, with cancer being the leading cause of death. Limited knowledge about the cancer communication practices and risk behaviors of US Pacific Islanders as well as their social network structure and integration, makes effective cancer prevention interventions difficult, and contributes to disparities. In 2017, we conducted a survey on health communication on Guam and Hawaii using the respondent driven sampling method (RDS) to recruit participants (N=733 for Hawaii, and N=533 for Guam). RDS is a network-based sampling technique where initial seed respondents recruit others from their social networks. The recruiting process repeats iteratively, thereby forming long referral chains.

RDS provides a viable data for making inferences about the underlying network structure. During the sampling process two pieces of information are gathered. First, each recruiter-recruit dyad is documented. Second, respondents are asked how many other members of the target population they know and interact with. In this study, we used this information to create recruitment chains and test the quantity and quality of cross-gender, cross-ethnicity, cross-generation ties. We also analyzed the geographic distribution and spatial clustering of the samples. Self-reported network size (degree) was used to estimate of a homophily, a measure of the strength of association to one's own group beyond random mixing. In general, strong homophily was found for different ethnic groups (with values ranging from 0.7 to 0.8); whereas gender and age had weak homophily. Even though the participants tended to recruit spatially proximal peers, both samples in Guam and Hawaii eventually covered the whole catchment area.