

## BACKGROUND

Cancer patients and survivors frequently struggle with chronic pain. Previous research demonstrates that American Indian/Alaska Native (AI/AN) patients may experience higher pain burden than non-Hispanic White (NHW) patients, but cultural beliefs make it difficult to discuss pain and illness. Overall, the mechanisms and nature of these disparities in pain interference are understudied.

## AIMS

The aim of the study was to assess the burden in, and explore the facets, of pain interference among AI/AN and NHW cancer patients and survivors.

## METHODS

- AI/AN (n=54) and NHW who do not identify as AI/AN (n=2,587) individuals enrolled in Cancer Support Community's online Cancer Experience Registry were included in the sample.
- The 4-item pain interference subscale from PROMIS-29 was used to assess symptom burden, in which mean T-scores are centered around the population norm of 50 (SD=10) with 3+/- indicating a clinically meaningful difference that warrants further investigation.
- T-tests were used to compare mean T-scores to PROMIS subscale responses among racial and ethnic groups and chi-square tests were used to compare individual responses to subscale items.

## PARTICIPANTS

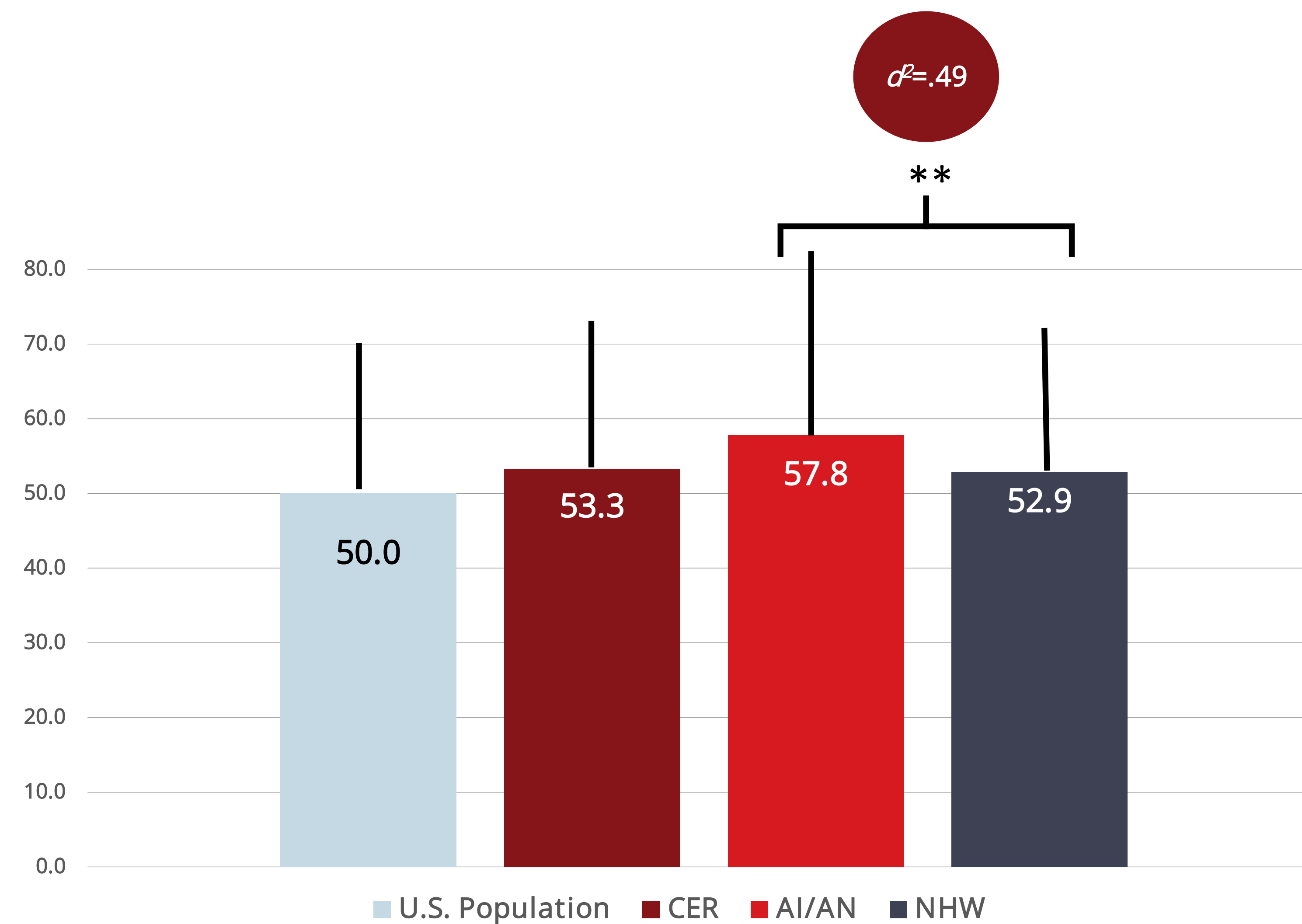
	CER (N=3509)	AI/AN (n=54)	NHW (n=2857)
<b>Age (years)</b>	M=61.5	M=59.3	M=62.5
<b>Stage at Diagnosis</b>			
Stage 0	3%	9%	3%
Stage I	19%	9%	20%
Stage II	19%	19%	18%
Stage III	18%	24%	17%
Stage IV	19%	13%	19%
<b>Disease Status</b>			
Localized	18%	10%	18%
Metastatic	15%	20%	15%
Remission/NED	53%	39%	54%
Unsure	9%	19%	8%
<b>Diagnosis (most prevalent)</b>			
Breast	35%	30%	33%
Hematologic	23%	24%	26%
Gynecologic	6%	7%	6%
Colorectal	12%	9%	13%
Prostate	5%	7%	5%
Other	19%	24%	17%
<b>Gender Identity</b>			
Man	25%	19%	26%
Woman	75%	80%	74%
<b>Household Income</b>			
<\$40K	21%	48%	20%
≥\$40K	56%	41%	57%
Not reported	23%	11%	23%
<b>Education</b>			
Some or no college	30%	35%	29%
Associate/Bachelor degree	38%	37%	39%
Graduate degree	31%	24%	31%

Percentages may not total 100% due to missing data.

## RESULTS

Pain interference is significantly elevated among American Indian/Alaska Native patients & survivors compared to non-Hispanic Whites

Table 1: Mean Pain Interference T- Scores by Race/Ethnicity<sup>1</sup>



\*\*significant difference at the p<.01 level.

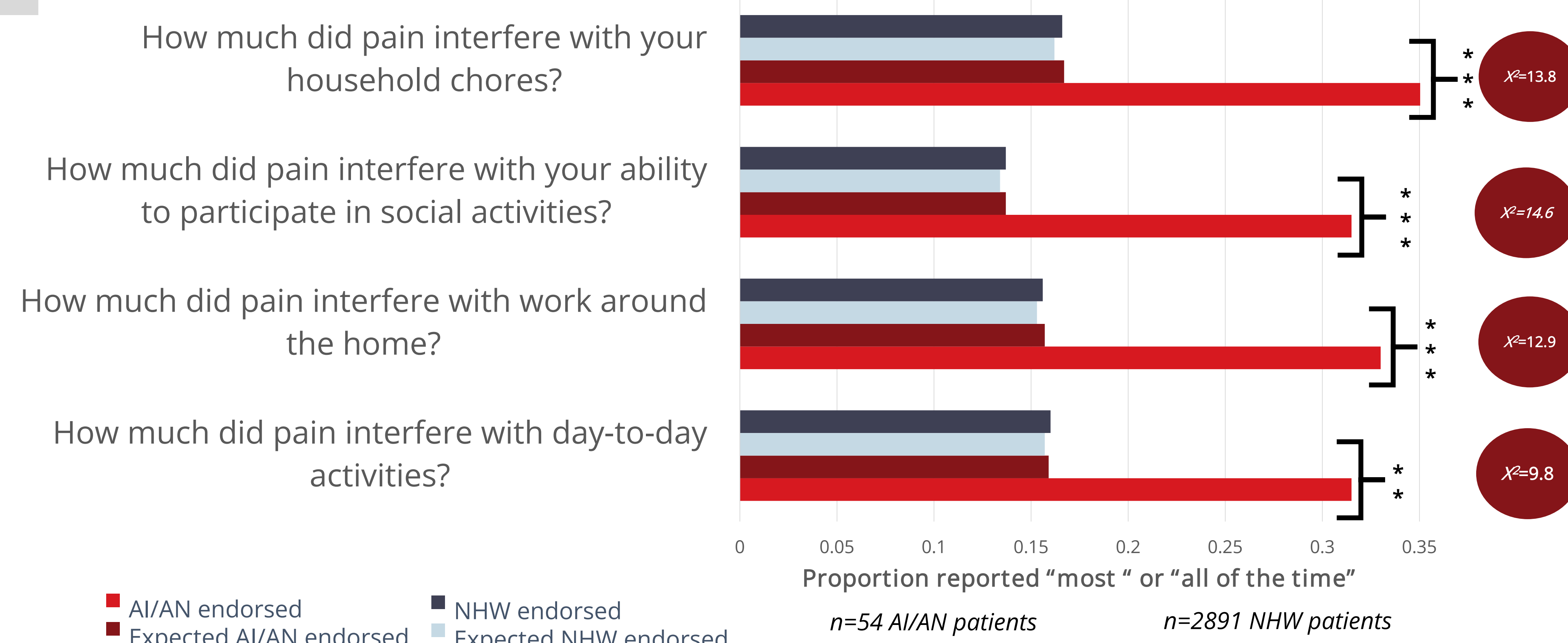
<sup>1</sup>Results based on independent samples t-test results for AI/AN vs. NHW comparisons;  $t(53)=3.083$ . One-sample t-tests were used to compare the general population,  $t(53)=4.941$ ,  $p<.001$ , and CER sample means,  $t(53)=2.835$ ,  $p<.006$ . Lines represent mean pain interference scores at the 95% confidence interval.

<sup>2</sup> $d$ =Glass's delta.

Despite the cultural stigma around discussing pain and illness, pain interference levels were **significantly higher** among AI/AN patients and survivors compared to NHW patients and survivors. Furthermore, while the CER sample has a 3-point higher than average pain interference level, the AI/AN pain interference levels were even higher by an average of 4 points.

AI/AN patients and survivors rated significantly higher pain interference levels across all domains in the PROMIS sub-scale, including interference with household chores, social activities, work, and daily activities compared to NHW patients and survivors.

Table 2: Pain interference domains among AI/AN and NHW patients & survivors



\*\*\*significant difference at the p<.001; \*\*significant difference at p<.01 level level based on chi-square tests of independence.

## CONCLUSIONS AND IMPLICATIONS

Findings demonstrate how pain disproportionately interferes with American Indian/Alaska Native cancer patients' and survivors' daily lives compared to non-Hispanic White patients, despite the AI/AN cultural beliefs to not discuss pain. Given that AI/AN patients are diagnosed at later stages than NHWs, reducing barriers to screening may be significant in alleviating pain related to disease burden, while also increasing access to supportive care. In addition to systemic barriers to care, the social and economic inequality between AI/AN and Whites in the U.S. exposes AI/AN people to a greater risk of developing chronic pain, such as occupational and environmental hazards. Culturally-competent support for AI/AN patients is necessary, as well as policy and health-systems changes to reduce symptom burden disparities among AI/AN communities.

