Use of Complementary and Integrative Health Modalities by Kaiser Permanente Northern California Adult Members in 2017: Estimates from the KPNC Member Health Survey

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July 28, 2020

This brief report based on data from the 2017 Kaiser Permanente Northern California (KPNC) Member Health Survey provides estimates of the use of complementary and integrative health (CIH) modalities by KPNC adult members in 2017.

What is the KPNC Member Health Survey?

The Member Health Survey is a self-administered (print and online) survey that has been conducted every 3 years since 1993 with stratified random samples of adults who are current members of the Kaiser Permanente Medical Care Program in Northern California and are able to answer an English-language questionnaire. The primary purposes of the survey are:

- To learn about the health-related needs and interests of the culturally diverse Kaiser Permanente Northern California adult membership, and by extension, members of the communities we serve;
- To provide information for health services planners to make evidence-based decisions about health information and health care service delivery; and
- To support research to improve the health of our members and the communities we serve.

The Member Health Surveys project is funded by Kaiser Permanente's Northern California Community Benefit (CB) Program through a direct allocation to the Division of Research. Reports and statistics based on previous surveys, survey questionnaires, and more information about survey methodology in prior cycles can be found at www.memberhealthsurvey.kaiser.org.

Survey Methodology

In the 2017 Member Health Survey (MHS2017) survey cycle, we mailed questionnaires and emailed links to the online version of the questionnaire to a stratified random sample of approximately 22,000 adult Health Plan members ages 25-90 in the KPNC region. Due to budgetary constraints, the starting MHS2017 sample could only be half as large as was used for previous cycles due to budgetary constraints, so we employed a different sampling strategy than was used for previous survey cycles that we hoped would yield adequate numbers of White, Black, Latinx, and Asian men and women in three age groups (25-44, 45-64, 65-90) to enable comparisons of characteristics by race/ethnicity. The survey sample was restricted to members whose electronic health records (EHR) indicated English as a preferred written and spoken language because in the prior attempts to survey Spanish speakers we had extremely low participation rates and we could not afford to translate, print, and mail survey materials in multiple languages. Members were sent print survey materials and companion email links up to two times to try to boost the response rate. Participants were told that they would automatically be enrolled in a drawing for one of 100 x $100 gift cards.

As expected, the overall response rate (23%) was considerably lower than was achieved in the 2014/2015 survey cycle, varying by race/ethnicity and sex, and increasing with age. However, the response rates by race/ethnicity x age group x sex were in line with what we had expected based on response rates for these demographic groups in the 2014/2015 survey cycle. Survey respondents were assigned post-stratification weights based on the age (5-year intervals) distributions for men and women in their race/ethnic group derived from a 2016 Demographically Enriched Cohort of Kaiser Adults (DECKA2016) that had been

How to cite this report: Gordon NP. Use of Complementary and Integrative Health Modalities by Kaiser Permanente Northern California Adult Members in 2017: Estimates from the KPNC Member Health Survey. Kaiser Permanente Division of Research, Oakland, CA, July 28, 2020.

created for another study.[1] Analyses based on the final weighted respondent sample thus approximately reflects the age x sex x race/ethnic composition in 2016 of KPNC members aged 25-90 whose primary language was English. Because of differences in the method used to select the sample (sampling from 4 race/ethnic groups at the regional level vs. from 19 medical center service populations) and to create the survey weighting factors (based on age-sex composition of each race/ethnic group vs. age-sex composition of each medical center service population), the 2017 survey results are not directly comparable with those from other survey cycles.

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[1] Gordon NP, Lin TY, Rau JL, Lo JC. Aggregation of Asian-American subgroups masks meaningful differences in health and health risks among Asian ethnicities: An electronic health record based cohort study. *BMC Public Health* **19,** 1551 (2019) doi:10.1186/s12889-019-7683-3.

Table 1. Estimated percentages of women and men aged 25-90 yr who used different complementary and integrative health modalities to help manage or prevent their health problems, by age group, 2017

CIH modality	Women						Men					
	25-44	45-64	65-74	75-90	25-74	25-90	25-44	45-64	65-74	75-90	25-74	25-90
Chiropractic	11.4%	17.2%	13.3%	8.6%	14.2%	13.8%	11.6%	11.3%	7.0%	7.1%	10.8%	10.5%
Acupuncture	7.3%	7.7%	10.9%	5.2%	8.0%	7.8%	3.9%	5.1%	1.4%	3.2%	4.1%	4.0%
Massage	28.3%	25.1%	20.1%	7.8%	25.6%	24.1%	19.1%	16.5%	9.9%	5.6%	16.5%	15.6%
Yoga or Pilates	27.8%	21.0%	19.7%	4.9%	23.5%	21.9%	9.7%	8.0%	7.1%	2.2%	8.6%	8.0%
Tai chi, Chi Gong	1.0%	3.0%	5.9%	3.2%	2.7%	2.7%	0.4%	2.7%	2.5%	1.3%	1.7%	1.7%
Mind-body technique [2]	33.0%	26.4%	28.1%	12.6%	29.4%	27.9%	23.4%	15.2%	15.1%	8.5%	18.4%	17.6%
Prayer/spiritual practice done by individual	20.2%	31.5%	34.3%	28.5%	27.4%	27.5%	13.5%	18.2%	15.8%	16.3%	16.0%	16.0%
Religious/spiritual healing by others	2.3%	5.3%	2.8%	2.0%	3.7%	3.6%	2.4%	2.4%	1.0%	2.5%	2.2%	2.2%
Psychological counseling	13.9%	8.8%	7.9%	3.4%	10.7%	10.1%	7.5%	4.8%	5.6%	1.1%	6.0%	5.6%
Self-help/support group	1.3%	2.4%	1.9%	1.2%	1.8%	1.8%	2.1%	1.5%	2.8%	0.6%	2.0%	1.8%
Herbal medicines, remedies, or supplements	13.1%	14.0%	15.3%	8.1%	7.3%	13.4%	7.9%	8.6%	10.3%	6.2%	5.8%	8.4%
Vegetarian or vegan diet	8.3%	7.0%	5.9%	3.0%	13.8%	7.0%	6.6%	5.3%	4.9%	2.2%	8.6%	5.5%

Estimates based on respondents to the 2017 KPNC Member Health Survey, a stratified random sample (race/ethnicity x sex x age group) of adult KPNC members whose preferred language was English. Respondent data were weighted to reflect the age distribution in 2016 of men and women in 5 racial/ethnic groups (White, Black, Latinx, Asian, Other) whose preferred language was English language.

[1] Deep breathing, mindfulness meditation, or other mind-body stress management technique.

Numbers in each age group cell prior to weighting (related to Table 1)

Women						Men					
25-44	45-64	65-74	75-90	25-74	25-90	25-44	45-64	65-74	75-90	25-74	25-90
761	871	429	491	2061	2552	714	843	386	484	1943	2427

Table 2. Estimated percentages of adults who used chiropractic and massage in past year, by whether they had musculoskeletal pain[1] in the past year

CIH modality	Women					Men				
	25-44	45-64	65-74	75-90	25-74	25-44	45-64	65-74	75-90	25-74
Chiropractic										
No M-S pain	9.4%	14.2%	11.3%	7.4%	11.7%	8.7%	9.1%	6.3%	5.6%	8.5%
M-S pain	27.2%	30.6%	21.2%	11.8%	27.6%	31.2%	20.2%	11.1%	13.5%	22.4%
Massage										
No M-S pain	25.7%	23.1%	17.4%	5.4%	23.3%	16.7%	14.6%	8.3%	4.2%	14.5%
M-S pain	48.9%	33.9%	30.4%	14.8%	37.5%	35.2%	24.2%	19.2%	11.4%	26.9%

[1] M-S: Musculoskeletal pain (Back pain/sciatica and/or neck/shoulder pain). Differences in percentages of users of these modalities by whether they had or did not have musculoskeletal pain in the past year are significant at $p<.05$

Table 3. Estimated percentages of women and men aged 25-74 yr who used different complementary and integrative health (CIH) modalities to help manage or prevent their health problems in the prior year, by race/ethnicity, 2017

CIH modality	Women 25-74 yr				Men 25-74 yr			
	White	Black	Latina	Asian	White	Black	Latino	Asian
Chiropractic	20.2%	6.7% [a1]	9.5% [a1]	5.8% [a1]	12.2%	5.6% [a1]	12.1%	7.2% [a1]
Acupuncture	9.4%	5.5% [a]	5.9%	7.4%	3.7%	3.4%	4.0%	4.5%
Massage	28.6%	22.0% [a1]	18.5% [a1]	24.0% [a]	16.6%	13.8%	17.8%	14.4%
Yoga or Pilates	28.1%	11.8% [a]	15.8% [a]	22.1% [a]	10.5%	5.7% [a]	5.8% [a]	5.0% [a]
Tai chi, Chi Gong	2.6%	1.1%	0.7%	3.9% [a]	1.8%	0.9%	0.7%	1.2%
Mind-body technique [2]	34.4%	23.6% [a]	23.8% [a]	24.6% [a]	19.5%	15.7%	14.3% [a]	17.5%
Prayer/spiritual practice done by individual	26.4%	44.0% [a]	28.9% [a]	22.5%	14.0%	32.8% [a]	20.5% [a]	11.3%
Religious/spiritual healing by others	4.1%	4.6%	4.7%	1.2% [a]	1.3%	6.4% [a]	2.7%	2.1%
Psychological counseling	13.6%	10.7%	10.1% [a]	4.9% [a]	7.4%	4.0% [a]	5.7%	2.4% [a]
Self-help/support group	2.5%	3.0%	1.1%	0.5% [a]	2.7%	3.5%	1.6%	<0.1% [a]
Herbal medicines, remedies, or supplements	16.7%	9.4% [a]	13.2%	7.6% [a]	8.3%	6.9%	9.6%	8.9%
Vegetarian or vegan diet	8.8%	5.0% [a]	4.2% [a]	7.3%	5.2%	6.5%	3.6%	9.2% [a]

Estimates based on respondents to the 2017 KPNC Member Health Survey, a stratified random sample (race/ethnicity x sex x age group) of adult KPNC members whose preferred language was English. Respondent data were weighted to reflect the age distribution in 2016 of men and women in 5 racial/ethnic groups (White, Black, Latinx, Asian, Other) whose preferred language was English language.

[a] Significantly different from White after controlling for age.

[a1] Significantly different from White after controlling for age and reported musculoskeletal pain (back pain sciatica, neck or shoulder pain) in the past 12 months

[2] Deep breathing, mindfulness meditation, or other mind-body stress management technique.

Numbers in each race/ethnic group cell prior to weighting (relates to Table 3)

Women 25-74 yr				Men 25-74 yr			
White	Black	Latina	Asian	White	Black	Latino	Asian
895	525	559	535	843	449	536	557

The numbers of men and women in the four race/ethnic groups who reported musculoskeletal pain in the past year were too small to use to show how estimated percentages of chiropractic and massage use differed by whether individuals had or had not experienced musculoskeletal pain in the past year. To compare use on this factor, we used logistic regression models that controlled for age. We found:

- White, Black, and Latino men and White, Black, Latina, and Asian women who had musculoskeletal pain during the year were at least twice as likely to have used chiropractic care as those who did not report musculoskeletal pain.
- White, Black, Latino, and Asian men and White, Latina, and Asian women who had musculoskeletal pain during the year were more likely to have used massage therapy as those who did not report musculoskeletal pain.