

Use of Digital Technologies and Preferred Modalities for Obtaining Health Information and Advice: Estimates for Adults aged 25-90 from the 2017 Kaiser Permanente Northern California Member Health Survey

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This brief report based on data from the 2017 Kaiser Permanente Member Health Survey provides information about the use of digital technologies, digital information technologies, sources of health information used in the prior year, and preferred methods for getting health information and advice.

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 by going to www.memberhealthsurvey.kaiser.org. Note that because of the differences in sample design and final respondent sample weighting, the results of the MHS2017 are not directly comparable to previous survey cycles.

2017 Member Health Survey sample

The MHS2017 sample was conducted with an age-sex stratified random sample of White, African-American/Black, Latinx, and Asian adults who were identified from a 2016 Demographically Enriched Cohort of Kaiser Adults (DECKA2016) race/ethnicity study cohort¹ (N= approximately 2.5 million members). After eliminating adults whose preferred spoken and written language in the electronic health record was not English (since the survey materials were only created in English) from this cohort, we randomly selected set numbers of men and women in 4 age groups (25-44, 45-64, 65-74, 75-90) for each race/ethnic group for the starting survey sample. Some re-assignment of respondents to race/ethnic groups was done based on self-reported race/ethnicity ascertained from the survey.

Table A shows the counts of men and women of White, African-American/Black, Latinx, Asian, and Other race/ethnicity in the four age groups in the final sample, prior to weighting.

Survey respondents were assigned weighting factors derived from the DECKA2016 cohort so that estimates based on weighted survey data would reflect the age-sex-racial/ethnic composition of the adult KPNC membership toward the end of calendar year 2016. All prevalence estimates are based on respondent data weighted to the age-sex-race/ethnic composition of the KPNC adult membership. In this report, estimates are provided for ages 25-44, 45-64, 65-74 yr, and 75-90 yr, overall and by

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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.

sex. More information about the survey methodology can be found in the Appendix following the tables.

Table A. Counts in final MHS2017 respondent sample prior to weighting to the 2016 KPNC membership

	White	African-American/Black	Latinx	Asian	Other	Total
All						
25-44 yr	465	322	364	317	19	1487
45-64 yr	557	348	397	393	27	1722
65-74 yr	333	150	151	171	11	816
75-90 yr	402	159	189	215	14	979
Men						
25-44 yr	226	153	177	157	7	720
45-64 yr	277	157	199	206	10	849
65-74 yr	162	61	72	85	7	387
75-90 yr	193	79	94	112	8	486
Women						
25-44 yr	239	169	187	160	12	767
45-64 yr	280	191	198	187	17	873
65-74 yr	171	89	79	86	4	429
75-90 yr	209	80	95	103	6	493

Table B. Distribution of level of education in the four age groups based on weighted 2017 Member Health Survey data

	< High School Graduate	High School Graduate/GED	Some College or AA Degree	College Graduate
All				
25-44 yr	1.2%	11.5%	26.0%	61.4%
45-64 yr	1.8%	14.5%	34.3%	49.4%
65-74 yr	2.6%	17.0%	32.6%	47.8%
75-90 yr	7.8%	25.4%	30.5%	36.3%
Men				
25-44 yr	1.9%	14.0%	24.2%	60.0%
45-64 yr	1.9%	15.9%	30.2%	52.0%
65-74 yr	3.6%	12.0%	30.7%	53.6%
75-90 yr	7.5%	21.4%	25.7%	45.4%
Women				
25-44 yr	0.5%	9.4%	27.5%	62.5%
45-64 yr	1.7%	13.3%	38.0%	47.0%
65-74 yr	1.7%	21.1%	34.1%	43.1%
75-90 yr	8.0%	28.8%	34.5%	28.7%

Statistics provided in this brief report (in order):

- **Table 1:** Access to digital technologies (computer, cell phone, mobile phone, wi-fi enabled tablet, home printer); use of digital information technologies (internet, email, text messaging, apps); willingness to complete an online questionnaire on kp.org
- **Table 2:** Sources of health information used in the prior year
- **Table 3:** Preferred methods for getting health information and advice

Table 1. Use of Digital Technologies, KPNC Members Ages 25-90 yr, 2017

	25-44 yr			45-64 yr			65-74 yr			75-90 yr		
	Women	Men	All	Women	Men	All	Women	Men	All	Women	Men	All
<u>Access to digital devices</u>												
Has access to an internet-enabled desktop, laptop or tablet computer	98.6%	98.6%	98.6%	97.1%	97.1%	97.1%	95.9%	93.4%	94.8%	75.1%	82.8%	78.6%
Has a wi-fi enabled tablet	51.4%	51.0%	51.2%	44.3%	43.8%	44.1%	46.3%	35.2%	41.5%	30.9%	29.5%	30.3%
Has a mobile phone (cell, smart)	99.7%	98.5%	99.1%	98.4%	98.1%	98.3%	97.9%	94.5%	96.4%	83.5%	86.4%	84.8%
Has a smartphone (All*)	90.9%	90.1%	90.5%	79.1%	80.4%	79.7%	66.3%	63.4%	65.1%	28.9%	36.2%	32.2%
Has a smartphone (if has a mobile phone)	91.1%	91.5%	91.3%	80.4%	81.9%	81.1%	67.8%	67.1%	67.4%	34.6%	41.9%	38.0%
Has a smartphone or wi-fi enabled tablet	99.8%	98.9%	99.4%	99.3%	98.6%	99.0%	74.7%	68.6%	72.0%	44.4%	47.2%	45.7%
Has a smartphone, wi-fi enabled tablet or a computer	93.3%	91.8%	92.6%	82.4%	82.6%	82.5%	96.5%	94.8%	95.8%	77.6%	84.5%	80.7%
Can easily print information or forms from the internet (All, whether uses internet or not)	80.0%	81.4%	80.7%	84.7%	86.1%	85.4%	77.7%	79.6%	78.6%	52.4%	68.4%	59.7%
<u>Internet use</u>												
Goes online by self or with someone else's help (All*)	98.2%	98.5%	98.3%	97.7%	97.0%	97.4%	94.3%	90.4%	92.5%	72.2%	81.0%	76.2%
Goes online by self (All*)	97.6%	95.4%	96.6%	94.5%	92.6%	93.6%	87.9%	84.4%	86.3%	60.3%	65.7%	62.8%
Goes online by self (internet users)	99.4%	96.8%	98.2%	96.7%	95.4%	96.1%	93.2%	93.3%	93.3%	83.5%	81.1%	82.4%
<u>Internet users only:</u>												
Where uses the internet												
At home	96.7%	96.8%	96.8%	95.7%	97.0%	96.3%	97.9%	99.0%	98.3%	96.9%	94.1%	95.5%
At work	63.5%	73.0%	67.9%	53.4%	57.8%	55.5%	16.1%	22.9%	19.0%	3.1%	4.4%	3.8%
At other location	34.3%	50.6%	41.8%	42.1%	29.0%	35.9%	40.6%	53.9%	48.0%	32.2%	33.7%	32.9%
Device used to go online												
Computer	83.8%	85.9%	84.8%	87.3%	92.5%	89.7%	87.0%	92.2%	89.3%	84.1%	93.8%	88.8%
Tablet	39.3%	42.1%	40.6%	41.1%	37.5%	39.4%	41.7%	34.1%	38.5%	41.7%	30.1%	36.0%
Cell phone	22.0%	22.2%	22.1%	19.2%	17.2%	18.3%	18.1%	14.1%	16.3%	18.1%	17.5%	17.8%
Smartphone	82.5%	80.0%	81.3%	63.1%	64.0%	63.5%	52.3%	51.3%	52.0%	29.8%	32.1%	31.0%
E-reader	2.0%	2.4%	2.2%	1.1%	2.4%	1.7%	5.7%	1.2%	3.7%	5.2%	3.5%	4.3%
Can easily print from internet	80.0%	81.4%	80.7%	84.7%	86.1%	85.4%	77.7%	79.6%	78.6%	52.4%	68.4%	59.7%

Table 1. Use of Digital Technologies, KPNC Members Ages 25-90 yr, 2017

	25-44 yr			45-64 yr			65-74 yr			75-90 yr		
	Women	Men	All	Women	Men	All	Women	Men	All	Women	Men	All
<u>Email use</u>												
Able to use email (All*)	98.8%	98.2%	98.5%	98.0%	96.6%	97.3%	94.6%	90.0%	92.5%	73.8%	82.9%	77.9%
Uses email by self (All*)	97.8%	96.5%	97.2%	96.7%	92.6%	94.7%	89.3%	84.2%	87.0%	65.5%	66.8%	66.1%
Uses email by self (email users)	99.0%	98.3%	98.7%	98.6%	95.9%	97.3%	94.4%	93.6%	94.0%	88.8%	80.6%	84.8%
If uses email, device used:												
Computer	80.7%	83.7%	82.1%	84.7%	89.2%	86.8%	85.0%	91.4%	87.8%	83.9%	90.5%	87.2%
Cell phone	21.0%	21.5%	21.2%	21.4%	19.8%	20.6%	15.8%	16.1%	16.1%	13.4%	15.3%	14.3%
Smartphone	81.0%	81.4%	81.2%	68.8%	68.6%	68.7%	51.1%	51.6%	51.4%	29.7%	31.0%	30.3%
Tablet	28.6%	30.2%	29.3%	36.8%	33.3%	35.2%	37.7%	30.6%	34.8%	42.4%	27.9%	35.3%
<u>Use of other digital technologies</u>												
Able to send/get text messages (All)	99.2%	97.0%	98.2%	97.0%	95.5%	96.2%	88.1%	84.0%	86.3%	53.6%	59.3%	56.2%
Able to send/get text messages (if has a mobile device**)	99.3%	97.9%	98.7%	97.5%	96.5%	97.0%	89.1%	85.9%	87.8%	59.1%	64.6%	61.7%
Able to use apps (All)	75.9%	79.0%	77.3%	61.4%	59.1%	60.3%	51.6%	49.1%	50.6%	25.2%	28.0%	26.5%
Able to use apps (if has a smartphone or tablet)	76.0%	79.7%	77.7%	61.8%	59.7%	60.8%	52.1%	51.2%	51.8%	29.0%	31.3%	30.0%
Would be willing to complete a questionnaire/form on kp.org if sent a link by email or secure message												
Yes	74.2%	69.5%	72.0%	69.0%	64.5%	66.9%	59.4%	62.6%	60.9%	38.0%	47.5%	42.5%
No	6.7%	10.3%	8.4%	9.1%	15.5%	12.1%	16.2%	19.6%	17.7%	37.4%	26.7%	32.4%
Not sure	19.1%	20.3%	19.6%	21.9%	20.0%	21.0%	24.4%	17.8%	21.4%	24.5%	25.7%	25.1%

Estimated from the 2017 Kaiser Permanente Northern California Member Health Survey.

* All = Everyone, whether has a digital device or not

** Mobile device = cell phone, smartphone, or tablet

Table 2. Sources of Health Information Used in Prior 12 Months, KPNC Members Ages 25-90 yrs, 2017

	25-44 yr			45-64 yr			65-74 yr			75-90 yr		
	Women	Men	All	Women	Men	All	Women	Men	All	Women	Men	All
Any KP group or individual health education program/service	15.5%	8.3%	12.2%	13.2%	7.9%	10.7%	10.7%	15.4%	13.0%	13.0%	10.6%	11.9%
Health educator or wellness coach	2.6%	3.0%	2.8%	7.7%	5.7%	6.7%	7.6%	8.2%	7.9%	7.0%	7.0%	7.0%
Print health education materials	18.2%	9.0%	13.9%	15.2%	12.4%	13.9%	16.7%	17.0%	17.0%	18.3%	17.6%	18.0%
<u>Information from kp.org or another website</u>	43.8%	30.4%	37.6%	43.9%	35.3%	39.8%	43.9%	41.4%	42.7%	31.7%	37.0%	34.1%
Information from KP website	46.5%	32.1%	39.8%	46.1%	36.6%	41.6%	28.4%	26.7%	27.6%	15.2%	25.1%	19.7%
Information from kp.org MD home page	29.3%	18.0%	24.1%	27.1%	22.3%	24.8%	19.3%	21.6%	20.3%	14.8%	22.4%	18.3%
Online education videos on KP website	15.0%	9.8%	12.6%	18.2%	17.5%	17.9%	10.0%	10.5%	10.2%	5.8%	7.2%	6.4%
Information from another website	12.5%	4.9%	9.0%	9.4%	7.1%	8.3%	19.1%	19.0%	19.0%	14.3%	14.4%	14.3%
Listened to kp.org podcast	27.4%	17.0%	22.6%	26.1%	17.7%	22.1%	2.2%	3.1%	2.6%	0.4%	1.8%	1.0%
Used a health app to help with diet, exercise, sleep, self-monitoring, etc.	1.9%	0.5%	1.3%	2.0%	1.7%	1.8%	9.5%	9.1%	9.3%	3.6%	4.2%	3.9%
<u>Used kp.org secure features</u>												
Emailed doctors/other staff, viewed lab results, or refilled prescriptions	71.1%	51.5%	62.1%	71.0%	55.8%	63.8%	74.6%	61.6%	68.6%	52.2%	54.5%	53.2%
Used a KP app to use kp.org secure features	39.6%	26.6%	33.6%	33.9%	25.3%	29.8%	30.1%	22.4%	26.6%	14.1%	17.5%	15.7%

Estimated from the 2017 Kaiser Permanente Northern California Member Health Survey, based on responses to the question: *During the past 12 months, have you done any of the following? (Mark ALL that apply)”

Table 3. Preferred Methods for Getting Health Information and Advice, KPNC Members Ages 25-90 yr, 2017

	25-44 yr			45-64 yr			65-74 yr			75-90 yr		
	Women	Men	All	Women	Men	All	Women	Men	All	Women	Men	All
Indicated a preference for any of the listed health information/health education modalities*	90.8%	87.7%	89.4%	92.9%	89.3%	91.2%	91.2%	88.4%	89.9%	86.5%	87.3%	86.9%
If indicated a preference for at least one modality, interested in:												
Individual counseling (by phone or in-person)	45.1%	40.5%	43.1%	44.2%	41.3%	42.9%	45.3%	40.7%	43.4%	41.5%	41.8%	41.6%
Telephone wellness coach sessions	20.8%	15.0%	18.2%	22.7%	19.0%	21.0%	23.6%	20.4%	22.1%	21.3%	19.9%	20.6%
In-person counseling with a patient educator	38.2%	34.5%	36.6%	35.8%	35.4%	35.6%	34.6%	33.3%	34.2%	33.8%	32.5%	33.2%
Video visit with patient educator or doctor	22.0%	22.3%	22.2%	17.2%	17.9%	17.5%	13.0%	13.0%	13.0%	5.3%	9.8%	7.4%
Video visit with a patient educator	14.7%	14.0%	14.4%	12.8%	11.2%	12.0%	11.2%	8.3%	9.9%	2.0%	5.9%	3.8%
Video visit with a doctor	19.6%	20.8%	20.2%	13.5%	15.7%	14.5%	11.3%	11.2%	11.3%	4.6%	9.6%	6.9%
Group in-person program	30.1%	18.8%	24.9%	33.3%	20.2%	27.3%	33.4%	20.0%	27.4%	25.0%	14.3%	20.0%
One-session workshop/group prog.	25.8%	14.7%	20.8%	28.0%	17.6%	23.2%	29.1%	16.7%	23.6%	22.4%	12.3%	17.7%
Multi-session class/group prog.	19.1%	12.8%	16.2%	23.4%	12.7%	18.4%	21.5%	13.3%	17.8%	17.2%	9.1%	13.4%
Text message	27.1%	23.8%	25.6%	25.6%	25.3%	25.4%	24.9%	22.4%	24.0%	12.9%	15.2%	13.9%
Secure email message	47.9%	40.9%	44.7%	46.4%	44.9%	45.7%	45.3%	45.3%	45.4%	27.4%	31.5%	29.3%
Information from a website	33.2%	32.3%	32.8%	32.6%	33.9%	33.2%	29.1%	34.0%	31.4%	16.8%	21.6%	19.0%
Information from MD home page on kp.org	17.7%	14.4%	16.2%	24.5%	27.9%	26.1%	31.3%	38.1%	34.4%	26.1%	31.3%	28.5%
Online videos about health topics	27.7%	29.6%	28.5%	26.8%	27.3%	27.0%	25.8%	20.7%	23.5%	11.4%	15.5%	13.3%
Webinar	11.2%	8.7%	10.1%	13.9%	9.7%	12.0%	13.2%	8.8%	11.2%	2.3%	3.8%	3.0%
Online interactive program	19.2%	17.9%	18.6%	14.8%	12.7%	13.8%	12.5%	10.9%	11.8%	3.3%	3.6%	3.4%
Health app on tablet/smartphone	40.6%	35.3%	38.2%	27.4%	24.8%	26.2%	21.0%	14.2%	18.0%	4.6%	5.4%	5.0%
Podcast/online audio program	13.2%	13.7%	13.4%	10.1%	11.7%	10.8%	11.5%	6.2%	9.1%	0.6%	3.7%	2.0%
Chatroom/online community	9.3%	7.0%	8.3%	6.5%	2.5%	4.6%	3.2%	3.2%	3.2%	1.2%	1.5%	1.3%
Information from any website, including kp.org MD home page	40.5%	38.5%	39.6%	44.2%	47.1%	45.6%	47.1%	53.3%	49.9%	31.8%	41.8%	36.4%

Table 3. Preferred Methods for Getting Health Information and Advice, KPNC Members Ages 25-90 yr, 2017

	25-44 yr			45-64 yr			65-74 yr			75-90 yr		
Information from a website, online video, online interactive program, webinar, or podcast	59.7%	56.2%	58.1%	55.9%	59.2%	57.4%	57.5%	58.5%	58.0%	35.5%	46.3%	40.5%
Health information/newsletters by mail or email	60.1%	57.3%	58.8%	56.8%	59.4%	58.0%	58.7%	53.0%	56.0%	59.3%	59.7%	59.5%
Mailed information/newsletter	51.4%	40.1%	46.3%	50.1%	45.5%	47.9%	29.8%	27.4%	28.6%	41.6%	36.8%	39.4%
Emailed information/newsletter	15.1%	12.9%	14.1%	20.6%	18.0%	19.4%	39.9%	35.5%	37.9%	26.1%	35.5%	30.4%
Print materials	44.3%	34.0%	39.6%	38.5%	37.0%	37.8%	37.1%	32.1%	34.8%	38.8%	40.2%	39.4%
DVD at home	4.5%	4.8%	4.6%	8.9%	7.2%	8.1%	11.0%	11.6%	11.2%	6.4%	11.4%	8.7%

Estimated from the 2017 Kaiser Permanente Northern California Member Health Survey, based on responses to the question: "In which of these ways would you prefer to get information and advice about how to manage health conditions and make changes in health behaviors (diet, exercise, etc.)? (*Mark ALL that apply*)".

* Some people may not have been interested in any health education modalities, but others may not have answered this question which came near the end of the lengthy survey. For this reason, estimates were restricted to people who indicated interest in at least one modality in the checklist.

Appendix. 2017 Member Health Survey Methodology and Response Rates

In the 2017 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. Because the 2017 survey sample was only going to be half as large as was used for previous cycles due to budgetary constraints, 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. This was done with the knowledge that the survey response rate would be lower due to oversampling of demographic subgroups (i.e., younger adults, Blacks, and Latinx adults) that traditionally are less likely to participate in surveys like this. 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. Survey 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 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.

MHS2017 response rates by age group, race/ethnicity and sex, ages 25-90

	White	African-American/Black	Latinx	Asian	All
Men					
25-44 yr	12.8	7.4	7.4	13.5	9.7
45-64 yr	26.5	15.7	19.9	23.3	21.4
65-90 yr	59.5	34.1	44.8	50.1	48.5
Women					
25-44 yr	23.5	16.5	17.2	21.2	19.5
45-64 yr	37.0	28.0	28.7	30.5	31.3
65-90 yr	64.0	41.6	44.2	50.0	51.4
All 25-90 yr	30.2	17.1	18.7	26.1	22.8

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.