

Innovative Strategies for Clinic-Based Cancer Prevention: Health System Perspective

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**Advancing Progress in Cancer Prevention and Risk Reduction:
A National Cancer Policy Forum Workshop**

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Disclosure Information for Lawrence H. Kushi, ScD

No financial conflicts to disclose

- My research is funded by the National Institutes of Health, primarily the National Cancer Institute. I am currently Multiple Principal Investigator of five NCI grants, and co-investigator on several other NIH grants. I also co-lead an NCI grant focused on the COVID-19 pandemic.
- I do not receive funding from for-profit entities such as pharmaceutical or biotech companies.
- I have served on advisory boards for the American Cancer Society and World Cancer Research Fund / American Institute for Cancer Research related to nutrition, physical activity, and cancer prevention and prognosis.

The views and interpretations of data presented here are my own and do not necessarily represent those of Kaiser Permanente or any other organization with which I am affiliated.

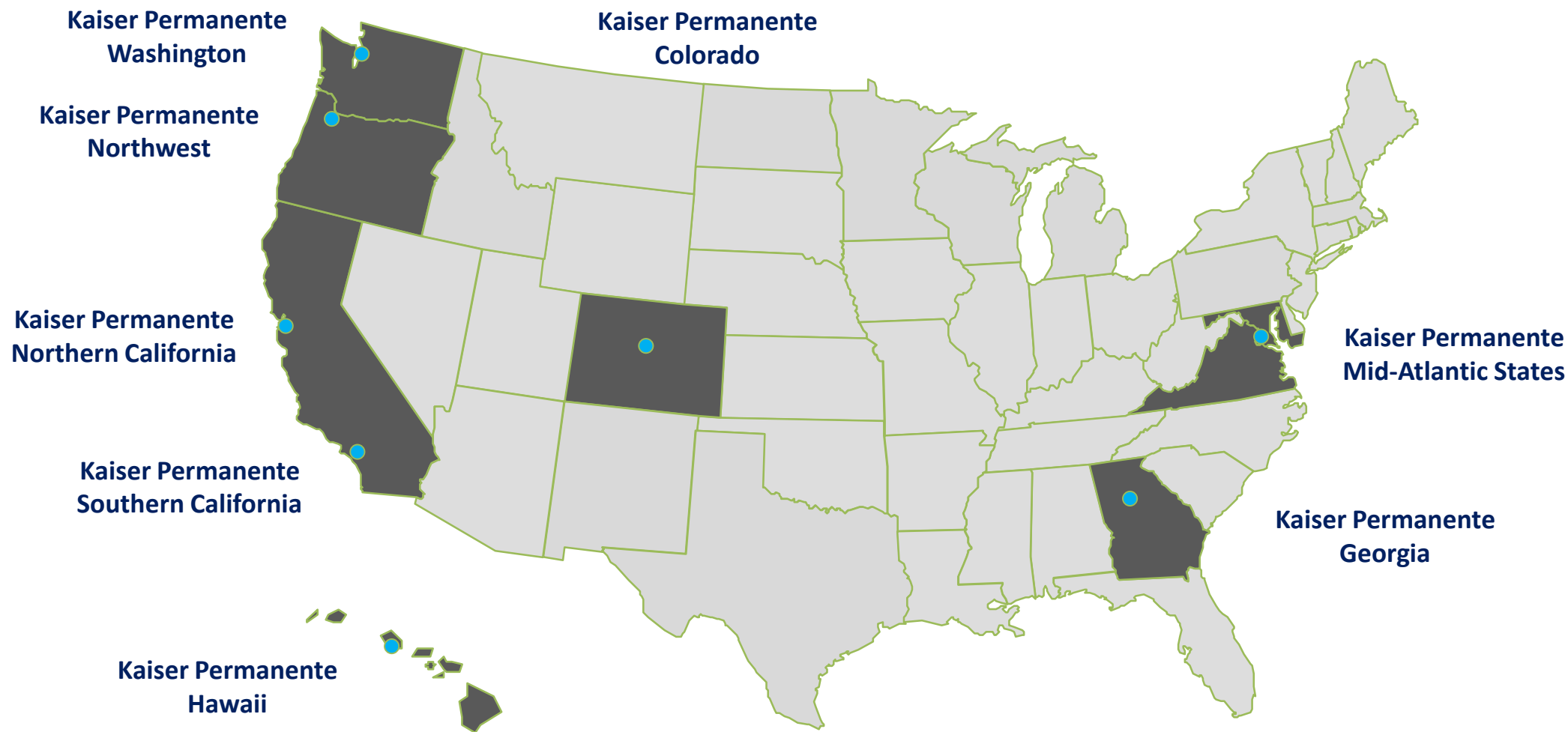
Lifestyle Strategies for Cancer Prevention

- Prevent tobacco use initiation, promote smoking cessation
- Maintain healthy weight, promote weight loss
- Drink moderate or no alcoholic beverages
- Be physically active
- Choose a healthful diet
 - Consume vegetables, fruits, and whole grains
 - Limit processed meat and red meat consumption
 - Limit consumption of sugar-sweetened beverages
- Limit unprotected sun exposure
- Limit unprotected sex
- Participate in recommended cancer screening, genetic testing

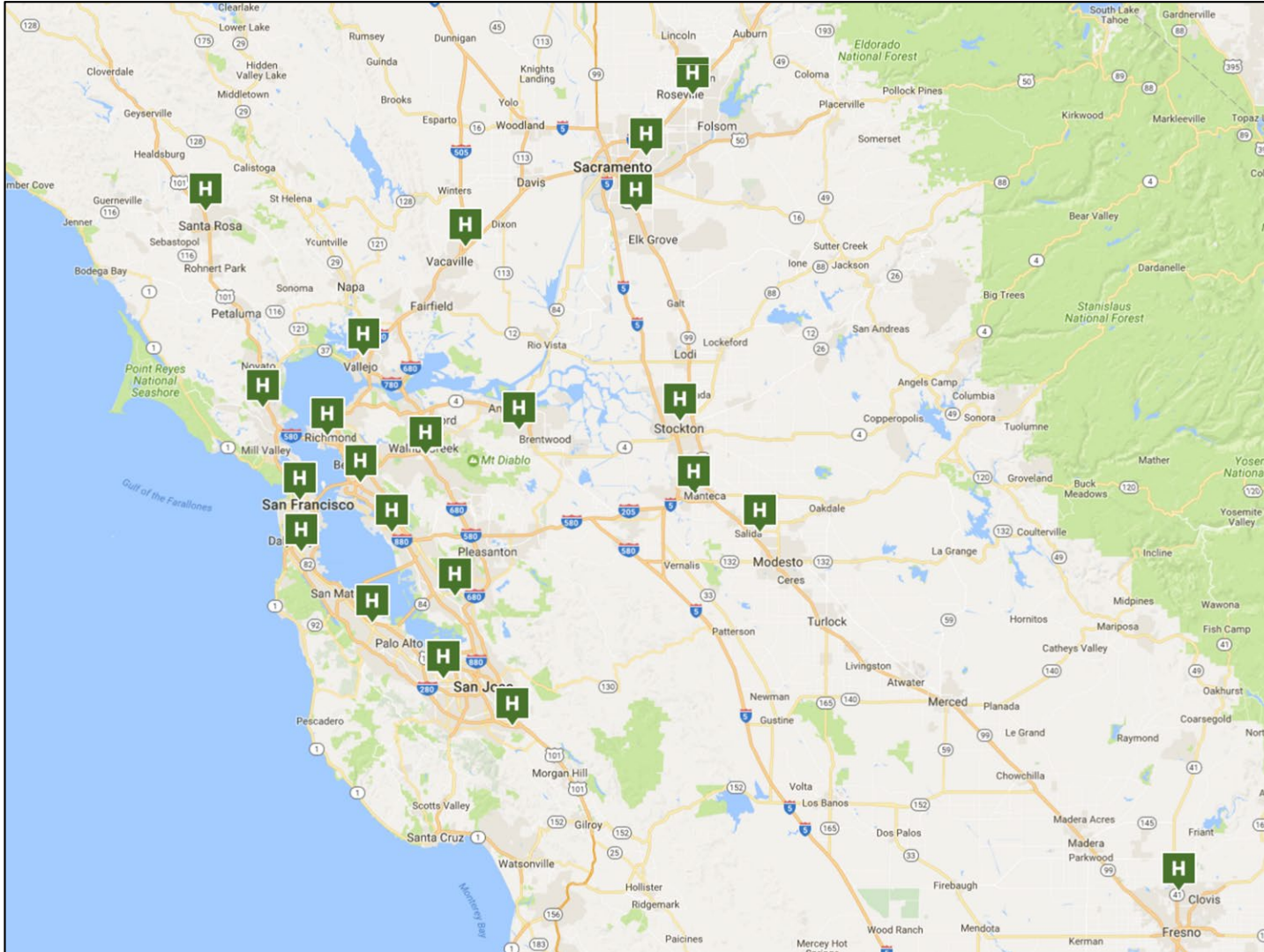
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Kaiser Permanente Service Regions

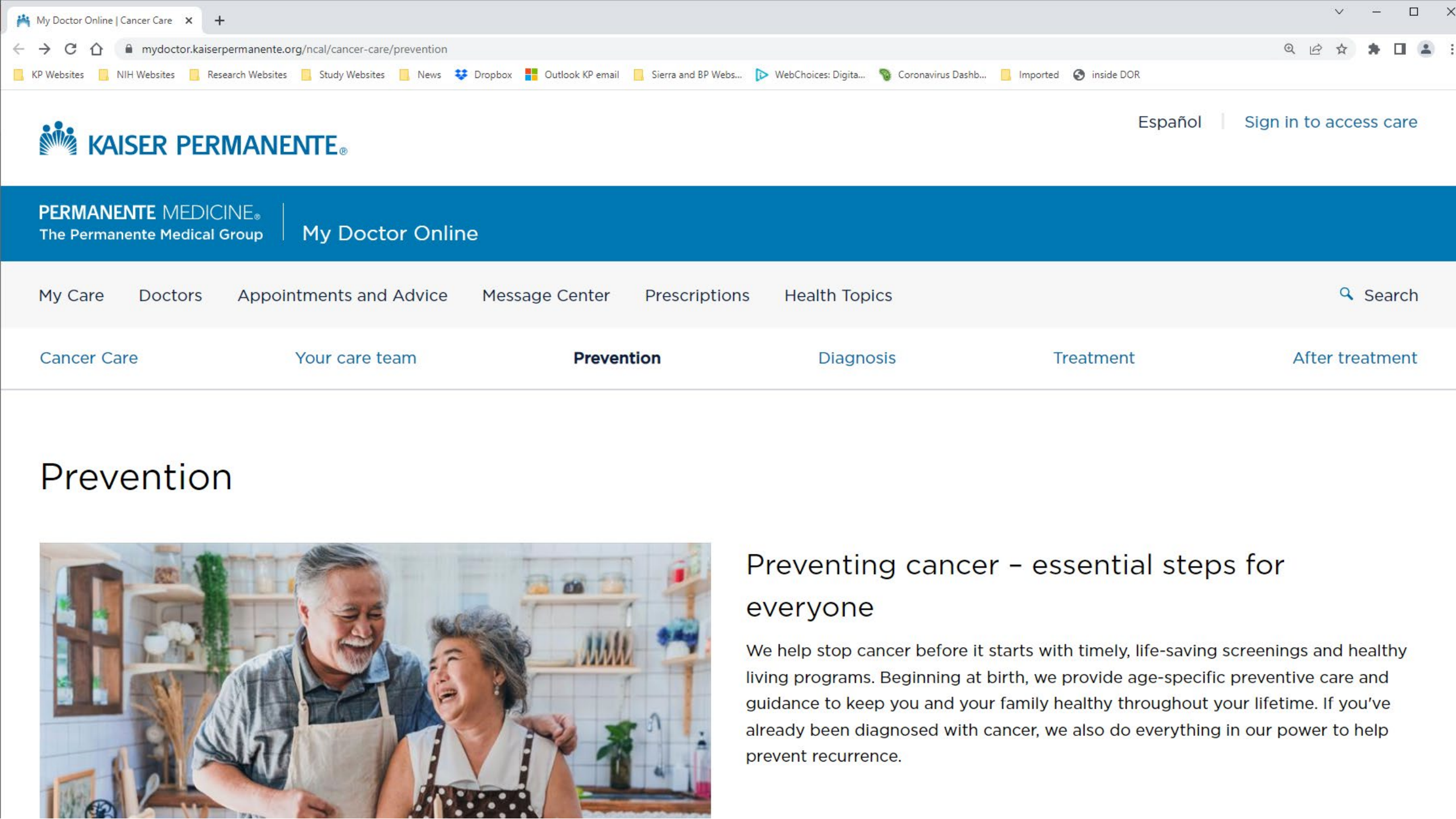


Kaiser Permanente Northern California



- Integrated healthcare delivery system
- ~4.6 million members
- 9,530 physicians*
(The Permanente Medical Group)
- 21 hospitals
- 268 outpatient clinics
- Connected EHR
- Division of Research
(~62 scientists, \$136 million annual budget, ~70% externally funded)

as of March 31, 2022, or *December 31, 2021



Prevention



Preventing cancer – essential steps for everyone

We help stop cancer before it starts with timely, life-saving screenings and healthy living programs. Beginning at birth, we provide age-specific preventive care and guidance to keep you and your family healthy throughout your lifetime. If you've already been diagnosed with cancer, we also do everything in our power to help prevent recurrence.



"About 40% of cancers are preventable through early detection and a healthy lifestyle."

Tatjana Kolevska, MD

Medical Director, Kaiser Permanente National Cancer Excellence Program

Screening and early detection

We track and notify you when you're due for screenings, tests, and immunizations. This helps us identify precancerous conditions early before cancer develops. Screening schedules are based on age, health history, and risk factors. If you're at high risk for cancers, you may need more frequent screening.

[View health reminders to see when you're due for screening](#)

[Download our My Doctor Online app for text alerts and more](#)





Healthy living programs

Some risk factors for cancer can be avoided, like smoking and eating unhealthy foods, but others can't, like inheriting certain genes or being exposed to cancer-causing chemicals. While you can't change all risk factors, you can take steps to be healthier. These services are available at no additional cost to members.

Wellness coaching

Call a coach to come up with a plan to quit smoking, eat healthier, start exercising, lose weight, manage stress, and more.

Healthy lifestyle programs

Create a personalized action plan to quit smoking, be active, lose weight, eat healthier, and more.

Mindfulness and meditation apps

De-stress with our Calm and myStrength apps and other tools.

Alcohol self-assessment tool

Assess your alcohol use to see if drinking is increasing your risk for cancer and other diseases – and find resources to cut back.

ClassPass

Start moving at any fitness level with thousands of video and audio workouts, or livestream classes at reduced rates.

Mental health and wellness services

Call for counseling or cancer support groups in your area.





Nearly 250,00 quitters

Our tobacco cessation program has helped thousands of members quit. If you smoke, let us help you too.

[Quitting tobacco program](#)



90% of colorectal cancer curable

Our home testing and other colorectal cancer screenings help find cancer early when it's most treatable.

[Home Fit Kit testing](#)



Half a million mammograms
performed

We perform nearly half a million mammograms each year to find early signs of breast cancer.

[Breast cancer screening](#)



60% fewer HPV procedures

Our advanced HPV testing reduces the need for unnecessary procedures.

[Cervical cancer screening](#)

Hereditary cancer program

We help identify the risk of inheriting and preventing certain cancers.

[Learn about hereditary \(genetic\) cancer](#)

Early warning signs of cancer

Watch for symptoms you shouldn't ignore.

[Know the early signs of cancer](#)

Service and Care

[Answers to Common Questions](#)

[New Member](#)

[Get Care](#)

Mobile Apps

[My Doctor Online App](#)

[My KP Meds](#)

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PERMANENTE MEDICINE®
The Permanente Medical Group

Wellness Coaching

Discover ways to make lasting lifestyle changes. Wellness coaches will help you tap into your motivation and achieve your personal health goals. They'll work with you to lose weight, eat healthier, start exercising, quit tobacco, sleep better, and reduce stress.

How do I get started?

Schedule a wellness coaching phone appointment online or call 866-251-4514. Appointments are available Monday to Friday 7 a.m. to 7 p.m., and Saturdays 8:30 a.m. to 5 p.m. There's no additional cost to members.

Schedule appointment



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Tobacco Control

Telephone-Based Coaching: A Comparison of Tobacco Cessation Programs in an Integrated Health Care System

Mindy Boccio, MPH; Rashel S. Sanna, BA; Sara R. Adams, MPH; Nancy C. Goler, MD; Susan D. Brown, PhD; Romain S. Neugebauer, PhD; Assiamira Ferrara, MD, PhD; Deanne M. Wiley, BA; David J. Bellamy, MAOM; Julie A. Schmittdiel, PhD

Abstract

Purpose. Many Americans continue to smoke, increasing their risk of disease and premature death. Both telephone-based counseling and in-person tobacco cessation classes may improve access for smokers seeking convenient support to quit. Little research has assessed whether such programs are effective in real-world clinical populations.

Design. Retrospective cohort study comparing wellness coaching participants with two groups of controls.

Setting. Kaiser Permanente Northern California, a large integrated health care delivery system.

Subjects. Two hundred forty-one patients who participated in telephonic tobacco cessation coaching from January 1, 2011, to March 31, 2012, and two control groups: propensity-score-matched controls, and controls who participated in a tobacco cessation class during the same period. Wellness coaching participants received an average of two motivational interviewing-based coaching sessions that engaged the patient, evoked their reason to consider quitting, and helped them establish a quit plan.

Measures. Self-reported quitting of tobacco and fills of tobacco cessation medications within 12 months of follow-up.

PURPOSE

Tobacco use is a major cause of premature death worldwide.¹ Although adult tobacco-use rates have declined steadily in the United States for the past 60 years, the annual burden of smoking-attributable mortality in the United States has remained above 400,000 for more than a decade, with millions more living with smoking-related diseases.² Tobacco-use rates have stubbornly persisted at a level of approximately 20% of all U.S. adults

Am J Health Promotion. 2016;31(2):136-42.

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Telephone wellness coaching was as effective as in-person classes and was associated with higher rates of quitting compared to no treatment. The telephone modality may increase convenience and scalability for health care systems looking to reduce tobacco use and improve health.

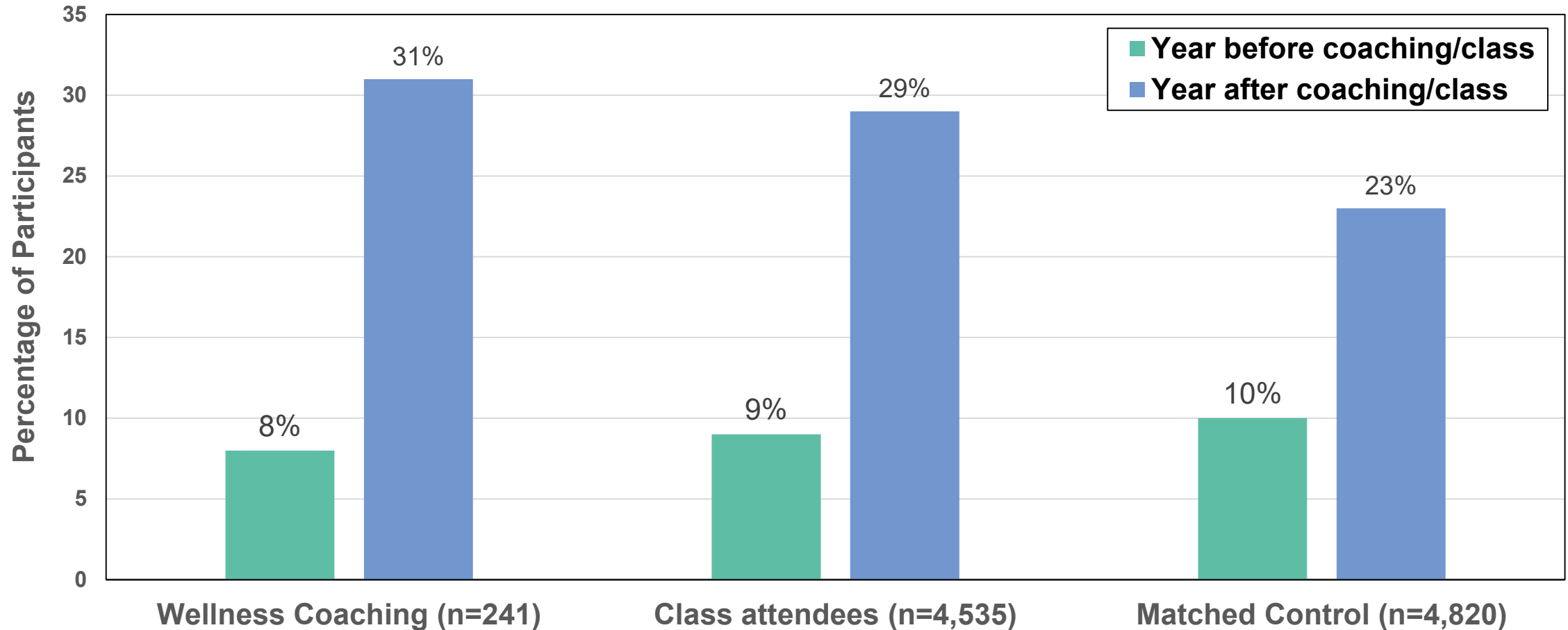
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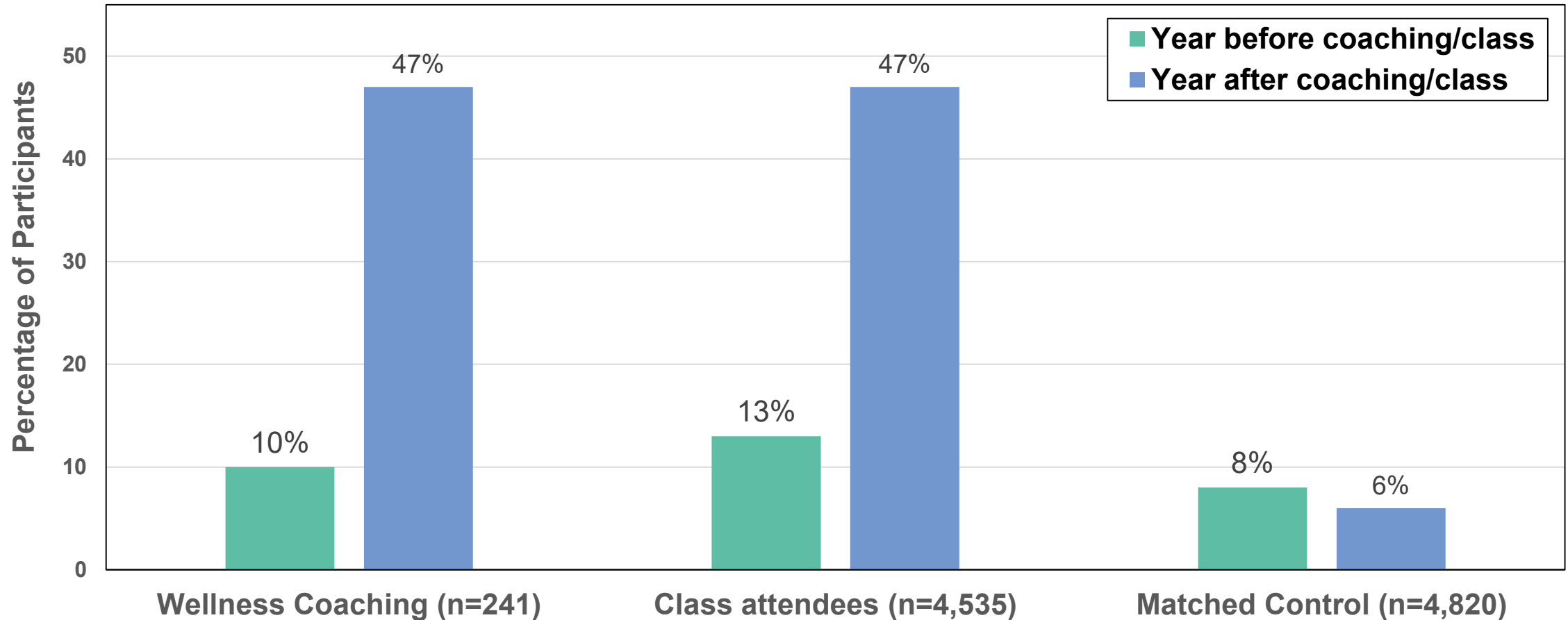
Does KP Wellness Coaching Result in Smoking Cessation?

- Evaluation of Telephonic Wellness Coaching program, including motivational interviewing, on smoking cessation
- Participants in quit smoking programs from January 2011 to March 2012 or comparison group
 - 241 who participated Wellness Coaching program (46.5% referred by primary care physician)
 - 4,820 from propensity score-matched comparison population (20:1)
 - 4,535 who participated in single (3 hr) or multi-session (up to 8 weekly 90-minute sessions) tobacco cessation programs
 - No demographic differences between Wellness Coaching and comparison groups; Wellness Coaching participants tended to be more female and less White than those in other tobacco cessation programs
- Outcomes:
 - Smoking quit rate at one year after index date
 - Use of tobacco cessation medication (e.g., nicotine, bupropion, varenicline) in that year

Participation in tobacco cessation programs results in higher quit rates, KPNC



Participation in tobacco cessation programs results in higher tobacco cessation medical fill rates, KPNC



The Impact of Telephonic Wellness Coaching on Weight Loss: A “Natural Experiments for Translation in Diabetes (NEXT-D)” Study

Julie A. Schmittdiel¹, Sara R. Adams¹, Nancy Goler², Rashel S. Sanna³, Mindy Boccio³, David J. Bellamy², Susan D. Brown¹, Romain S. Neugebauer¹, and Assiamira Ferrara¹

Objective: To evaluate the impact of a population-based telephonic wellness coaching program on weight loss.

Methods: Individual-level segmented regression analysis of interrupted time series data comparing the BMI trajectories in the 12 months before versus the 12 months after initiating coaching among a cohort of Kaiser Permanente Northern California members ($n = 954$) participating in The Permanente Medical Group Wellness Coaching program in 2011. The control group was a 20:1 propensity-score matched control group ($n = 19,080$) matched with coaching participants based on baseline demographic and clinical characteristics.

Results: Wellness coaching participants had a significant upward trend in BMI in the 12 months before their first wellness coaching session and a significant downward trend in BMI in the 12 months after their first session equivalent to a clinically significant reduction of greater than one unit of baseline BMI ($P < 0.01$ for both). The control group did not have statistically significant decreases in BMI during the post-period.

Conclusions: Wellness coaching has a positive impact on BMI reduction that is both statistically and clinically significant. Future research and quality improvement efforts should focus on disseminating wellness coaching for weight loss in patients with diabetes and those at risk for developing the disease.

The Impact of Telephonic Wellness Coaching on Weight Loss: A “Natural Experiments for Translation in Diabetes (NEXT-D)” Study

Obesity 2017(25):352-356.

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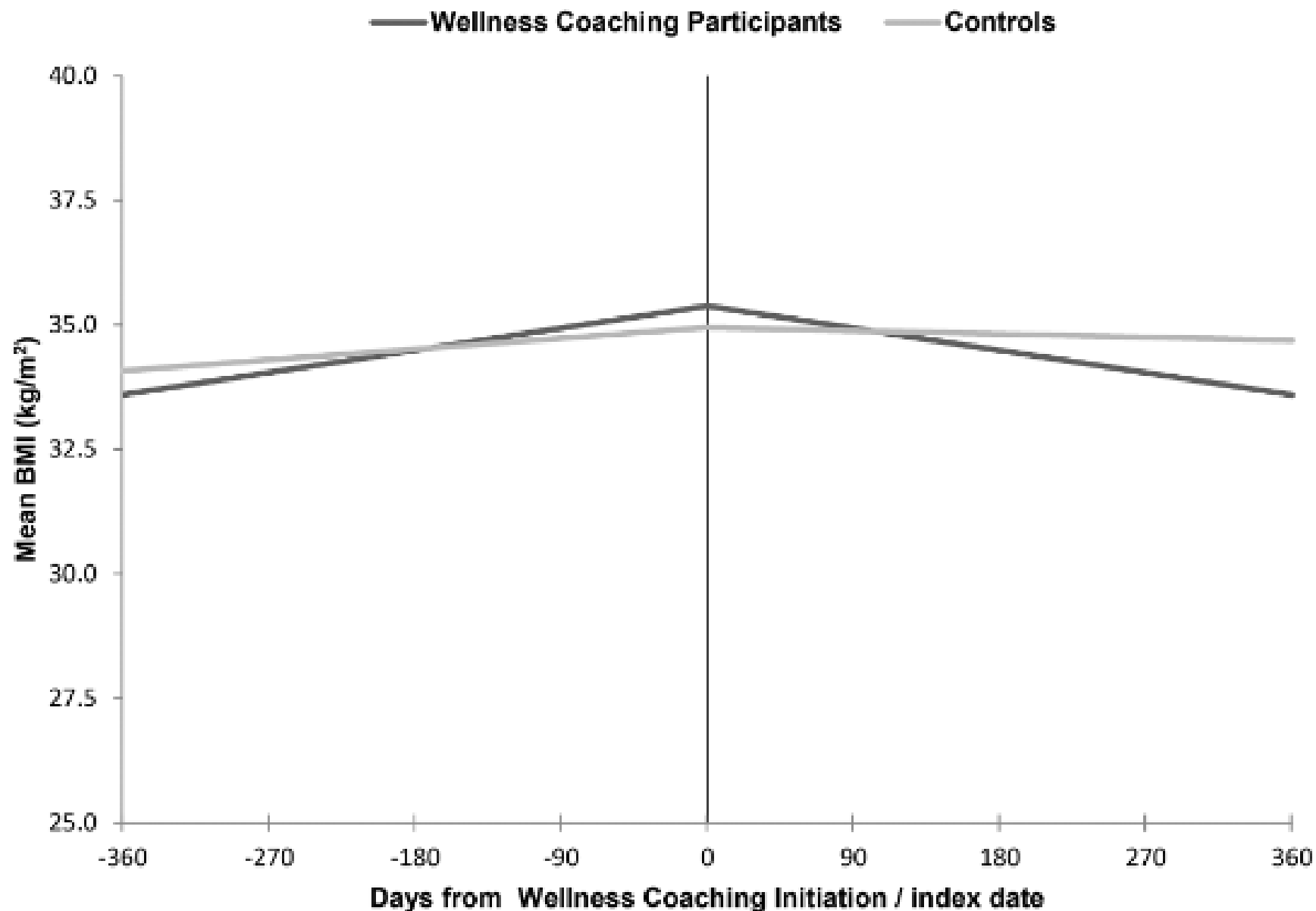
Wellness coaching has a positive impact on BMI reduction that is both statistically and clinically significant. Future research and quality improvement efforts should focus on disseminating wellness coaching for weight loss in patients with diabetes and those at risk of developing the disease.

Does KP Wellness Coaching Result in Weight Loss?

- Evaluation of Telephonic Wellness Coaching program, including motivational interviewing, on changes in BMI trajectories before and after program initiation
- Participants in Wellness Coaching weight loss programs from January 2011 to August 2011 or comparison group
 - Weight loss programs included participation in weight management, healthy eating, or physical activity coaching
 - 954 who participated these Wellness Coaching program
 - 19,080 form propensity score-matched comparison population (20:1)
 - No demographic differences between Wellness Coaching and comparison group
 - BMI around and prior to start of program (or comparable index date) was similar (34.5 kg/m² vs 34.3 kg/m², respectively)
- Outcome:
 - Change in BMI trajectories

Participation in KPNC Wellness Coaching related to weight loss results in greater 1-year weight loss trajectories

Outcome	N of participants	1-year BMI trajectory slope estimate	95% CI of slope	P-value
Slope before index date				
Wellness Coaching	954	1.78	0.77 to 2.79	<0.001
Matched comparison	19,080	0.87	0.58 to 1.15	<0.001
Difference		0.91	-0.13 to 1.96	0.09
Slope after index date				
Wellness Coaching	954	-1.79	-2.68 to -0.90	<0.001
Matched comparison	19,080	-0.26	-0.58 to 1.15	0.11
Difference		-1.53	-2.47 to -0.58	0.002



Participation in KPNC Wellness Coaching results in greater 1-year weight loss trajectories

Schmittiel et al., Obesity, 2017

Initial Validation of an Exercise “Vital Sign” in Electronic Medical Records

KAREN JACQUELINE COLEMAN¹, EUNIS NGOR¹, KRISTI REYNOLDS¹, VIRGINIA P. QUINN¹, CORINNA KOEBNICK¹, DEBORAH ROHM YOUNG¹, BARBARA STERNFELD², and ROBERT E. SALLIS³

¹*Department of Research and Evaluation, Kaiser Permanente Southern California, Pasadena, CA;* ²*Division of Research, Kaiser Permanente Northern California, Oakland, CA;* and ³*Department of Family Medicine Fontana Medical Center, Kaiser Permanente Southern California, Fontana, CA*

ABSTRACT

COLEMAN, K. J., E. NGOR, K. REYNOLDS, V. P. QUINN, C. KOEBNICK, D. R. YOUNG, B. STERNFELD, and R. E. SALLIS. Initial Validation of an Exercise “Vital Sign” in Electronic Medical Records. *Med. Sci. Sports Exerc.*, Vol. 44, No. 11, pp. 2071–2076, 2012. **Purpose:** The objective of this study is to describe the face and discriminant validity of an exercise vital sign (EVS) for use in an outpatient electronic medical record. **Methods:** Eligible patients were 1,793,385 adults 18 yr and older who were members of a large health care system in Southern California. To determine face validity, median total self-reported minutes per week of exercise as measured by the EVS were compared with findings from national population-based surveys. To determine discriminant validity, multivariate Poisson regression models with robust variance estimation were used to examine the ability of the EVS to discriminate between groups of patients with differing physical activity (PA) levels on the basis of demographics and health status. **Results:** After 1.5 yr of implementation, 86% (1,537,798) of all eligible patients had an EVS in their electronic medical record. Overall, 36.3% of patients were completely inactive (0 min of exercise per week), 33.3% were insufficiently active (more than 0 but less than 150 min·wk⁻¹), and 30.4% were sufficiently active (150 min or more per week). As compared with national population-based surveys, patient reports of PA were lower but followed similar patterns. As hypothesized, patients who were older, obese, of a racial/ethnic minority, and had higher disease burdens were more likely to be inactive, suggesting that the EVS has discriminant validity. **Conclusions:** We found that the EVS has good face and discriminant validity and may provide more conservative estimates of PA behavior when compared with national surveys. The EVS has the potential to provide information about the relationship between exercise and health care use, cost, and chronic disease that has not been previously available at the population level. **Key Words:** PHYSICAL ACTIVITY COUNSELING, PRIMARY CARE, PHYSICIAN, POPULATION

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Med Sci Sports Exerc. 2012 Nov;44(11):2071-6.

ABSTRACT

COLEMAN K, J, E, NGOR K, REYNOLDS V, P, QUINN C, KOEBNICK D, R, YOUNG B, STERNFELD, and R, E, SALLIS

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PHYSICIAN, POPULATION

Exercise as a Vital Sign

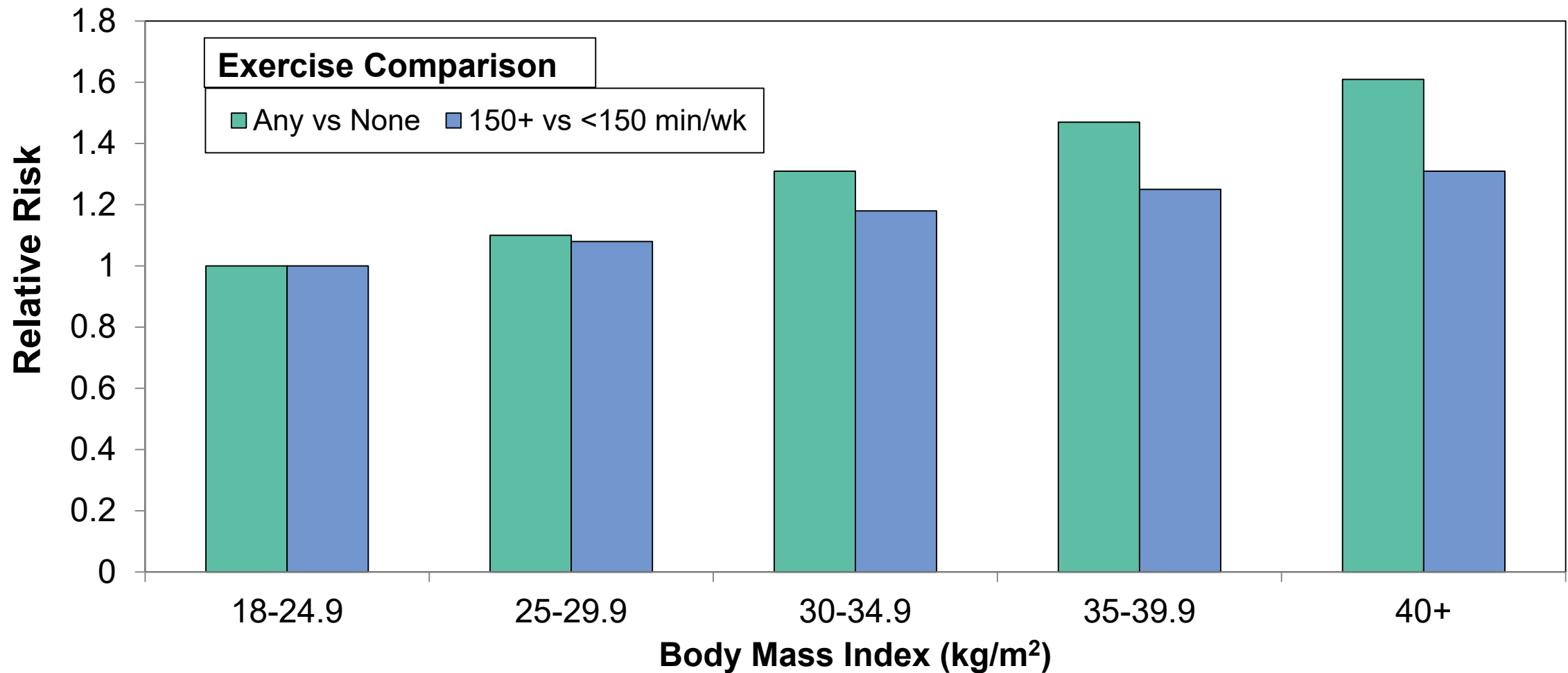
Kaiser Permanente Southern California

- Beginning in October, 2009, at each outpatient visit, patients are asked:
 - On average, how many days per week do you engage in moderate to strenuous exercise (like a brisk walk)?
 - On average, how many minutes do you engage in exercise at this level?
- Response choices for days are categorical (0–7)
- Minutes are recorded in blocks of 10: 0, 10, 20, 30, 40, 50, 60, 90, 120, and 150 or greater
- Responses entered into electronic medical record

Body Mass Index and Exercise as a Vital Sign

Kaiser Permanente Southern California

(n=1,793,385 adults, 4/2010 – 3/2011)



Exercise as a Vital Sign: A Quasi-Experimental Analysis of a Health System Intervention to Collect Patient-Reported Exercise Levels

Richard W. Grant, MD MPH, Julie A. Schmittdiel, PhD, Romain S. Neugebauer, PhD, Connie S. Uratsu, RN PHN, and Barbara Sternfeld, PhD

Division of Research, Kaiser Permanente Northern California, Oakland, CA, USA.

BACKGROUND: Lack of regular physical activity is highly prevalent in U.S. adults and significantly increases mortality risk.

OBJECTIVE: To examine the clinical impact of a newly implemented program ("Exercise as a Vital Sign" [EVS]) designed to systematically ascertain patient-reported exercise levels at the beginning of each outpatient visit.

DESIGN AND PARTICIPANTS: The EVS program was implemented in four of 11 medical centers between April 2010 and October 2011 within a single health delivery system (Kaiser Permanente Northern California). We used a quasi-experimental analysis approach to compare visit-level and patient-level outcomes among practices with and without the EVS program. Our longitudinal observational cohort included over 1.5 million visits by 696,267 adults to 1,196 primary care providers.

KEY WORDS: primary care; health systems; health services research; health IT; exercise; diabetes; weight loss.

J Gen Intern Med 29(2):341–8

DOI: 10.1007/s11606-013-2693-9

© Society of General Internal Medicine 2013

The United States is experiencing an epidemic of physical inactivity. Recent national survey data indicate that over one-third of U.S. adults engage in no physical activity,¹ and less than 10 % achieve the recommended dose of 150 minutes of moderate activity or 75 minutes of vigorous activity per week when measured by accelerometry.² This lack of regular moderate to vigorous physical activity (MVPA) has

Exercise as a Vital Sign: A Quasi-Experimental Analysis of a Health System Intervention to Collect Patient-Reported Exercise Levels

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J Gen Intern Med 29(2):341-8

OBJECTIVE:

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exercise

DESIGN:

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Systematically collecting exercise information during outpatient visits is associated with small but significant changes in exercise-related clinical processes and outcomes, and represents a valuable first step towards addressing the problem of inadequate physical activity.

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Exercise as a Vital Sign

Kaiser Permanente Northern California

- Exercise as a vital sign (EVS) implemented April 2010 to November 2011.
- EVS implementation was associated with greater exercise-related progress note documentation (26.2 % vs 23.7 % of visits, aOR 1.12 [95 % CI: 1.11–1.13], $p<0.001$) and referrals (2.1 % vs 1.7 %; aOR 1.14 [1.11–1.18], $p<0.001$) compared to visits without EVS.
- Surveyed patients ($n=6,880$) were more likely to report physician exercise counseling (88 % vs. 76 %, $p<0.001$).
- Overweight patients (BMI 25–29 kg/m², $n=230,326$) had greater relative weight loss (0.20 [0.12 – 0.28] lbs, $p<0.001$)
- Patients with diabetes and baseline HbA1c >7.0 % ($n=30,487$) had greater relative HbA1c decline (0.1 % [0.07 %–0.13 %], $p<0.001$) in EVS practices compared to non-EVS practices.

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Select vital signs questionnaire domains collected during outpatient visits

- Tobacco use
- Alcohol use
- Physical activity

Check in on:

- Recommended vaccinations
- Recommended cancer prevention screenings

By asking these items on a routine basis:

- Helps to promote health
- Enables referral to relevant programs such as Wellness Coaching
- Provides data for evaluation of impact of associated advice

Food Choices as a Vital Sign?

- Should KP and other health care organizations institute a policy in which clinicians ask, as part of routine care, about food choices?
- Some candidates for simple questions:
 - Processed meat (and red meat) intake: recognized cancer-causing agent by IARC; decreased consumption recommended by ACS, WCRF/AICR
 - Sugar-sweetened beverages: a recognized cause of obesity, a known important risk factor for a variety of cancers
 - Vegetables, fruit, whole grains, beans: a central component of cancer prevention, heart disease prevention and management, and general health guidelines

Summary

- Kaiser Permanente has implemented health education programs that address areas related to cancer prevention, and that are available at no cost to members
- Data are available to evaluate the effectiveness of these programs, and have been used to demonstrate this effectiveness
- Other data domains, in particular food choices, is an important area in which data are not routinely available
- Health care systems and the clinical setting has been demonstrated to play an important role in strategies aligned with cancer prevention

Thank you

- Silvia Teran
- Todd Dray
- Rajiv Misquitta
- Julie Schmittiel
- and many others