



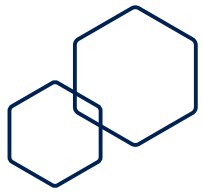
Physical Activity and Dementia



**BRAIN HEALTH
ACADEMY**
UsAgainstAlzheimer's

October 19, 2022





Acknowledgements

This course is presented and developed in partnership with the Physical Activity Alliance and Silver Sneakers by Tivity Health

PHYSICAL ACTIVITY ALLIANCE

*MOVE WITH **US***



Presenters



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Vice President, Analytics, Consumer Research & Data Strategy



Course Description

Physical inactivity is one of the known modifiable risk factors for dementia. People who are physically active are less likely to experience a decline in their mental function and have a lowered risk of developing dementia. This course moves from knowledge to application by providing actionable guidance and tools to help providers effectively address this opportunity with patients and families.

Learning Objectives

-  Participants will be able to list 6 or more modifiable risk factors for dementia.
-  Participants will be able to summarize the link between **physical activity** and dementia.
-  Participants will be able to identify effective interventions and strategies to address **physical activity** with a special focus on adults 45+.
-  Participants will be able to identify special considerations for high-risk populations.



Physical Activity and Dementia





Alzheimer's and Dementia Facts

Scope of the Epidemic (U.S.)¹

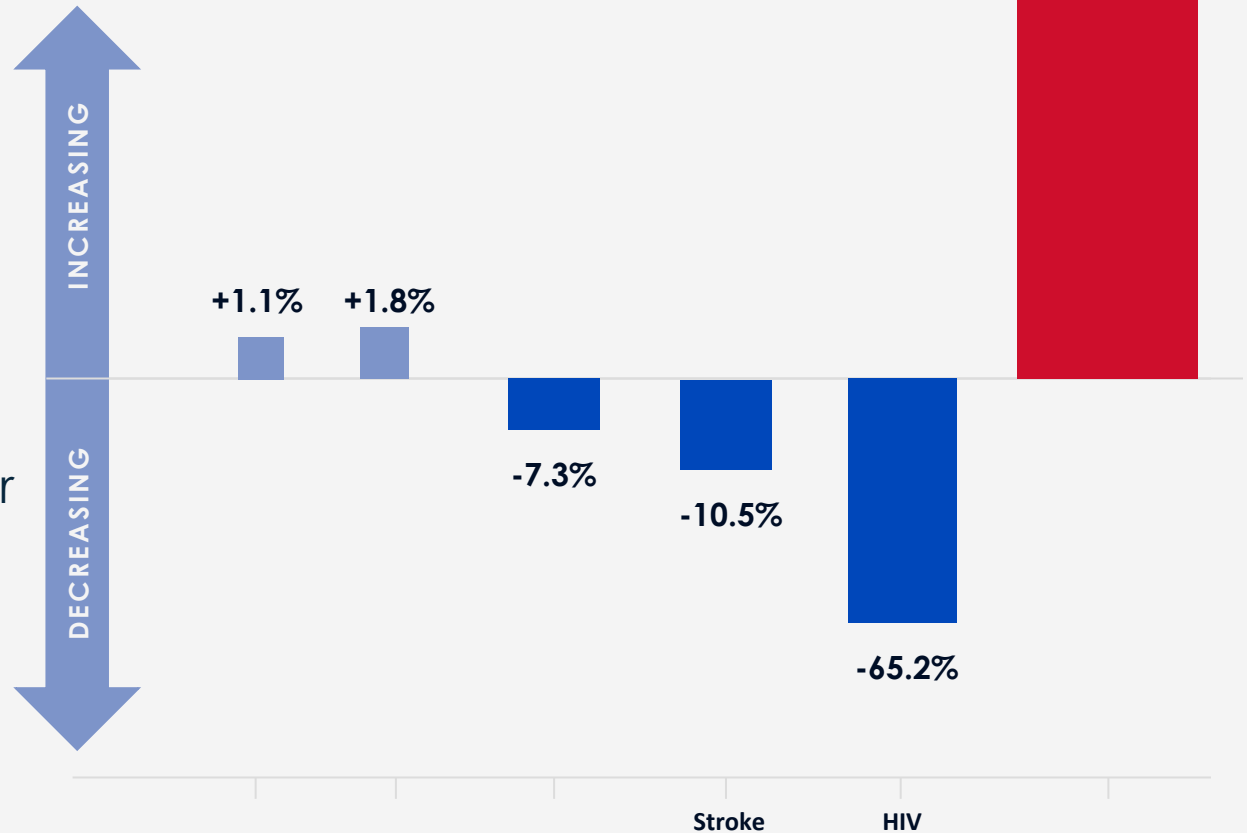
6.5 million adults

1 in 9 adults age ≥ 65

1 in 3 adults age ≥ 85

2/3 are women

Alzheimer's deaths increased 145% from 2000-2019, while other top causes of death have declined



(BAR GRAPH NOT TO SCALE)

Inequities in Brain Health^{2, 3, 4}

African American people are
2X AS LIKELY
to have Alzheimer's

Latino people are
1.5X AS LIKELY
to have Alzheimer's



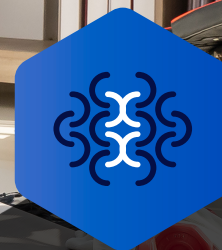
Less likely than White patients to receive a timely diagnosis;



More likely to report experiencing racial discrimination along their patient and caregiver journeys;



Less likely to be enrolled in cutting-edge Alzheimer's and brain health research.



Modifiable Risk Factors for Dementia

Modifiable Risk Factors^{9,10}

40%
of dementia cases
could be prevented
by addressing these
lifestyle factors

INCREASE

- Education
- **Physical Activity**
- Social Contact

DECREASE

- Hearing Loss
- Hypertension
- Obesity
- Smoking
- Depression
- Diabetes
- Excessive Alcohol Intake
- Head Injury
- Air Pollution



What Patients Think

Insights on Physical Activity: The Senior Healthy Living Survey



Interviews
Conducted Online



300 New Respondents
Every Two Weeks



Nationally Rep Sample
of MA Enrollees

>30 Ongoing Trackers

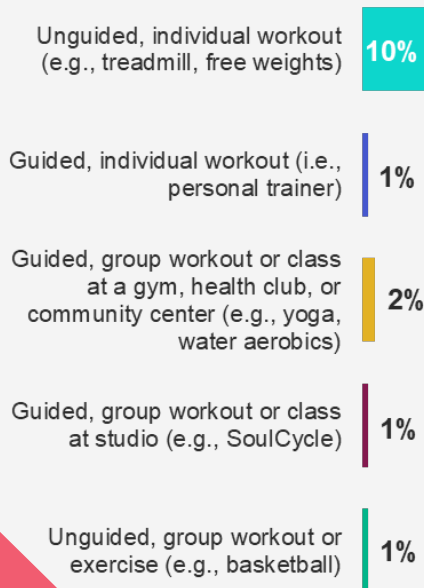
±6% Margin of Error

Insights on Physical Activity: The Senior Healthy Living Survey

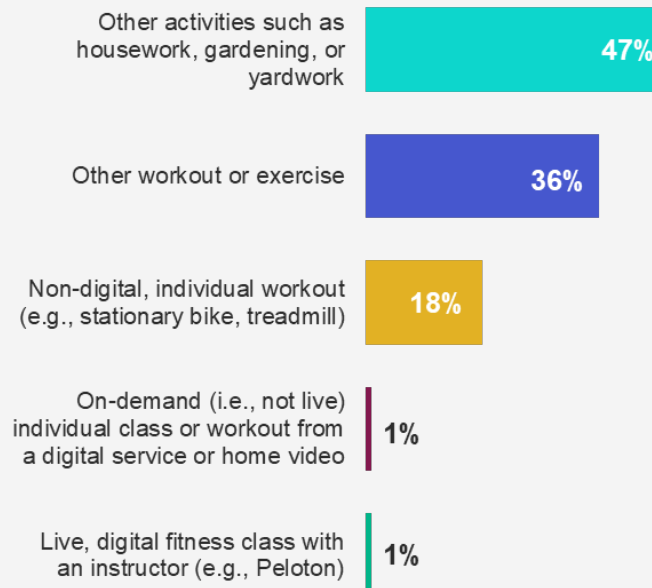
Respondents are most likely to be active at home post-pandemic



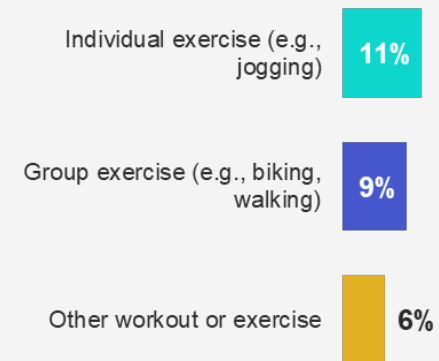
***Gym: 13%**



***Home: 67%**



***Community: 22%**

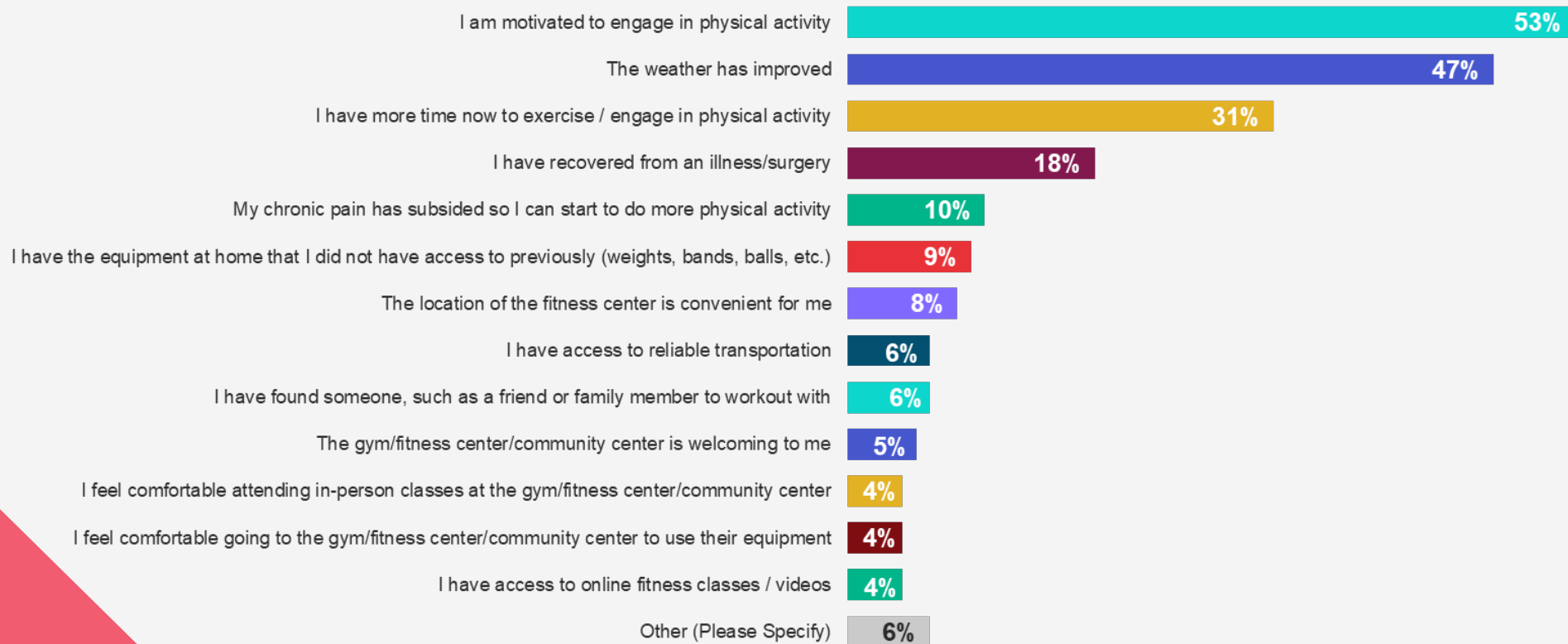


I am not currently participating in any physical activity **27%**

**Percentages for each category at the top are aggregate totals who mentioned participating in any of the physical activity groups*

Insights on Physical Activity: The Senior Healthy Living Survey

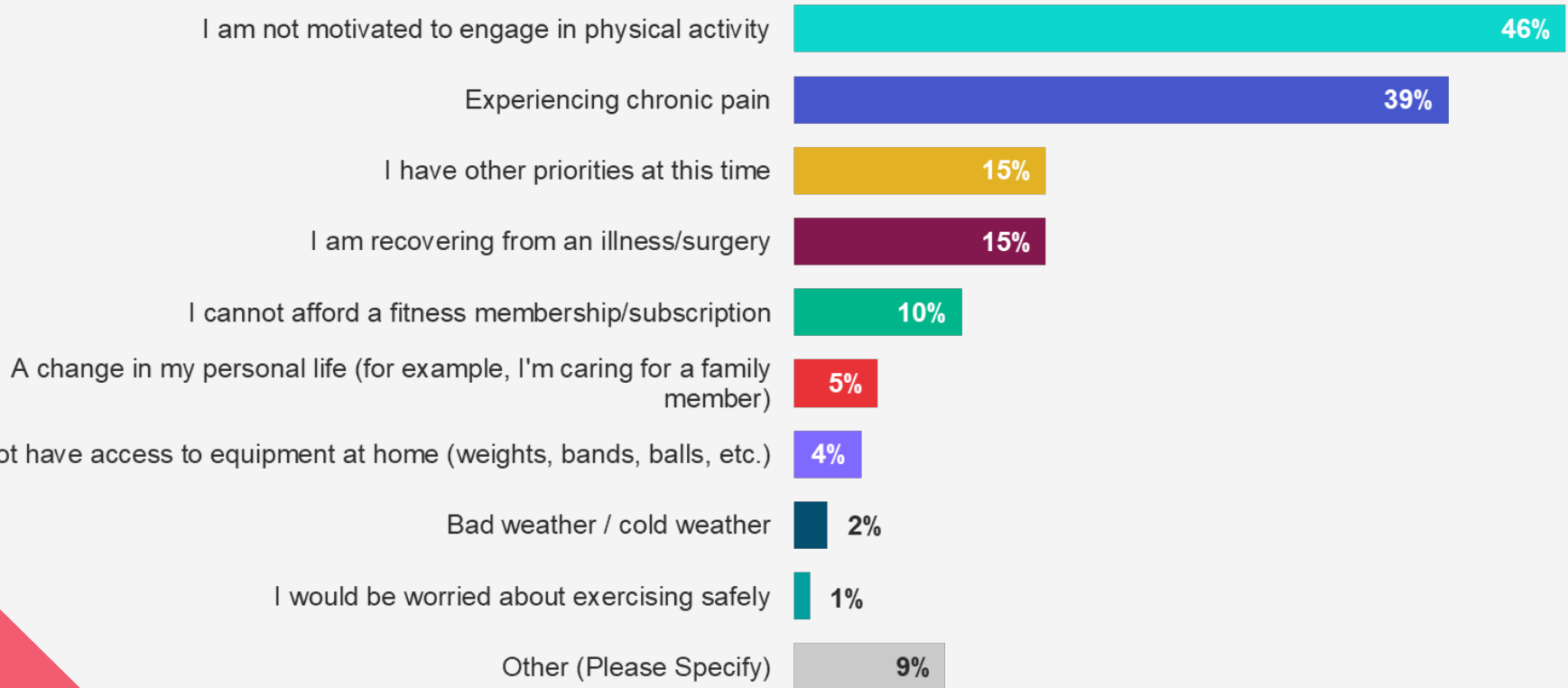
Among the active, motivation, weather, and time are most often cited as the reason



**Data should be treated directionally due to small sample size.*

Insights on Physical Activity: The Senior Healthy Living Survey

Among the inactive, motivation and chronic pain are most often cited as the reason



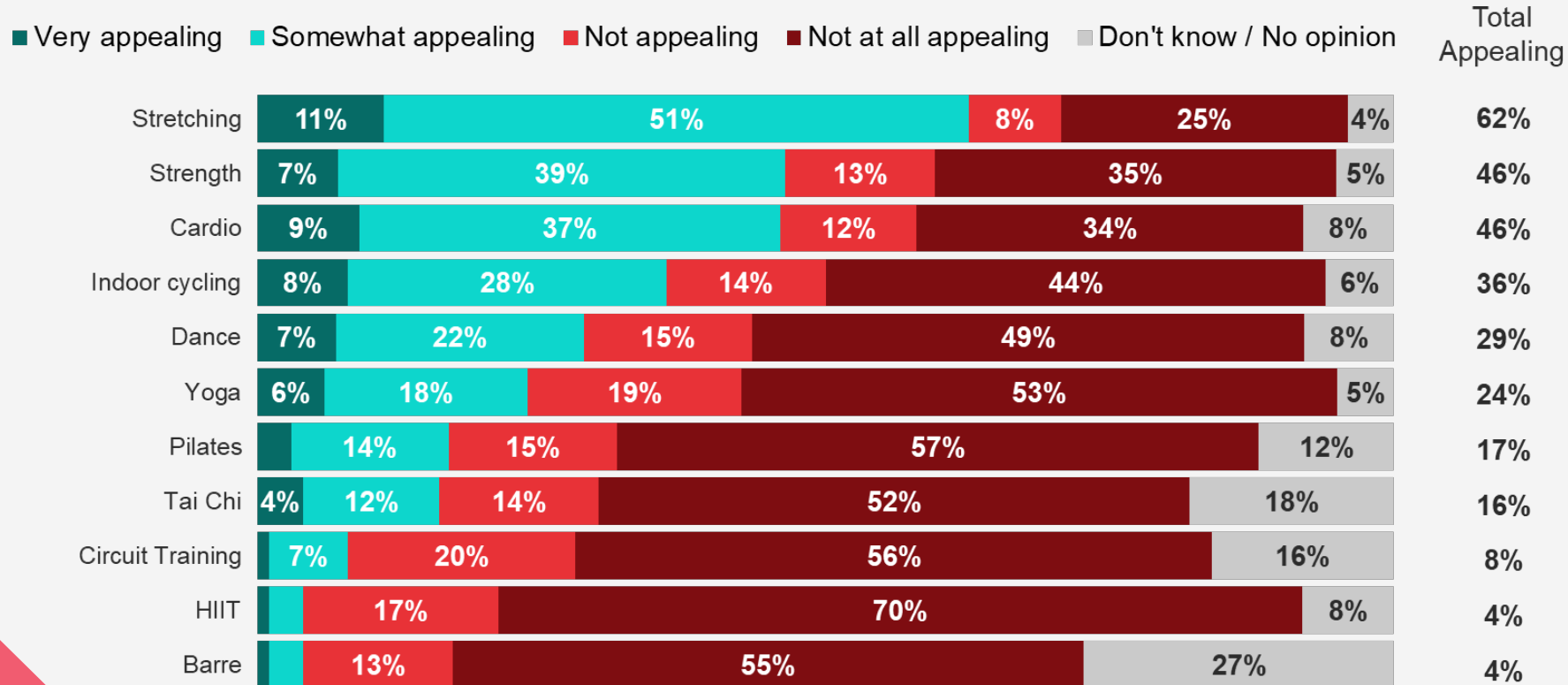
Do not have access to a fitness center not included due to having 0%.

**Data should be treated directionally due to small sample size.*

Insights on Physical Activity: The Senior Healthy Living Survey



Respondents find stretching, strength, cardio, and cycling most appealing among formats



Data labels <4% not shown.

Insights on Physical Activity: The Senior Healthy Living Survey



Even with recent ubiquity, there is considerable headroom for growth in digital fitness

Do you currently belong, or have you belonged to a digital workout platform / program in the last 3 months (ex: live virtual classes, on-demand classes online, programming on mobile apps)? *Among Seniors who are currently participating in physical activity*



**Data should be treated directionally due to small sample size*

What Matters Most Insights Survey: Physical Activity



- **98%** believe that exercise or physical activity affect the brain and brain health
- **60%** have spoken with their healthcare provider about their physical activity
- **83%** exercise 2X a week or more with 1/3 exercising nearly every day
- Time exercising: 60+ minutes (**29%**), 31-60 minutes (**39%**), 30 minutes or less (**31%**), unsure (**1%**)
 - Respondents at risk and interested in brain health appear to exercise more often and for longer than those affected by MCI/ADRD
- Self-motivation is a **key motivator** to exercise (**26%**); others include: changes to personal life (**28%**), more time (**22%**), workout partner (**21%**), fitness center location (**16%**), and better weather (**15%**)
 - Less motivating factors for those with AD: more time, self-motivation, access to online classes
- **31%** are members of a gym, fitness or community center
 - Those with AD less likely to be member
- 24% have participated in digital/virtual fitness programs
- Greatest sources of information on physical activity: news (**45%**), internet (**44%**), HCPs (**37%**), family/friends (**27%**), social media (**24%**)

Q: What do you need from your health care provider to improve your physical activity?

- ✓ *"To ask the question and hold me accountable the next time we meet."*
- ✓ *"Encouragement, testing physical status."*
- ✓ *"A non-pharmaceutical approach to resolving hip, knee, and leg pain."*
- ✓ *"Ask me how I keep active, give me a realistic goal and types of physical activity to attain the target goal."*
- ✓ *"A kick in the pants!"*

N=687 (of which 645 provided classification: ADRD/MCI diagnosis: 50; high risk for ADRD: 175; current caregivers: 86; former caregivers: 165; general interest in brain health: 169)



The Link Between Physical Activity and Dementia



Physical Activity and Dementia Link

- Ample evidence demonstrating that greater amounts of physical activity are associated with a reduced risk of cognitive decline and Alzheimer's Disease and Related Dementias (ADRD).
- People who are more physically fit are less likely to develop Alzheimer's disease than people who are less physically fit.
- Compared with the least fit participants, the fittest were 33% less likely to develop ADRD. Similarly, the second most fit group was 26% less likely to develop ADRD, the third most fit group was 20% less likely, and the fourth most fit was 13% less likely.
- Regular exercise can significantly reduce the risk of developing dementia by about 30 percent. For Alzheimer's disease specifically, the risk was reduced by 45 percent.

Physical Activity and Dementia Link

11,12, 13



- Frequent exercise (most days of the week) lessens the risk of ADRD. Activity must be intense enough to raise heart rate.
- Exercise likely helps support brain health by increasing blood flow, increasing the chemicals that protect the brain, and countering some of the natural reduction in brain connections that often occur with aging.
- Regular exercise also helps combat other Alzheimer's disease risk factors such as depression, obesity, hypertension, and prediabetes/diabetes.



Social Determinants,
Health Equity
and Physical Activity



Equity and Social Determinants

Social determinants affect physical activity and have impact on health equity ¹⁴

Access to Health Insurance/Quality, Affordable Health Care
Transportation
Housing
Safe Communities
Food and Nutrition Security
Access to Capital/Jobs



Physical Activity Interventions

PA Interventions ¹¹









Clinicians should conduct a physical activity assessment, at least annually, using a practical and validated tool(s) to identify adults (aged 45+) who are sedentary or not meeting recommended levels of physical activity (150 minutes [2½ hours] per week of moderate intensity), and who can decrease their risk of cognitive decline or worsening health.

For individuals not meeting recommended levels of physical activity, develop a plan using a safe, gradual approach that starts with moderate-intensity physical activity that fits within a person's lifestyle (e.g., walking, gardening, dancing, calisthenics) and is culturally acceptable.

Tools to assess PA quality ¹¹

Examples of validated physical assessment tools to evaluate an individual's level of physical activity:

-  Rapid Assessment of Physical Activity
-  Physical Activity Vital Sign (PAVS)
-  Exercise Vital Sign (EVS)
-  Speedy Nutrition and Physical Activity Assessment (SNAP)
-  General Practice Physical Activity Questionnaire (GPPAQ)
-  Stanford Brief Activity Survey (SBAS)

Additional tools can be found at: <https://www.ahajournals.org/DOI/epub/10.1161/CIR.000000000000055>





Considerations for
Implementation

Intermountain Healthcare

Physical Activity Vital Sign (PAVS)

*Performed on: 08/18/2016 0809 MDT

Vitals

SBP / DBP mmHg / mmHg MAP mmHg Heart Rate bpm Resp. Rate br/min O2 Sat % O2 L/Min L/min Temperature Deg C

☒ Resting ☐ Exertion

Physical Activity

Minutes per day Times per week Minutes per week Intensity Physical Activity Consultation

Counseled to start physical activity
Counseled to increase physical activity
Counseled to maintain physical activity
Counseled to modify physical activity

Pain

Pain Present Pain (0-10) Pain Comments

Primary Pain Location

Measurements

Weight kg Height / Length 175.3 cm 69.02 in 175.30 cm 5 ft 9 in

BMI BSA

Waist Circ. cm Ht/Wt Refused? Reason for refusal

Notes and Information

Labels with an * will default if previously charted data.

PREVENTING CHRONIC DISEASE

PUBLIC HEALTH RESEARCH, PRACTICE, AND POLICY

Volume 13, E16 FEBRUARY 2016

ORIGINAL RESEARCH

Concurrent Validity of a Self-Reported Physical Activity "Vital Sign" Questionnaire With Adult Primary Care Patients

Trever J. Ball, PhD, MS, MPH; Elizabeth A. Joy, MD, MPH; Lisa H. Gren, PhD, MSPH; Janet M. Shaw, PhD

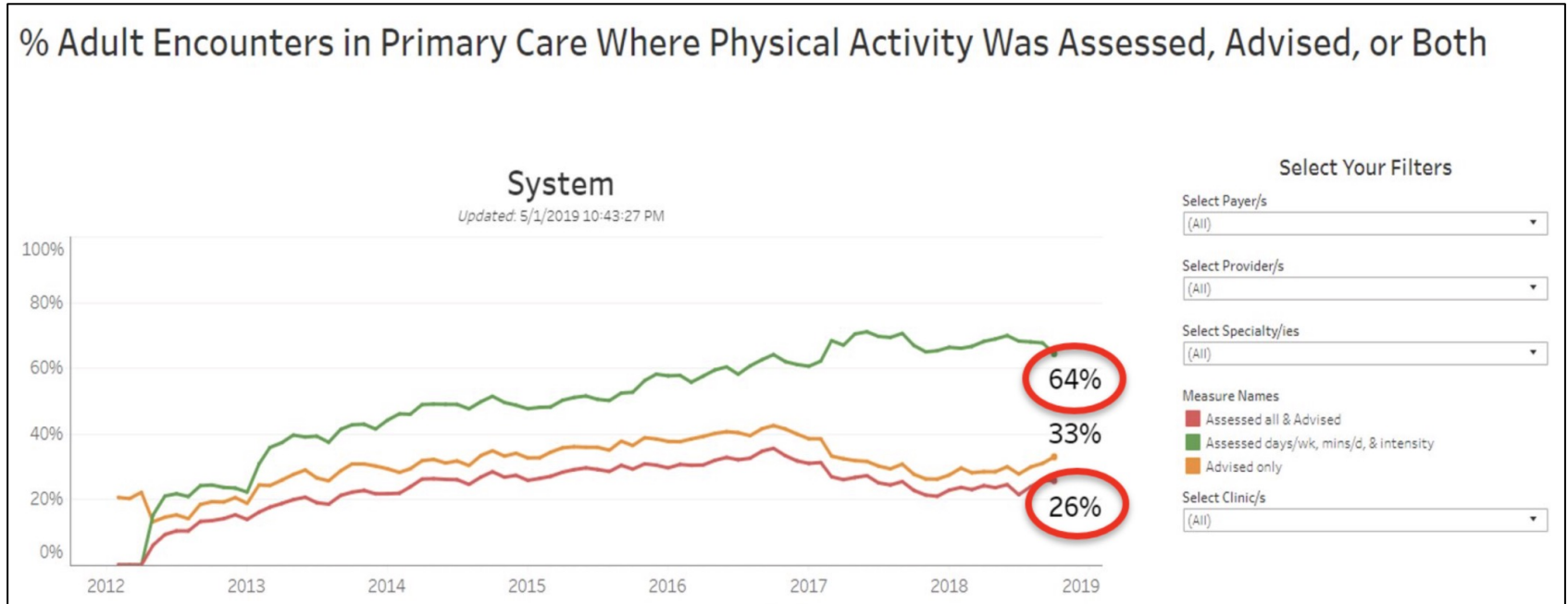
Journal of Physical Activity and Health, 2016, 13, 403-408
<http://dx.doi.org/10.1123/jpah.2015-0210>
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Human Kinetics
ORIGINAL RESEARCH

Predictive Validity of an Adult Physical Activity "Vital Sign" Recorded in Electronic Health Records

Trever J. Ball, Elizabeth A. Joy, Lisa H. Gren, Ruthann Cunningham, and Janet M. Shaw

Documentation of PAVS



Utilization of PAVS

SBIRT: Screening | Brief Intervention | Referral to Treatment

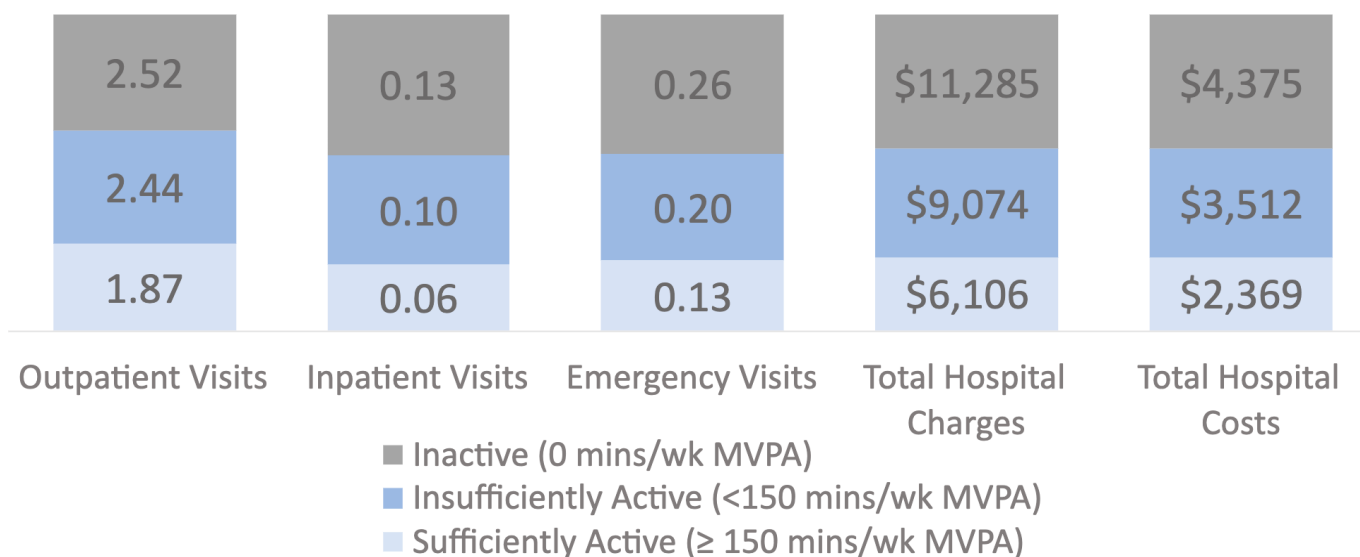
Physical
Activity
Vital Sign
(PAVS)

Physical Activity
Advice
Physical Activity
Counseling
Physical Activity
Prescription

Self-Directed
Physical Activity
Healthcare Resources
(Physical Therapy,
Registered Dietitian,
Cardiopulmonary
Rehabilitation)
Medical Fitness Centers
Employer Based Physical
Activity Resources
Community Based
Physical Activity
Resources

Utilization of PAVS

Annual Healthcare Utilization & Costs by PA Level* (2014-19)



N = 1,195,407 person-years; 459,313 persons

*Mean PA reported during 2 yrs prior to summed annual utilization & costs

Key Outcomes

NEW WELLNESS BENEFITS

FREE for SelectHealth
Medicare Advantage
Patients



- **No cost, unlimited access** to our 5 LiVe Well Centers
- \$240 per person per year Wellness Your Way Benefit

NEW FOR 2022, all SelectHealth Medicare Advantage members will now have full access to our LiVe Well Centers' services **at no cost.** Our LiVe Well Centers provide Lifestyle Medicine, nutrition services, medical fitness, and other integrative services. In partnership with patients and their referring provider, our centers are designed to prevent, manage, and reverse many chronic conditions and diseases.

How can the LiVe Well Center help SelectHealth Medicare Advantage patients?

- **Lifestyle consults** with our physicians and APPs to help with sleep, weight management, chronic conditions, i.e. high cholesterol, or blood pressure, etc.
- **Nutrition** education and therapy with our Registered Dietitians.
- **Exercise prescriptions and programs** with our Exercise Physiologists to help with falls prevention, functional fitness and more.
- **Sleep and Stress management** including Yoga and Mindfulness
- **Health coaching** to:
 - Increase self-awareness, motivation, and self-efficacy.
 - Set and reach personal and professional goals
 - Create a more balanced life
 - Become the best version of yourself

What does this mean for you?

- Improve your patient's health and wellbeing.
- Help alleviate some of the health and wellness burden from you and your staff.
- LiVe Well Centers are your go-to partners for overall health prevention and wellness.

How to refer to our LiVe Well Center:

1. Power Chart (iCentra)
 - a. Order referral to LiVe Well Center
 - b. Enter your referral reason (*also mention SelectHealth Medicare Advantage in your referral*)
 - c. Choose location

For information please contact our LiVe Well Centers:
www.LiVeWellCenter.org

Ogden: (801) 387-8400
Park City: (435) 333-3535 - livewellcenterparkcity1@gmail.com
St. George: (435) 251-3793 - dx-wellness@gmail.com
SLC: (385) 282-2700 - SLLiVeWell@gmail.com
Provo: (801) 357-4141 - livewelluv@gmail.com

Considerations for implementation¹¹



If a completed assessment identifies someone who is not meeting recommended levels of physical activity, help individuals choose smaller goals to start.



The ultimate goal should be to reach at least 150 minutes of aerobic, moderate-intensity physical activity per week combined with muscle strengthening activity at least twice per week.



When patients cannot do the recommended amounts of physical activity due to disability or chronic health conditions, they should be as physically active as their abilities and conditions allow.

Considerations for implementation¹¹



- Goals should be updated or revised based on an individual's progress (or lack of progress).
- The benefits of physical activity communicated to patients should include its effects on memory/brain health.
- Suggesting physical activities that can be done with family, friends, or peers is often more successful.
- Refer to any local/community resources that offer free, low-cost physical activity programs when possible.
- When available, connect individuals with a resource to be a support in between or during visits.
- If an individual is comfortable using digital devices, consider recommending a digital device (e.g., Apple watch, Fitbit) or free app to motivate or help them monitor their activity.
- For individuals meeting physical activity recommendations, continued encouragement and recognition or praise should be given for maintenance



Making Physical
Activity A Standard
of Care



IT'S TIME TO MOVE

A historic project to make physical activity assessment, prescription, and referral a standard of care in the U.S. healthcare system.



A Key Initiative ...

It's Time to Move Campaign

A multi-year project addressing several policy and systems changes that will empower health care providers to seamlessly integrate physical activity clinical measures into patient care plans and help make physical activity prescriptions a standard of care.



A Multi-Pronged Action Plan

- **HL7®** – Measure Standardization
- **Centers for Medicare and Medicaid Services (CMS)** – Coverage Determinations
- **American Medical Association (AMA)** – CPT Codes
- **National Commission on Quality Assurance (NCQA)** – Quality and Performance Measures
- **Office of the National Coordinator (ONC)/HIMSS** – Linking patient generated physical activity device data to the EHR

What/who is HL7?

ANSI-accredited Standards Organization

Over 30 years old

Affiliates in 40+ countries, used in more

Broad engagement from vendors, government, academia, payers, pharma, etc.

Almost entirely volunteer-driven

Although for some volunteers, it's their day-jobs

Goal

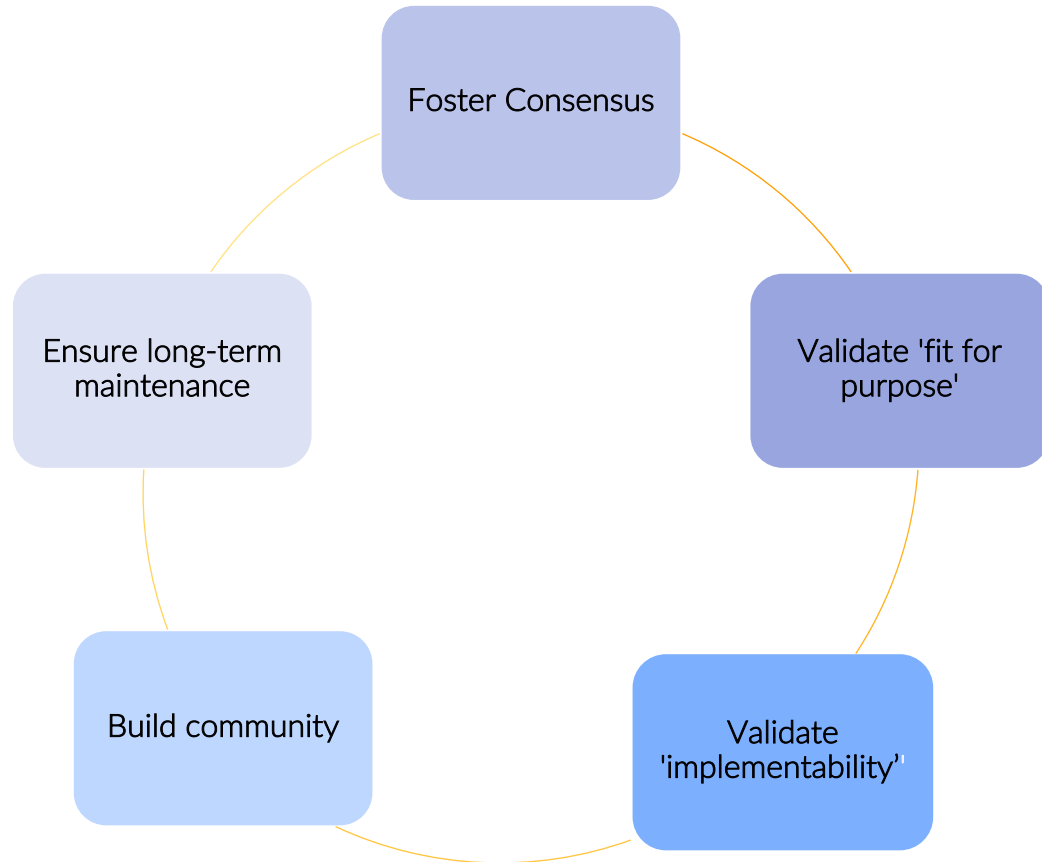
To create an HL7 FHIR IG that demonstrates how **existing patterns and content** established by other projects can be used with a standard physical activity measure to enable:

- sharing of physical activity levels between patients, their primary care providers and other care team members including exercise professionals
- identification of people who are at risk of poor health outcomes due physical inactivity
- prescription of exercise and referral of patients to community-based providers
- monitoring of changes to individual physical activity levels over time and as a result of interventions taken by health care providers and exercise professionals
- insurance coverage determination and payment for services
- vendor adoption of the measure(s) in EHR systems.

Why develop a standard?

Not just a rubber stamp.

The standards process helps to:



Measure Example

The Miracle Drug: Exercise is Medicine®

Exercise
is Medicine®

AMERICAN COLLEGE
of SPORTS MEDICINE

In an era of spiraling health care expenditures, getting patients to be more active may be the ultimate low-cost therapy for achieving improved health outcomes. Studies show that regular physical activity (PA) has health benefits at any body weight and is critical for long-term weight management. Decades of research have shown that exercise is as effective as prescription medication in the management of several chronic diseases. Just as weight and blood pressure are addressed at nearly every health care visit, so should attention be given to PA.

Assessment: Use the Physical Activity Vital Sign to Assess Weekly PA Levels

Add these two simple questions to the health history form and electronic health record to determine if the patient is meeting the PA guidelines:

1. On average, how many days/week do you engage in moderate to vigorous PA (like brisk walking)? _____ days
 2. On average, how many minutes do you engage in PA at this level? _____ minutes
- Total Activity (days/week x minutes/day) = _____ minutes/week**

Brief Advice/Prescription: Basic Exercise Recommendations

- Encourage your patient to meet the PA guidelines (see chart). At minimum, adults should be more active over the course of a day (i.e., take frequent breaks from sitting, walk the dog, use the stairs). Every minute counts! Children and adolescents should engage in sports, dance, outdoor recreation and active games.
- Provide the [EIM "Sit Less, Move More"](#) handout to your patients. The [EIM Rx for Health Series](#) also provides condition-specific handouts.

2018 Physical Activity Guidelines for Americans

Age (yrs old)	Aerobic Activity Recommendations	Muscle Strengthening Recommendations
6-17	60 minutes of moderate or vigorous physical activity (PA)/day including at least 3 days of vigorous PA/wk	3 days/week and included as part of the 60 minutes of daily PA. Also include bone-loading activity
18-64	150-300 minutes of moderate PA/wk, 75 minutes of vigorous PA/wk or equivalent combination spread throughout the week	Muscle strengthening activities at moderate or greater intensity (all major muscle groups) on 2 or more days/wk
65+	Same as adults, or be as active as abilities and health conditions allow	Same as adults, but include balance training and combination activities (strength and aerobic training together)
All Ages	Sit less. Move more. All physical activity counts.	

LOINC® 

VERSION 2.72

LOINC CODE

89574-8

LONG COMMON NAME

Exercise Vital Sign (EVS)

LOINC STATUS

Active

Term Description

This panel was reviewed and validated by Kaiser Permanente to be used to represent the Exercise Vital Sign (EVS).

Source: Regenstrief LOINC

Panel Hierarchy

Details for each LOINC in Panel

LHC-Forms

LOINC	Name	Example R/O/C Cardinality UCUM Units
89574-8	Exercise Vital Sign (EVS)	
89555-7	For an average week in the last 30 days, how many days per week did you engage in moderate to strenuous exercise (like walking fast, running, jogging, dancing, swimming, biking, or other activities that cause a light or heavy sweat)?	d/wk
68516-4	On those days that you engage in moderate to strenuous exercise, how many minutes, on average, do you exercise?	min/d

Project Updates (IG)



- Consensus on Primary Measure:
 - Exercise Vital Sign
 - Both response + summation into min/week of MVPA
 - Number of days per week of muscular strength exercise
- Establishing list of supporting measures
 - Data derived from wearable activity trackers, exercise logs, and connected exercise equipment



Timeline for HL7 Work



- Currently working on the Implementation Guide with Core Expert Advisory Group
- We are using lessons learned from the Gravity Accelerator Project (Which is addressing social determinants of health, solving similar issues to the work we are doing in physical activity)
- First Connectathon/Implementation Testing – Nov 2022
- Second Connectathon/Implementation Testing – Jan 2023
- Continue to Integrate Feedback – Spring 2023
- Bring to Ballot for Final Approval – May 2023
- 2023-2027 – Continue to Refine and Improve; Prioritize Implementation and Uptake



Patient Resources

Patient Resources



- ◆ When available, connect individuals with a resource to be a support in between or during visits.
- ◆ Resources to share with older adults: <https://health.gov/our-work/physical-activity/move-your-way-campaign/campaign-materials/materials-older-adults>
- ◆ United States Registry of Exercise Professionals: [USREPS - The United States Registry of Exercise Professionals](#)
- ◆ If an individual is comfortable using digital devices, consider recommending a digital device (e.g., Apple watch, Fitbit) or free app to motivate or help them monitor their activity.
- ◆ For individuals meeting physical activity recommendations, continued encouragement and recognition or praise should be given for maintenance.

Thank you!



PHYSICAL ACTIVITY ALLIANCE
MOVE WITH US

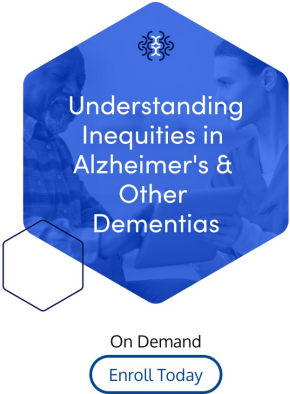







This presentation and related resources are available at:
<https://www.usagainstalzhaimers.org/nutrition-and-dementia>

Please register for additional courses at:
<https://www.usagainstalzhaimers.org/brain-health-academy>

For more information, contact:
Kelly O'Brien
UsAgainstAlzhaimers
kobrien@usagainstalzhaimers.org



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- ¹¹ Sabbagh, M. N., Perez, A., Holland, T. M., Boustani, M., Peabody, S. R., Yaffe, K., ... & Tanzi, R. E. (2022). Primary prevention recommendations to reduce the risk of cognitive decline. *Alzheimer's & Dementia*.
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- ¹³ Su S, Shi L, Zheng Y, et al. Leisure Activities and the Risk of Dementia: A Systematic Review and Meta-Analysis [published online ahead of print, 2022 Aug 10]. *Neurology*. 2022;10
- ¹⁴ Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved [date graphic was accessed], from <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>