Evidence-Based Wellness: The Science Behind Behavior Change

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PNAS PERSPECTIVE

Why are people antiscience, and what can we do about it?

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From vaccination refusal to climate change denial, antiscience views are threatening humanity. When different individuals are provided with the same piece of scientific evidence, why do some accept whereas others dismiss it? Building on various emerging data and models that have explored the psychology of being antiscience, we specify four core bases of key principles driving antiscience attitudes. These principles are grounded in decades of research on attitudes, persuasion, social influence, social identity, and information processing. They apply across diverse domains of antiscience phenomena. Specifically, antiscience attitudes are more likely to emerge when a scientific message comes from sources perceived as lacking credibility; when the recipients embrace the social membership or identity of groups with antiscience attitudes; when the scientific message itself contradicts what recipients consider true, favorable, valuable, or moral; or

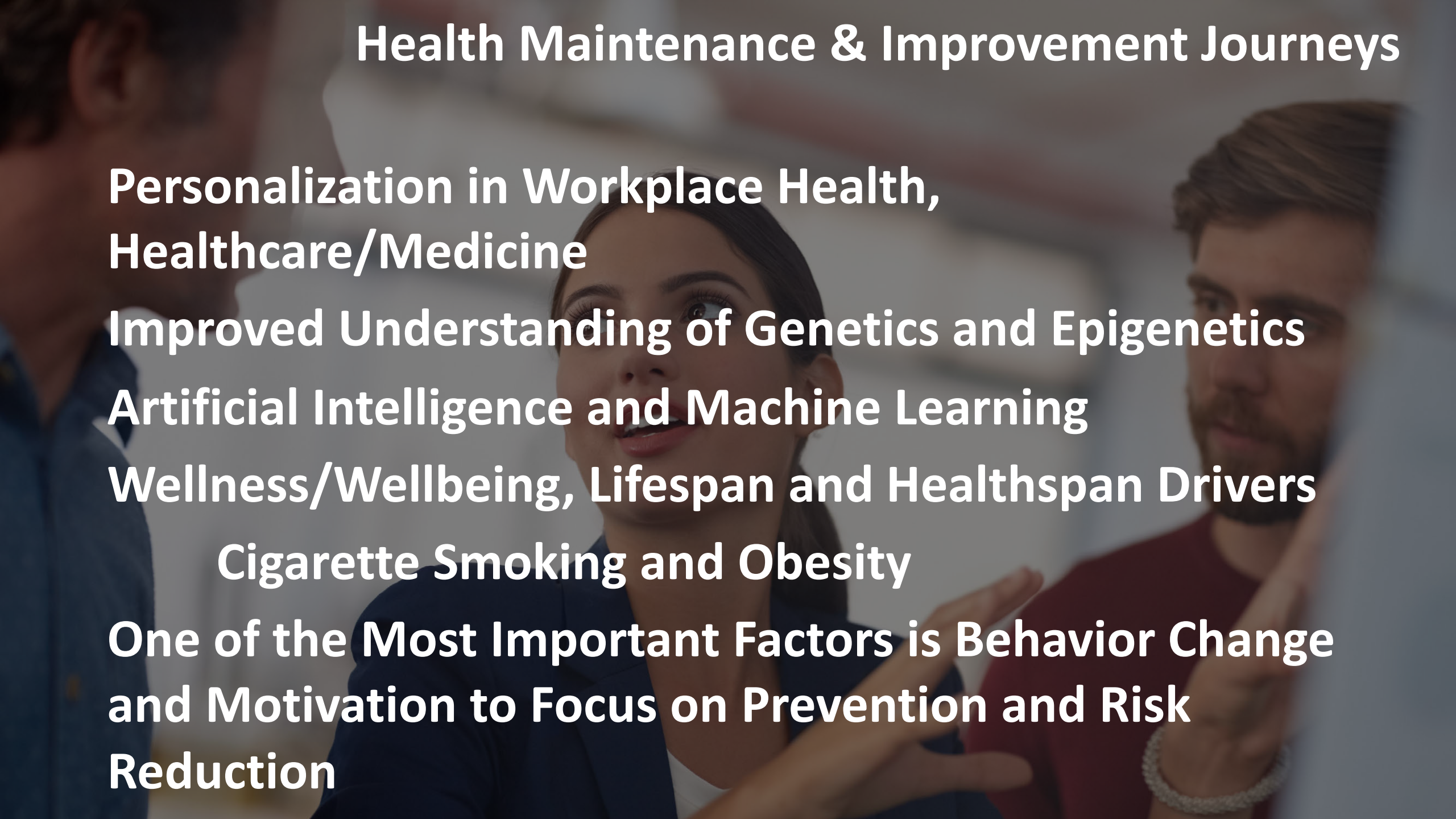
that predict wariness of specific scientific innovations or theories (6, 7) or antiscience attitudes overall [e.g., the attitude roots and jiu jitsu models (8)]. These and other models noted throughout our article offer important insights. But one theoretical paradigm that has been largely ignored in the antiscience literature, despite its substantive relevance, is the classic perspective on attitudes and persuasion (9). This is surprising, because antiscience views represent a crisis of attitudes due to both effective persuasion by antiscience sources and ineffective persuasion by scientific or "proscience" sources. This is also a missed opportunity, because classic work on persuasion has highlighted a number of explanatory processes and remediative strategies, many of which are highly applicable to the problem of antiscience attitudes. The goal of our article is to make these connections explicit and constructive. We do so by connecting contemporary findings and models in the antiscience

Human Resources & Workplace Health & Productivity

VOI & ROI


“When I Get to Work, the First Thing I do is Hide”
“Apparently Good Workers are Hard to Find”
Human Resources is Evolving,
as is Workplace Health & Productivity


Workplace Health & Productivity
Through a Different Lens



Health Maintenance & Improvement Journeys

Personalization in Workplace Health, Healthcare/Medicine

Improved Understanding of Genetics and Epigenetics

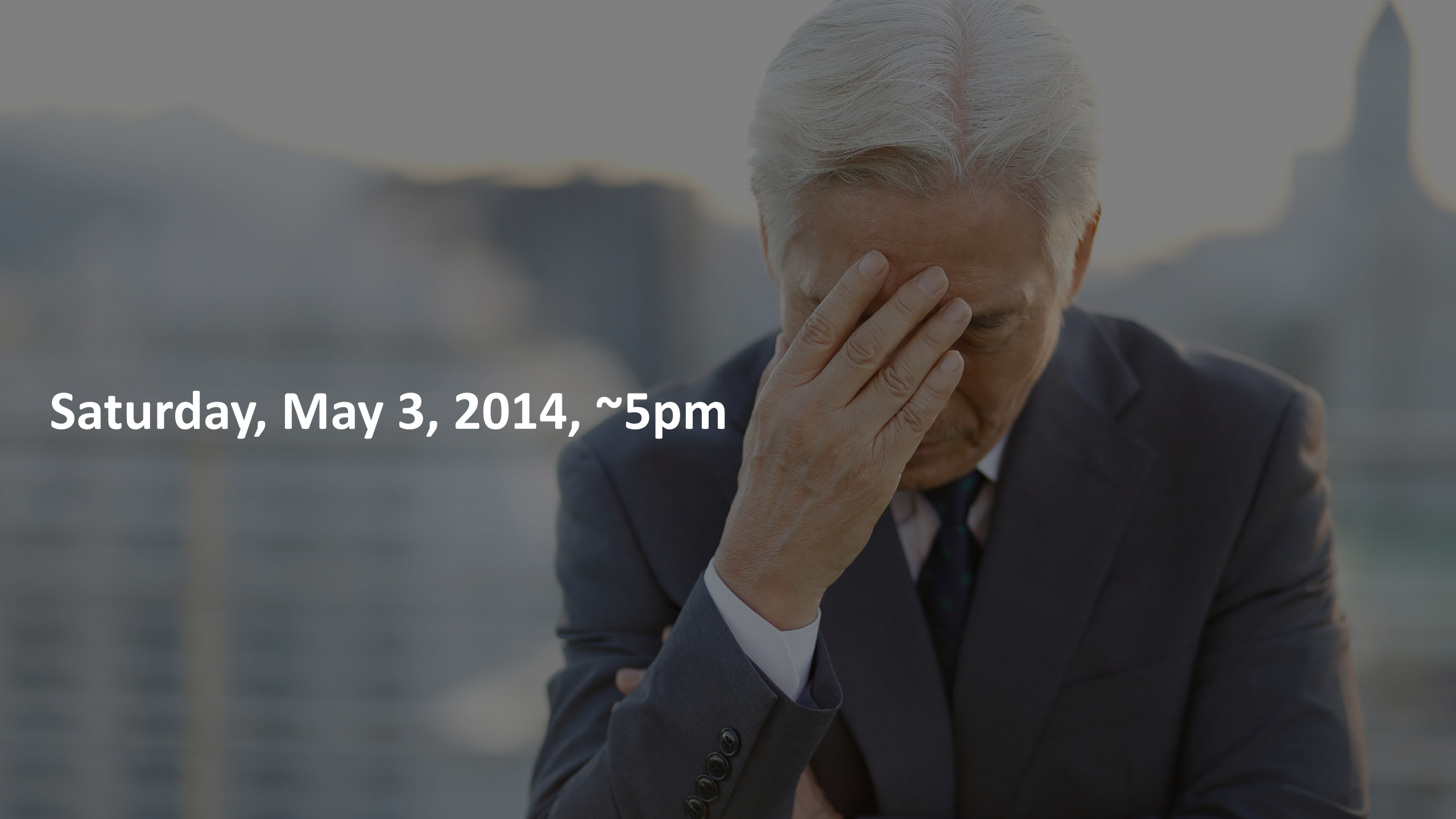
Artificial Intelligence and Machine Learning

Wellness/Wellbeing, Lifespan and Healthspan Drivers

- Cigarette Smoking and Obesity

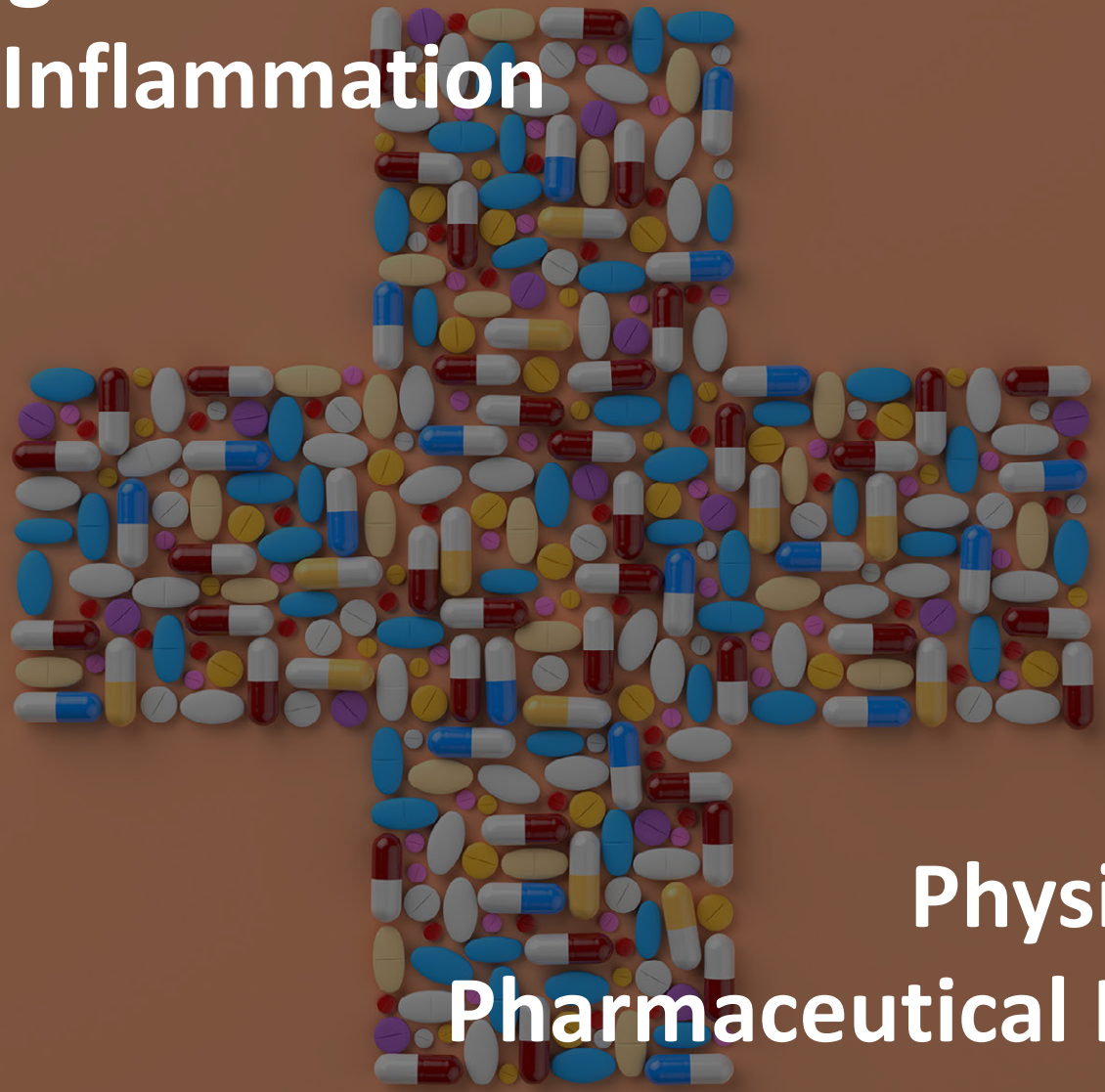
One of the Most Important Factors is Behavior Change and Motivation to Focus on Prevention and Risk Reduction

Lived Experience


Saturday, May 3, 2014, ~5pm

Differential Diagnosis

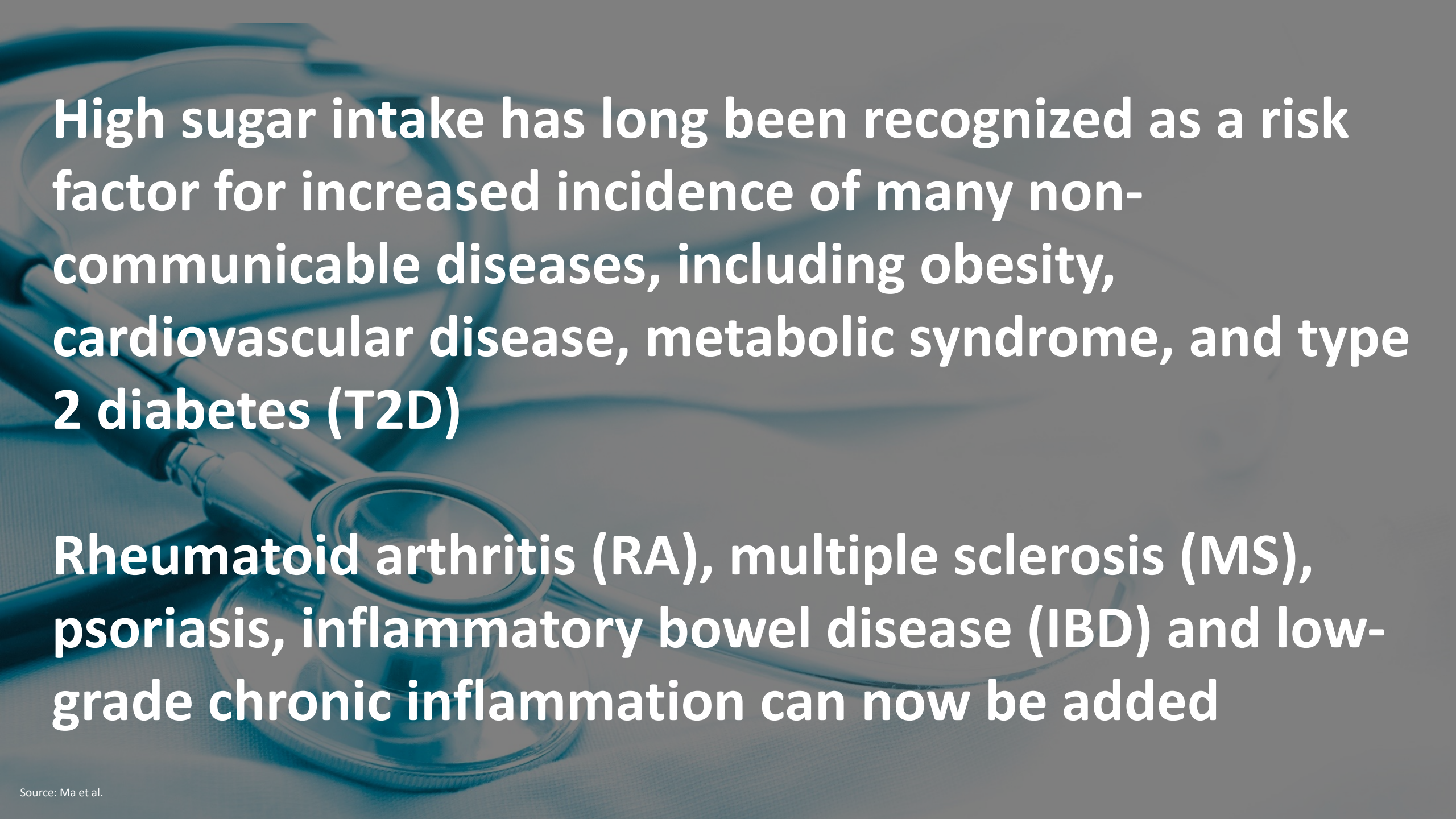
Prednisone for Inflammation



Physical Therapy

Pharmaceutical Intervention

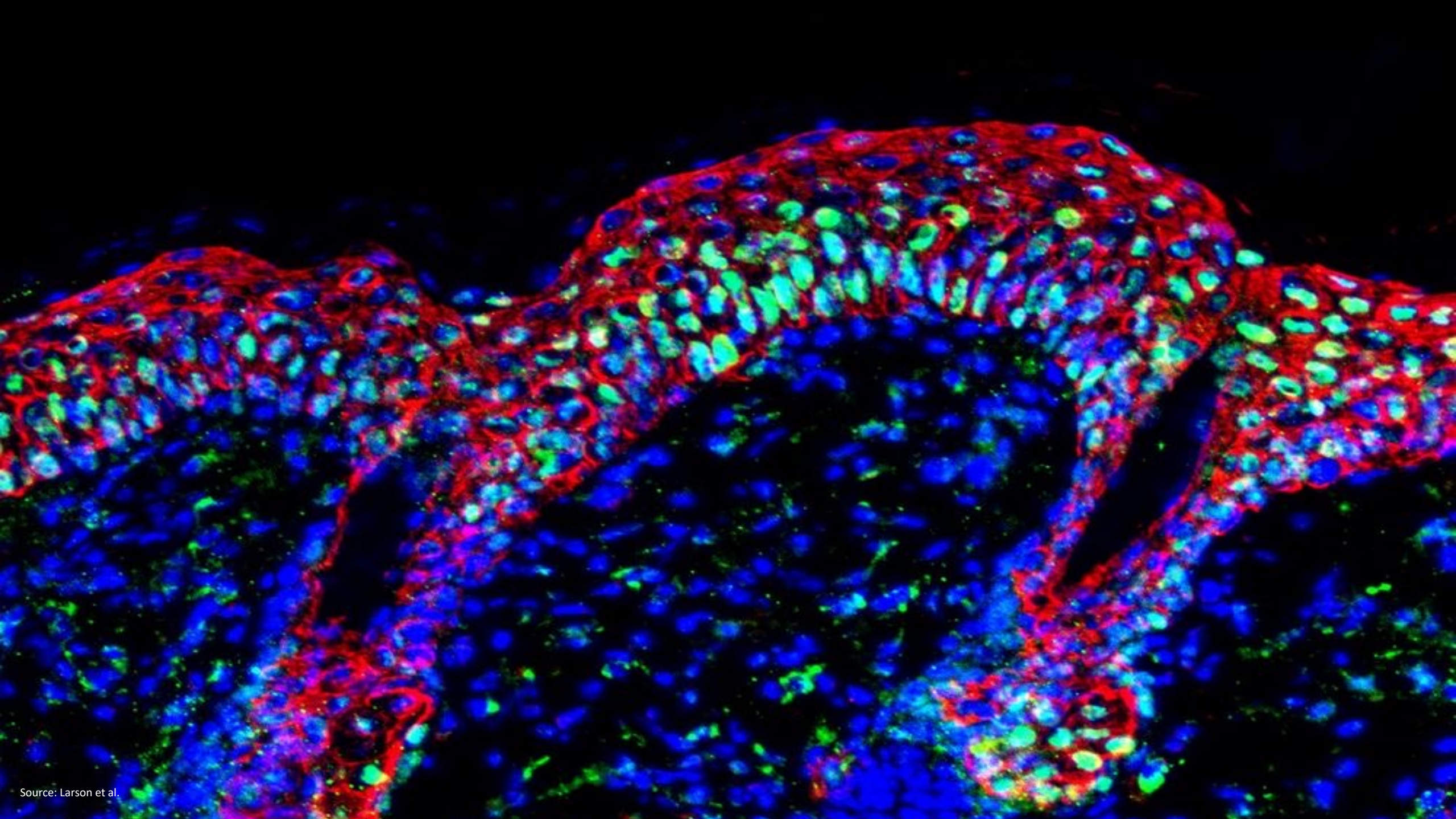

DRY FEBRUARY
BECAUSE IT'S THE SHORTEST MONTH



High sugar intake has long been recognized as a risk factor for increased incidence of many non-communicable diseases, including obesity, cardiovascular disease, metabolic syndrome, and type 2 diabetes (T2D)

Rheumatoid arthritis (RA), multiple sclerosis (MS), psoriasis, inflammatory bowel disease (IBD) and low-grade chronic inflammation can now be added

Source: Ma et al.



Source: Larson et al.

Chronic Inflammation is Associated With:

Depression, anxiety, and other mood disorders
Constant fatigue and insomnia
Constipation, diarrhea, acid reflux,
and other digestive issues
Weight gain
Body pain
Frequent infections

Chronic inflammation also results in increased risk of diabetes, depression, and dementia


84 to 4


Macro Behavioral Changes
Micro Behavioral Changes

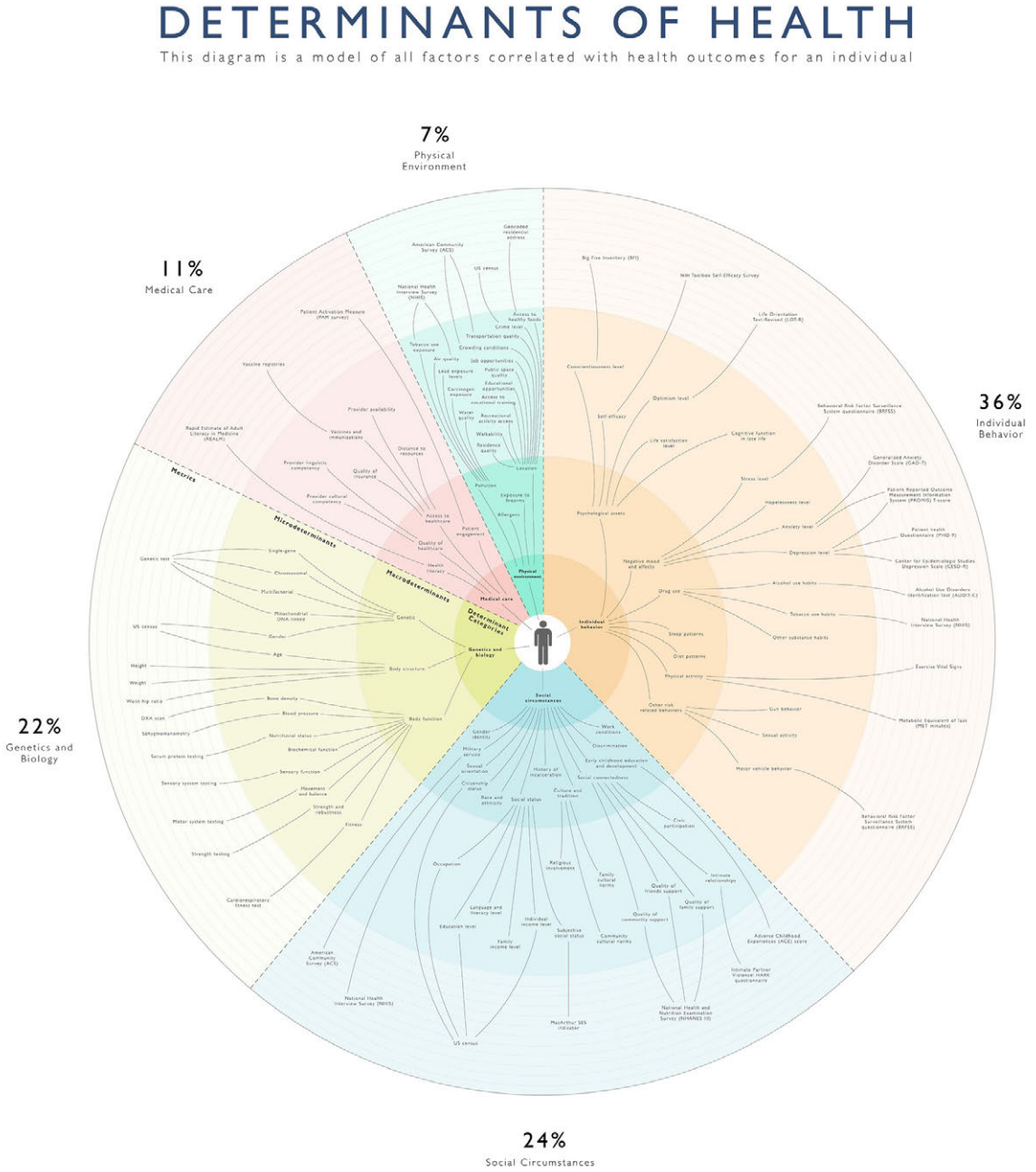
Physical Environment 7%
(Some Control)

Medical Care 11%
(Some Control)

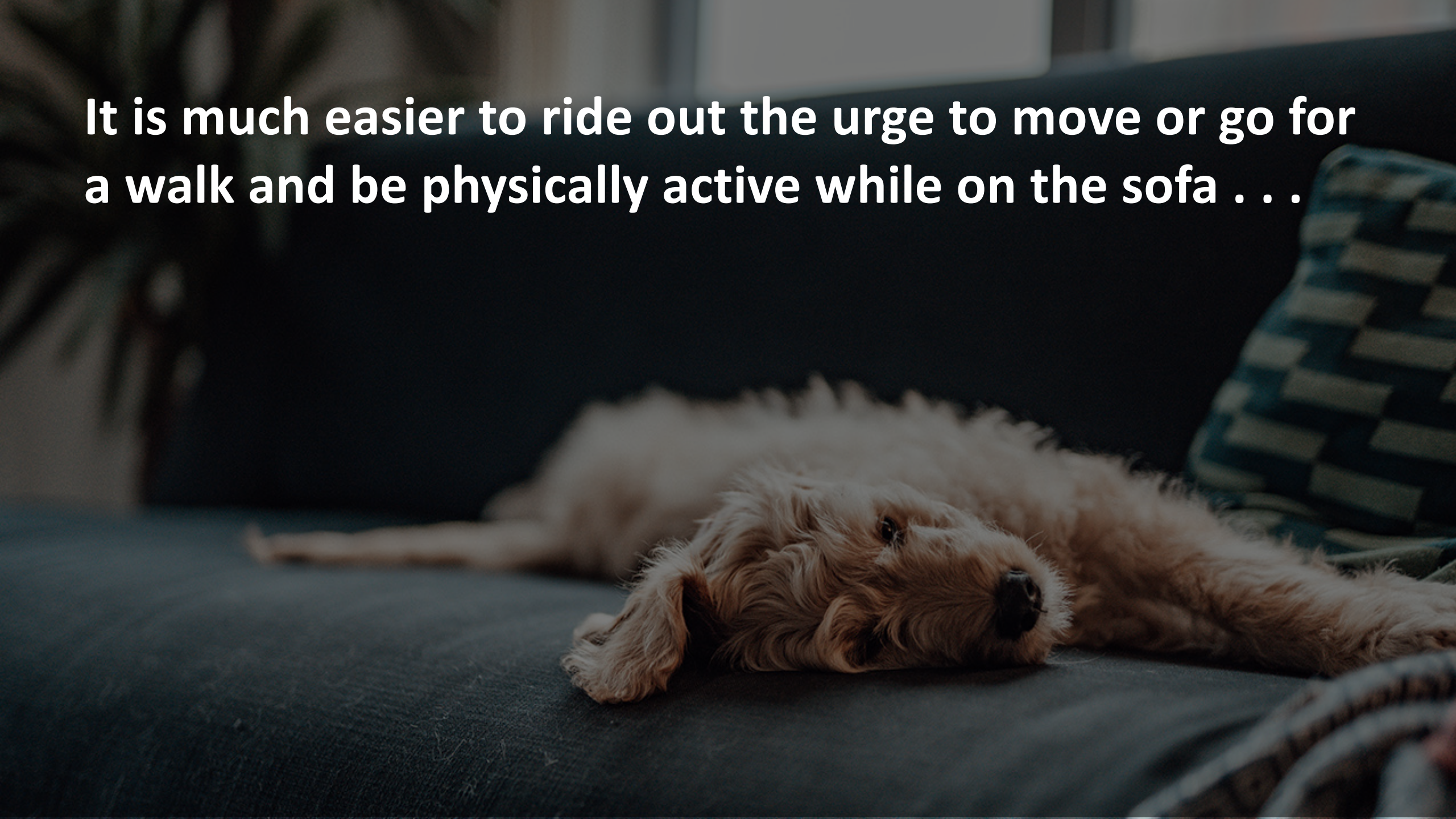
Genetics and Biology 22%
(No Control)

Social Circumstances 24%
(Some Control)

Individual Behaviors 36%
(Direct Control)




Behavior change is hard . . .


It is much easier to ride out the urge to move or go for a walk and be physically active while on the sofa . . .


PING


HAWAII

Behavior Change Theories


Social Cognitive Theory
Health Belief Model
Diffusion of Innovation Theory
Social Norms Theory
Theory of Planned Behavior
Transtheoretical Model

Review Article

How Effective are Behavior Change Interventions Based on the Theory of Planned Behavior?

A Three-Level Meta-Analysis

Holger Steinmetz,[1] Michael Knappstein,[2] Icek Ajzen,[3] Peter Schmidt,[4] and Rüdiger Kabst[5]

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[2]Schumpeter School of Business and Economics, Wuppertal University, Germany
[3]Department of Psychological and Brain Sciences, University of Massachusetts, Amherst, MA, USA
[4]Faculty of Social Science, University of Giessen, Germany
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State of the Evidence Regarding Behavior Change Theories and Strategies in Nutrition Counseling to Facilitate Health and Food Behavior Change

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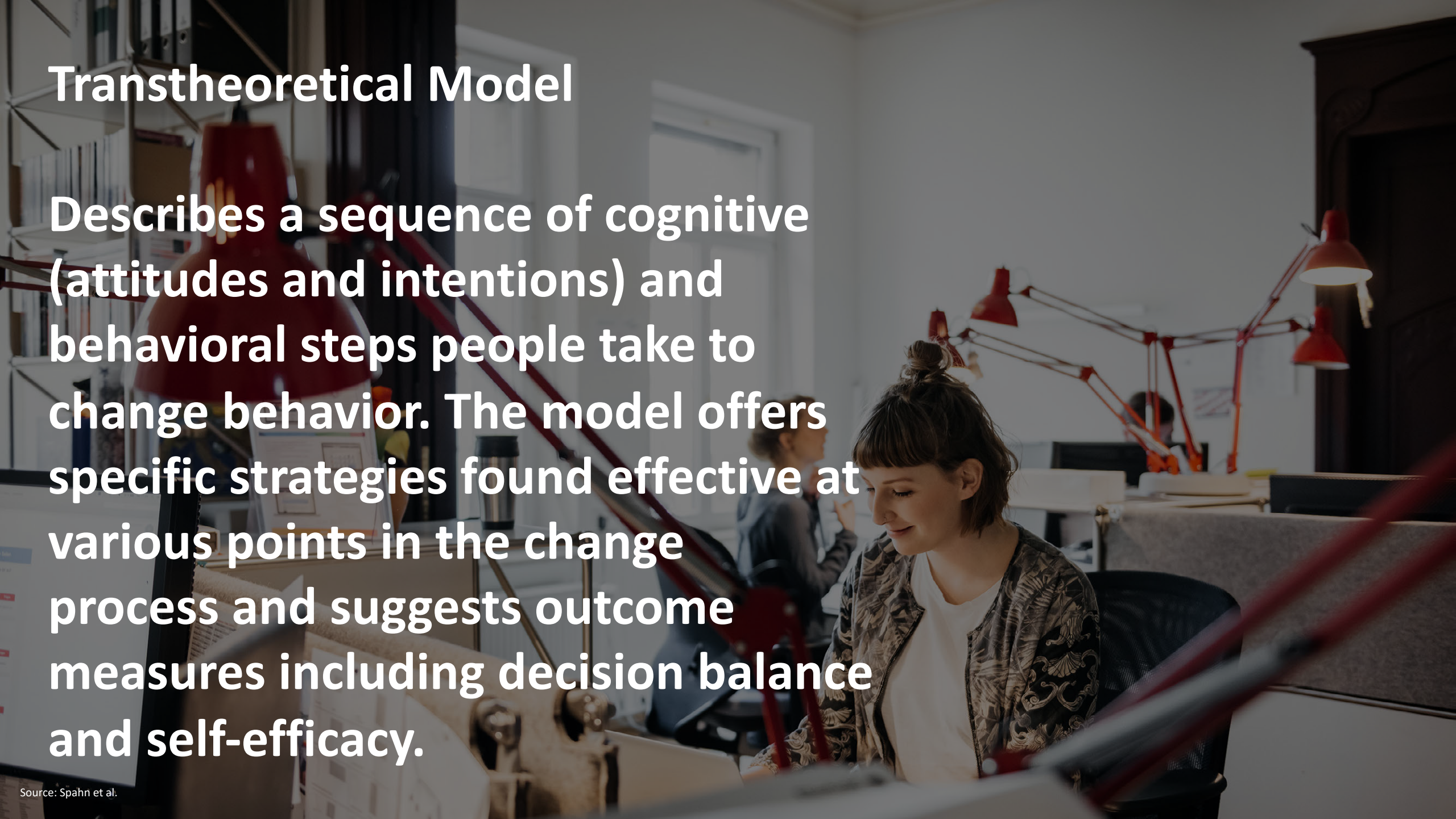
ABSTRACT

Behavior change theories and models, validated within the field of dietetics, offer systematic explanations for nutrition-related behavior change. They are integral to the nutrition care process, guiding nutrition assessment, intervention, and outcome evaluation. The American Dietetic Association Evidence Analysis Library Nutrition Counseling Workgroup conducted a systematic review of peer-reviewed literature related to behavior change theories and strategies used in nutrition counseling. Two hundred fourteen articles were reviewed between July

articles and formulated conclusion statements grades based upon the available evidence. Strong dence exists to support the use of a combination of be ioral theory and cognitive behavioral theory, the fou tion for cognitive behavioral therapy (CBT), in facilita modification of targeted dietary habits, weight, and diovascular and diabetes risk factors. Evidence is pa ularly strong in patients with type 2 diabetes recei intensive, intermediate-duration (6 to 12 months) and long-term (>12 months duration) CBT targeting vention or delay in onset of type 2 diabetes and hy tension. Few studies have assessed the application o

Transtheoretical Model

Describes a sequence of cognitive (attitudes and intentions) and behavioral steps people take to change behavior. The model offers specific strategies found effective at various points in the change process and suggests outcome measures including decision balance and self-efficacy.

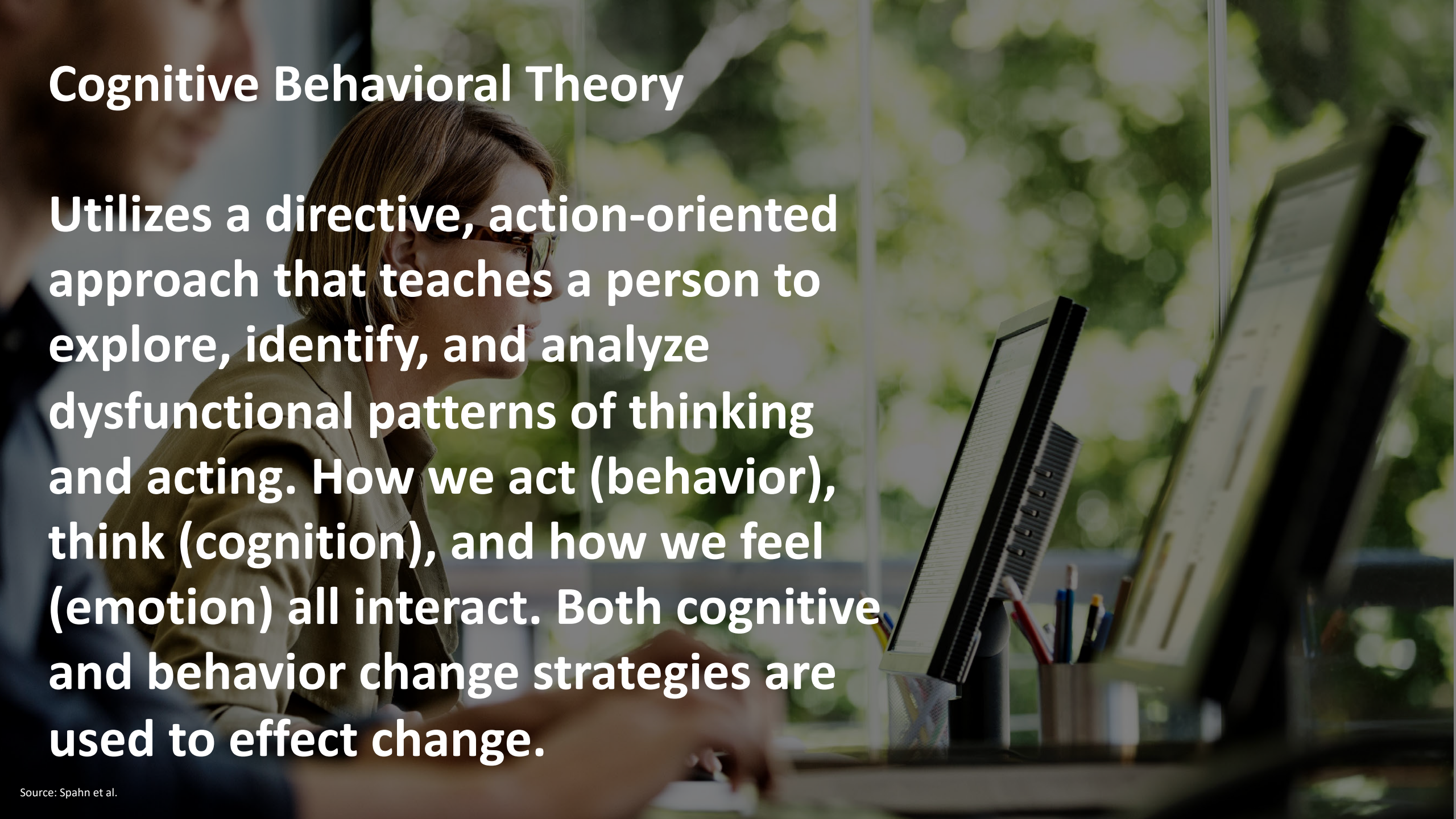


Source: Spahn et al.

Social Cognitive Theory

Based on the idea that people learn by observing other's social interactions, experiences, and outside media influences. Provides structure for understanding, predicting, and changing behavior. Changes are based on four conditions: attention, retention, motor reproduction, and motivation.

Source: Spahn et al.



Cognitive Behavioral Theory

Utilizes a directive, action-oriented approach that teaches a person to explore, identify, and analyze dysfunctional patterns of thinking and acting. How we act (behavior), think (cognition), and how we feel (emotion) all interact. Both cognitive and behavior change strategies are used to effect change.

Source: Spahn et al.


Why is it So Hard?


TikTok


Pinterest


reddit

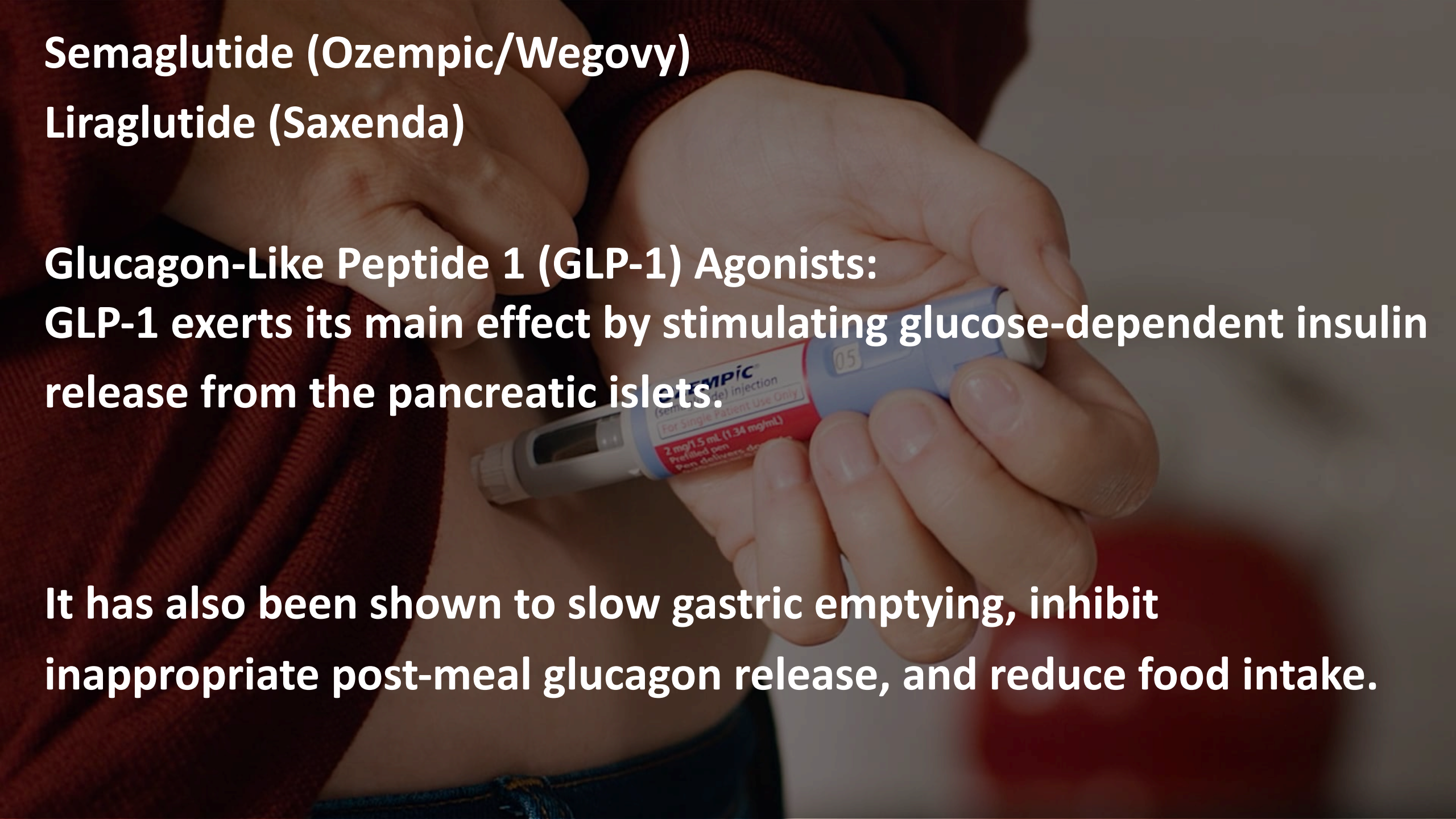

tumblr.


LinkedIn


facebook


Instagram

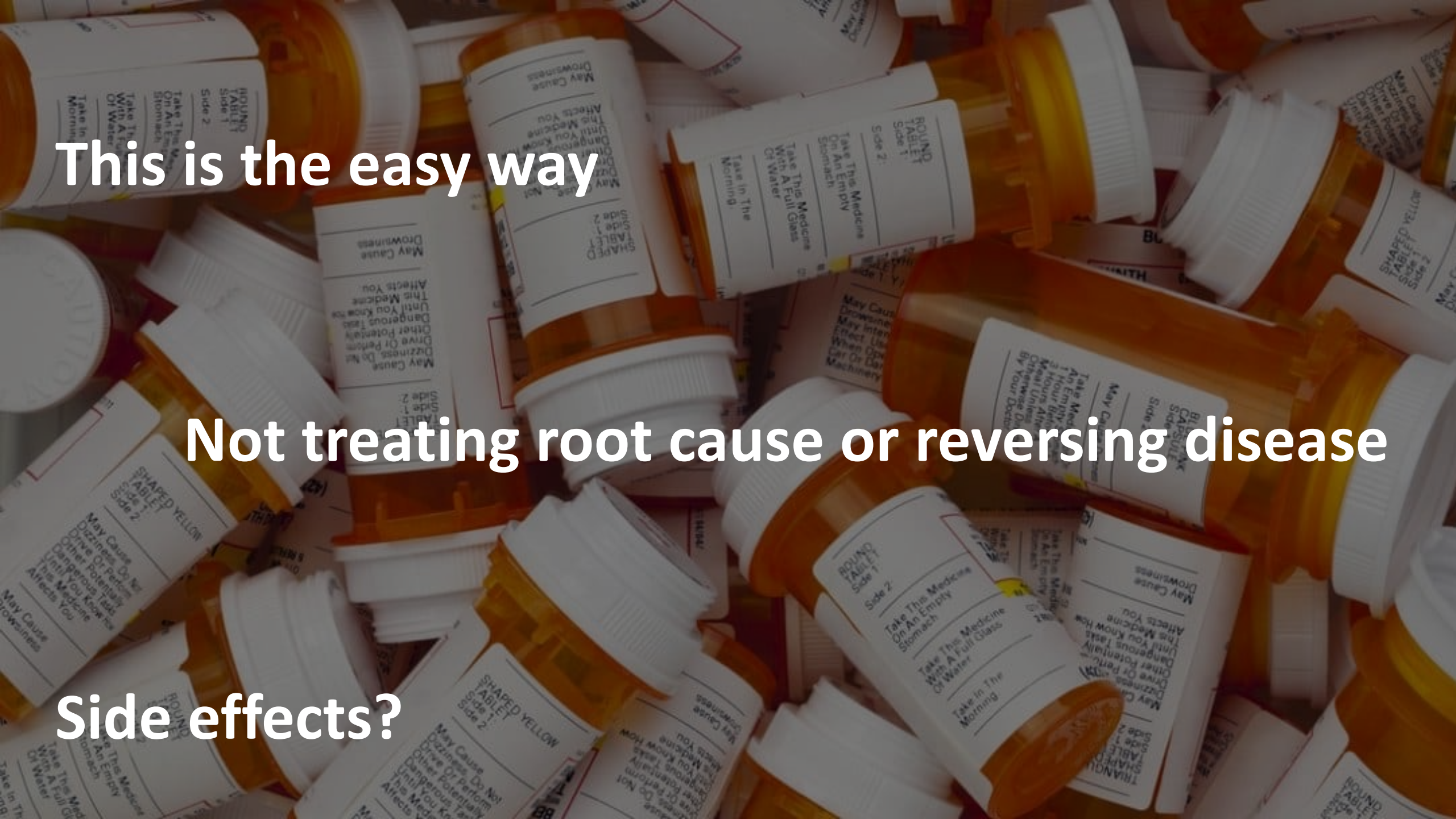

How You Do Anything is
How You Do Everything



Semaglutide (Ozempic/Wegovy)
Liraglutide (Saxenda)

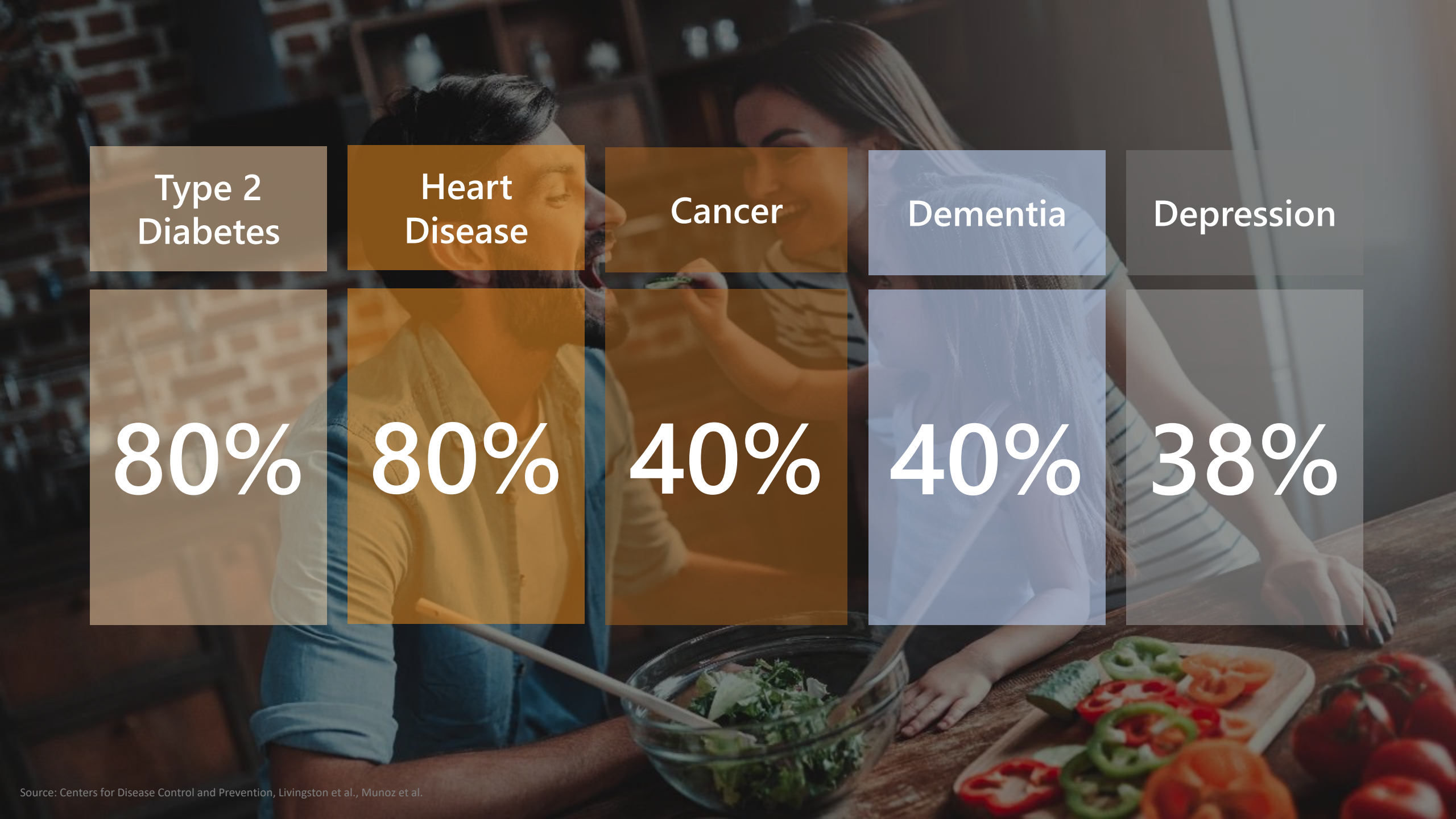
Glucagon-Like Peptide 1 (GLP-1) Agonists:
GLP-1 exerts its main effect by stimulating glucose-dependent insulin release from the pancreatic islets.

It has also been shown to slow gastric emptying, inhibit inappropriate post-meal glucagon release, and reduce food intake.


This is the easy way
Not treating root cause or reversing disease
Side effects?

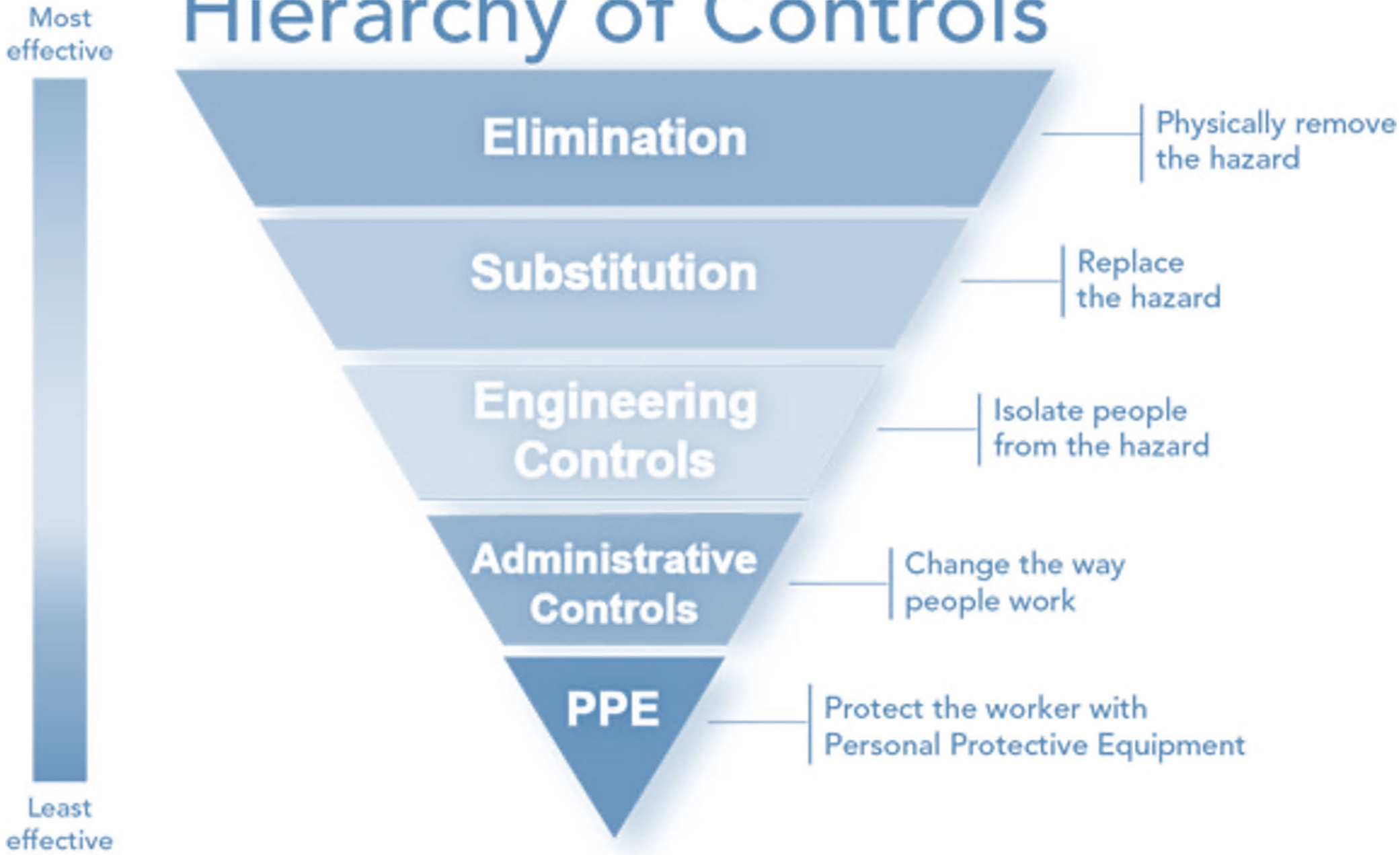
Comorbid and Polymorbid Chronic & Acute Conditions

Heart Disease
T2D
Obesity/Overweight
Stress
Anxiety
Depression
Musculoskeletal Health



Source: Centers for Disease Control and Prevention, Livingston et al., Munoz et al.

Hierarchy of Controls



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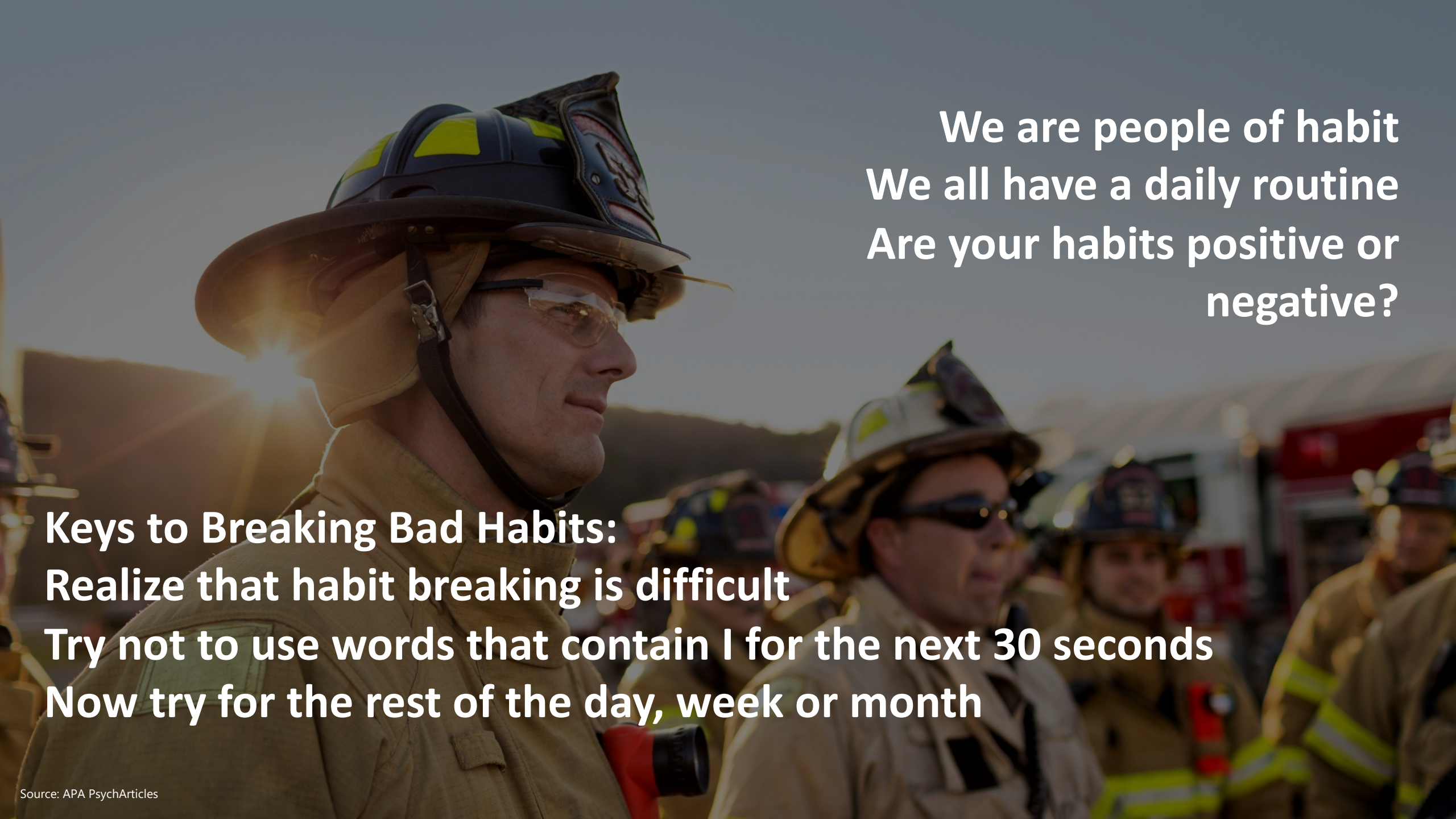
A Behavioral Challenge

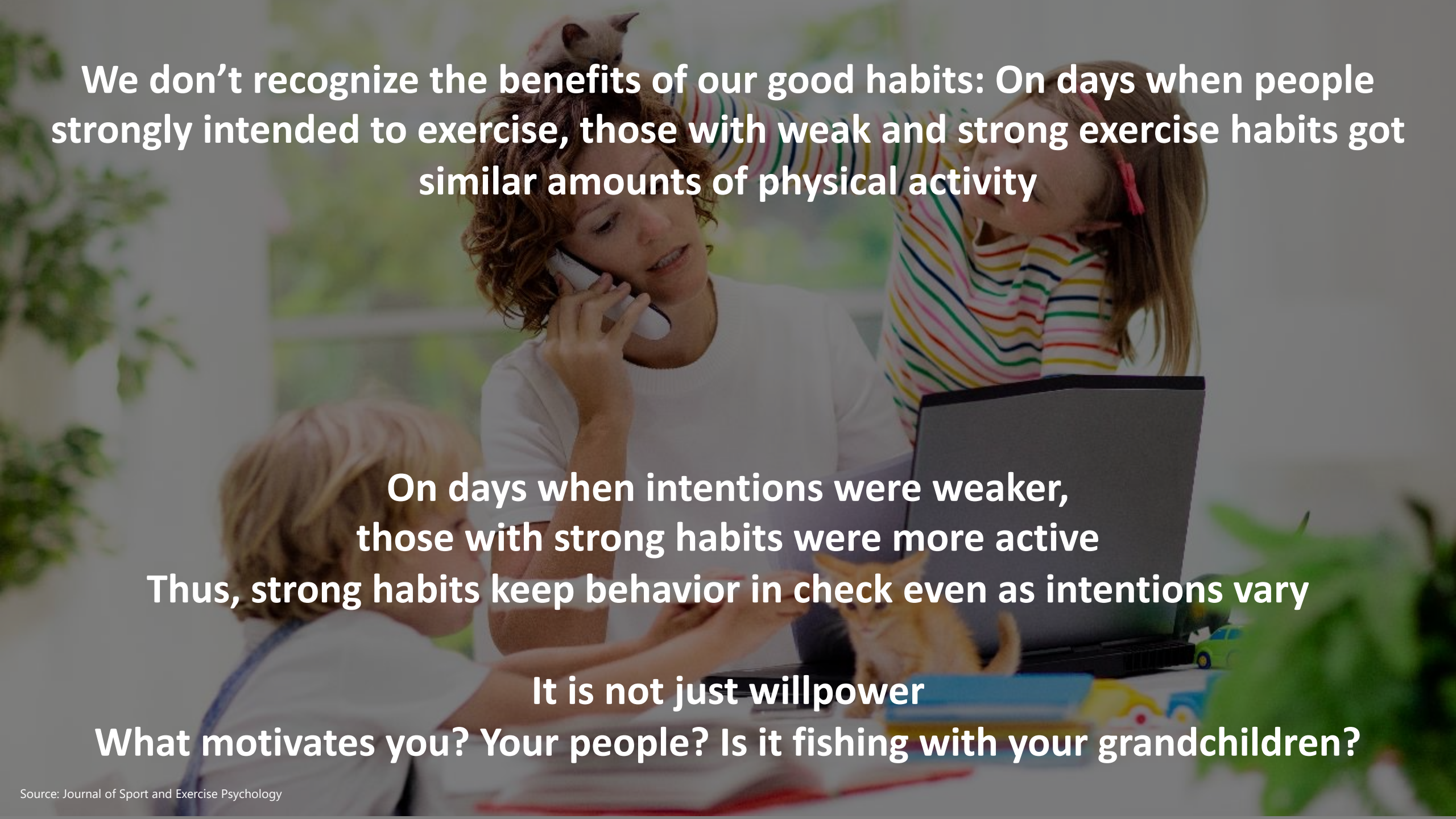

I can’t wait to go fishing with
my grandchildren when I retire



We are people of habit
We all have a daily routine
Are your habits positive or negative?

Keys to Breaking Bad Habits:
Realize that habit breaking is difficult
Try not to use words that contain I for the next 30 seconds
Now try for the rest of the day, week or month

Source: APA PsychArticles



We don’t recognize the benefits of our good habits: On days when people strongly intended to exercise, those with weak and strong exercise habits got similar amounts of physical activity

On days when intentions were weaker,
those with strong habits were more active
Thus, strong habits keep behavior in check even as intentions vary

It is not just willpower
What motivates you? Your people? Is it fishing with your grandchildren?

Source: Journal of Sport and Exercise Psychology

Willpower is useful in the short-term as we build motivation

Research demonstrates that people who are more successful at achieving long-term goals exert less willpower in their day-to-day lives

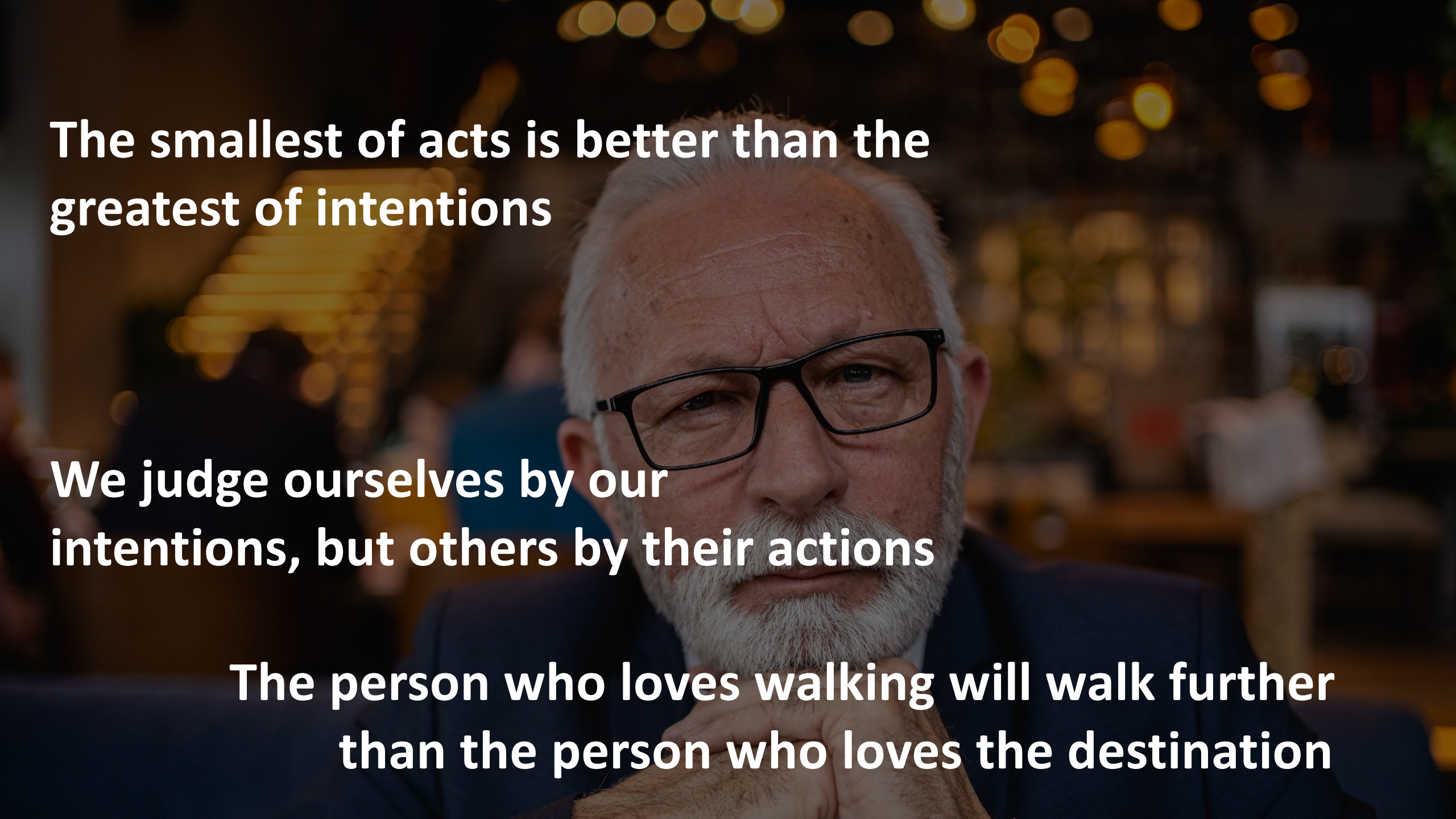
Over time, willpower fades and habits win!

Source: APA PsychArticles


Effectively changing behavior begins with recognizing that a great deal of our behavior is habitual in nature
Habits keep us repeating undesirable behaviors but also desirable ones


The best time to plant a tree...

You own your body… for life


The smallest of acts is better than the greatest of intentions
We judge ourselves by our intentions, but others by their actions
The person who loves walking will walk further than the person who loves the destination


Thank You