

**MOVING
TO VALUE** 

**The Role of The Primary Care Provider
in Disease Prevention & Management
*in a Value-Based World***

MOVING TO VALUE

The overarching purpose of the **Moving To Value Alliance** is to support a value-based healthcare ecosystem with the highest quality health outcomes at a reasonable cost for plan sponsors and their members, beneficiaries or employees.

MOVINGTOVALUE.ORG

The Role of the Primary Care Provider in Prevention and Management of Chronic Diseases in a Value-based World

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President, Arista Health, LLC

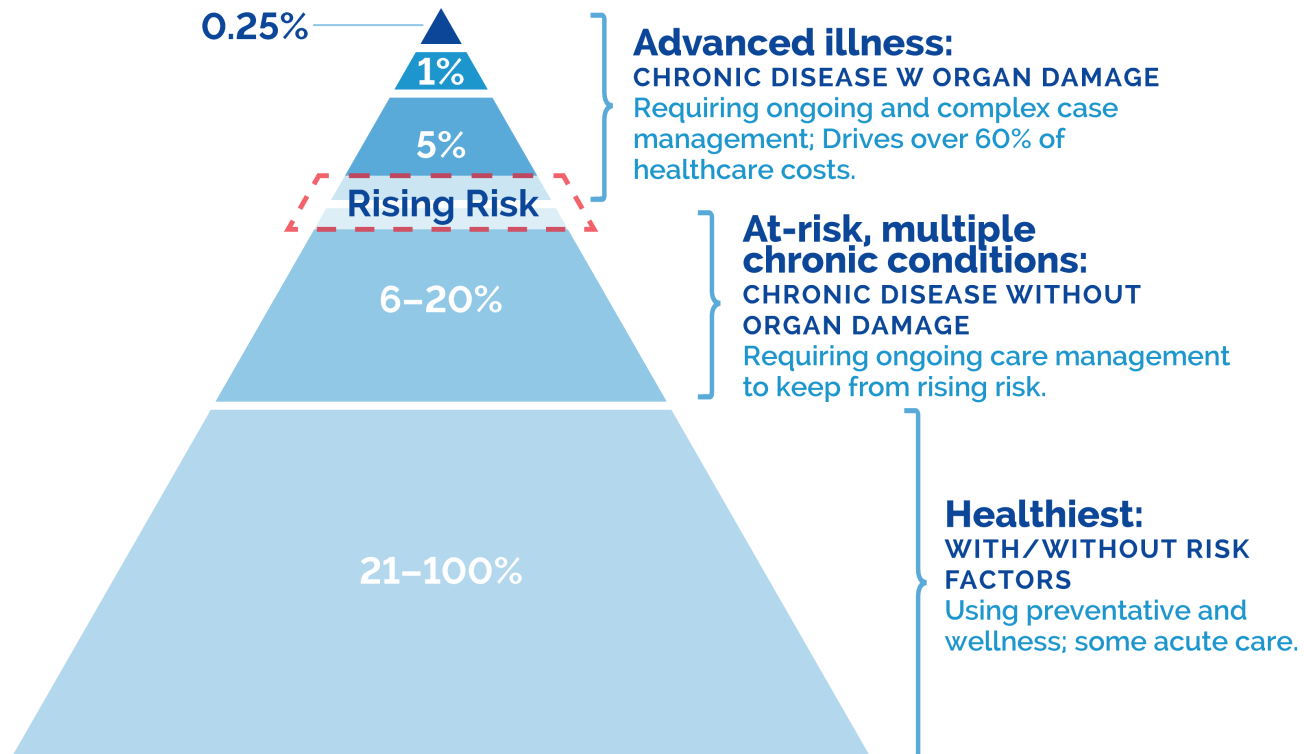
October 7, 2022

Moving to Value Alliance Webinar

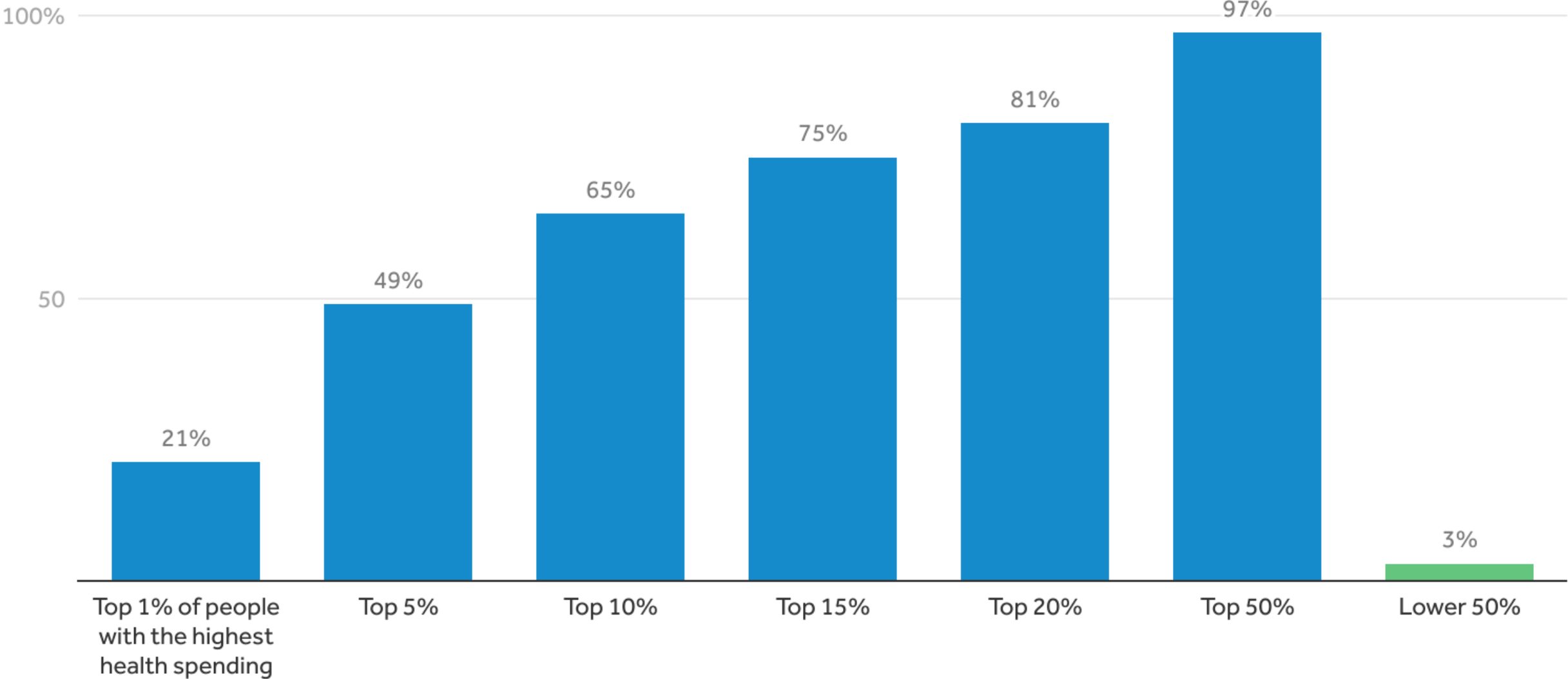
MEDICAL COSTS IN THE US ARE NOT SUSTAINABLE.

The goal of screening and prevention is to keep people in the bottom of the pyramid!!!

The top 5% of patients account for over 60% of all medical costs.

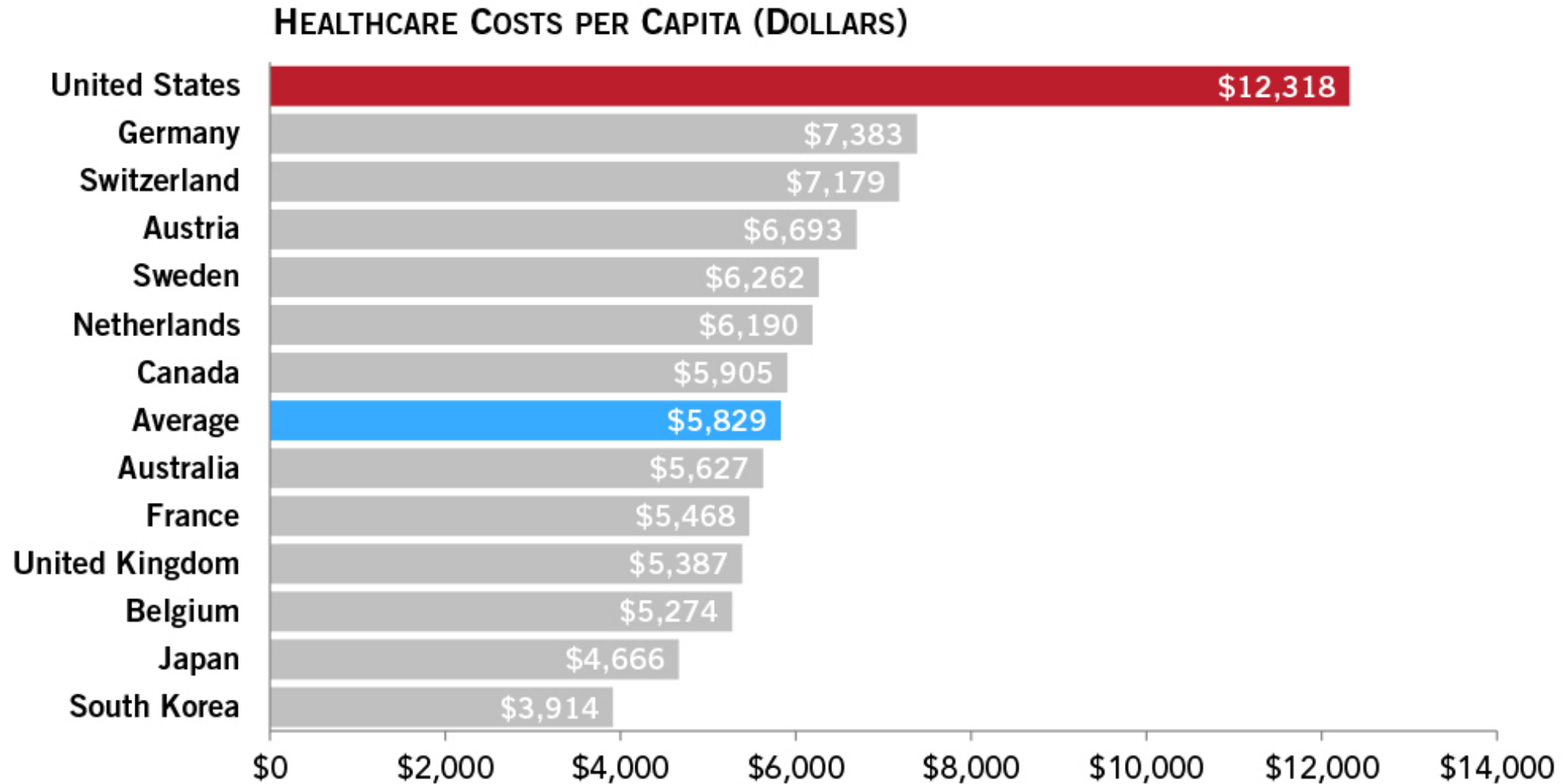


Contribution to total health expenditures by individuals, 2019



Source: KFF analysis of Medical Expenditure Panel Survey 2019 data

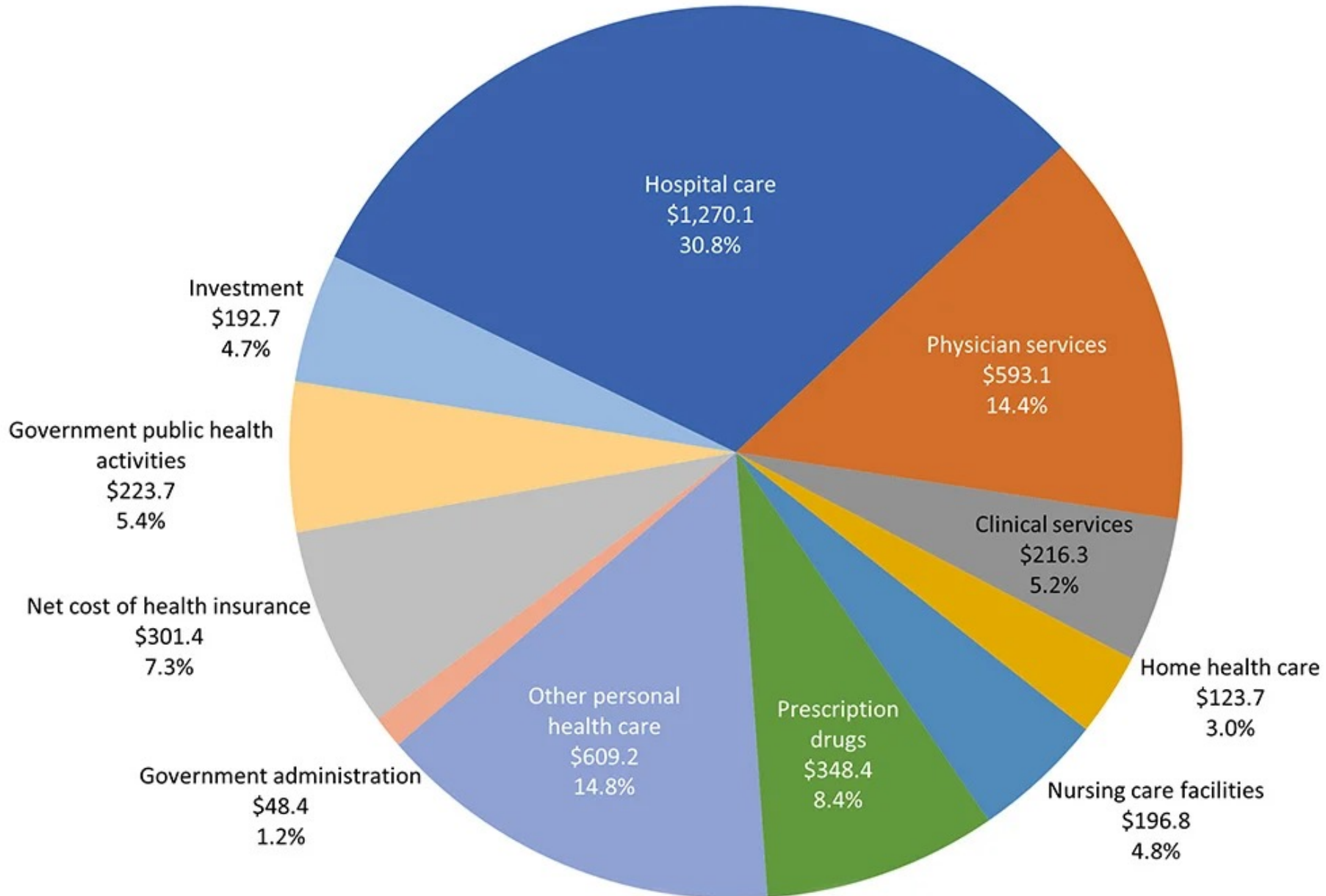
U.S. per capita healthcare spending is over twice the average of other wealthy countries



SOURCE: Organisation for Economic Co-operation and Development, *OECD Health Statistics 2022*, July 2022.

NOTES: Data are latest available, which was 2019, 2020, or 2021. Average does not include the United States. The five countries with the largest economies and those with both an above median GDP and GDP per capita, relative to all OECD countries, were included. Chart uses purchasing power parities to convert data into U.S. dollars.

The U.S. spent \$4,124.0 billion on health care in 2020 where did it go?



Top 10 Causes of Hospitalization in the United States*

- Septicemia
 - Heart failure
 - Osteoarthritis
 - Pneumonia
 - Diabetes with complication
 - Acute myocardial infarct
 - COPD
 - Acute renal failure
 - Stroke and Cerebrovascular disease
-
- [H-CUP/AHRQ, July 2021 Statistical Brief #277](#)
 - * Excludes maternal/neonatal hospitalizations

Top 10 Causes of Death in the United States

- Heart Disease
- Cancer
- Unintentional Injuries/Accidents
- Chronic Lung Disease
- Stroke and Cerebrovascular Disease
- Alzheimer's Disease/Dementia
- Diabetes
- Influenza/Pneumonia
- Kidney Disease
- Suicide

Prevention

- These top 10 account for approximately 75% of all deaths
- Heart Disease and Cancer account for nearly half of the deaths
- **All but one** of these top ten are preventable, treatable or curable
- Ben Franklin (1736):

*“An ounce of prevention is worth
a pound of cure”*



Prevention of Heart Disease

- Healthy diet
- Exercise
- Don't smoke
- **Avoid** obesity and diabetes
- Manage chronic disease better
 - Hypertension
 - Diabetes

References:

Caldwell Esselstyne: Prevent and Reverse Heart Disease: 2008

Dean Ornish: Intensive Lifestyle Changes for Reversal of Coronary Heart Disease; JAMA 1998

Effect of behavior modification on heart disease compared to other “conventional” risk modifiers

Intervention	Risk Reduction
Statin	20-30%
Smoking cessation	50-70%
Diet	50%
Exercise	30-40%

Cancer Prevention/Early Detection Strategies

Lung

- Don't smoke/quit smoking
- Screening strategies geared to early detection (chest CT or high-risk population)

Colorectal

- High fiber diet
- Low dose aspirin
- Screening colonoscopies and removal of pre-cancerous polyps

Breast

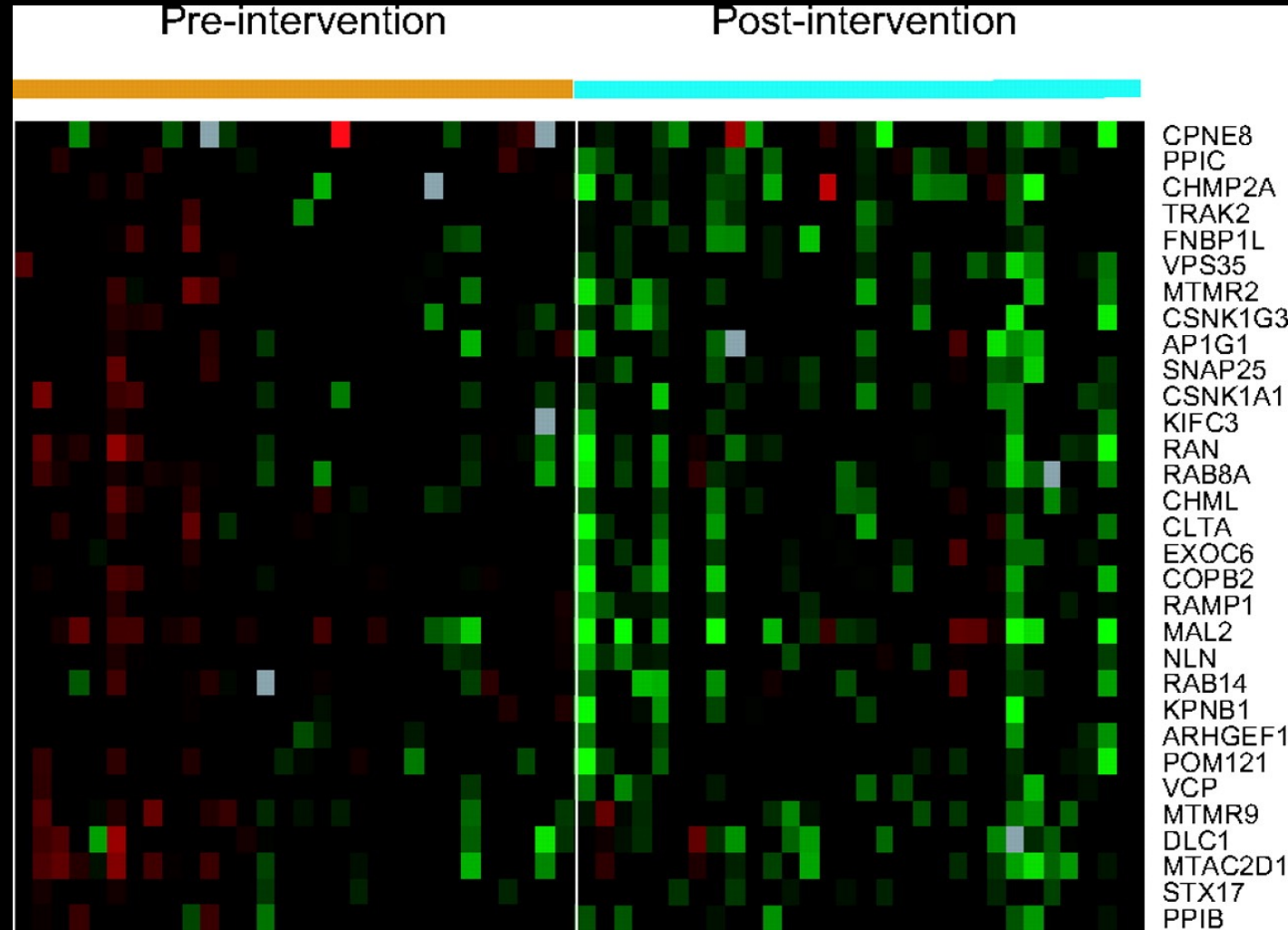
- Strategies geared toward early detection through screening (mammograms, MRI)
- High risk women (BRCA1, BRCA2) can have prophylactic mastectomy

General cancer prevention recommendations

(Harvard Medical School, (October, 2019)

1. Avoid tobacco of all kinds, including secondhand exposure
2. Eat properly
 - a. *Reduce consumption of saturated fat (dairy is leading source in US diet) and red meats*
 - b. *Increase consumption of fruits, vegetables and whole grains*
3. Exercise regularly (reduces cancer risk independent of weight loss)
4. Stay lean (BMI < 25)
5. Limit alcohol intake (linked to mouth, larynx, esophagus, liver, colon and breast cancer)
6. Avoid unnecessary exposure to radiation (radon, UV light, X-rays)
7. Avoid exposure to industrial and environmental toxins (e.g. asbestos, benzene, PCBs)
8. Avoid infections that contribute to cancer (e.g. HPV)
9. Make quality sleep a priority
10. Get enough Vitamin D (800-1000IU/day)

Turning protooncogenes on and off through lifestyle modification: *(Ornish, 2008)*



Diabetes

- **Type 1:**
 - *autoimmune, genetic predisposition, pancreatic infections, autoantibodies, not preventable*
- **Type 2:**
 - *accounts for >90% of diabetes in US (almost all preventable)*
- Approximately 37 million adults in the US have diabetes (20% are undiagnosed)
- A staggering 96 million have pre-diabetes!
- Complications: **retinopathy, nephropathy, neuropathy, cardiomyopathy**
- **Annually, diabetes accounts for about one-fourth of all US dollars spent on healthcare**

Diabetes Risk Factors and Prevention Strategies

- Overweight (*very little chance of Type 2 DM if BMI<25*)
- Sedentary lifestyle
- Prevention
 - Weight loss (*especially reduce visceral fat*)
 - Healthy eating (*avoid simple sugars, eat more vegetables, less processed foods and red meat*)
 - Increase physical activity (*30 minutes a day, 5 days a week*)
 - **100% of type 2 DM can be prevented!**

Prevention of Stroke

- Healthy diet
- Moderate weight
- Regular exercise
- Avoid tobacco and alcohol
- Better management of chronic diseases (HTN and DM)

American Stroke Association:

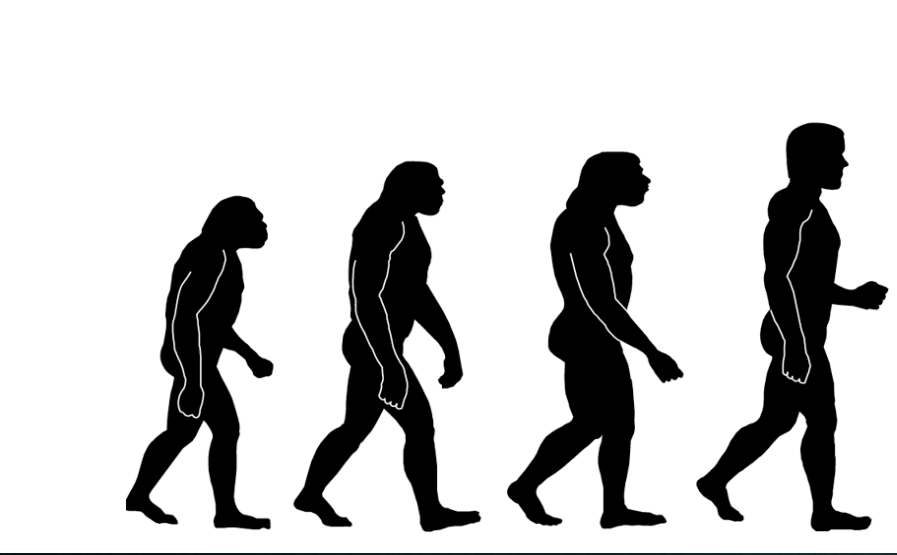
Up to 80% of strokes can be prevented

Cleveland Clinic: More than 50% of strokes can be prevented

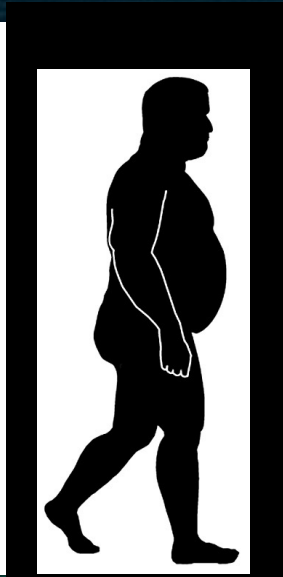
Prevention of Kidney Disease (CKD)

- Prevent diabetes
- Prevent hypertension
- Manage these chronic diseases more effectively
- Diet
- Quit smoking
- ACE inhibitors for those with microalbuminuria
- **9 out of 10 people with CKD don't know they have it!**

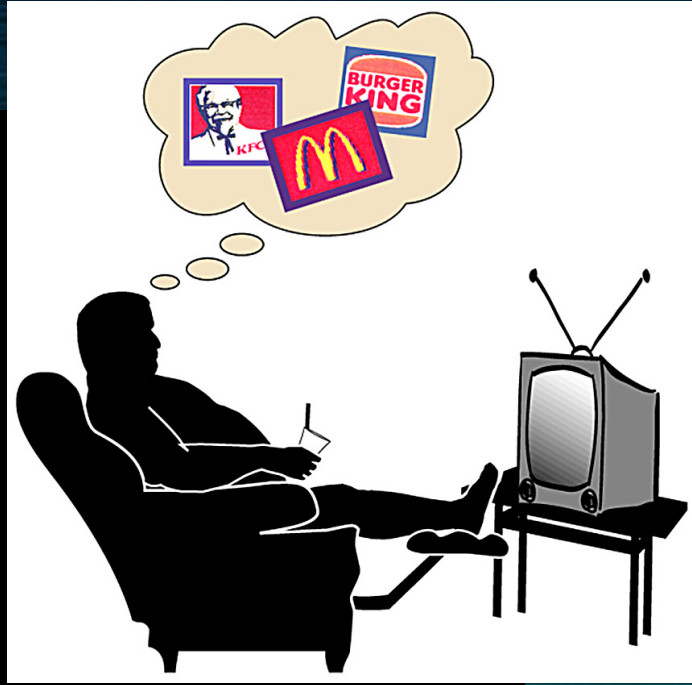
Health/Nutrition/Obesity



← 2.5 million years →



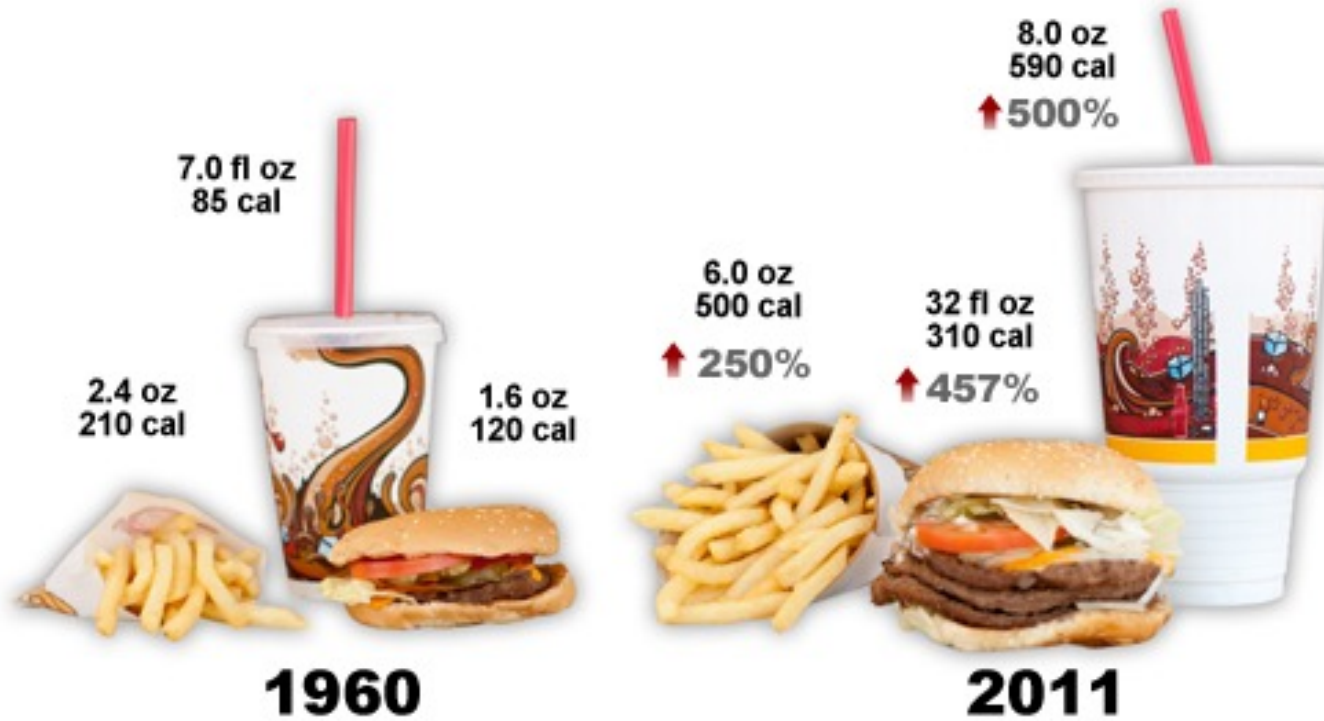
50 years



We are eating ourselves to death

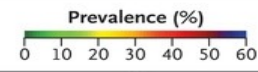
Portion Sizes—Then and Now

Fast food portions have increased dramatically since 1960. Here's how they stack up, then and now:



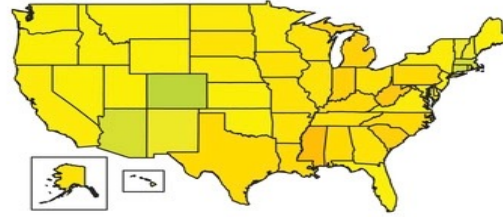
Obesity in US:

NEJM, December 2019

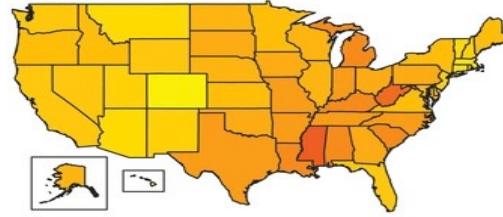


A Prevalence of Overall Obesity (BMI, ≥ 30)

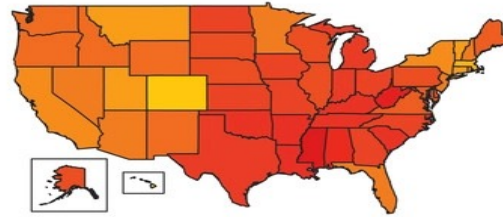
1990



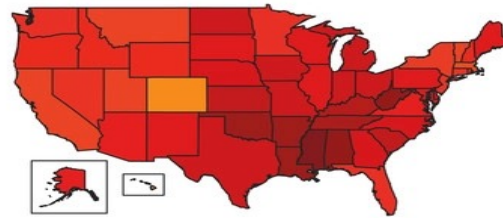
2000



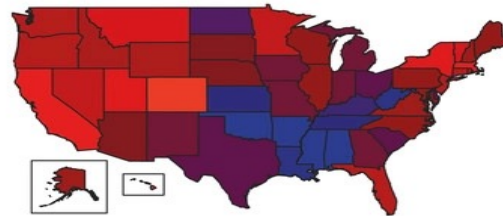
2010



2020

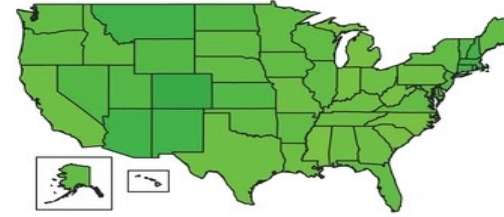


2030

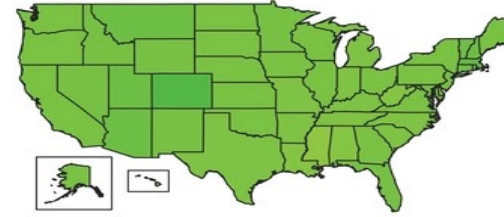


B Prevalence of Severe Obesity (BMI, ≥ 35)

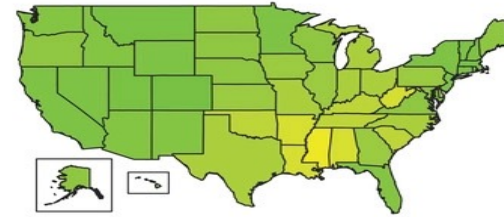
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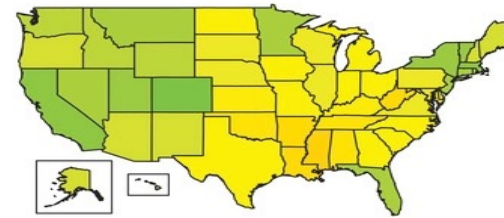
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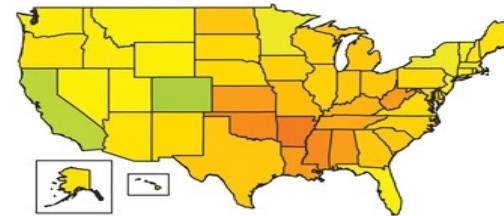
2010



2020



2030



Change isn't easy

THE STAGES OF BEHAVIOR CHANGE



MAINTENANCE

works to sustain
the behavior change

ACTION

practices the desired behavior

PREPARATION

intends to take action

CONTEMPLATION

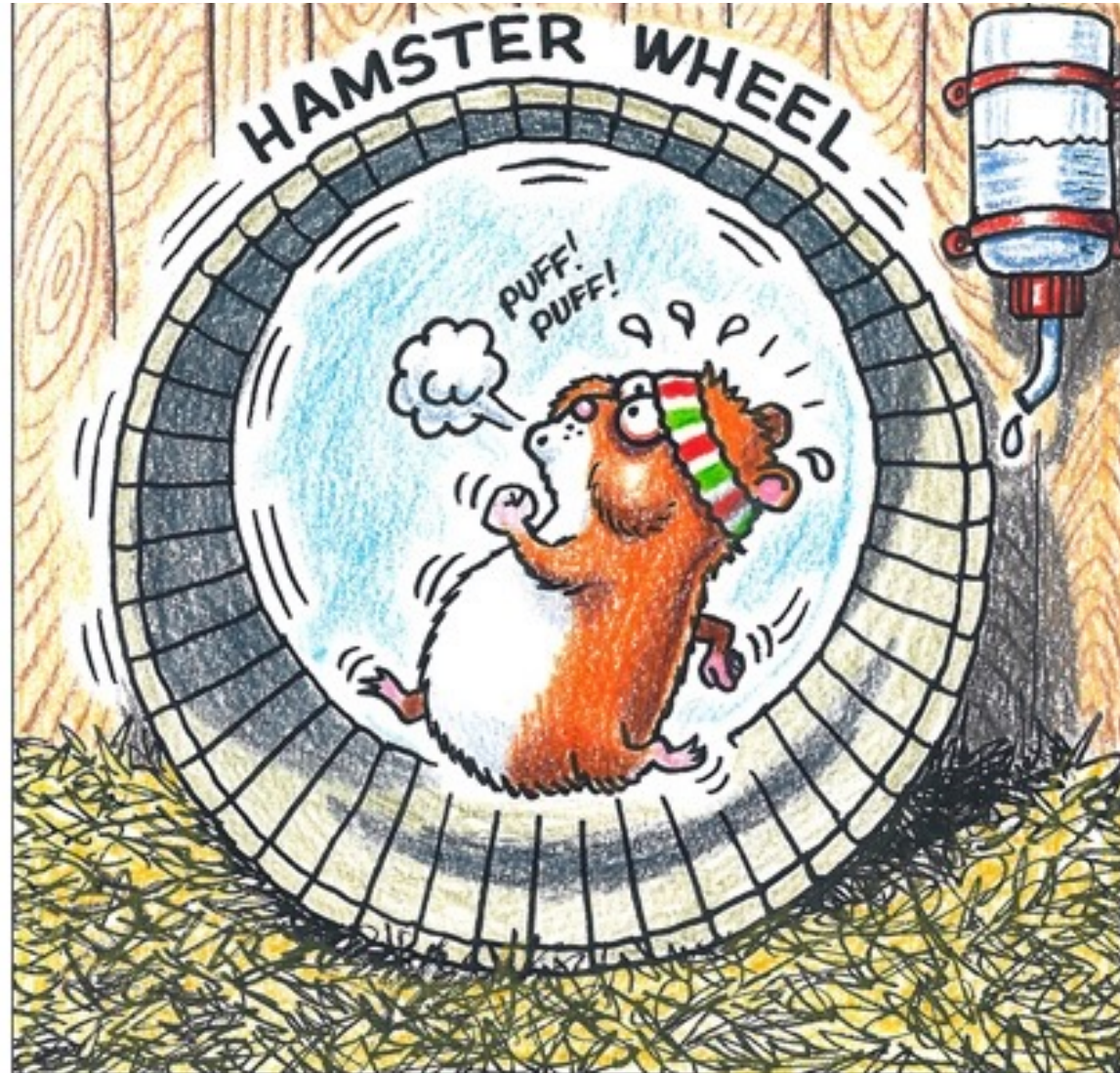
aware of the problem and of the desired
behavior change

PRE-CONTEMPLATION

unaware of the problem

Next Generation Primary Care

The typical PCP in a traditional health system



Not enough hours in the day...

Access
Cost
Quality
Experience

Misdiagnosis
10-15% of patients

Accounting for
17% of adverse
events +
unnecessary
costs

To provide all the evidence-based recommended care:

- For a typical panel of 2500 patients
- To adequately manage the proportion of patients with chronic conditions on that panel → **10.6 hours per day**
- For that same panel to proactively address all preventive care and health maintenance → **7.4 hours per day**

Ostbye et. al. Ann Fam Med May 1, 2005 vol. 3 no. 3 209-214
Yarnall et. al. Am J Public Health 2003 April; 93(4):635-641

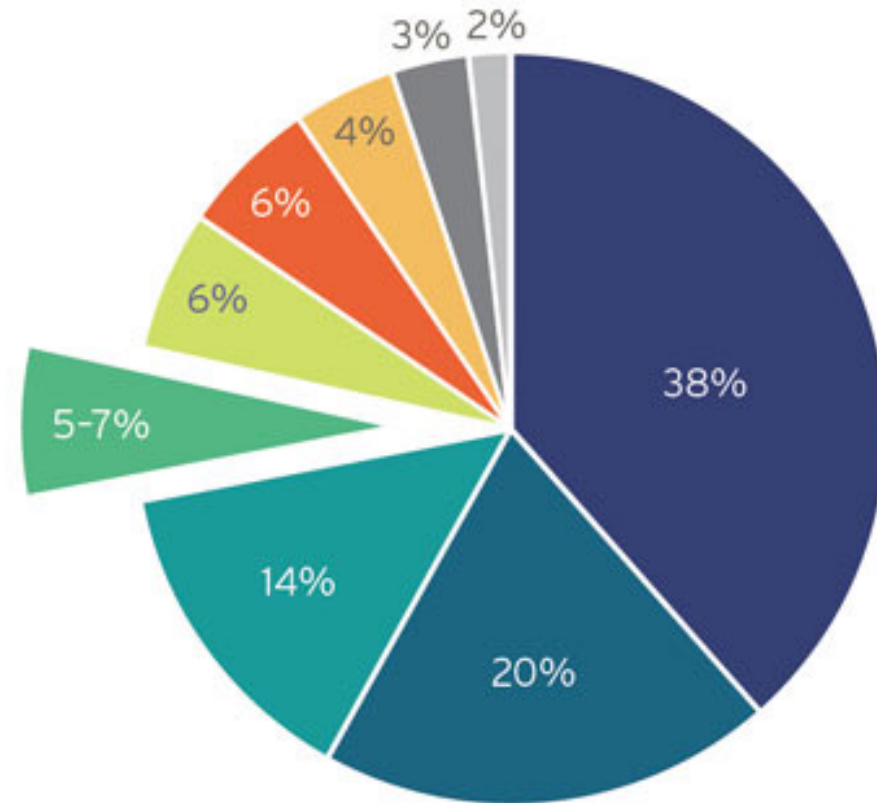


The remaining 6 hours could be used to see acute “sick” patients

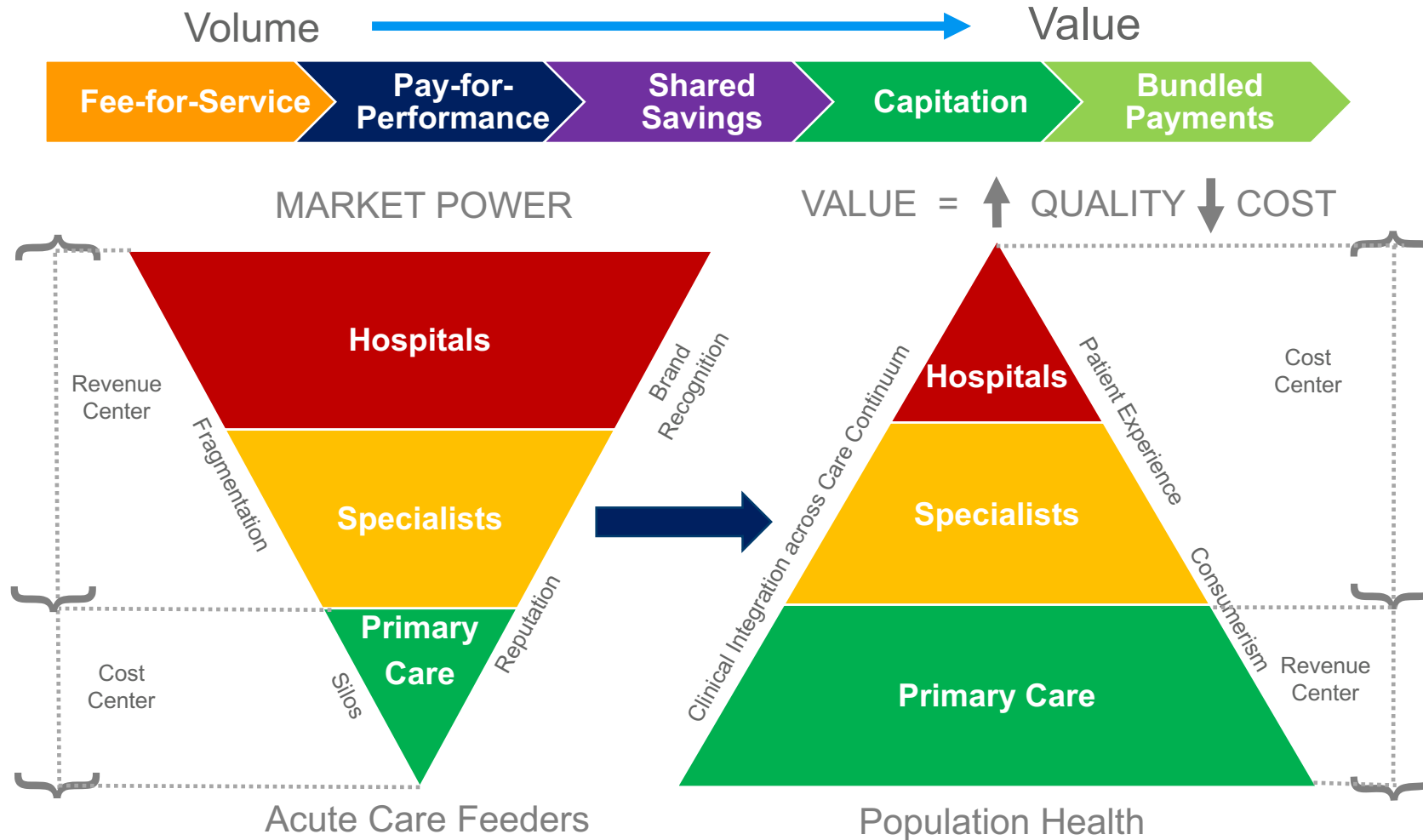
Where does the money go?

Health Care Spending

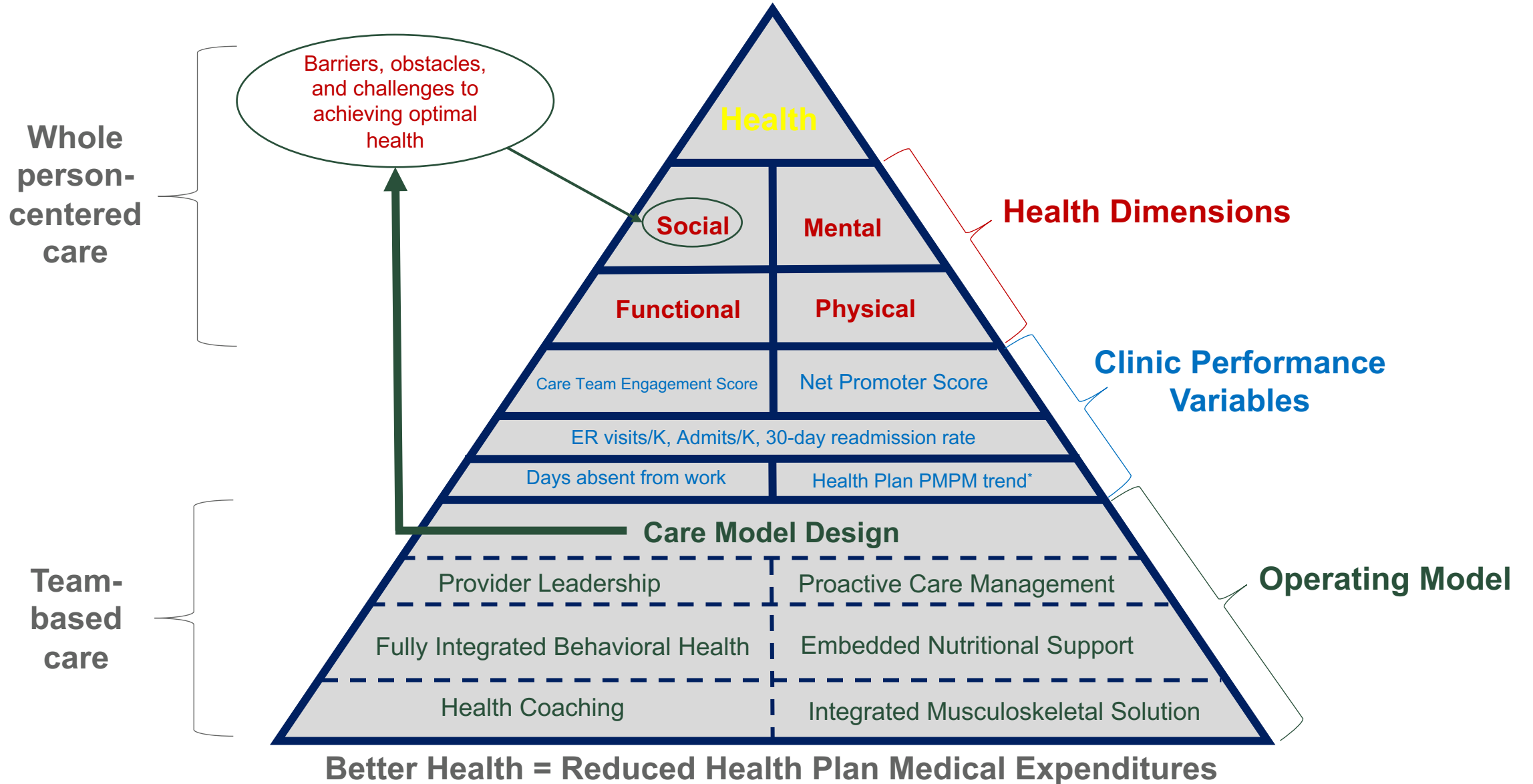
- Hospital care
- All other physician and professional services
- Prescription drugs and other medical nondurables
- Primary care
- Nursing home care
- Other health, residential, and personal care
- Dental services
- Home health care
- Medical durables



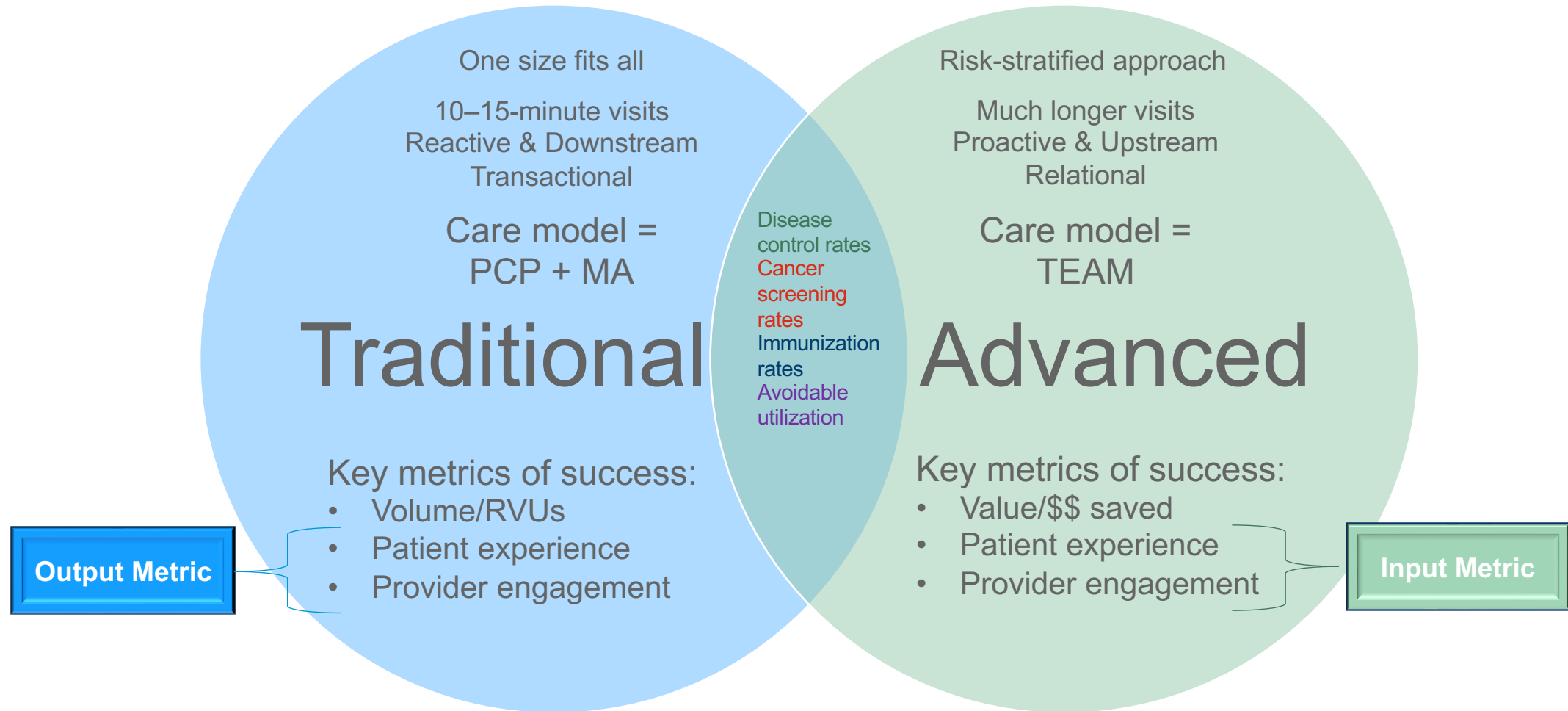
The Future of Healthcare



New Primary Care Model

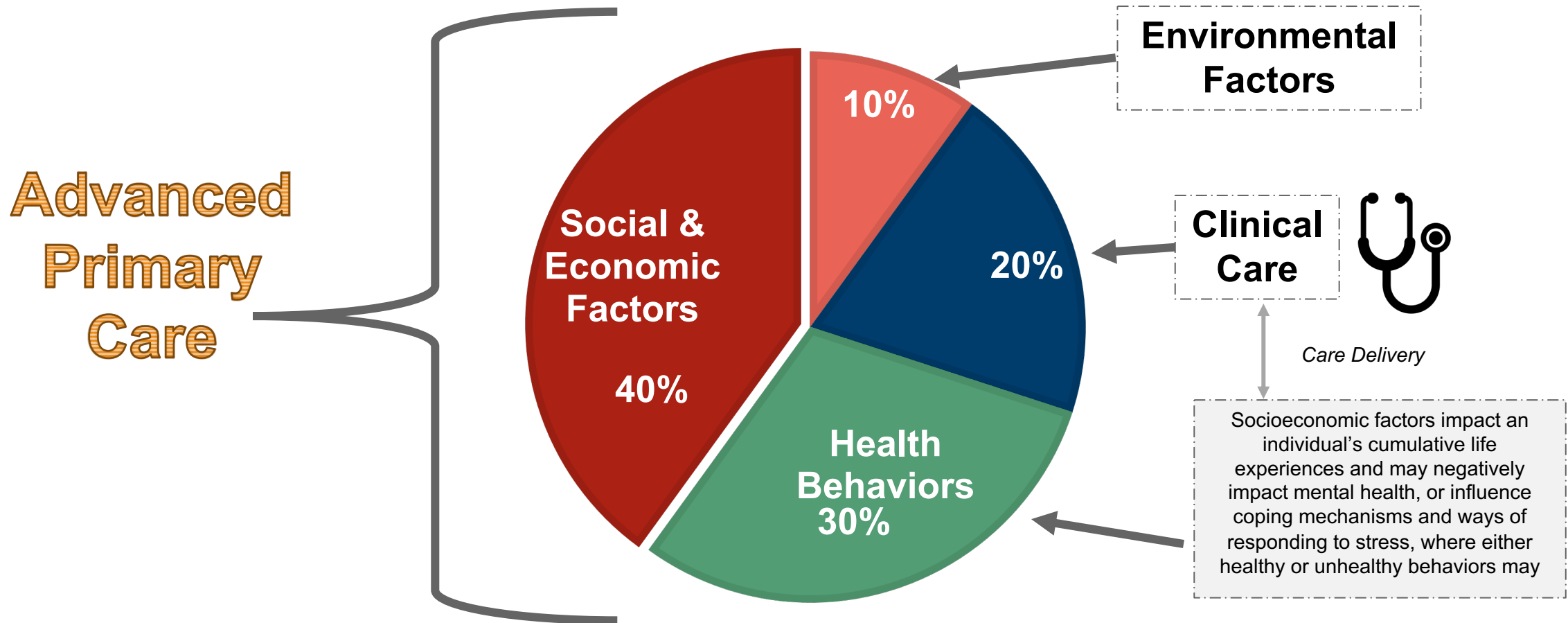


Traditional versus Advanced Primary Care



Determinants of Health Outcomes

TRUE DRIVERS OF HEALTH OUTCOMES



Coordinated & Collaborative Team Effort

Overcoming barriers, obstacles, challenges and other would be “tacklers”





Human understanding, unlocked.

The role of the primary care provider in disease prevention and management in a value-based world

Garry Welch PhD
Chief Scientific Officer
Silver Fern Healthcare

October 7th, 2022



www.silverfernhealthcare.com

Silver Fern's evidence-based diagnostic toolset for systematic and patient-centered care management

- **Evidence-based digital product suite built with clinicians for care management teams; unlocks previously inaccessible patient information; provides suggested, actionable care paths**
- First commercial product to comprehensively assess key behaviors and psychosocial barriers to good health outcomes
- **Proven to significantly improve:**
 - Health outcomes for chronic disease and pre-disease
 - Engagement of participants and patients, short and long-term
 - Re-engagement of disengaged populations
- **Results in:**
 - Improved clinician efficiency
 - Consistency and standardized approach for clinical teams
 - Increase in trust and improved relationship between clinician and patient/participant
 - Reduced health disparities



A practical care management tool for providers

Evidence-based assessment modules and programs systematically and quickly unlock the behaviors and psychosocial issues that commonly go unassessed in routine care but that create barriers for patients and cause disparities in care.

Each of Silver Fern's modules includes:

- A research-based **assessment** with built-in flagging logic.
- **Suggested actions** for pathways of care that are tailored to the patient-specific experiences, behaviors, goals, and barriers unlocked by the assessment.
- **Real-time assessment results, reports, and data insights.**

Current Programs:

Type 2 Diabetes (18 modules)

Heart Failure (16)

Hypertension (14)

Medication Adherence (7)

Long-COVID (6)

Prediabetes (10)

Healthy Lifestyle &

Disease Prevention (9)



Expanding “personalized healthcare”

Focusing on key self-management and psychosocial issues drive patient engagement and outcomes

Unlocking barriers to health that clinicians haven’t been able to see before

Remote or in-person data collection:

Asynchronous (text, email), in-person (home, clinic), and over the phone options for clinicians

Medicaid readability level

*This display shows the 18 modules in the Silver Fern’s Type 2 Diabetes Program.



Case Review

Unlocking Joe's Behaviors, Barriers, & Goals

Built-in flagging system indicates areas for clinical review



Modules Flagged as High Priority



Joe has a psychological insulin resistance, including fear of using insulin in public and health insurance problems.

Modules Flagged as General Priority



Joe is experiencing diabetes emotional distress.



Joe has barriers to achieving regular physical activity.



Joe is experiencing sexual functioning issues related to his diabetes.



Joe is not monitoring his blood sugar with enough frequency.

Assessment Modules Module History

Type 2 Diabetes

Foundational Modules

- Health Literacy and Numeracy
- Diabetes Emotional Distress
- Behavioral Health Barriers
- SDoH Plus

Patient Self-Management Modules

- Meal Plan
- Physical Activity
- Medication Taking
- Monitoring Blood Sugars
- Smoking Cessation
- Preventive Behavior

Next Step Modules

- Insulin Therapy Problems
- Physical Pain
- Poor Sleep
- Diabetes Coping Styles
- Sexual Functioning

Modules for Specific Patient Subgroups

- Cognitive Functioning
- Disability
- Post Weight Loss Surgery

Suggested Actions

Based on the assessment results, granular suggested actions are generated to guide the clinical team toward the most effective treatment plan for the individual patient.

Suggested actions can be checked off to indicate completion and to track progress in the results PDF.

Sample barrier, goal, and behavior flags in the Medication Taking Module of the Type 2 Diabetes program

Medication Taking

Administered Date: 4/1/2021 5:37:01 PM
Taken Date: 4/1/2021 5:38:03 PM

[Results PDF](#) [Re-Administer Module](#) [Resolve Flags](#)

Flagged Responses with Suggested Actions

Medication Taking Behaviors

- Sometimes takes diabetes pills/medicine or insulin
 - Determine the patient's current diabetes medications and provide education on that class of drug, including how they work; how to take them; side effects; contraindications; proper storage and disposal; expected HbA1c lowering; and timing in relation to food
 - Educate on the concept of needing to reach a certain threshold for medications to work
 - Educate on relationship between exercise and the timing of insulin and oral hypoglycemics
 - Educate on pattern management (use of finger sticks or a CGM to detect patterns)
 - Educate on changing and/or using medications for procedures, surgery, and sick days
 - Educate on how medications interact with herbal supplements and dietary aids

Medication Adherence Goal

Goal: Always take medication

Barriers to Medication Adherence

- ▶ Has trouble remembering to take medications
- ▶ Feels good, doesn't think they need medication
- ▶ Worries about getting low blood sugars
- ▼ Skips or cuts medications in half because they are too expensive
 - Encourage the patient to speak with their health care provider to substitute lower-cost medication
 - Review the patient's budget to help them identify other ways to cut costs
 - Educate on the availability of financial assistance and other programs for low-cost medications, such as pharmacy prescription discount cards and special programs by drug companies
- ▶ Afraid of causing damage to kidneys, liver, or other parts of body

Foundational Concepts and Clinical Referrals

Education items to discuss with patient

- The basic pathophysiology of diabetes and its effect on the body's organs
- The classes of medication and general information on risks and benefits
- The timing of different classes of medications and the relationship to short and long-term blood glucose outcomes
- The need for consistency in taking medications to achieve blood glucose control
- The short-term and long-term effects of skipped or missed doses of diabetes medications
- How following a healthy lifestyle with diet and exercise may lead to a reduction in medication(s)

Strategies for working with the patient

- Encourage following a healthy lifestyle with diet and exercise to work synergistically with medications and to possibly reduce the dose needed
- Encourage the patient to talk with their healthcare provider and pharmacist about side effects or concerns the patient may have about medications; explain that there are often a variety of medications that can be used to treat diabetes
- Have the patient keep a record/diary of medication taking, blood glucose, and side effects
- When working with the patient on goal setting, make sure all goals are SMART (Specific, Measurable, Achievable, Relevant, and Time-bound)
- Work with patient to identify pros and cons of current behavior versus behavior change

Clinical referrals

Joe's lifechanging results



Quantitative Treatment Results

- ✓ HbA1c improved 1.2% over six months
- ✓ No hypoglycemia events
- ✓ Lower diabetes distress

Qualitative Treatment Results

- ✓ Diabetes educator worked with Joe to start fast-acting insulin therapy
- ✓ Primary care team helped with sexual functioning issues
- ✓ Joe and team pleased with his improved health

While others build products and then try to prove their value, our solutions were proven to work before they were brought to market.

CLINICAL RESEARCH RESULTS

Type 2 Diabetes

.6 to 1.6 drop in HbA1c

Significant reduction in depression and psychosocial distress

- ✓ \$4.2M+ NIH funding
- ✓ 1,650+ patients in 9 clinical studies
- ✓ 17 published papers and posters
- ✓ 5 community clinics and diabetes centers
- ✓ Research conducted in FQHCs & predominantly Latino populations

COMMERCIAL RESULTS

Employees with Prediabetes

5.6 to 5.2 drop in HbA1c

2x patients achieving health goals

7x patient engagement in treatment

Employees with Type 2 Diabetes

- ✓ **37%** More members having 2 A1c tests in 12 mths.
- ✓ **20%** Increase in members having annual PCP visit
- ✓ **29%** increase in retinopathy screenings
- ✓ **72%** reduction in behavioral health flags

Digital health in action: commercial results

Large employer

RN Care Management Program

T2D high-risk stratification enrolled employees

Retrospective review; virtual outbound care management using T2D program in their clinical workflows

6-month pre/post assessments (Behavior Diagnostic Platform, Conifer CM software) of HbA1c, diabetes distress, weight, and RN ratings of patient engagement

RESULTS

- 20% of patients initially reported high diabetes distress; reduced to **10%**
- Mean HbA1c lowered **1.0%** (baseline 8.5%)
- Avg. weight reduction **7.5 lb** from **210 lb**

Population Health Company Pilot - Feasibility / Acceptability

T2D, HF Medicare Adv patients from 3 practice groups sent text assessments (Blood Sugar Monitoring, Poor Sleep) delivered within app via secure PURLs; patient reports sent to providers; delivered real-time data insights

RESULTS

- **55%** overall patient response over 2-week window

























24/7 Care Management Pilot Program for High-Risk Patients

T2D modules through digital outreach: text & email

RESULTS

- **61%** of patients completed asynchronous text assessments
- **64%** of patients previously disengaged from treatment for 30+ days completed text assessments
- **33%** of patients identified with high diabetes emotional distress (impacts diabetes control [HbA1c] and patient quality of life)

Improve industry standard performance measures

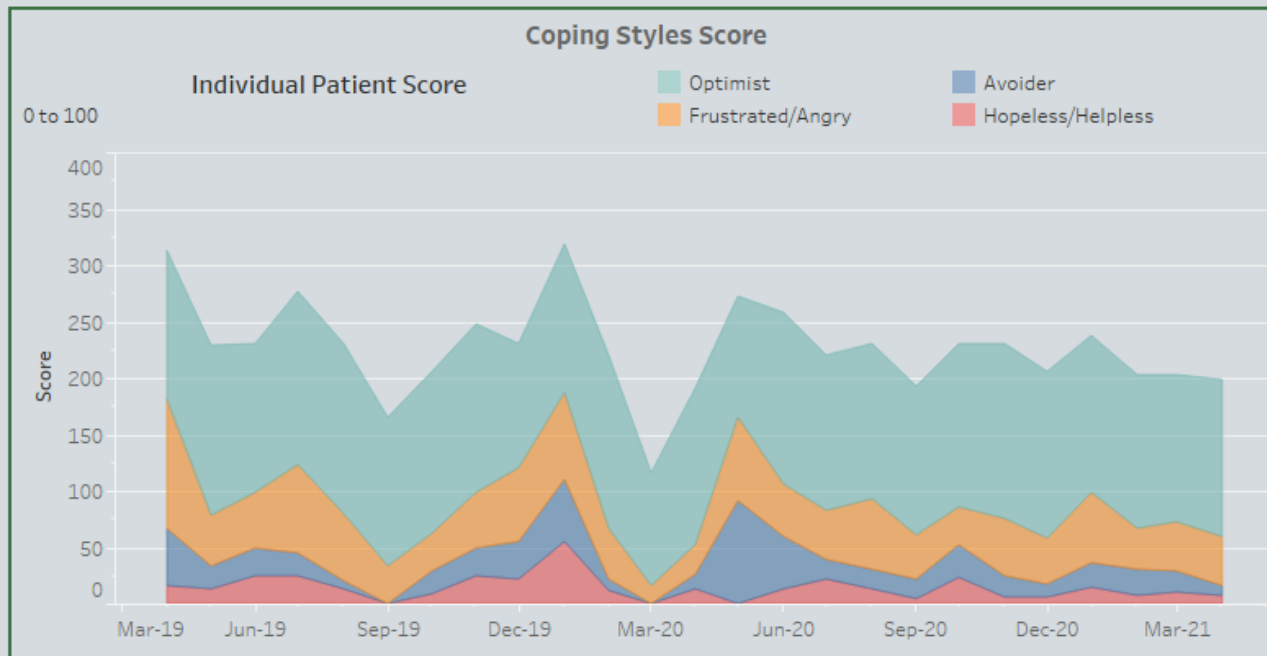
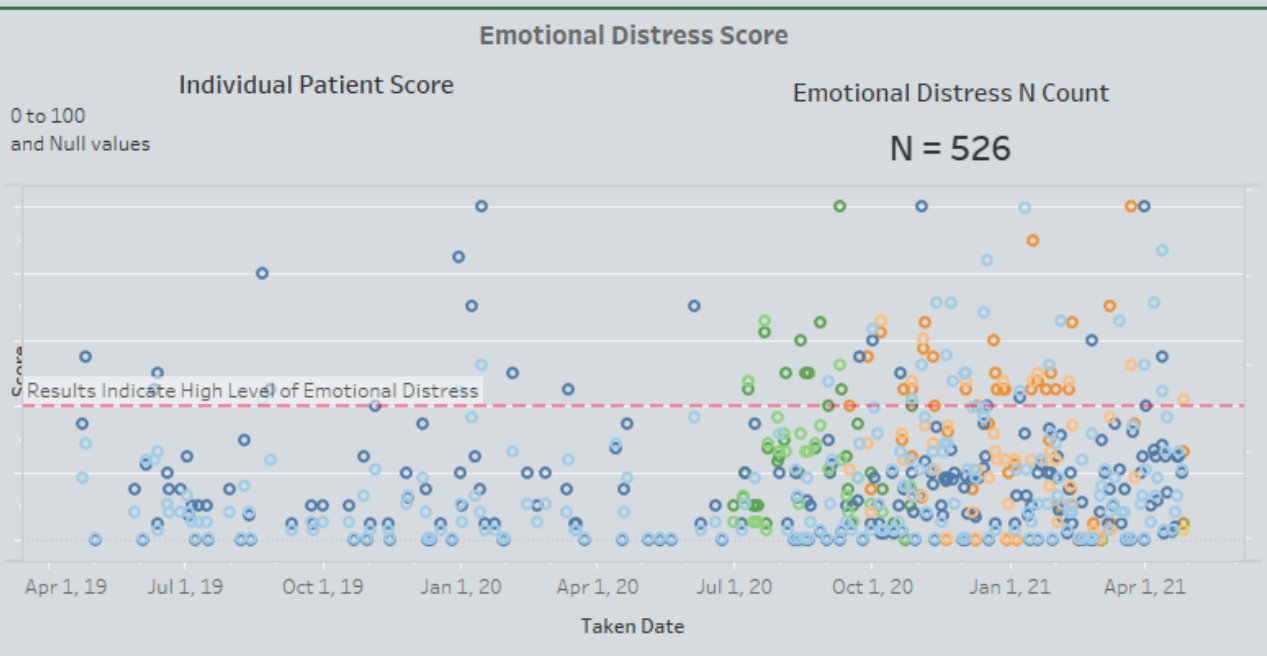
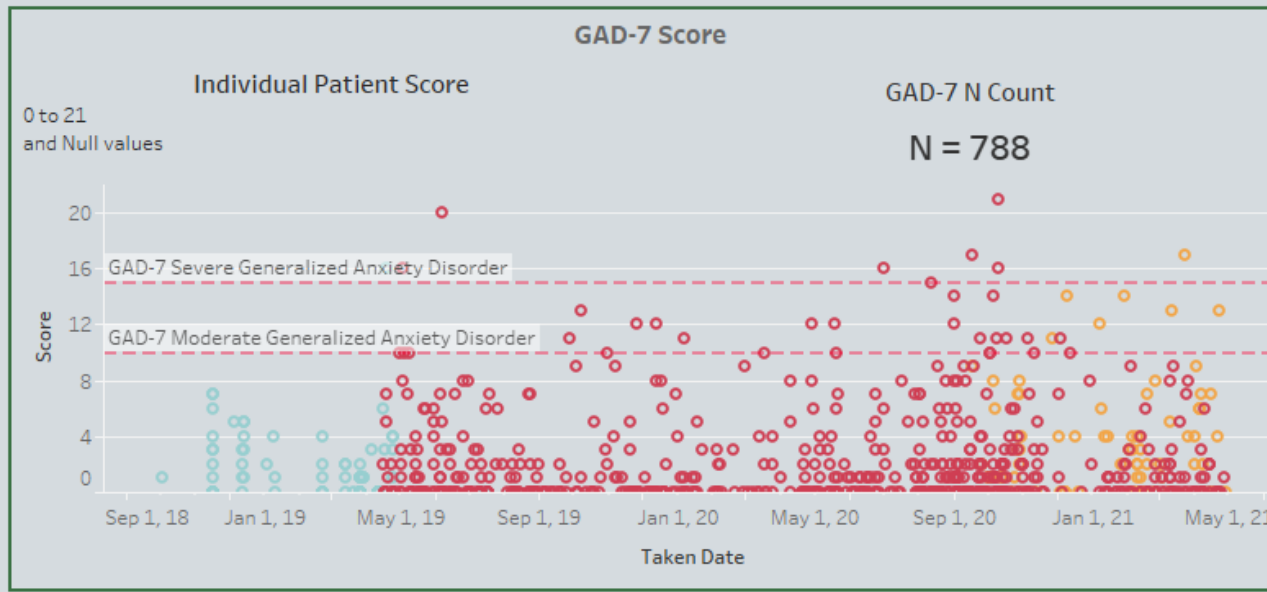
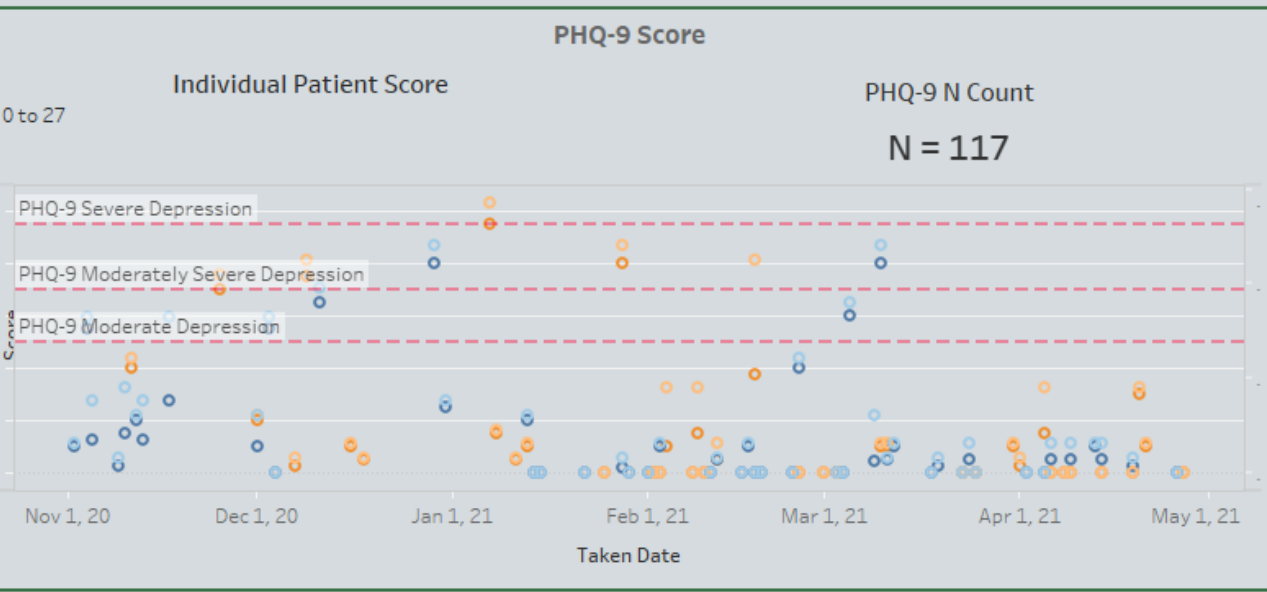
Sample Quality Measure Category	HEDIS
Depression Screening and Follow-up Plan	
Promotion and Education	   
Tobacco Screening and Intervention	
Care Coordination	  
Statin Therapy	 
A1C Control	     
High Blood Pressure Control	   
Acute Admission Rate for Patients with Multiple Chronic Disease	 
SDoH Assessment	

Silver Fern's Insights Dashboard

THIS ISN'T JUST DATA; *IT'S ACTIONABLE INFORMATION.*

- View never-before-seen insights about populations.
- Micro-target care plans and benefit design.
- Enhance predictive modeling and risk stratification.
- Implement targeted interventions that create healthier populations and enhance equity.
- Use assessment data as a leading indicator of program and treatment effectiveness.
- See real-time onboarding, participation, and outcomes data.



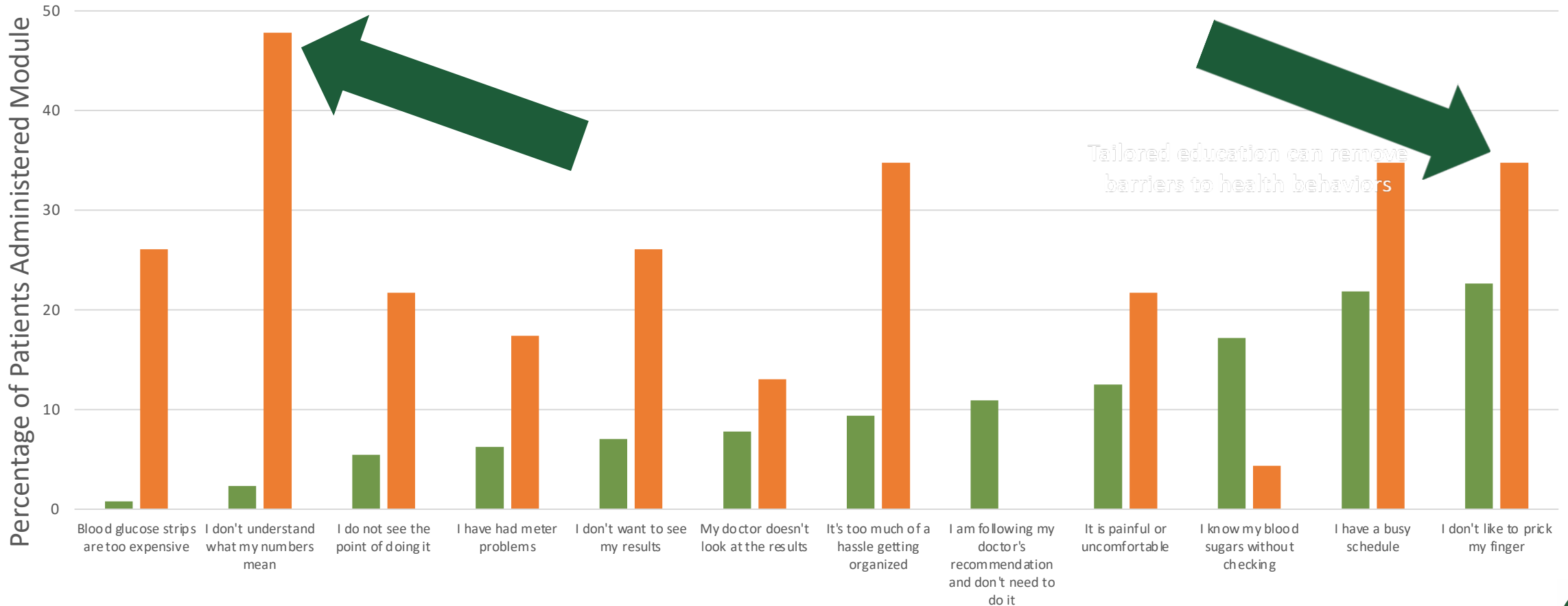


Difference between a coached population using Silver Fern (green) and a standard commercial health insurance population (orange)

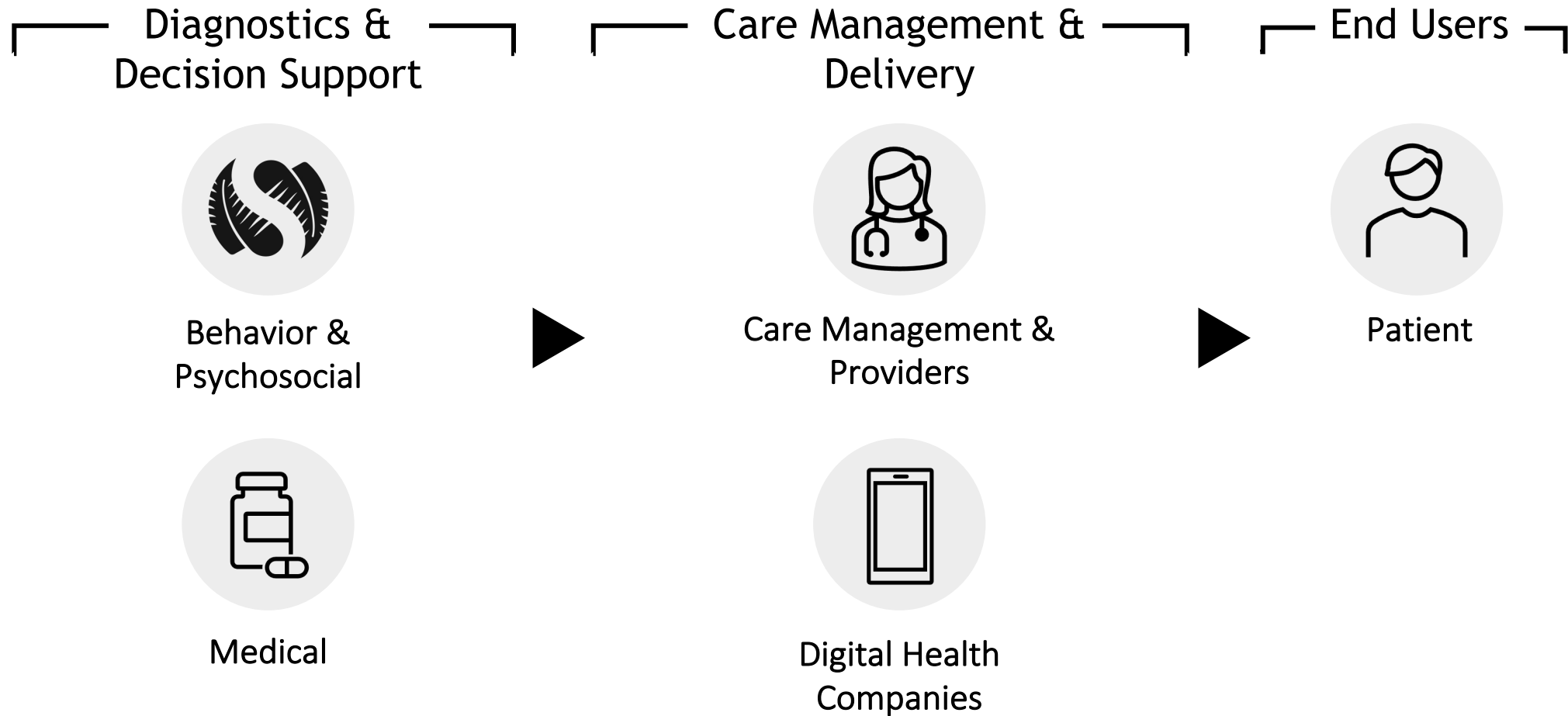


Monitoring Blood Sugars

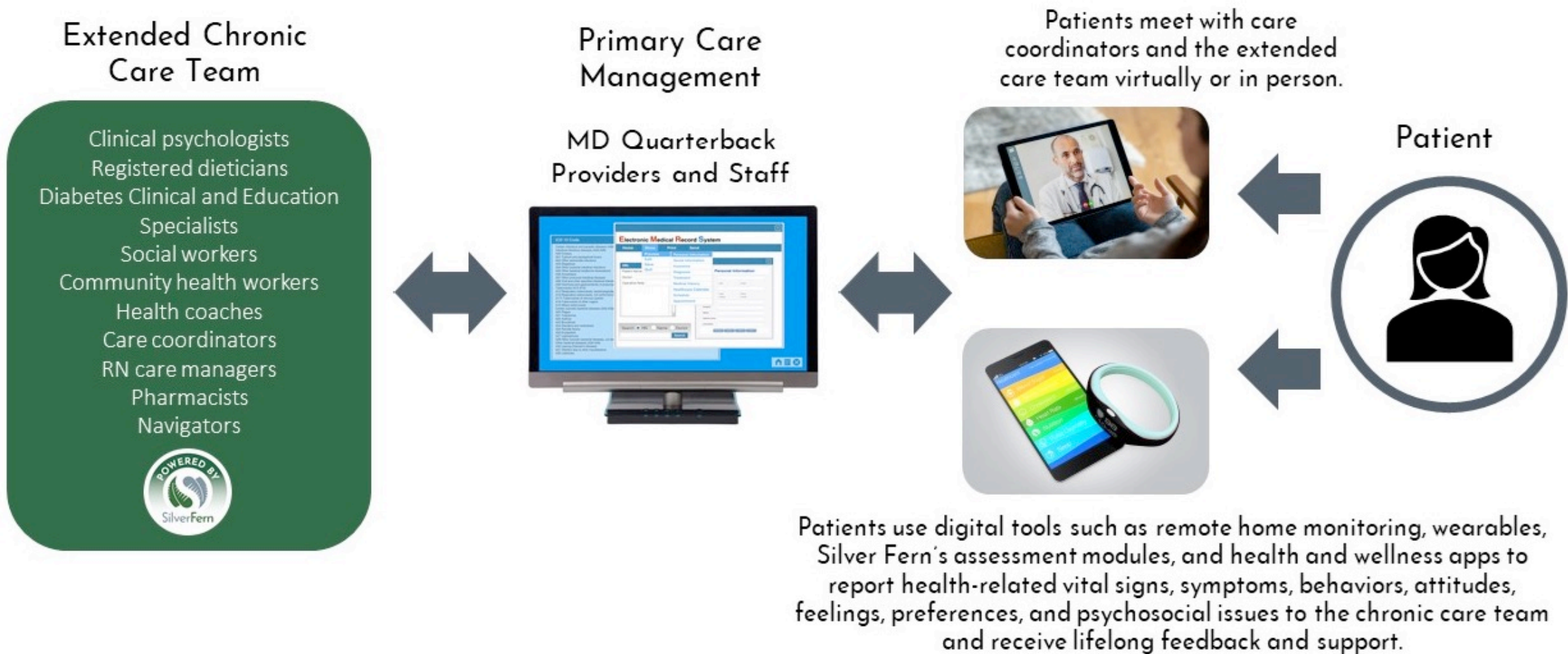
"What are the reasons it is hard to monitor your blood sugars?"



Where we fit in the care delivery landscape



Virtual and in-person team care to empower patients living with chronic conditions



Training for Primary Care Physicians, Extenders, and Care Teams

Optimal Medical Therapy

Slow Aging and Delay Chronic Disease

MTVA Webinar

" it is now critical for physicians to reconceptualize SGLT2 inhibitors as organ-protective agents rather than glucose-lowering drugs"

Achieving the Quadruple Aim with New Science, New Systems, and New Outcomes™

William H. Bestermann, MD

3 Amsterdam Lane

Simpsonville, SC 29681 USA

Phone: 423-782-0372

Email: william.bestermann@cardiometaboliccare.org

Website: www.cardiometaboliccare.org

Optimal Medical Therapy First for CAD



ValidationInstitute

Optimal Medical Therapy (OMT) is a New Universal Standard of Care



William Boden
Boston University

OMT First is New ACC Guideline For Stable Angina



David Maron
Stanford

Lead authors of the landmark COURAGE and ISCHEMIA trials

J Am Coll Cardiol. 2015 August 18; 66(7): 774–776. doi:10.1016/j.jacc.2015.06.018.

Why Optimal Medical Therapy Should Be a Universal Standard of Care

David J. Maron, MD* and William E. Boden, MD†

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†Department of Medicine, Samuel S. Stratton VA Medical Center, Albany Medical Center, and Albany Medical College, Albany, NY

JACC 2015;66:774-776

AJMC 2008 Percutaneous Interventions

Optimal Medical Therapy vs Usual Care

- Optimal Medical Therapy (OMT) for cardiovascular and related conditions is a comprehensive set of integrated evidence-based care processes consistent with best practices.
- Usual care is the treatment that we find in the broader community.

**Quality is a systems property. OMT is a product.
We supply the systems to produce that product.**

The Top 10 Reasons for an Internal Medicine Visit

Rank	ICD-10 Code	Description	Total Diagnoses	Total Costs
1	I10	Essential Hypertension	27,622,848	\$2,783,557, 307
2	E785	Hyperlipidemia, Unspecified	10, 518,729	\$361,443,023
3	E119	Type 2 Diabetes	8,481,532	\$901,539,837
4	Z0000	Physical Exam	8,146,318	2,380,123,162
5	Z23	Immunization	5,667,826	426,859,081
6	E039	Hypothyroidism, Unspecified	5,258,476	267,657,779
7	K219	Esophageal Reflux	4,963,714	226,186,108
8	I2510	Coronary Artery Disease w/o angina	4,646,028	1,290,864,682
9	E782	Mixed Hyperlipidemia	4,261,902	164,055,295
10	E559	Vitamin D Deficiency	3,969,503	118,288,063

<https://www.definitivehc.com/blog/10-most-common-diagnoses-in-primary-care>

The Kaiser Collaborative Coronary Care Service improved outcomes and lowered costs with OMT

If the providers caring for your members with a history of coronary artery disease use a simple ten step check list and participate with you in collaborative cardiac care, the mortality rate for patients who have had a myocardial infarction will fall 76% and costs will drop \$21,900 per patient per year.^{1,2}

4.5-year average enrollment

	Usual Care (N = 628)	Intervention (N = 628)
CV Mortality	98	12
All-Cause Mortality	188	16

Same Study- 4896 Patients with Heart Attack or Stent

Engagement	% Mortality Reduction	Number of Patients
Early CCC <90 Days	89	1630
Delayed CCC >90 Days	65	1211
Intermittent CCC	46	483
No CCC		1572

Optimal Medical Therapy (OMT)

Delate T Pharmacotherapy. [2010 Nov;30\(11\):1127-35](#)

Sandoff BG The Permanente Journal [2008;12\(3\):4-11](#)

[Pharmacotherapy 2007;27\(10\):1370-1378](#)

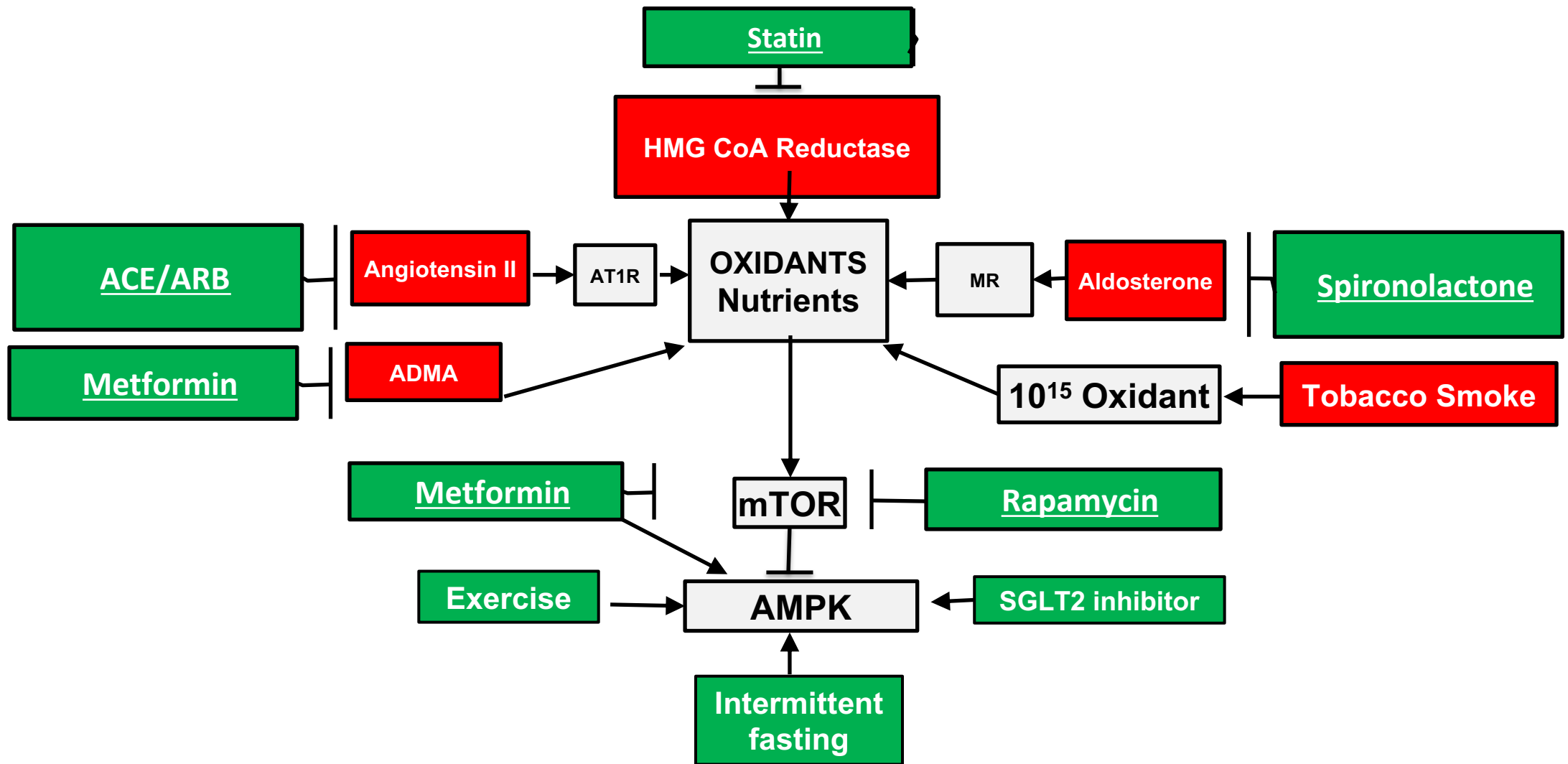
OMT slows aging, delays chronic disease development, and can prolong life now—21-year Steno-2 follow-up

Variable	Intensive Therapy	Usual Care	Absolute Risk Reduction
Number of matched subjects	80	80	
CV events after 8 yr. intervention	33	85	
All-cause mortality at 13 yr.	24	40	20%
CV mortality at 13 yr.	9	19	
Heart attack	9	35	
Stroke	6	30	
Coronary Stent	1	11	
Amputation	10	33	
All CV events	51	158	29%
Progression to dialysis	1	6	
Progression to blindness	2	7	
All-cause mortality 21 years	38 (48%)	55 (69%)	21%
Median survival 21 years	+8 yr.		
Median time to first CV event	16.1 yr.	8yr	

N Engl J Med 2008; 358:580-591

Diabetologia. 2016; 59(11): 2298–2307

Interfering with core signaling pathways slows chronic disease development and aging



Sources: See notes section

MOVING TO VALUE



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