

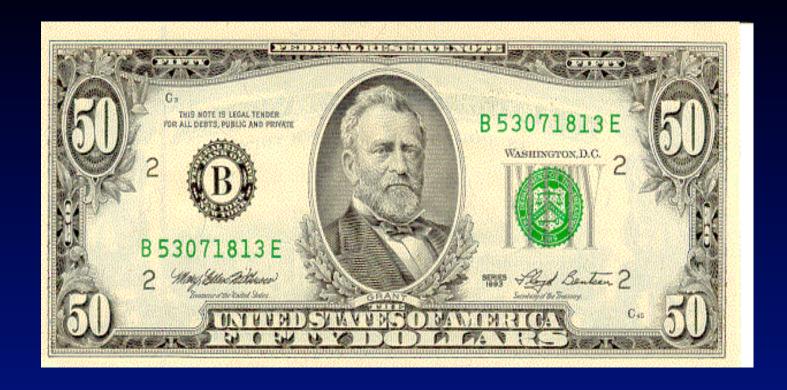


Living to 160

Dr. Michael Roizen, Chief Wellness Officer, Cleveland Clinic, U.S.

Wellness: The Cleveland Experience: Vitality: Improve Health, Save Big \$ For Social Programs, Ed & Research

Part of The Legacy of Toby Cosgrove



DISCLOSURE OF INTERESTS:

#1 NEW YORK TIMES BESTSELLER

How well do you know your body? TAKE THE QUIZ!

From the authors of the #1 New York Times bestsellers

You: on a Diet and You: Staying Young

From the authors of the #1 New York Times bestseller, YOU: The Owner's Manual

ON A

KEA

Are Yo as Young Can

An Age Reduction Progr Live and Feel Up to

> 44 SCIENTIFICALLY THAT DELAY AGING

- * Control How Your G
- * Learn the Value of E
- * Increase Your Vitali

It's Easier Than

MICHAEL F. R



#1 NEW YORK TIMES

From the authors of the #1 New ? YOU: The Owner's Manual and

STAYI

The Owner's Manua

BEAL

MICHAEL MEHMET

The Owner's Manual for Extending Your Warranty

MICHAEL F. ROIZEN, M.D. MEHMET C. OZ, M.D. Health

Insider's Handbook

tor Getting the Best Treatment

MICHAEL F. ROIZEN, M.D., AND MEHMET C. OZ. M.D.

THE JOINT COMMISSION AND COMMISSION

The Patient's Safety Champion

YOUR

Losing Weight, Living Longer,

and Getting a Second Chance

at the Life You Want

Foreword by MEHMET C. OZ, M.D.

MICHAEL F. ROIZEN, M.D.

Waist Management

izen, m.d. Z, M.D. Health

vorkout

Maximum Health, Minimum Work

F. Roizen, Ifen, M.S., with Lawrence A. Armos

keover

ars off your looks them to your life

Roizen, M.D.

www.Sharecare.com www.RealAge.com

An Insid

Will Mak

MEF



BE HALF AS OLD AS YOU ARE!!

The RealAge Revolution Gets Serious: Longevity is the Next Disruptor, Enjoy It

KEEP Your KNOWLEDGE, Your ACCEPTANCE, Your EXPERIENCES & REGAIN Your VIGOR, Your ENERGY, Your PASSION

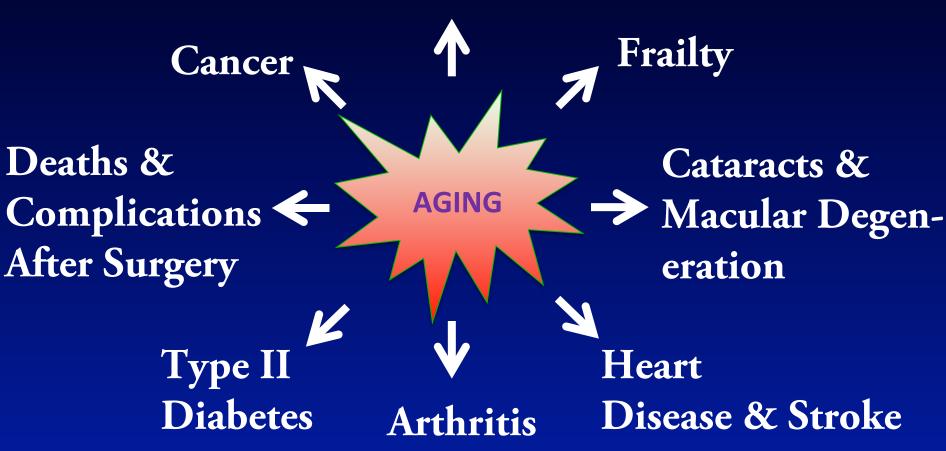
Albert B. Ratner, PhD Peter Linneman, PhD Michael F. Roizen MD

Outline For GWAS

- Why Health/Care Needs To Be Fixed If Social Disruption Is To Be Avoided & How CC Has Shown It Can Be Done
- 9 or 10 Steps You Can Do To Keep
 YOU & Your Brain Healthy/Younger
- How To Plan for The Next Disruptor: A Lot More Healthy Longevity Or Ability to Easily Make Your RealAge A Lot Lot Younger

Aging is largest driving force in CHRONIC disease: So Make Your RealAge Younger

Neurodegeneration & Mental Dysfunction



Aging is KEY For GWAS

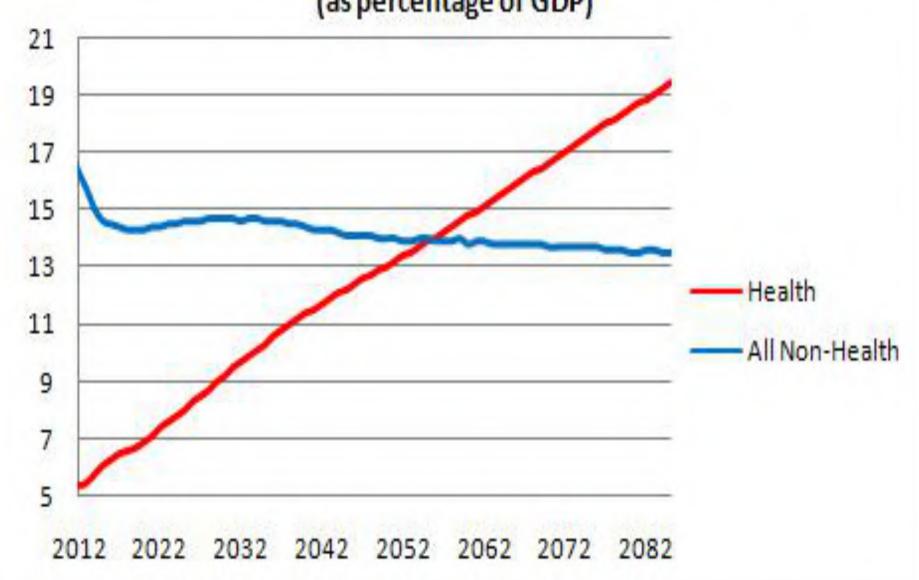
- From Horrendous LDL Cholesterol (260mg/dL) to Ideal (<70 or <30)
 - = 3 Fold Decrease in Risk of Heart Disease
- From Horrible BP (260/165) to ideal (115/75)
 - = 5 Fold Decrease in Risk of H/Vasc Disease
- From Chronologic Age of 65 & RealAge of 75 to Ideal RealAge (30 Yrs Younger)
 - = 27 Fold Decrease in Risk of All Diseases
- Aging Is The Greatest Risk & Is Very Modifiable

Outline For GWAS

 Why Health/Care Needs To Be Fixed If Social Disruption Is To Be Avoided & How CC Has Shown It Can Be Done

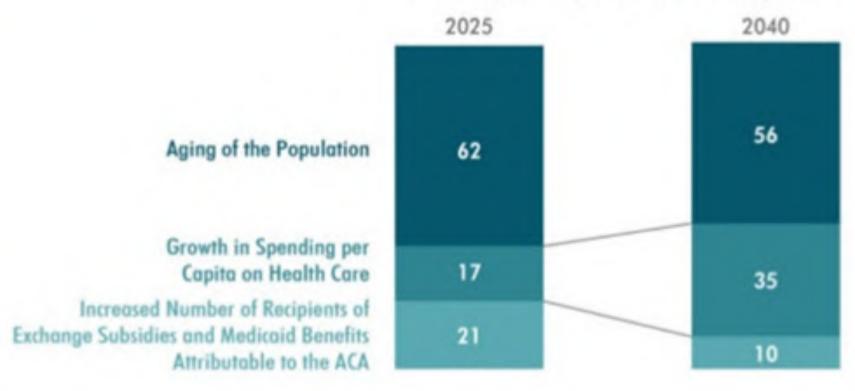
Components of Federal Spending

(as percentage of GDP)

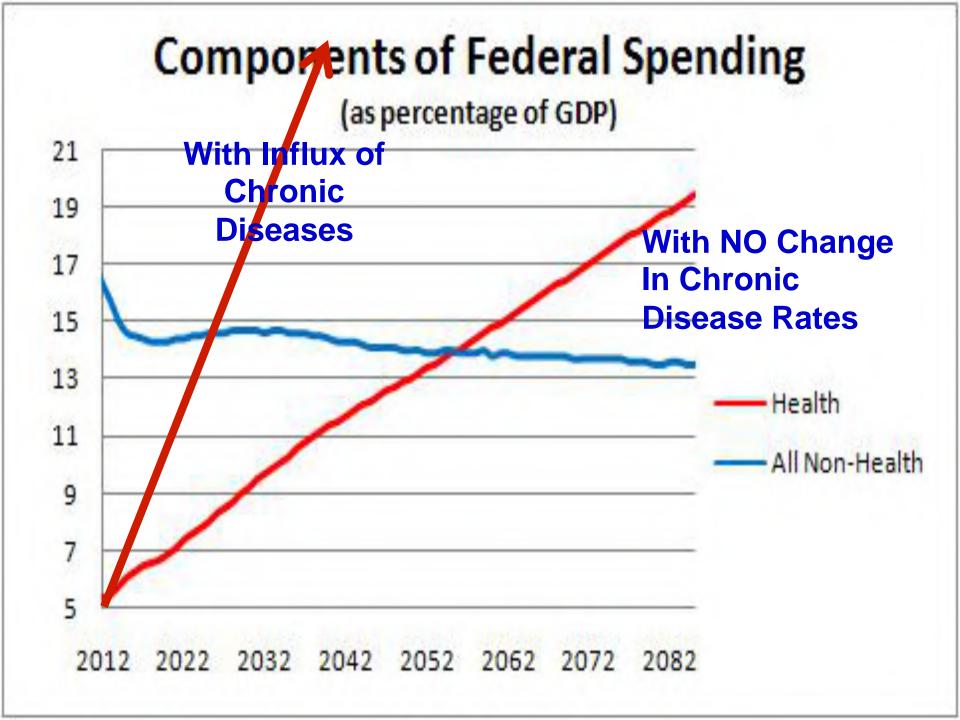


Explaining Projected Growth in Federal Spending for Major Health Care Programs and Social Security

Percentage of Projected Growth Through . . .



The aging of the population will increase the share of the population receiving benefits and also affect the average age (and thus the average health care costs) of beneficiaries. Health care costs per beneficiary, adjusted for demographic changes, will grow faster than economic output per capita, CBO projects, as they have historically. Finally, enrollment in Medicaid under the Affordable Care Act and the number of people receiving subsidies for health insurance purchased through the exchanges are projected to continue to increase.



Type2Diabetic Prevalence In USA

- 1974: 2.2 million of 211 million = 11/1000
- 1983: 4.6 million of 235 m = 24/1000
- 1994: 6.8 m of 260 m = 30/1000
- 2004: 15.0 m of 292 m = 55/1000
- 2014: 29.0 m of 320 m = 91/1000
- 2050: Predicted 120-180 m (CDC incr predictn for 2050 to 220 m on 9 15 15 = 500/1000

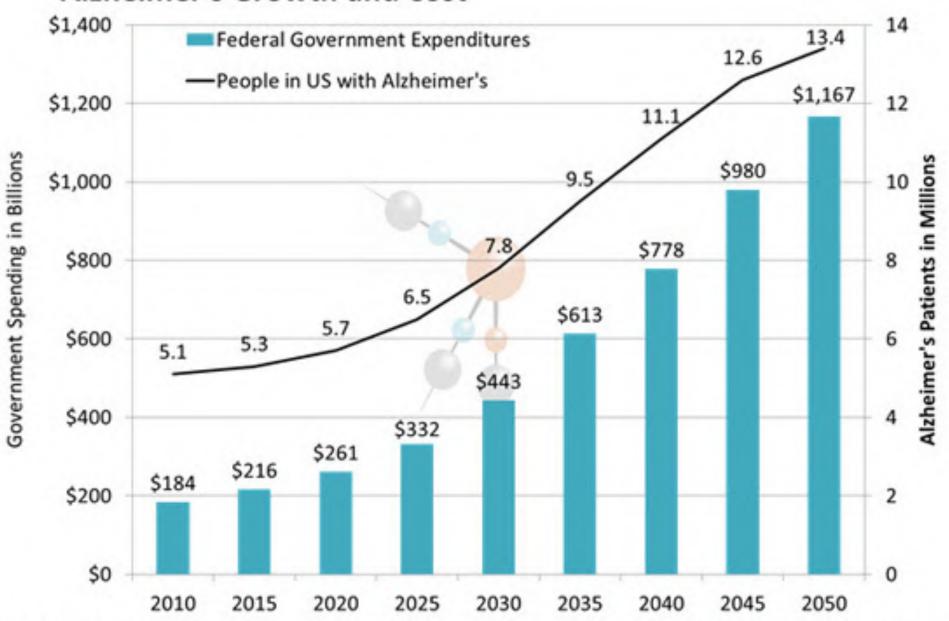
Total Hip & Knee Arthroplasties in USA

- 1974: 0.067million of 211 million= 0.003/1000
- 1990: 0.327 million of 235 m = 0.13/1000
- 2006: 0.675 m of 292 m = 0.02/1000
- 2010: 1.05 m of 320 m = 0.03/1000
- 2050: Predicted 6.33 m (4.17 K & 1.86 H) = 0.2/1000

Alzheimer's Growth and Cost



Source: Alzheimer's Association, NIH



Why Is H/C in USA More Expensive: One Of Biggest Reasons -- As of Now We Treat More Chronic Disease

Type2Diabetic Prevalence In USA

2014: 29.0 m of 320 m = 91/1000 (16.9 million were treated & use 1.5% of GDP)

Type2Diabetes & Prediabetes in China

- Total in 2010 = 607.3 million people (20 fold more than in USA)
- 2010: Diabetics: Treated = 11.6 million with OK Glycemic control (0.11% of GDP—14 fold less than in USA)

Chronic Disease Management Causes 84% of all Costs & 67% of Costs are in under 65 Year Olds (2012 data)

- Tobacco
- Food Choices & Portion Size
- Physical Inactivity
- Unmanaged Stress

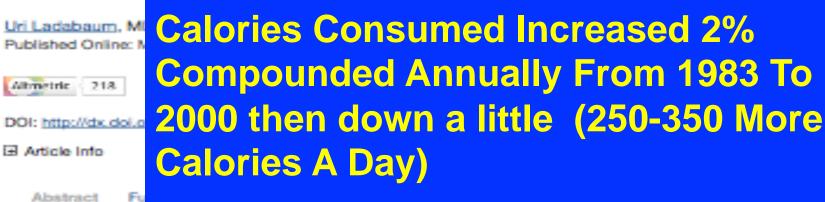
THE AMERICAN JOURNAL of MEDICINE*



Official Journal of the Alliance for Academic Internal Medicine

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Obesity, Abdominal Obesity, Physical Activity, and Caloric Intake in US Adults: 1988 to 2010



Obesity and about these risks. We

1988 to 2010.

Abstract Physical Activity Decreased To Zero (ZERO!!) In 47.5% In 2010 From 17% In 1988!!!

THE AMERICAN JOURNAL of MEDICINE*



Official Journal of the Alliance for Academic Internal Medicine

1988 To 2010.

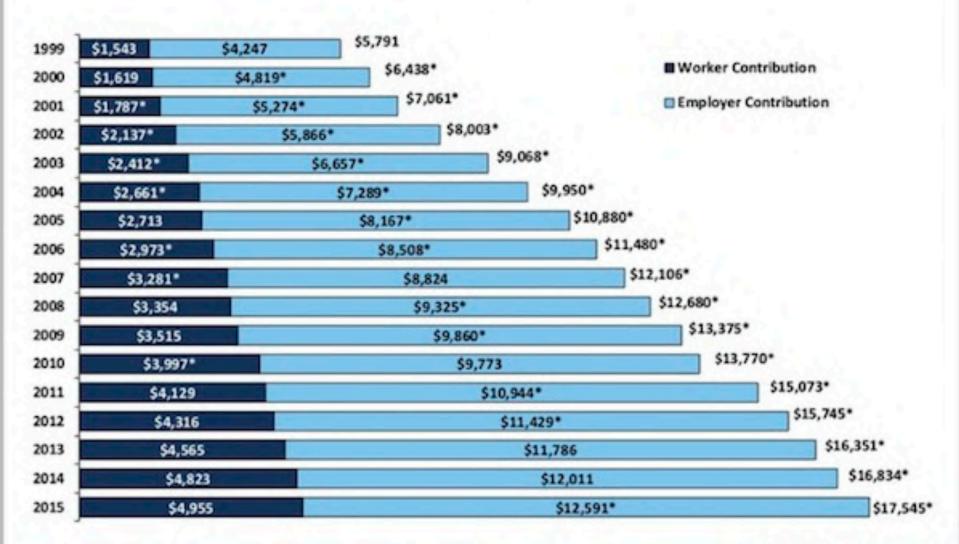
Articles and Issues Collections CME Resource Centers Sponsored Info For Authors Journal Ir All Content Advanced Search Search) < Previous Article August 2014Volume 127, Issue 8, Pages 717–727.e12 Next Article > Obesity, Abdominal Obesity, Physical Activity, and Caloric Intake in US Adults: 1988 to 2010 Net Result: USA's Costs Increased From 11.7 to 17.6% of GDP (50%+ Increase) As DOI: ht → Artic **Body Mass Index Increased By 0.37%** Per Year In Both Women & Men From

Obesity and abdominal obesity are associated independently with morbidity and mortality. Physical activity attenuates these risks. We examined trends in obesity, abdominal obesity, physical activity, and caloric intake in US adults from 1988 to 2010.

Care Cost w/9.5%/yr Inc At CC For Employees +

- 2008: \$305 pmpm
- 2009: \$334 projected num here & below
- 2010: \$366
- 2011: \$401
- 2012: \$439
- 2013: \$481
- 2014: \$526
- 2015: \$576
- 2016: \$631 An additional \$395 million

Average Annual Worker and Employer Contributions to Premiums and Total Premiums for Family Coverage, 1999-2015



Estimate is statistically different from estimate for the previous year shown (p<.05).

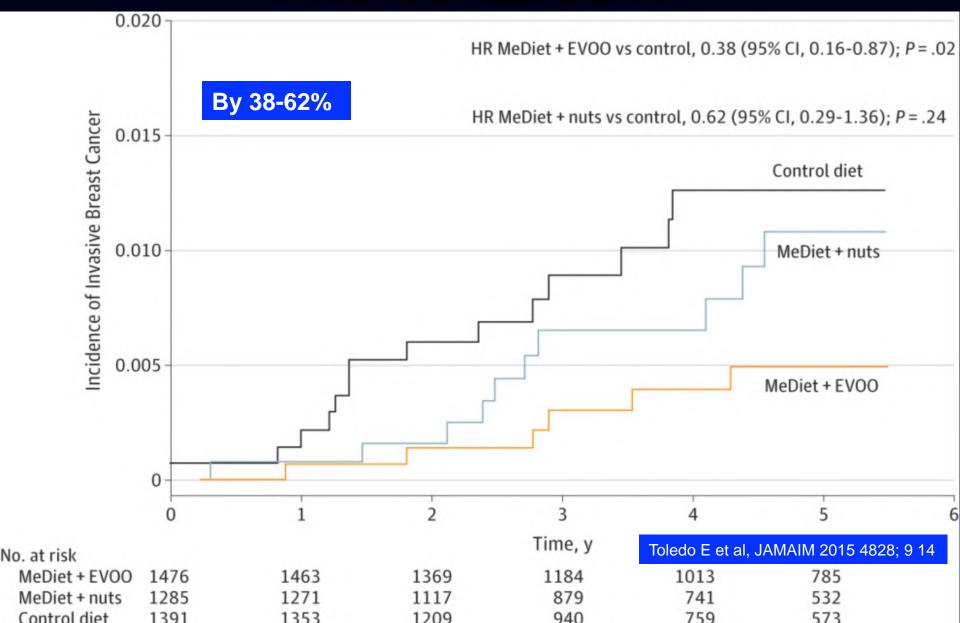


SOURCE: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2015.

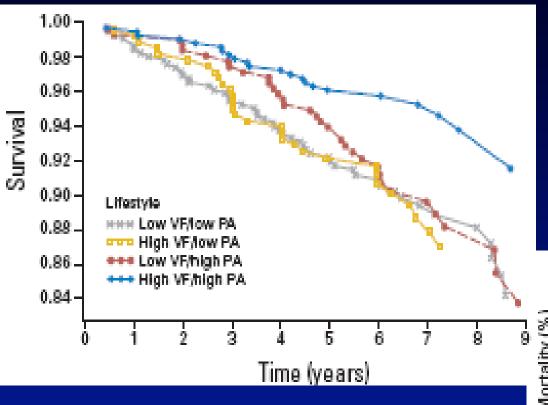
What Really Matters to Chronic Disease

- If Do 5 Behaviors Have Only 10-20 % of Risk of
 All Others For CV & Cancer --
- Only 4% Did 5 Behaviors (88+K Nurses Health Study, NEJM, 2000 & 2015)
- Swedish Men: Same Result 1% did 5 (35+K EHPJ, 2014)

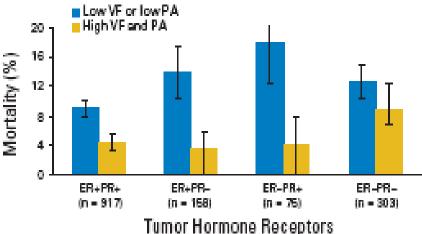
Med Diet (Walnuts + Olive Oil) Substantially Reduces Invasive Breast Cancer



More Vegetables, Fruits & Physical Activity = Improved Breast Cancer Patients' Survival



Women's Healthy
Eating and Living
(WHEL) Study

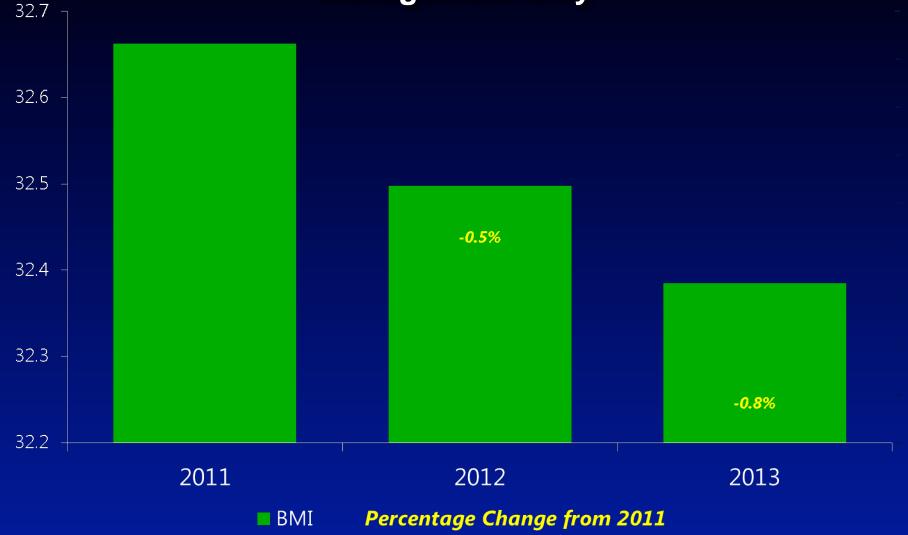


What Really Matters to Chronic Disease

- If Do 5 Behaviors Have Only 10-20 % of Risk of All Others For CV & Cancer -- Only 4% Did 5
 Behaviors (88+K Nurses Health Study, NEJM, 2000 & 2015)
- Swedish Men: Same Result 1% did 5 (35+K EHPJ, 2014)
- In USA in 2010-16, Only 2.7% Had Healthy Diet, Body Fat,
 30 min Phys Activity 5 days a week & Didn't Smoke(4754 NHANES;MCP,16)

How Do We Get Many More To Do 5 Healthy
 Behaviors ???? The Biggest & Most Important
 Question in Health Today.

Reduction in Body Mass (BMI) by Year Employee Health Plan – Employees in Weight Management Only

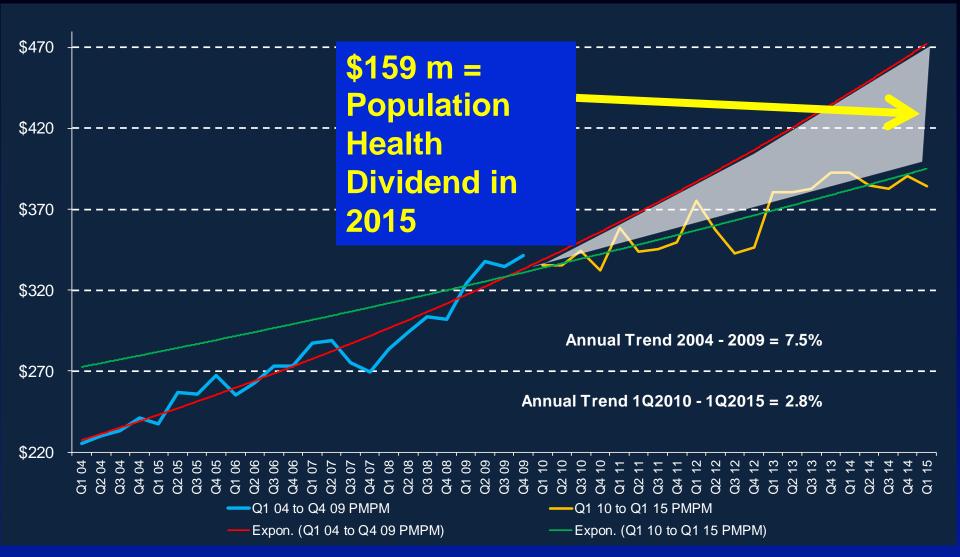


We Think Cleveland Clinic Helped It's Typical Employee Get About 5.3 Years Younger in Last 8 Years

For Example:

- Smoking Rates Decreased 10+% from 15.4
 to 5.3% = 1.2 yrs younger for Avg
- BMI down 0.5% per yr = 0.4 yrs younger
- Immuniz Rates from 51 to 90+% = 0.2 yrs younger

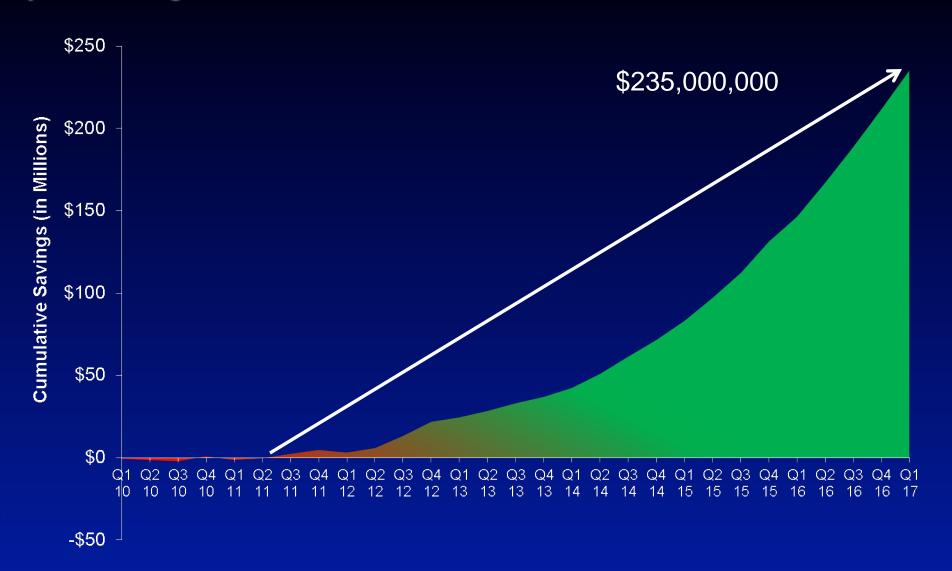
Trended EHP Paid PMPM by Quarter (Medical and Pharmacy Claims)



Care Cost Include Wellness & Admin w/ 9.5% / yr Inc At CC For Employees + = 101,000

- 2008: \$305 pmpm
- 2009: \$334 but became 328
- 2010: \$366 but became 346
- 2012: \$439 but became 368
- 2013: \$481 but became 395
- 2014: \$526 but became 397
- 2015: \$576 but became 392
- 2016 1st half 625 became 388
- Saving \$241 million/y (or \$156 m/y @ 6.8%)

Estimated Cumulative Savings by "Bending the Trend" Since 2010

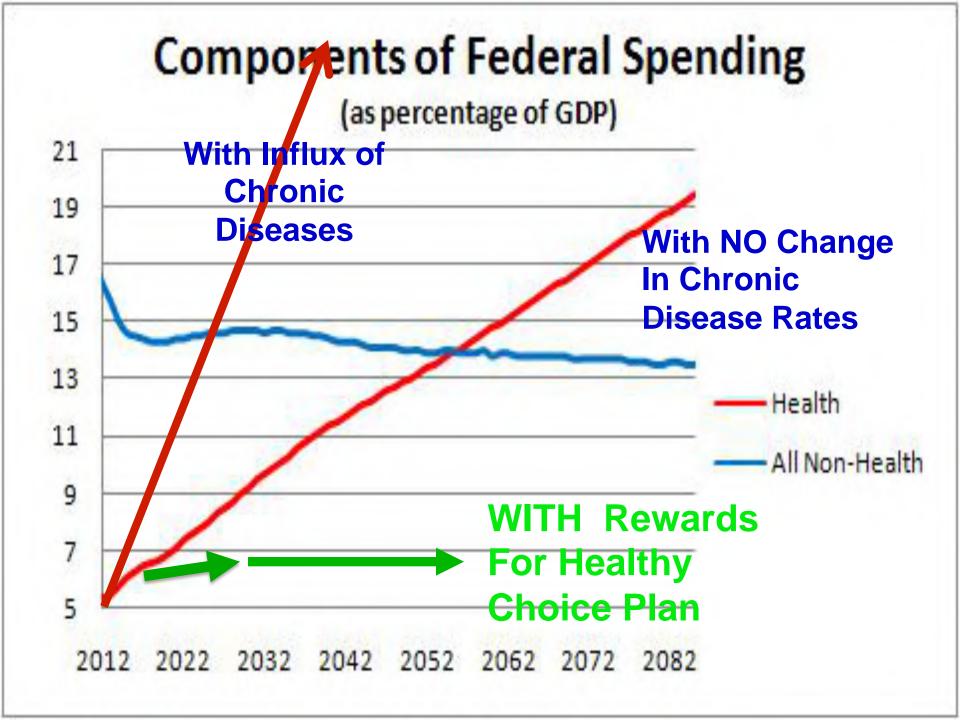


Lafarge Historical Per Capita Medical and Rx Cost for Active Employees and Pre-65 Retirees









Aging 2017

Why Are Medical Costs Per Employee Rising, But Not For Cleveland Clinic or Lafarge-Holcim & a Few Other Cos

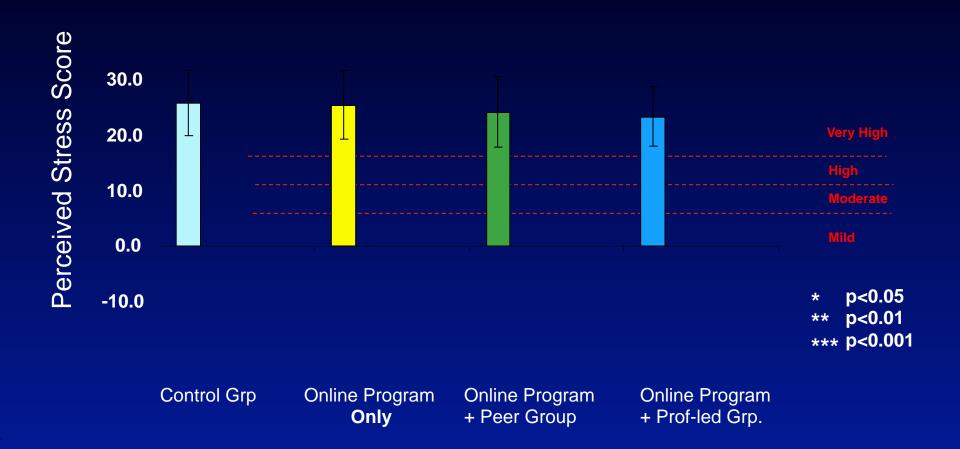
- You Can Slow Your Aging & Become AgeProof
- The Largest Cause of Aging is Stress—The Greatest Way of Reducing Usual Aging Is Managing Stress

Make Your RealAge Younger

	Years Younger
	up to 25 years 8- 12 years
	up to 32 years 8.2 years
✓ Quality/Quantity of S ✓ Nutritional Choices	ex up to 16 years up to 27 years

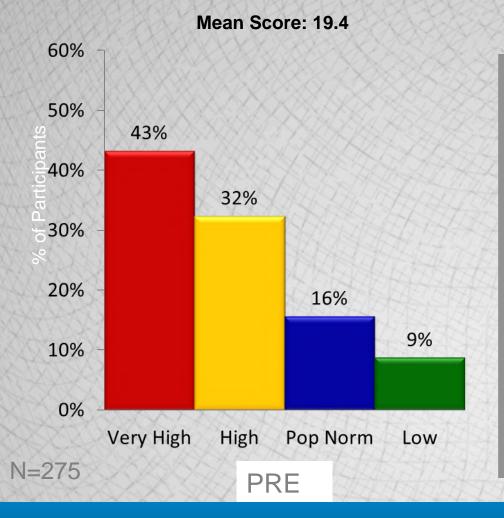


Stress Free Now 0-16 wks



Perceived Stress Scale

Measure of how unpredictable, uncontrollable, and overloaded respondents find their lives



Sample Items

How often have you felt difficulties were piling up so high that you could not overcome them?

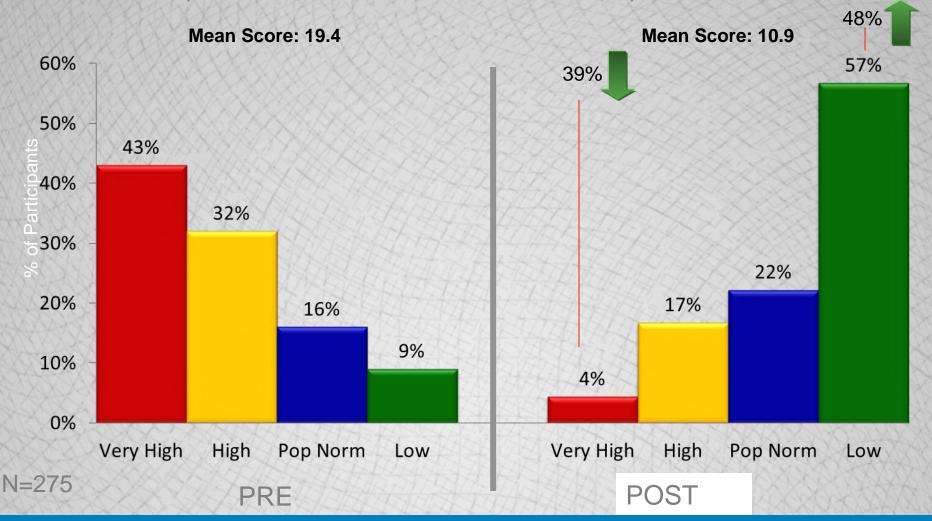
How often have you felt that you were unable to control the important things in your life?

How often have you found that you could not cope with all the things that you had to do?

75% high to very high perceived stress

Perceived Stress Scale

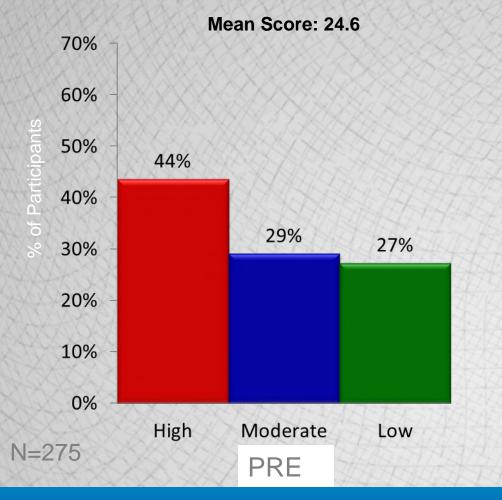
Measure of how unpredictable, uncontrollable, and overloaded respondents find their lives



44% decrease in perceived stress

Emotional Exhaustion (Maslach Burnout Inventory)

Depletion of emotional energy, distinct from physical exhaustion or mental fatigue. Emotional exhaustion is a clear signal of distress in emotionally demanding work.



Sample Items

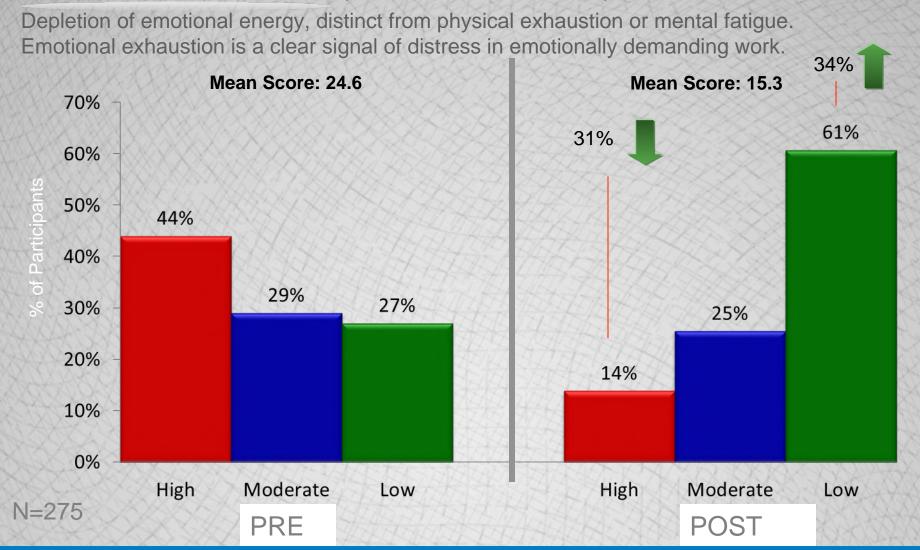
I can effectively solve the problems that arise in my work.

I feel used up at the end of the workday.

I feel emotionally drained from my work.

44% report high burnout

Emotional Exhaustion (Maslach Burnout Inventory)



38% decrease in burnout

Outline For GWAS

- Why Health/Care Needs To Be Fixed If Social Disruption Is To Be Avoided & How CC Has Shown It Can Be Done
- 9 or 10 Steps You Can Do To Keep
 YOU & Your Brain Healthy/Younger

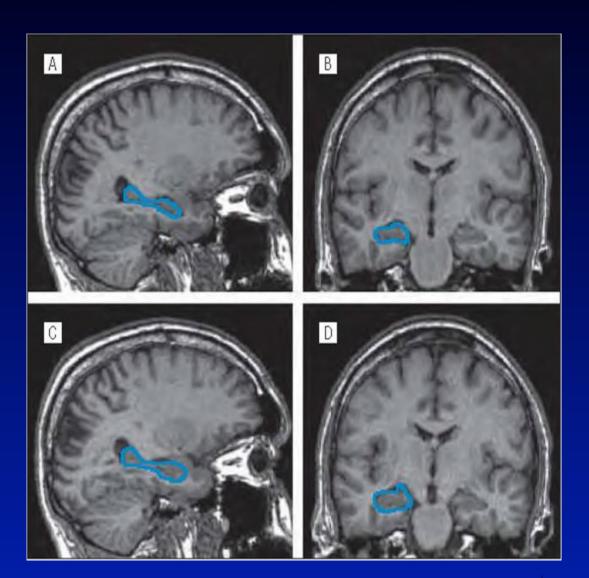
Preventing Brain Dysfunction

- 1. Manage Stress
- 2. Do 4 Components of Phys Activity

Step 3: Move Your Body Best documented for younger

memory

Increase in Size of **Hippocampus** with 3 Months of **Aerobic Exercise**

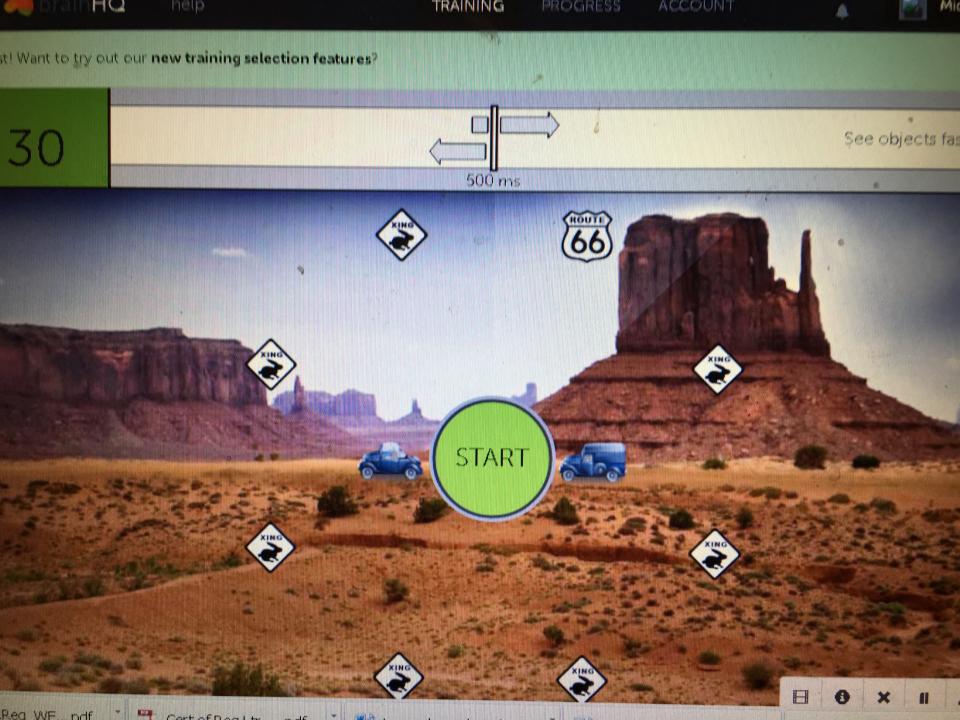


Do Minimum Physical Activity For Maximum Health Benefit

- General = 100 min a day of movement 10,000 Steps A Day
- Resistance Exercise = 30 min a week
- Cardio = 21 min Three X a Week at 80% of Max HR...With 2 mins At End at Maximum Intensity (If MD Allows)
- 40 Jumps a Day

Preventing Brain Dysfunction

- 1. Manage Stress
- 2. Do 4 Components of Phys Activity
- 3. Do "Speed Of Processing Games"



S of P Games PREVENTED 48% OF DEMENTIA:

- Multisite, randomized controlled trial: 3 cognitive training programs to 2,832;average age 73.6 years
- 1. strategy-based memory or
- 2. reasoning training;
- 3 computerized, process-based speed of processing training, or no-contact controls.
- Dementia incidence after 10 yrs in controls was 14%. & the same in 2 of test groups; but Dementia incidence was 12.1% among those completing 10 or fewer sessions of speed of process training & 8.2% if completed more than 10 hrs of speed of processing training









Preventing Brain Dysfunction

- 1. Manage Stress
- 2. Do 4 Components of Phys Activity
- 3. Do "Speed Of Processing Games"
- 4. Eat Salmon/Ocean Trout or 900 mg DHA:
- 5. Avoid SSSSnake oil Foods
- 6. Give Sleep Respect
- 7. Avoid Toxins
- 8. Drink Coffee-No Additives Please
- 9. Take the Fab 8+

The Fab 8+ Or Are They?:

1. ½ Multi 2x a day

½ Multi Twice a day

- Insurance Policy Against Imperfect Diet
- Of 26 million people who took detailed
 RA nutrition analysis test, it was possible
 to get all nutrients needed from diet:
 96,000 of 26 million (about 1/3rd of 1%)

did so

Prenatal Multivitamins + DHA

- Decrease congenital birth defects (major) by 80%
- Decrease childhood cancers by 65%+
- Decrease Autism & Autistic spectrum disorders by 40%+ (if taken for 3 months prior to conception)
- Improve IQ outcomes

MultiVitamins & Cancer in Health Professionals

- 14,461 men—avg age 64.3
- No Change in CV risks
- 12% reduction in non-prostate cancers in all men
- 18% reduction in non-prostate cancers in men over age 70
- 27% reduction in total cancers in men
 WilliamsPT & PD Thmpson
 Atheroscler Thromb Vasc B

with prior cancers

Atheroscler Thromb Vasc Biol 2013;33: 1085-91

MultiVitamins & Cardiovascular Disease in Health Professionals

- 18,530 men—avg age 52.8 (14,700) vs 52.2 (3790)
- After 10 in RCT and after 12.2 in Prospective Yrs, no signif CV benefit or risk, save 39% dec in fatal MI's in RCT
- After 20 Yrs, a 43% reduction in heart attacks or strokes (lifestyle,age, diet adj)
- 55% reduced need of CV revascularization
- 27% reduction in CV deaths

The Fab 8+:

- 1. ½ Multi 2x a day
- 2. Vit D2/3 to level of 35-80
- 3. Calcium Citrate with Mg++
- 4. DHA: 900 mg a day
- 9. Aspirin 2 babies with half a glass of warm water before & after
- 10.A statin –atorvastatin or rosuva-
- 7. CoQ10 200mg a day
- 8. Probiotic
- 9. Consider Omega-7 420mg a day

Preventing Brain Dysfunction: 1. Manage Stress

- 2. Do 4 Components of Phys Activity
- 3. Do "Speed Of Processing Games"
- 4. Eat Salmon/Ocean Trout or 900 mg DHA:
- 5. Avoid SSSSnake oil Foods
- 6. Give Sleep Respect
- 7. Avoid Toxins
- 8. Drink Coffee-No Additives Please
- 11. Take the Fab 8+
- 12. Enjoy An Infrared Sauna for 20 min 4 Times Each Week

10. Enjoy An Infrared SAUNA For 20 Minutes 4 TIMES Each Week

- Not-sweating In An Infrared Sauna (Much Cooler Than A Radiant Heat Sauna) For 20 Minutes 4 Times/Week
- •Reduces The Chance You'll Have Sudden Death By More Than 50%
- •Reduces Your Risk Of Dementia And Stroke By More Than 60%.
- Get A Two Person Version For Your Home & Help Your Spouse Enjoy A Younger Heart &

Outline For GWAS

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- 9 Steps You Can Do To Keep YOU & Your Brain Healthy/Younger
- How To Plan for The Next Disruptor: A Lot More Healthy Longevity Or Ability to Easily Make Your RealAge A Lot Lot Younger

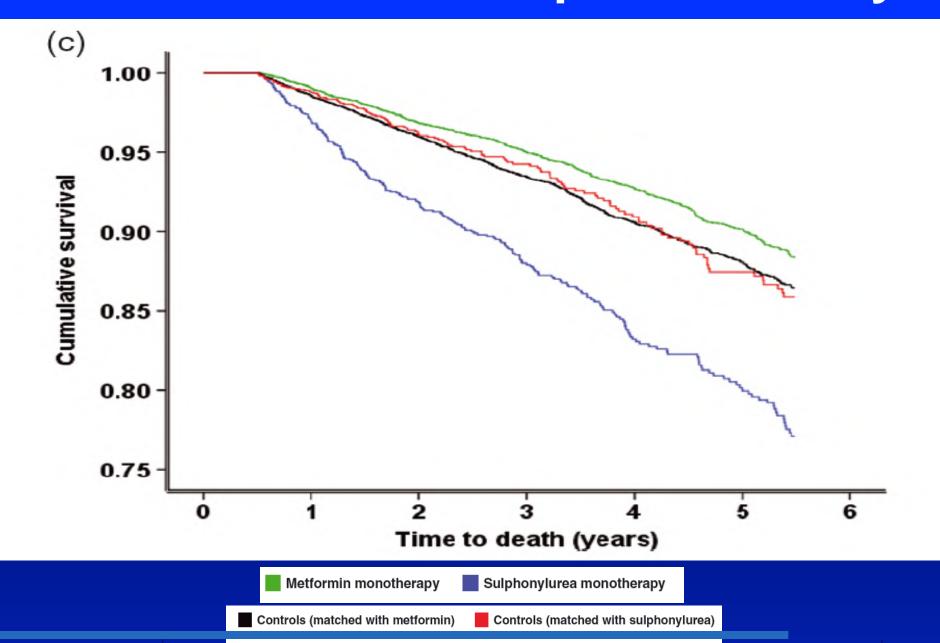
The Holy Grail Of Aging Is Repair

- 14 Areas of "Hot" Research Into Why You Age
- Some, Like Mitochondrial Errors & Wear & Tear may Be Able to Be Reduced
- But The Key Is Having A Great Repair/
 Replacement System: Pluripotent Stem Cells
- Example of Sunburn/ Heartburn
- Example of Heart Attack & Stroke

5 Day a Month Modified Calorie Restriction May Rejeuvenate Your Pluripotent Stem Cells

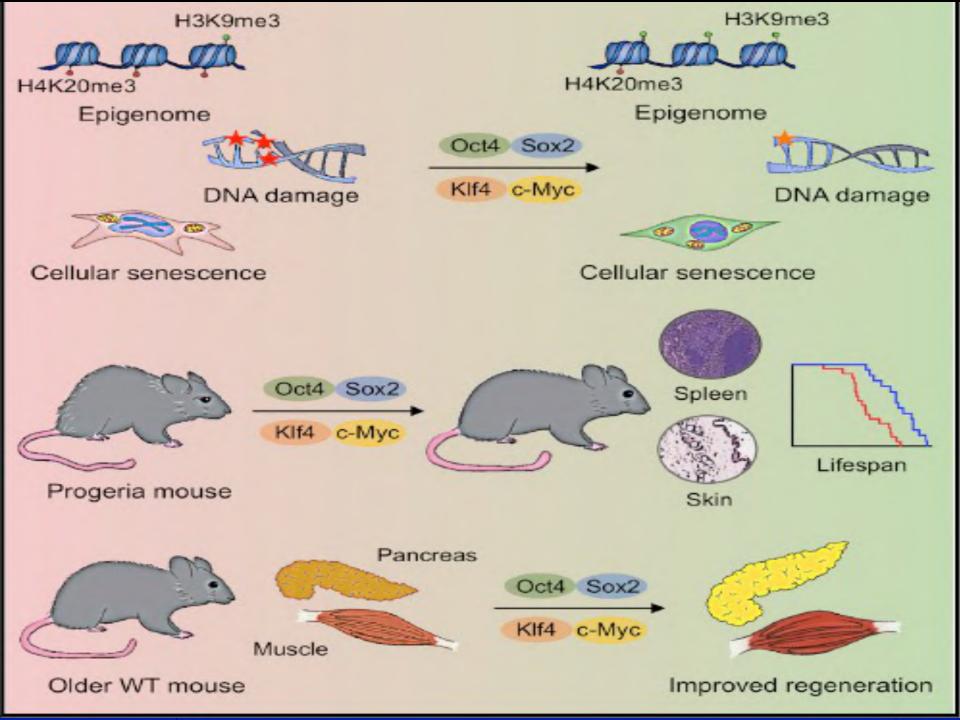
- Calorie Restriction in 21/23 Species Extends
 Median & Max Life Span
- 5 days a Month Seems To Be Almost As Good,
 Maybe Better in 2 Species (Longo et al)
- 1000 calories 1st day, Followed By Four 750 calorie days; Then Medit Diet
- Reduced Biomarkers of Aging, Inflammation &
 Lengthened Telomeres on Stem Cells

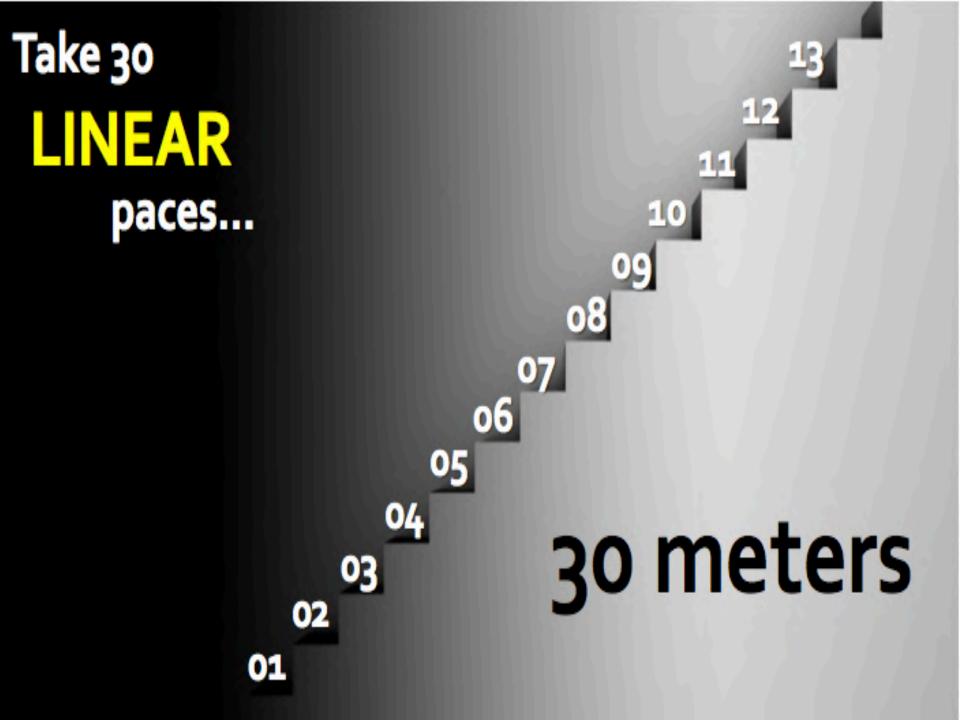
Metformin - A Retrospective Study



When Your RealAge Approaches Life Expectancy You Lack Energy= Frailty

- Your NAD+ = Much Lower, As Used Up By Chronic Inflammation & Acute Inflammation
- NAD+ Key For SIRT's (Sweet-16) Effects & For Energy Prod in Your Mitochondria
- Maybe You Can Rejevenate By Giving SIRT stimulant & NADr
- Animal Studies & DMD Pts = Big Benefits=10+ yrs
 Younger Real Age
- Human Studies Show Dose & Safety
- Huge % of Aging Researches Taking
- Human Outcome Studies Lacking





Take 30 **EXPONENTIAL** steps... **26X** around the Earth! 01 02 04 08 16 32 64 128 256 ... 1,073,741,824 meters

Life Expectancy At Birth & At Age 65

- 1900 = 47 & 1 yrs About 1.5 yrs/10 yrs
 since 1840
- 2000 = 77 & 17.6 yrs About 1.5 yrs/10 yrs
- 2016 = 80 & 20.2 yrs About 2 yrs/10 yrs

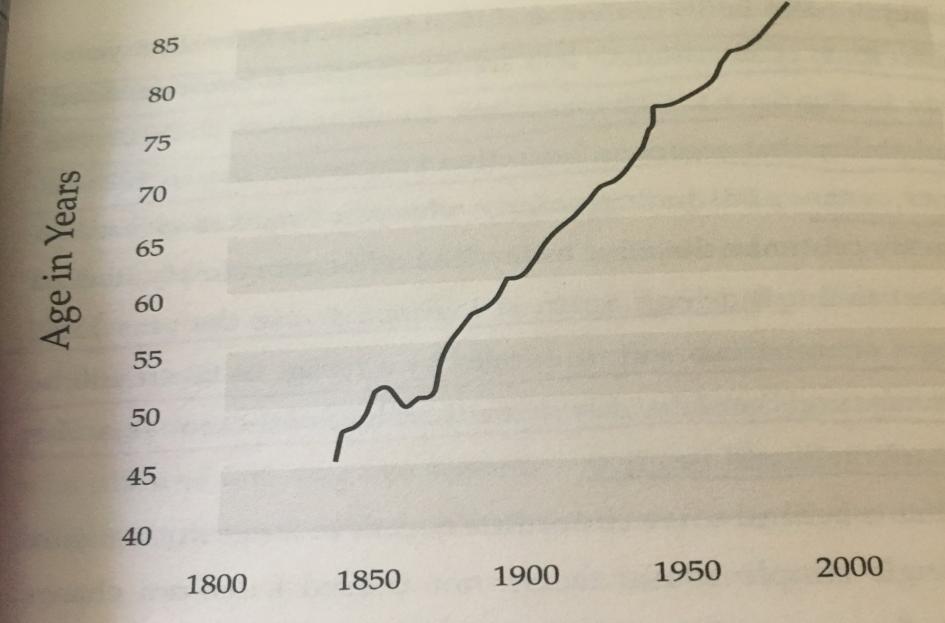


FIGURE 1.2 Best Practice Life Expectancy.

Source: Calculated using data from Human M ortality Database, Un

Life Expectancy At Birth & At Age 65

- 1900 = 47 & 1 yrs
- 2000 = 77 & 17.6 yrs About 1.5 yrs/10 yrs
- 2016 = 80 & 20.2 yrs About 2 yrs/10 yrs
- Conservative Prediction
 - 2030 = 84 & 23 yrs About 2 yrs/10 yrs
- Best MFR Prediction
 - 2030 = 120 & 45 yrs About 1.5yrs/ 1 yr
- We & YOU Have Entered Age Of Exponential Gains
- in Longevity After Exponential \$ in Aging Research







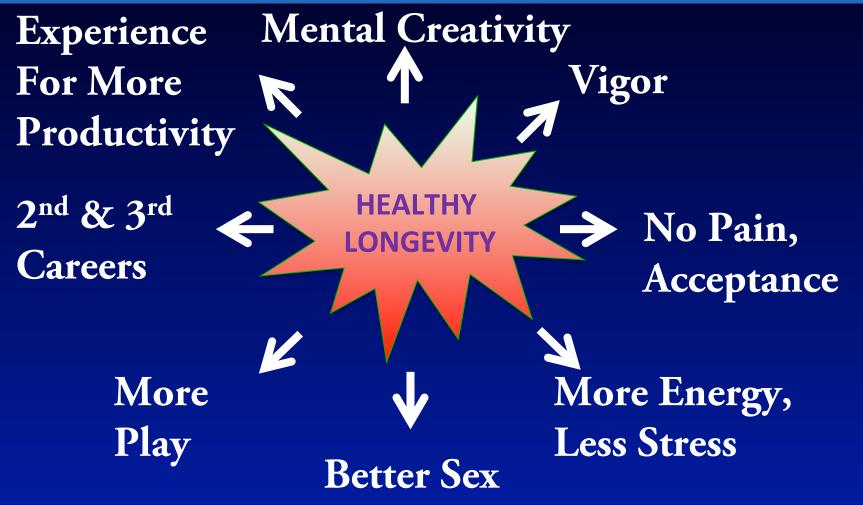


The Cleveland Clinic Personalized Approach to Health, Well-Being & Longevity Revolution:

The Premier Program- PEP

 Whatever It Takes To Keep You Healthy & Younger No Matter What

The Next Disruptor: A Lot More Healthy Longevity Or Ability to Easily Make Your RealAge A Lot Lot Younger











Cleveland Clinic

Every Life Deserves World Class Care



globalwellnesssummit.com