



14TH ANNUAL OHIO

*Employee
Health &
Wellness*
CONFERENCE

Workshop H

Advanced Practices
**Lifestyle Medicine in the
Workplace to Reduce Healthcare
Claims & Costs**

11:15 a.m. to 12:30 p.m.

Biographical Information

Tom Kostohryz, Founder, Live Healthy Appalachia
145 Columbus Rd., Ste. 201, Athens, OH 45701
740-541-1944 tomkosto110@gmail.com

Tom is a native of northern Ohio and received his bachelor's and master's degrees from Ohio University. Following his brief career as a teacher, Tom started his own employee benefits consulting business, providing group health insurance and wellness products and services to employers. Early success in his field provided an opportunity to speak at numerous conferences where he continues to provide research on chronic disease, worksite wellness, and lifestyle intervention programs.

After a 30-year career, Tom founded Live Healthy Appalachia, a nonprofit located in Athens, Ohio. Now in its 10th year, Tom serves as board president and actively promotes Live Healthy programs to local employers and communities. Tom has been active with several nonprofits and serves on a number of community boards. He continues to speak at conferences on health and wellness, both at the local and national level. Tom recently served as a panel speaker during the annual American College of Lifestyle Medicine conference in Orlando. He also worked as a wellness team facilitator at Owens Corning in Newark and was a speaker at the Ohio Safety Congress in Columbus.

Tom has lived in Athens since college, where he met his wife, Barb. They have three children and now share time at a second home in the Colorado mountains where they enjoy hiking, biking and playing pickleball.

Maria C. Dimengo, Partnerships and Program Development
Live Healthy Appalachia
145 Columbus Rd., Ste. 201, Athens, OH 45701
740-590-0535 maria.dimengo@gmail.com

Maria grew up in Akron, Ohio and began her career as a communications professional, focusing on investigative news, feature writing and trade journalism. After a move to Florida, she worked for dot-com startups and shifted her efforts to e-commerce, business development, web content and integrated marketing. She held positions with Tech Data, a Fortune 500 tech company, and the *St. Petersburg Times*, winner of 12 Pulitzer Prizes.

Maria returned to Cleveland and continued her work at Case Western Reserve University. In 2014, she obtained a master's degree in nonprofit management with a focus on urban poverty and community development. While researching grants at the federal level, Maria served as an AmeriCorps VISTA with the U.S. Department of Interior during the 50th Anniversary under then-president Obama. She moved to Appalachia to write grants and study the impacts of rural poverty, food deserts and natural resource extraction on mental health and wellness.

Maria continues to research rural poverty and develops partnerships for Live Healthy Appalachia, focusing on plant-based nutrition programming, funding partnerships and grants for local schools.

How to Incorporate Lifestyle Medicine into the Workplace



A best-practice approach to changing the culture of wellness, increasing worker productivity, and reducing healthcare costs

Tom Kostohryz
Maria Dimengo



**Eighty-six percent
of the nation's \$2.7 trillion
annual health care expenditures
are for people with chronic and
mental health conditions...**

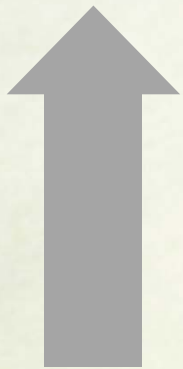
These costs can be reduced.

Centers for Disease Control (2017)

**75% of these costs
are lifestyle related.**



The Current State of Affairs



Health Care Costs
Absenteeism
Presenteeism

Productivity

Typical Workforce Health Stats - 2018

Condition	% of workers with this condition
	<u>Nationwide</u>
Obesity	45%
Overweight	29%
High blood pressure	29%
Pre-hypertensive	48%
Diabetes	11%
Pre-diabetes	23%
High cholesterol (LDL > = 130)	23%

Data provided by Vital Incite- 2018 Book of Business

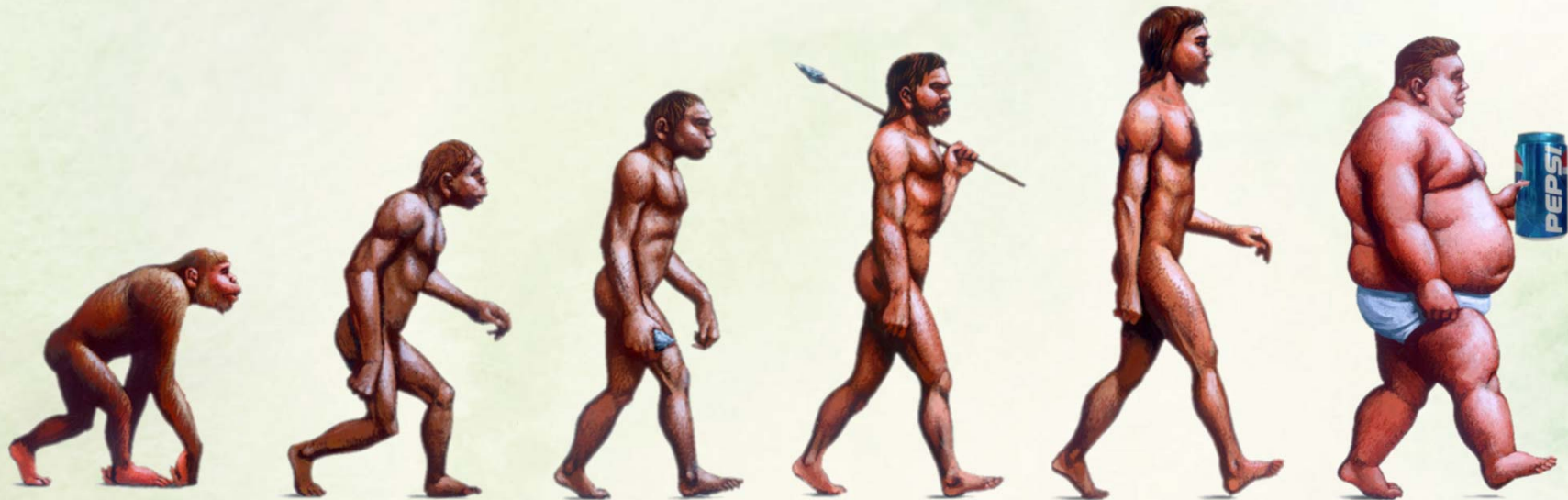


Why the Dramatic Increases Every Year?

Are these increases the result of
Rapid genetic evolution?

Or perhaps...

A Rapid Lifestyle Evolution?



“Over 1.6 billion people in the world are now overweight.”

UNC Chapel Hill



**Do employees
with lifestyle-
related
diseases
cost your
health plan
more money?**

Employee Claims, Part I

Data provided by Vital Incite Book of Business 2018



BMI

Annually, obese individuals cost **\$2,157** more in healthcare expenses than those with a desirable BMI. Additionally, they incur over **\$500** in lost productivity costs.¹



BLOOD PRESSURE

Individuals identified with hypertension cost **\$8,028** more in annual healthcare costs than those identified without the condition.

¹ Cawley J, Meyerhoefer C. The medical care costs of obesity;; [J Health Econ](#). 2012; The State of Obesity; RWJ Foundation and the Trust for America's Health Report-2016; <http://stateofobesity.org/healthcare-costs-obesity>

Employee Claims, Part II

Data provided by Vital Incite Book of Business 2018



CHOLESTEROL

Individuals with cardiovascular disease* cost **\$7,520** more in annual healthcare costs than those identified without cardiovascular disease.



GLUCOSE

Diagnosed diabetics cost more than **\$9,640** in annual healthcare costs than non-diabetics. Also, it is estimated that 70% of pre-diabetics will eventually develop diabetes.²

**Includes Lipid disorders, Ischemic Heart Disease, and Hypertension*

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3891203/>

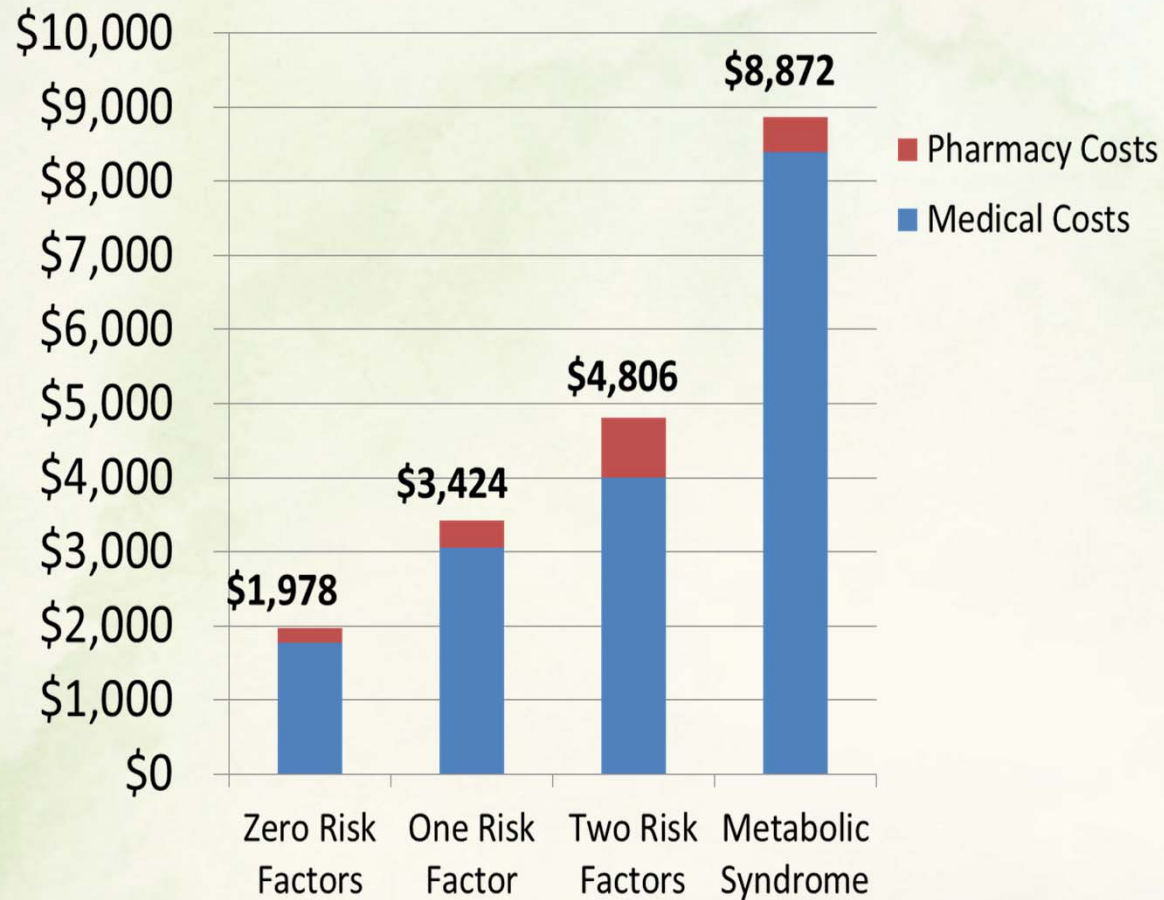
The 5 Metabolic Risk Factors

* **Metabolic Syndrome** is considered three or more risk factors and affects 23 percent of adults in the U.S.

<https://www.heart.org/en/health-topics/metabolic-syndrome>

1. **Abdominal obesity** (waist circumference of greater than 40 inches in men, and greater than 35 inches in women)
2. **A high triglyceride level** (150 mg/dL or greater)
3. **HDL cholesterol level** (less than 40 mg/dL in men; 50 mg/dL in women)
4. **High blood pressure** (130/85 or greater)
5. **High fasting blood sugar** (100 mg or greater)

Claims Costs by Number of Metabolic Risk Factors



Source: Birnbaum, JOEM, Volume 53, Number 1, January 2011, p. 27-33.
Claims data compiled from Chevron Texaco Corporation, San Ramon, California employees

About the same time as the Chevron study, Boeing found these results after analyzing the cost of risk factors of 63,000 employees:

Risk factors (high vs. normal increased cost)

	2007 cost	2019 cost
Blood pressure	\$1077	\$1938
Triglycerides	\$1238	\$2228
BMI	\$ 992	\$1768
Fasting Blood Sugar	\$2310	\$4158

The Relationship Between 11 Health Risks and Medical and Productivity Costs for a Large Employer - Niranjana M. Kowlessar, PhD, Ron Z. Goetzel, PhD, Ginger Smith Carls, PhD, Maryam J. Tabrizi, MS, CHES, and Arlene Guindon, MPH - JOEM May 2011

A Day in the Life



**What
Approach
Can We Take
to Reverse
These
Alarming
Trends?**



The Solution

Intensive Lifestyle Interventions

(Lifestyle Medicine)



“A growing body of scientific evidence has demonstrated that lifestyle intervention is an essential component in the treatment of chronic disease that can be as effective as medication, but without the risks and unwanted side effects.”

American College of Lifestyle Medicine website, 2015

Lifestyle: How We Live



Exercise = How We Move

Attitude = How We Think

Nutrition = How We Eat

There are 2 types
of lifestyle intervention
programs:

- Moderate
- Intensive

Examples in the market?

THE WALL STREET JOURNAL

Aug. 8, 2017

Healthier Workers Are More Productive, Study Finds

By Lauren Weber

Lifestyle changes—better nutrition, more exercise, less stress—were responsible for most of the gains.

Healthy employees are more productive employees, according to new research bolstering the case for **corporate wellness programs.**

A Few Words on Wellness

Menu Search Bloomberg Sign In Subscribe
Photographer: Hero Images/Hero Images

Business
Workplace Wellness Programs Really Don't Work
They aren't saving money or making employees healthier, a new study finds.

By [Rebecca Greenfield](#)
January 26, 2018, 6:00 AM EST

Workplace wellness programs have two main goals: improve employees' health and lower their employers' health-care costs. They're not very good at either, new research finds.

LIVE ON BLOOMBERG
Watch Live TV >
Listen to Live Radio >

For the study, 3,300 employees at Urbana-Champaign participated in a workplace wellness program.

TheUpshot

THE NEW HEALTH CARE

Do Workplace Wellness Programs Work? Usually Not



Behavioral Counseling to Promote a Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults With Cardiovascular Risk Factors: U.S. Preventive Services Task Force Recommendation Statement

Michael L. LeFevre, MD, MSPH, on behalf of the U.S. Preventive Services Task Force*

Recommendation: The USPSTF recommends offering or referring adults who are overweight or obese and have additional CVD risk factors to **intensive behavioral counseling interventions** to promote a healthful diet and physical activity for CVD prevention. (B recommendation)

National Institute of Health Diabetes Prevention Study

(Involved 3,234 participants who were overweight and pre-diabetic)

- Participants who successfully participated in a lifestyle behavioral change intervention reduced their risk of developing diabetes by **58%**.
(Participants over 60 reduced their risk by **71%**.)
- Participants taking metformin reduced their risk of developing diabetes by **31%**.

References: Centers for Disease Control and Prevention. National diabetes statistics report, 2017
www.cdc.gov/diabetes/pdfs/data/statistics/national-diabetes-statistics-report.pdf

The Sick Health Care Spectrum

Intensive
Lifestyle
Intervention
Programs

Disease
Prevention

Disease
Management

Disease
Reversal



The Complete Health Improvement Program (CHIP)

**A Research-tested
Intervention Program**

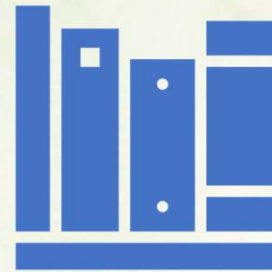
- CHIP is an intensive behavioral counseling program based on years of scientific research published in 35 peer-reviewed journals.
- Participants commit to make **lifestyle changes** for just nine weeks. Health improvements become apparent during that time.
- Change happens in the way you eat, move, and think. CHIP challenges participants to change for the better.



The CHIP Program Cycle



Watch a video & read the textbook



Complete the quiz and the workbook assignment



Participate in the community engagement sessions



Implement lifestyle changes

CHIP: AMERICAN JOURNAL OF CARDIOLOGY

Changes
in 30 Days

E l r p h w l f # g d w l r # 3 / 3 3 # F K I S # s d w l f l s d q w

Risk Factor	N Baseline	N Post-Intervention	Baseline Mean (SD)	Post-Intervention Mean (SD)	Mean Change	% Mean Change
Cholesterol (mg/dl)						
Optimal (<160)	631	1,682	141.0 (18.7)	133.2 (24.8)	-7.8	-5.6
Elevated (160-199)	2,116	1,781	182.5 (15.7)	165.5 (24.4)	-17.0	-9.3
High(200-239)	1,261	756	215.6 (10.5)	188.5 (25.5)	-27.1	-12.6
Very High (240-280)	478	183	254.7 (10.7)	215.2 (30.7)	-39.5	-15.5
Dangerous (>280)	126	30	306.6 (27.2)	245.9 (43.4)	-60.7	-19.8
Triglycerides (mg/dl)						
Optimal (<100)	3,053	3,232	95.5 (29.7)	99.7 (41.8)	4.2	4.4
Above Optimal (100-199)	753	765	171.9 (13.9)	158.1 (13.9)	-13.8	-8.1
Borderline (200-500)	820	663	270.5 (62.4)	220.1 (62.4)	-50.3	-18.6
Very High (>500)	45	11	634.7 (114.2)	354.8 (114.2)	-279.9	-44.1
Fasting Glucose (mg/dl)						
Normal (<100)	3,716	4,026	90.7 (9.9)	86.6 (10.9)	-2.1	-2.3
Impaired (110-125)	390	304	116.1(15.5)	106.0 (15.5)	-10.1	-8.7
Diabetes (>125)	525	301	164.0 (42.2)	131.4 (34.5)	-32.6	-19.9

How CHIP Made a Difference

Corporate CHIP Case Studies

LEE MEMORIAL HEALTH SYSTEM

In 2014 LMHS performed a CHIP financial ROI study

- Total investment for 30 employees in study = \$37,800
- LMHS compared 12 months of claims on participating employees both before and after CHIP intervention.
- Total health expenditure savings realized = \$70,155

Calculated ROI = 1.85

(for every \$1.00 spent they were able to save \$1.85)

Lee County, FL Schools



- 13,000 total employees / 10,000 benefit eligible
- \$67 million dollars a year in medical and Rx claims
- Self-insured. Built an aggressive wellness initiative including the CHIP program
- No increase to healthcare premiums for three consecutive years.
- Used CHIP for high-risk employees as their lifestyle change program

Attributed over \$100,000 in savings to CHIP

Ohio University Employees and CHIP

Results in 36 Days

Test	Jan 2018	March 2018	Change
Total Cholesterol	188	164	-12.8%
LDL Cholesterol	105	91	-12.9%
Triglycerides	155	125	-19.3%
Weight (pounds)	190.8	180.1	-10.7 lbs



Genesis Healthcare System

A 2019 CHIP Case Study

20 participants completed the program in May

Genesis Cohort 1:

Genesis measured 8 different biometric risk factors and all 20 participants improved in at least 4 of 8 categories.

- 6** showed improvements in **5** areas
- 4** showed improvements in **6** areas
- 4** showed improvements in **7** areas
- 3** improved in all **8** categories

Genesis Cohort 1:

RESULTS BASED ON BIOMETRICS

Average cholesterol
decrease

- **21.55** points

Average number
of pounds lost

- **9.09** pounds

Average fasting
blood sugar decrease

- **13.85** points

Every participant lost weight!



CHIP Lifestyle Program at Vanderbilt University Demonstrates an Early ROI for a Diabetic Cohort in a Workplace Setting

Average Cost & Utilization (Plan-paid Medical & Rx and Copays)		Avg. Net Payment per Member (Medical + Rx)			
		Q1 2010	Q1 2011	Q2 2010	Q2 2011
CHIP Participants Type 2 VHP Diabetics (ages 35 to 65)	Total	\$2,040	\$1,328	\$1,733	\$1,212
	% Change	-34.9%		-30.1%	
Non-CHIP Type 2 VHP Diabetics (ages 35 to 65)	Total	\$2,258	\$2,415	\$2,440	\$2,876
	% Change	6.9%		17.9%	

In total, the approximate health care cost (medical + prescription drug) savings for this six-month time frame exceeded \$65,000.

Cummins Inc. ran a successful CHIP pilot in 2014. Over 2,500 employees have since participated in CHIP.



“We’ve had employees come off their meds in just a few weeks. (CHIP) classes have been sell-outs over the last year with waiting lists.”

-- Dexter Shurney, MD
Cummins Health Plan Medical Director



Cummins Preliminary RX And Medical Cost Savings Calculations 12 Months After CHIP...

CHIP participants RX costs went down by an average of **\$239.12**. (Non-CHIP employees RX costs went up by an average of \$43.92.)

In addition, CHIP participants' medical claims paid by the health plan went down by an average of **\$458.28**.

What would be the cost of doing nothing?

The Last 10 Years of Your Life



The Bottom Line

- ✓ Healthcare costs can be **reduced**, and lifestyle-related diseases can be **reversed** when employees participate in intensive lifestyle change programs.
- ✓ Employees **can change their lifestyle habits** if they are given the proper tools.
- ✓ The **cost of doing nothing** to help employees improve their lifestyles is much greater than providing them with proven interventions.

More Information

Tom Kostohryz

tomkosto110@gmail.com

740-541-1944

Maria Dimengo

maria.dimengo@gmail.com

740-530-0535



**Working Together to Build
Healthier Communities**