Metabolic Syndrome

Understanding Health Risk Indicators and Proper Application to Worker Safety and Health

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BIO

Mike Stumbo has been employed as a Security Police Officer at the Pantex site for 20 years and is the Safety Officer for the Pantex Guards Union. Mike attended the OSHA Training Institute in Dallas Texas, where he received his certification as a Safety and Health Official in the fields of General Industry and Construction. Mike is currently the President of the National Council of Security Police representing approximately 3000 Dept of Energy Security Police Officers.
America’s South is the most unfit region of our increasingly-unfit nation. Consequently, it serves as a perfect testing ground for a wellness program’s validity. If a preventive wellness model works here, it will work anywhere.
Obesity Trend

(*BMI ≥30, or about 30 lbs overweight for 5’4” person)
Disease Rates per 100,000

Heart Disease

Source: Kaiser Family Foundation, State Health Facts

Cancer
Diabetes

• America is “producing” too much disease.

• One out of every three Americans will develop Type 2 diabetes by the age of 50.

• And it will be even worse for some...

230% increase in the prevalence of diabetes
Effective future cost control comes from a focus on the small fraction (<5%) of participants who account for the majority (>50%) of the claim cost.

- Who are the next claimants to enter the red category?
- Can anything be done to measurably reduce their likelihood of reaching this high cost category?
Metabolic Syndrome

The Enemy
Before we could design a wellness model to reverse our workforce’s unwell inertia, we had to first navigate a myriad of disease symptoms to define the singular source of our problems: Metabolic Syndrome.
Testing for Metabolic Syndrome

Which numbers matter most?

- Waist Circumference
- Max VO2
- Fasting Glucose
- Resting Heart Rate
- Triglycerides
- Body Mass Index
- Total Cholesterol
- Blood Pressure
- LDL Cholesterol
- HDL Cholesterol

Fasting Glucose
Triglycerides
Waist Circumference
Max VO2
Resting Heart Rate
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LDL Cholesterol
HDL Cholesterol
Risk Factors for Men and Women

Metabolic Syndrome / Syndrome X

- HDL <40 M <50 F
- Trigl. >150
- Waist >40 M >35 F
- Blood Press. >130/85
- Fasting Glucose >100

Heart Disease

Diabetes

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Impact on Mortality

Mortality Rate (%)

- Without metabolic syndrome
- With metabolic syndrome

All-cause Mortality
Cardiovascular Mortality

Perceived Increased Health Risk

- Diabetes
- Heart Attack
- Gall bladder disease
- Panceatitis
- Hypertension
- Psoriasis
- Phlebitis
- Cataract
- Kidney Disease
- Pulmonary disease
- Breast Cancer
- Cardiovascular disease, Congestive Heart Failure
- Alzheimer’s Stroke
- Retinopathy
- Cataract
- Kidney Disease
- Nonalcoholic Fatty Liver Disease
- Gynecologic abnormalities
- Erectile Dysfunction
- Endometrial Cancer
- Arthritis
- Gout
- Pulmonary disease
- Congestive Heart Failure
- Sleep Apnea
- Esophagus Cancer
- Diabetes
- Heart Attack
Why Programs Fail

• They utilize the Taj Mahal approach.

• They recycle the same ineffective weight-loss programs (symptom) rather than targeting Met S (source).

• They lack practical education and personal accountability.

• They are based on dated bodybuilding-inspired protocol rather than a dynamic functional movement.

• They utilize external rather than internal scoring criteria.

• They are not fun.
Redefining Pantex Wellness

The Strategy

Know Your Numbers
• Blood Pressure < 130/85
• HDL Cholesterol > 50mg/dl
• Fasting Glucose < 100mg/dl
• Triglycerides < 150 mg/dl
• Waistline < 35”

Aggressive Intervention
• Naturally Slim
• Get Active
Nutrition and Behavior Education

NATURALLY SLIM

- Not another diet! Instead, Naturally Slim is a behavior modification program which reinforces lifelong nutrition success. In only 10 weeks, participants average:
  - 15.5 pounds lost!
  - A 50% reversal in metabolic syndrome!
Pantex Pilot Results *post 3 months

Prevalence of Specific Risk Factors in Population (N=520)

- Elevated Waist Circumference: 88% Before, 67% After
- Elevated Triglycerides: 66% Before, 33% After
- Reduced HDL ["good cholesterol"]: 77% Before, 68% After
- Elevated Blood Pressure: 68% Before, 41% After
- Elevated Fasting Glucose: 63% Before, 45% After

Before - After
Pantex Pilot Results *post 3 months

% of Before Population with Metabolic Disease (N=520)

Before
100.00%

After
50.19%

“You have a rare condition called ‘good health’. Frankly, I’m not sure how to treat it.”
# Pantex Pilot Results

## Statistics

- Average starting weight = **200.9#**
- Average ending weight = **185.7#**
- Average weight lost = **15.2# (7.3%)**
- Biggest weight loser = **53#**
- Biggest % loser = **19.84%**
- Total weight lost = **1232#**

## Met S Factors

- 0/5: From 6 to 21
- 1/5: From 8 to 29
- 2/5: From 25 to 17
- 3/5: From 21 to 12
- 4/5: From 14 to 1
- 5/5: From 7 to 1
What is it Worth?

Average yearly cost of providing health care for an individual without Metabolic Syndrome = $<3500

Average yearly cost of providing health care for an individual with Metabolic Syndrome = $>7000

Estimated yearly savings for Pantex on 83 employees after only 10 weeks: $>196,000
Questions