MEWCA Quarterly Membership Meeting

December 7, 2016

"Cost Effective Integrative Therapies for Absenteeism/Presenteeism"

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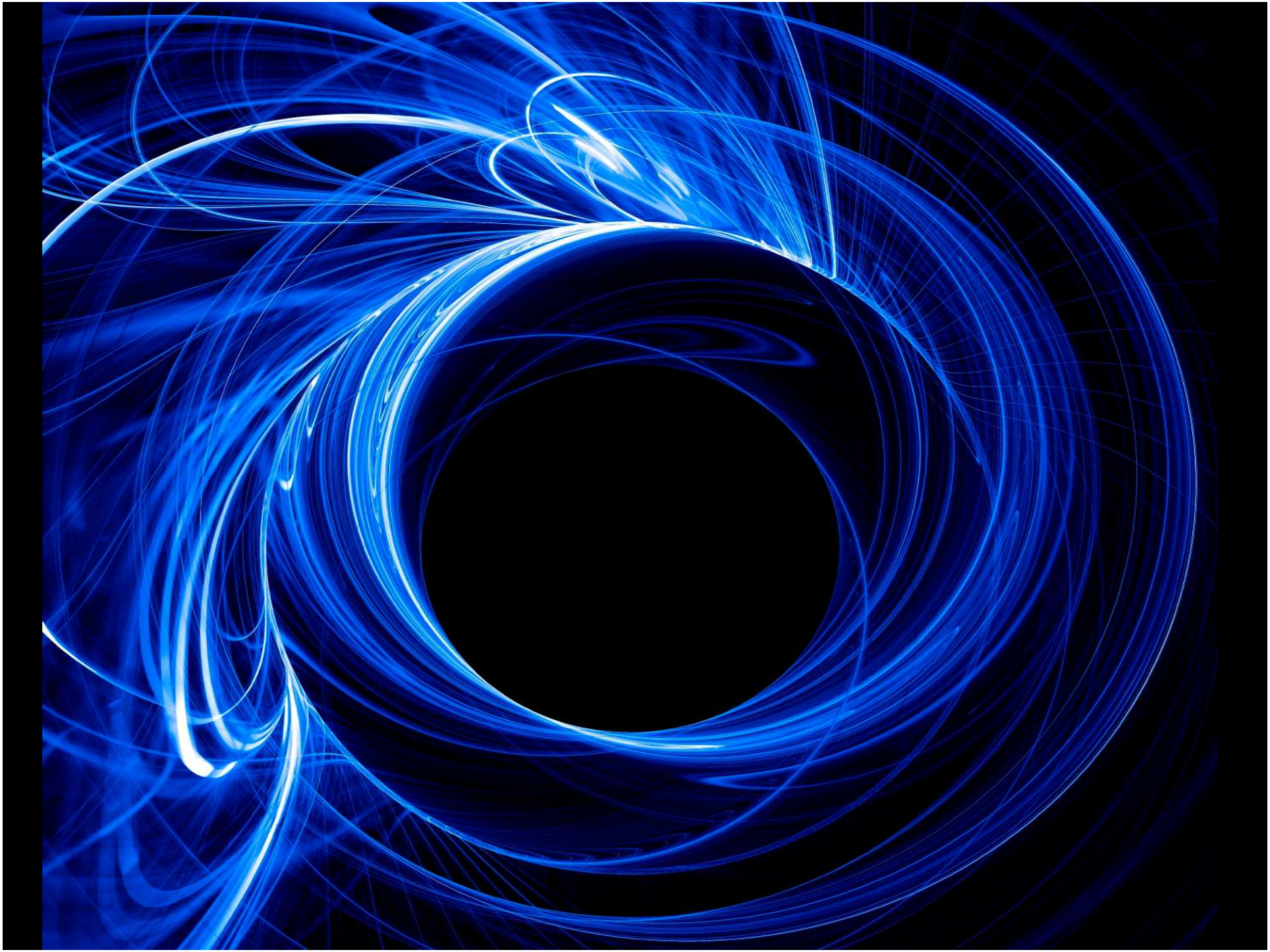
Healthy Body

Healthy Mind

Healthy Spirit



Bias #2
Bias #1
Bias
#3

Fundamentals First.

then Pharmaceuticals

Bias #1
Bias #2
Bias
#3

True “primary care” is
what we do for ourselves.

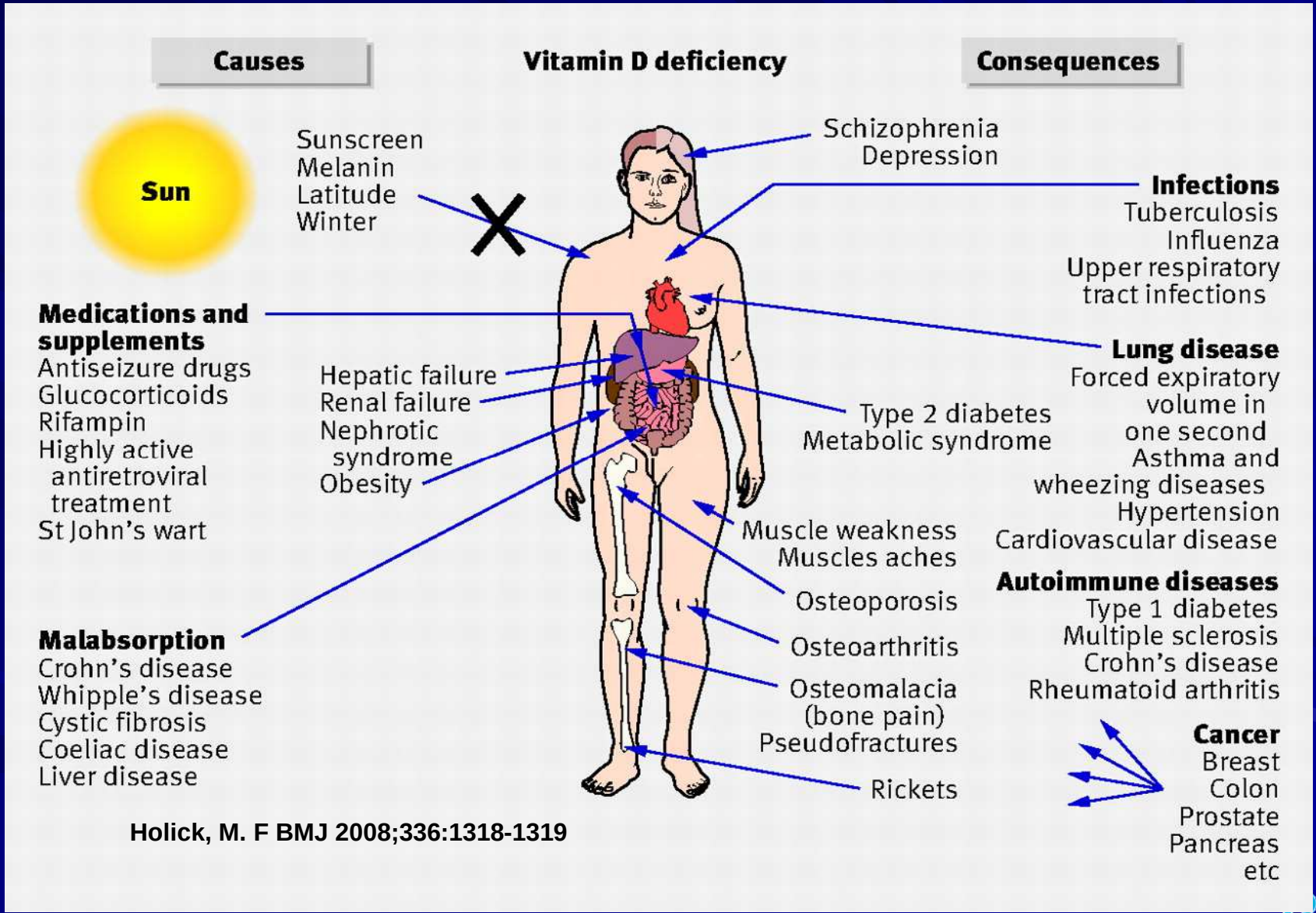
Bias #1
Bias #3
Bias #2

The best answers are *found* rather than *given*.

Diet and Exercise

Healthy Body

Causes and consequences of vitamin D deficiency



Holick, M. F BMJ 2008;336:1318-1319

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Controversy #1

What is normal?

Who is normal?

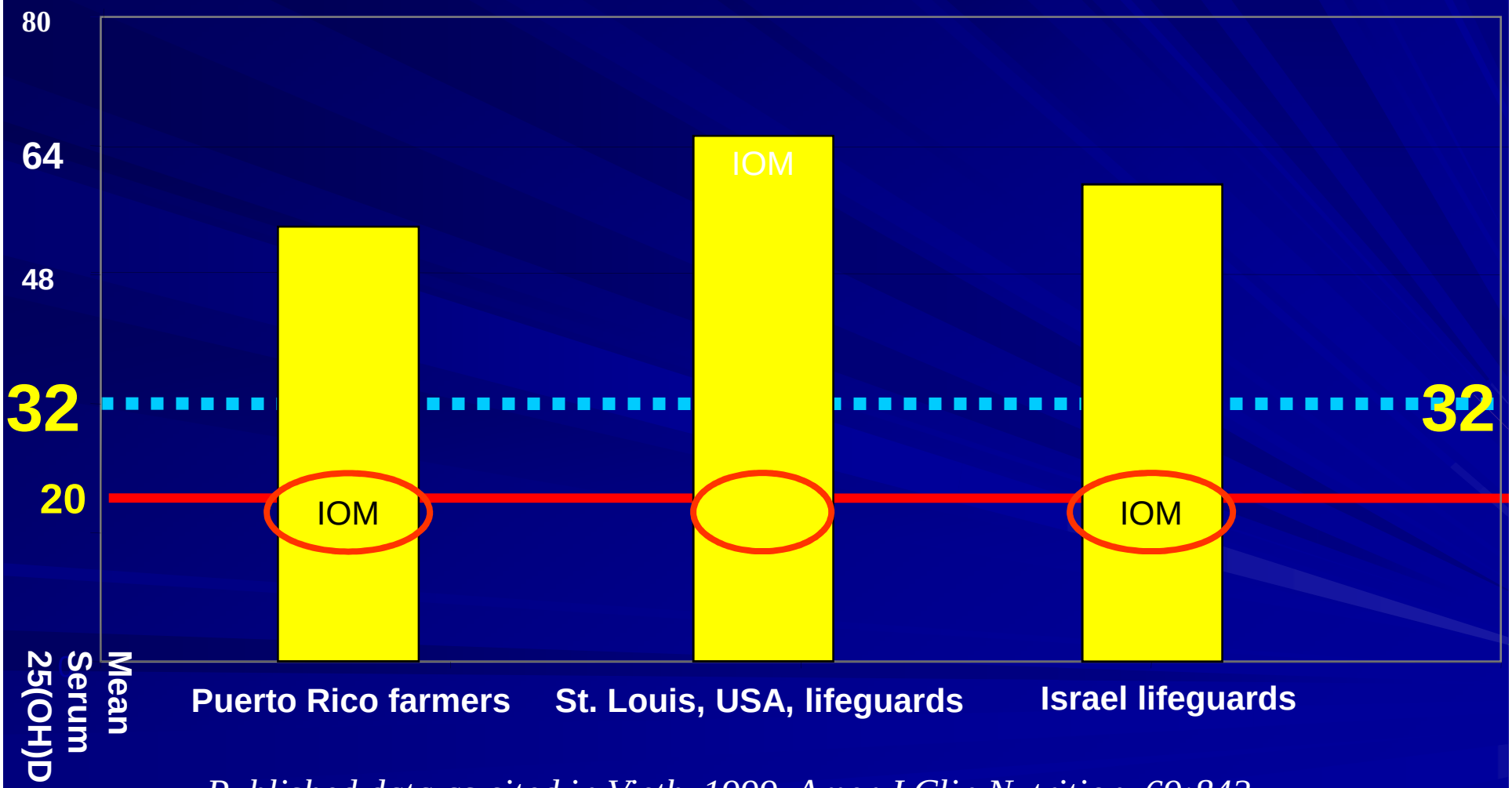
Take a “normal” asymptomatic population,

Plot data using Gaussian distribution,

Derive normative data.

Vitamin D Levels in Outdoor Workers

(deficiency = <20 ng/ml, therapeutic goal: > 32 ng/ml)



Published data as cited in Vieth, 1999, Amer J Clin Nutrition, 69:842

Controversy # 2

RDA: What is the index disease?

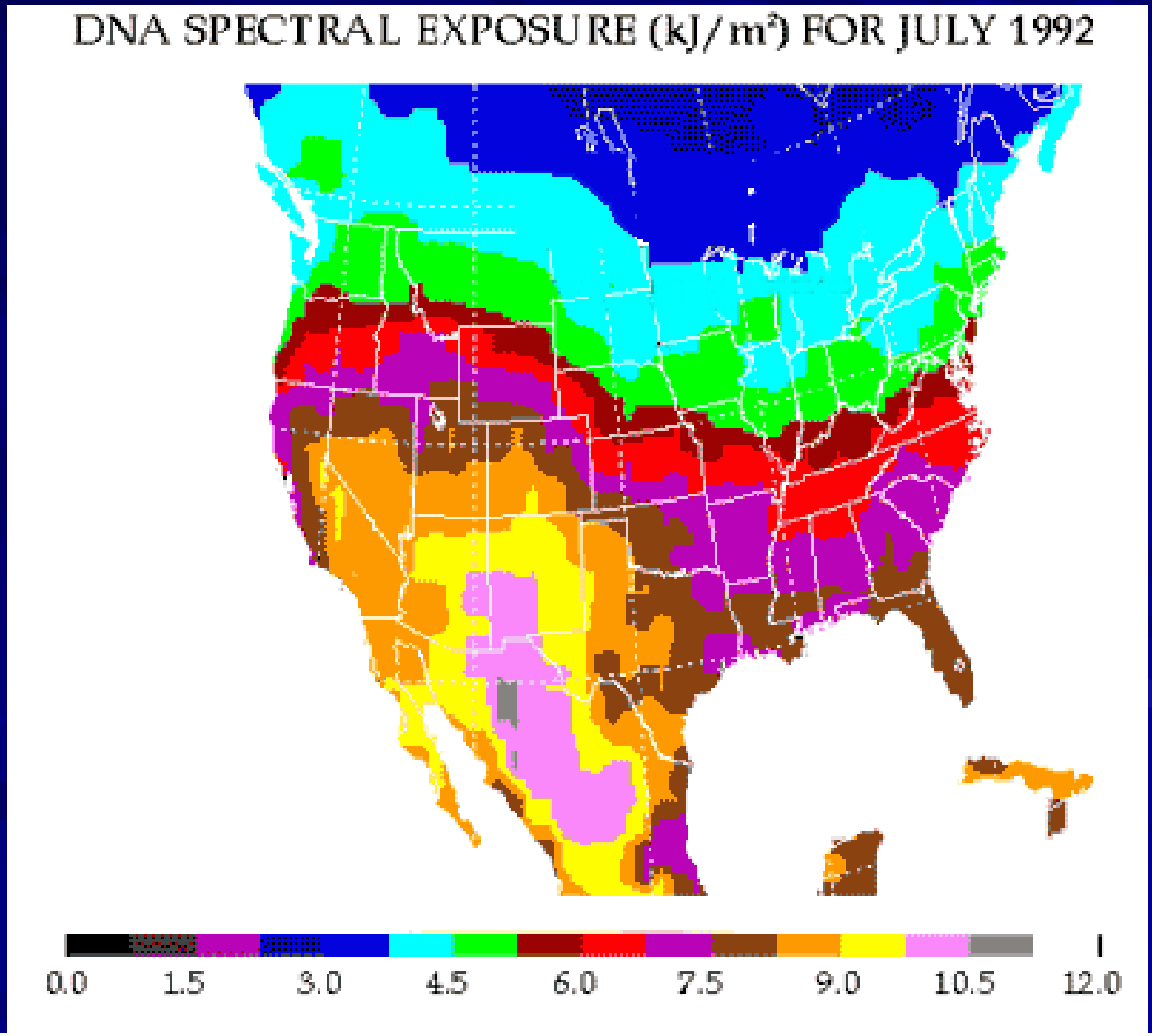
"Index" diseases: all have short latency

- -beriberi (thiamine)
- -pellagra (niacin)
- -scurvy (ascorbic acid)
- -rickets (25(OH)D2)

Controversy #3

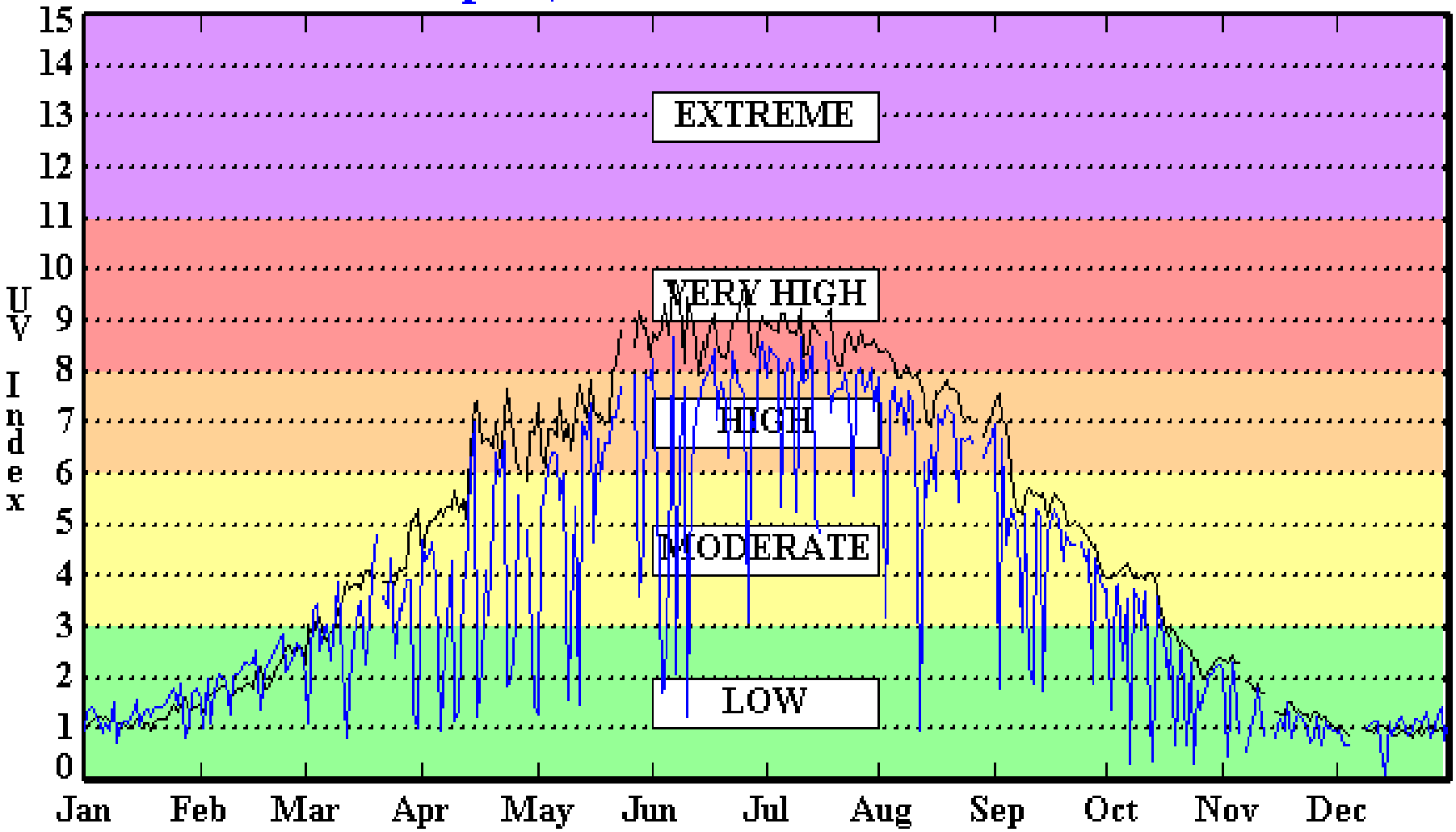
- Park EA *JAMA* 1940;115:370-9.
- Blumberg RW, Forbes GB, Fraser D. The prophylactic requirement and the toxicity of vitamin D. *Pediatrics* 1963;31:512-25.

Controversy #4



Daily UV Index

Minneapolis, MN ***2008***



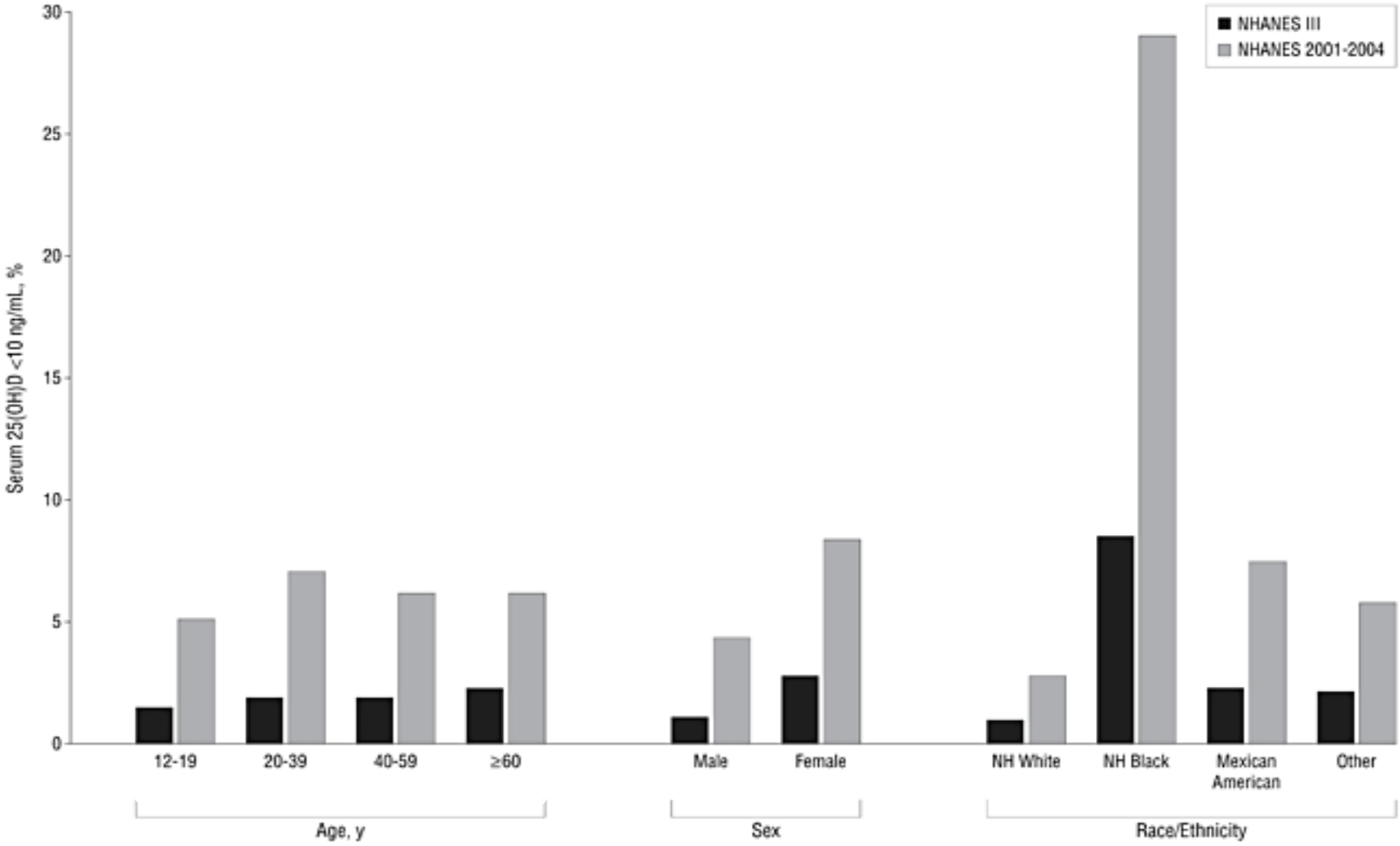
Number of Days in Each Exposure Catagory

Clear Sky UV Index		UV Index Forecast	
Extreme	= 0	Extreme	= 0
Very High	= 72	Very High	= 17
High	= 65	High	= 74
Moderate	= 79	Moderate	= 87
Low	=133	Low	=171

Controversy #5: Deficiency?

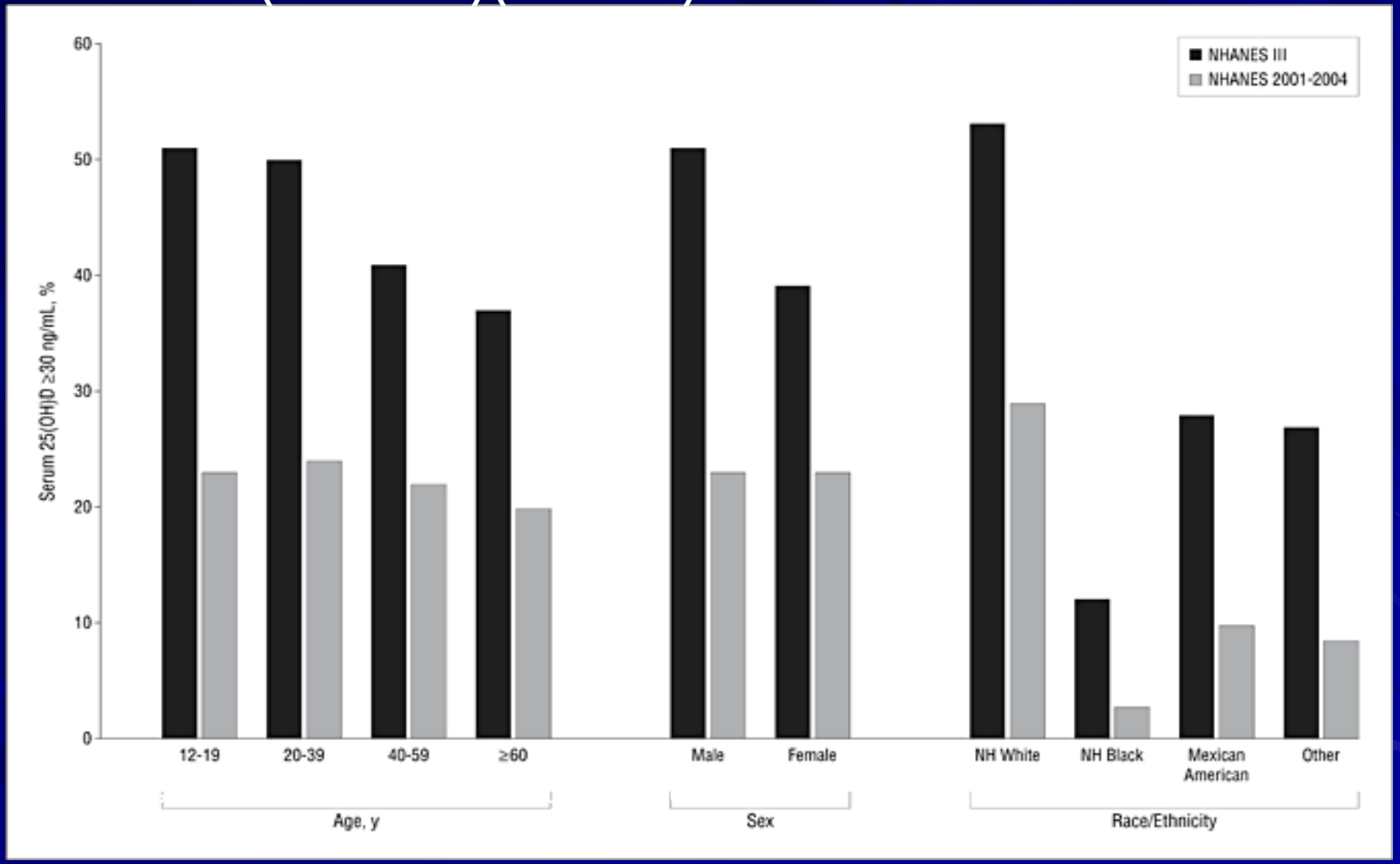
Prevalence of serum 25-hydroxyvitamin D levels of less than 10 ng/mL

NHANES III (1988-1994) vs. NHANES 2001-2004



ARCHIVES OF INTERNAL MEDICINE

Prevalence of serum 25-hydroxyvitamin D level of 30 ng/mL or more (NHANES III) (1988-1994) vs. NHANES 2001-2004



ARCHIVES OF INTERNAL MEDICINE

2012 Surgeon General's Report

- Osteoporosis "is a major threat to Americans" that is "largely preventable."
- One recommendation: "Make sure you get enough vitamin D."

JAMA Editorial, 2014

- "Clinical enthusiasm for supplemental vitamin D has outpaced available evidence on its effectiveness and ***threatens to jeopardize the ability of researchers to conduct randomized trials in "usual risk" populations***."

Vitamin D over-screening and over-supplementation?

- There is no physical exam for a vitamin D blood level.
- Ascertainment of excess, sufficiency or deficiency requires measurement.

Productivity D-ifferences

- Prospective observation study
- 10,646 employees
- on-line health risk appraisal questionnaire
- measured for 25-hydroxyvitamin D.

Productivity D-ifferences

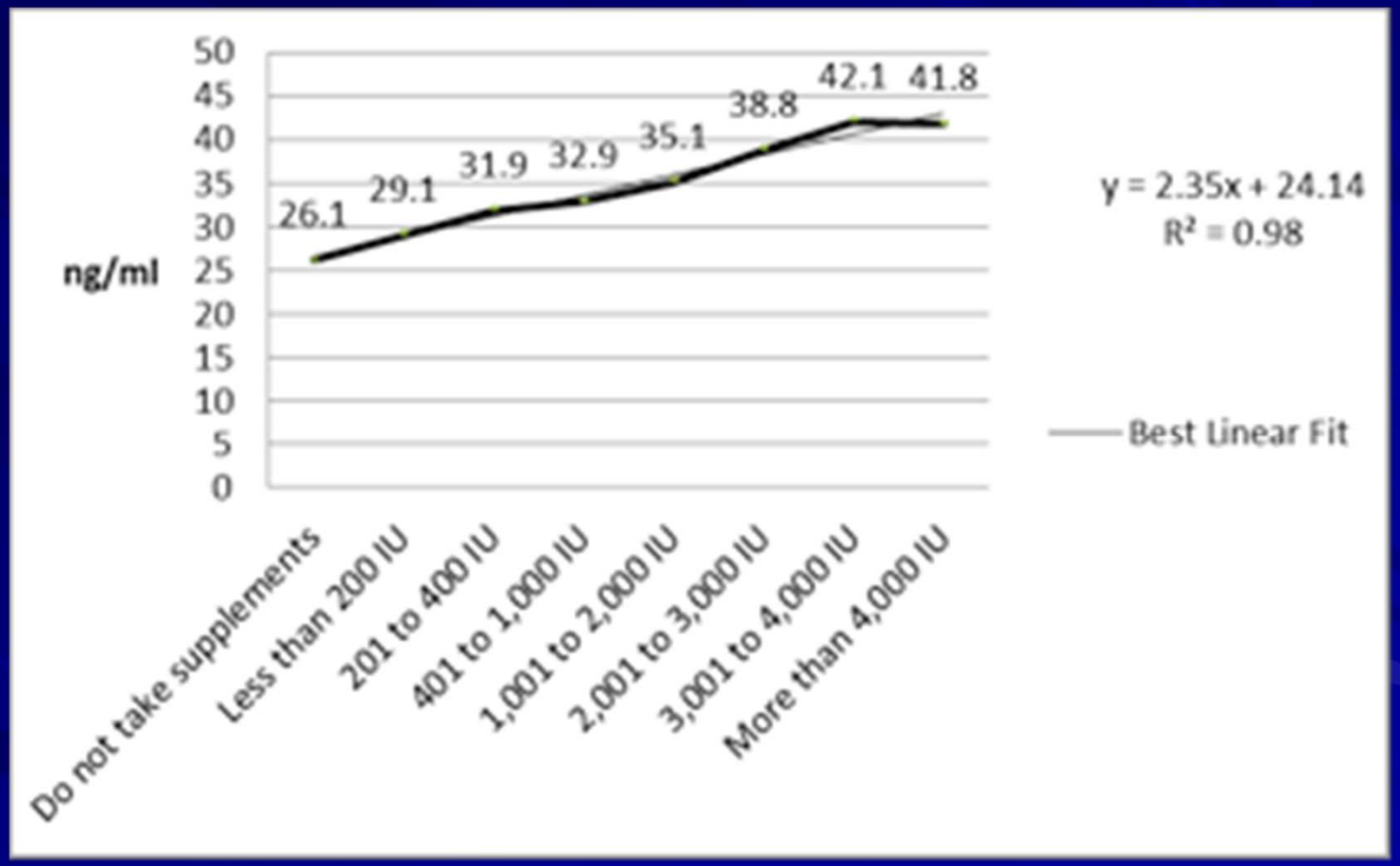
- 20 ng/ml, 30 ng/ml, 40 ng/ml
- Measured differences in productivity due to presenteeism were 0.66, 0.91, and 0.75
- potential productivity savings of 0.191%, 0.553%, and 0.625%, respectively, of total payroll costs.

J Occup Environ Med. 2012 Feb;54(2):117-21.

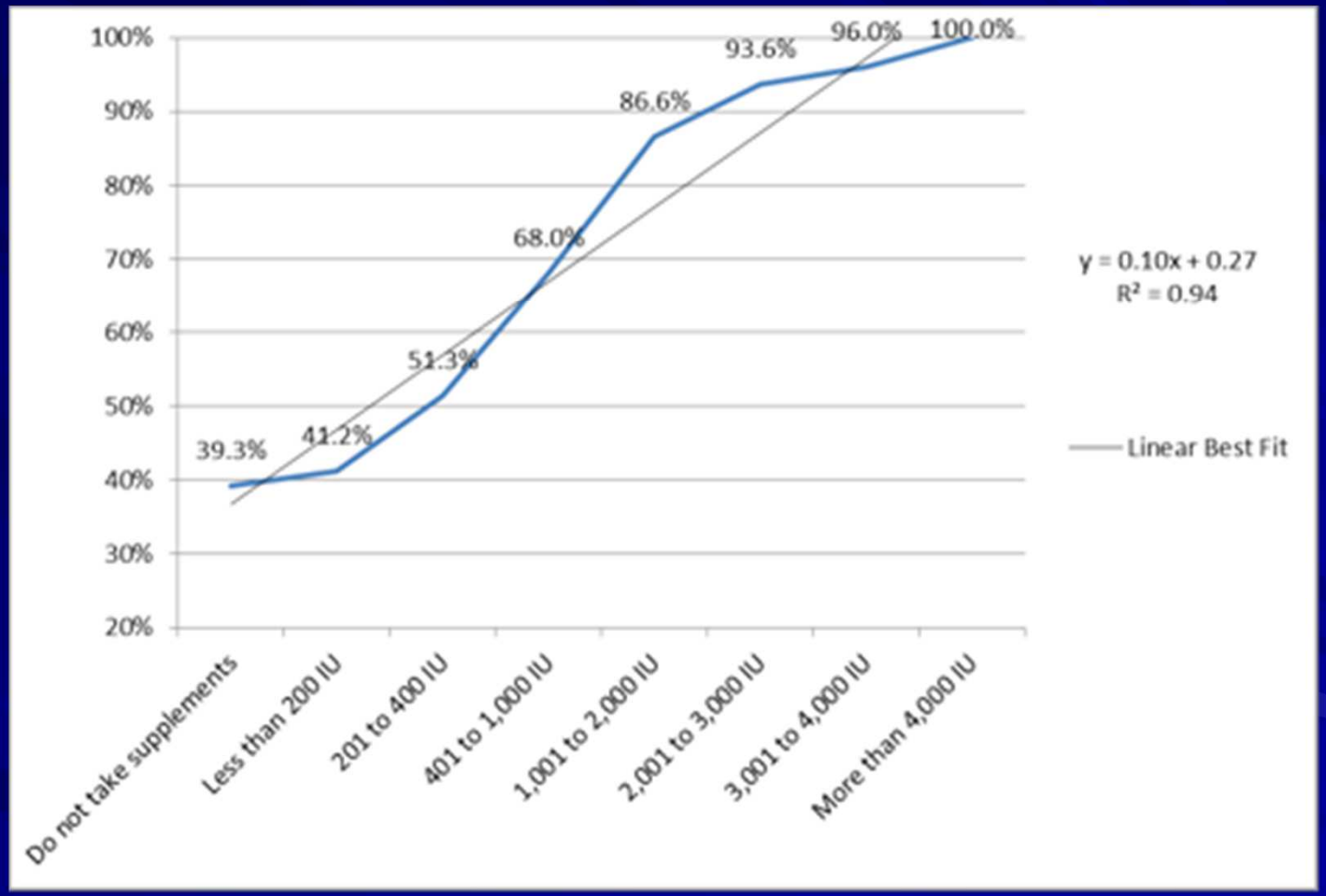
Low Vitamin D in Pregnancy

- increased risk of emergent C-section
- increased risk of pre-eclampsia
- Increased risk of Gestational Diabetes Mellitus
- shorter gestation
- decreased birth weight
- neonatal hypocalcemic seizures
- reduced intrauterine long bone growth
- reduced childhood bone-mineral accrual
- pediatric asthma and URI
- pediatric leukemia
- schizophrenia
- childhood onset type I Diabetes Mellitus and later onset Type II DM
- adult onset multiple sclerosis

Mean 25(OH)D Level (ng/ml) by Self-reported Dosage



Percent Achieving ≥20ng/ml by Self-Reported Dosage (BMI <30)

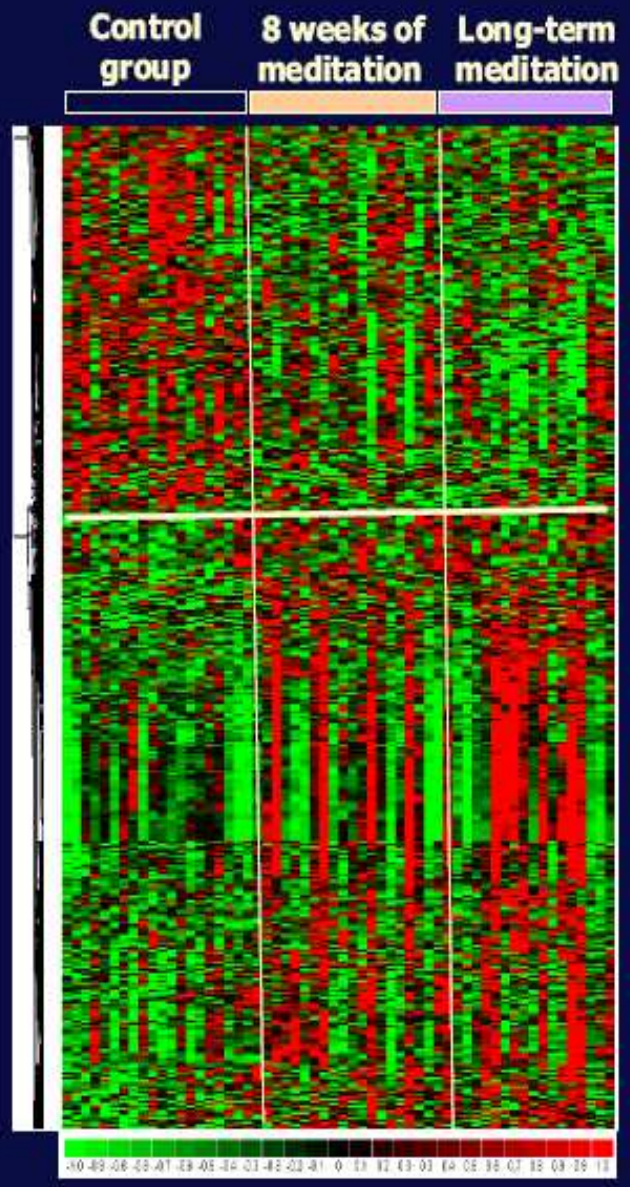


Healthy Mind

AUGUST 4, 2003
www.time.com AOL Keyword: TIME
TIME
New Age mumbo jumbo? Not for millions of Americans who meditate for health and well-being. Here's how it works
THE SCIENCE OF
MEDITATION
Actress Heather Graham has been practicing Transcendental Meditation since 1991

Downregulated Genes:

Upregulated Genes:



Dusek JA et al, *PLoS One* 2008;3(7): e2576.

Healthy Spirit

Okie-Tex Star Party
September 30, 2008
Howard Edin

FULL

“If the body is sick,
the mind worries and the spirit grieves;

if the mind is sick,
the body and spirit will suffer from its confusion;

if the spirit is sick,
there will be no will to care for the body or mind.”

J.R. Worsley

Take Home Points

Thank you!

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