The DIGITAL HEALTH REVOLUTION is HERE!

'Your Patient will See you NOW'!

Presented by **Carole Baggerly**
Founder and Director of GrassrootsHealth Nutrient Research Institute

CLAIM THE *Joy* OF *Your* HEALTH TODAY!

WHY? HOW?

SPREAD the WORD to ALL

ENJOY the **SUCCESS** for YOU!

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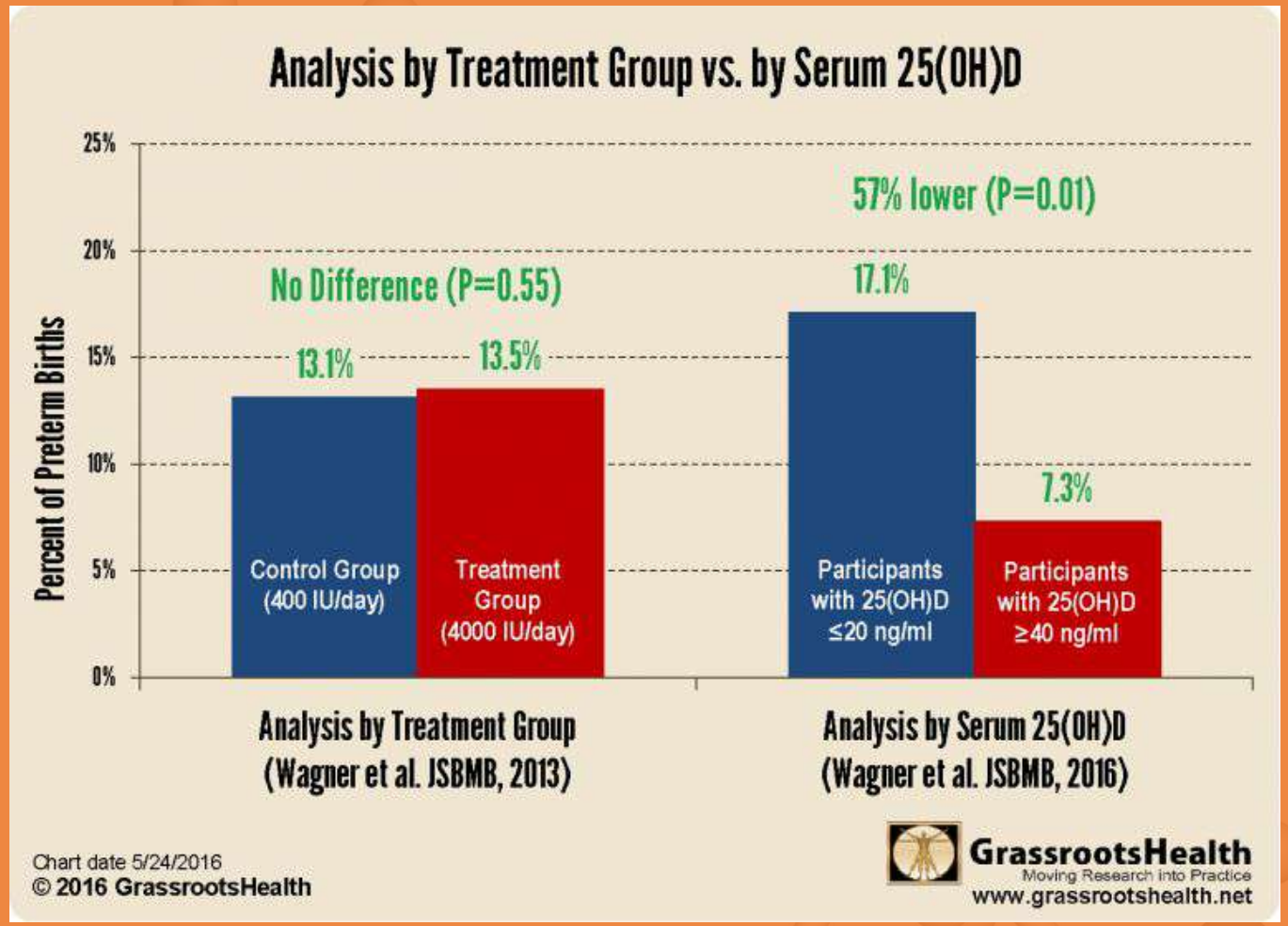
Vitamin D is Leading the HEALTH Revolution!

- How the 'Take Charge of Your Health' call identified a major question—HOW? WITH WHAT TOOLS?
- What is the future role of Randomized Trials?
- What's the role of LARGE population trials?/Field Trials?
- Tools for INDIVIDUALS, researchers, groups, health consultants.
- What's next? Establish an international committee to define the data interchange standards for nutrient research.

Costs & Benefits with Vitamin D, Omega-3, Magnesium

Condition	Cases/Year	Cost	Benefit
Breast Cancer	266,120	$80,000 ea $21 Billion	$15B (71%) -D 180k women
Type 1 Diabetes	40,000	$360,000 ea $14.4 Billion	7.2 B (50%)-D 20,000 people
Preterms	380,000	$51,000 ea	9.65B (50%)-D
		$19.3 Billion	190k infants
Atrial Fibrillation	750,000	$8,000 ea $6 Billion	$3B (50%)-All 325K people

Key for Vitamin D: Serum Level, not Dose

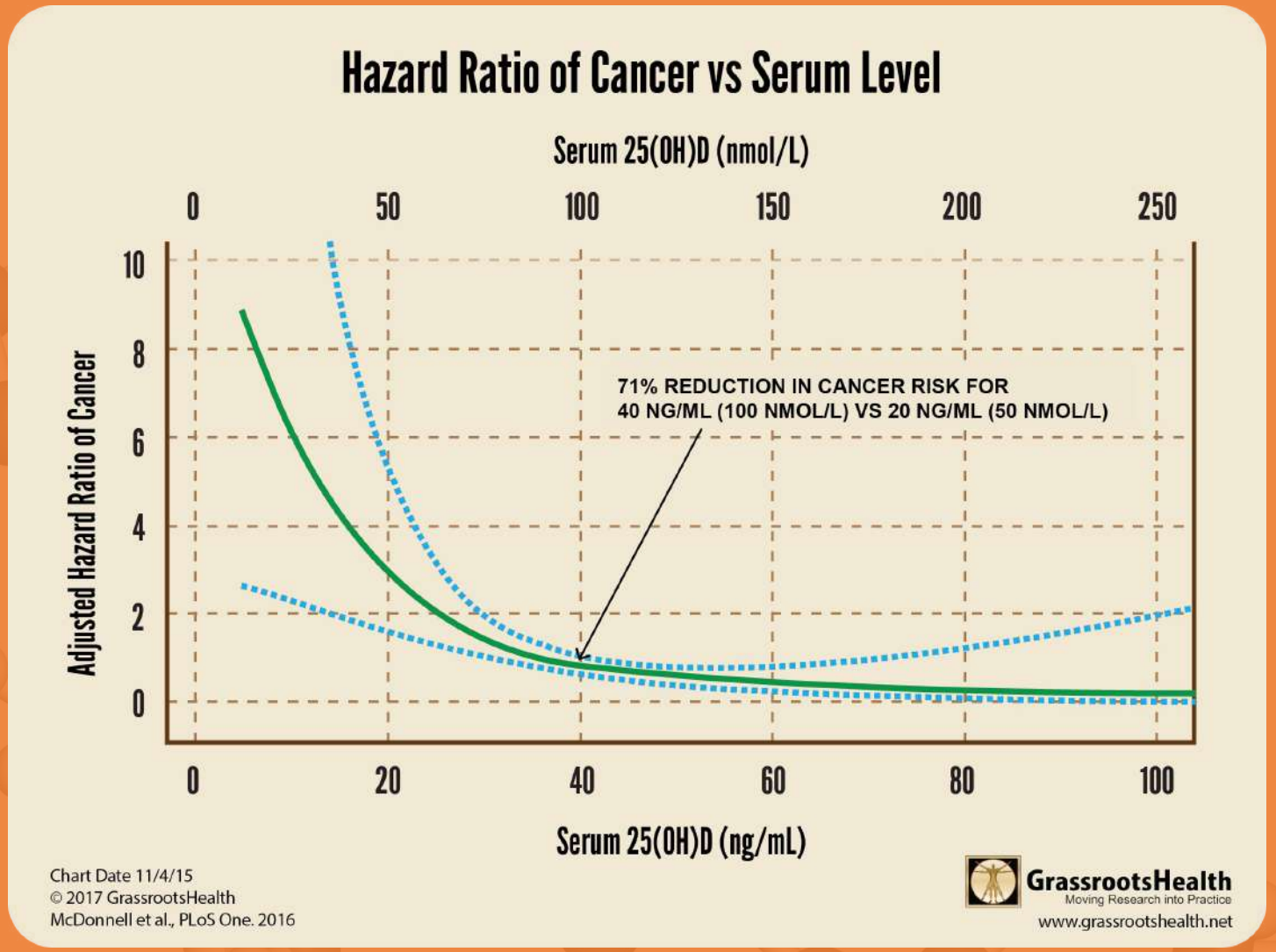


This particular publication was what highlighted much of the newer research on how important the serum levels are key indicators of health outcomes.

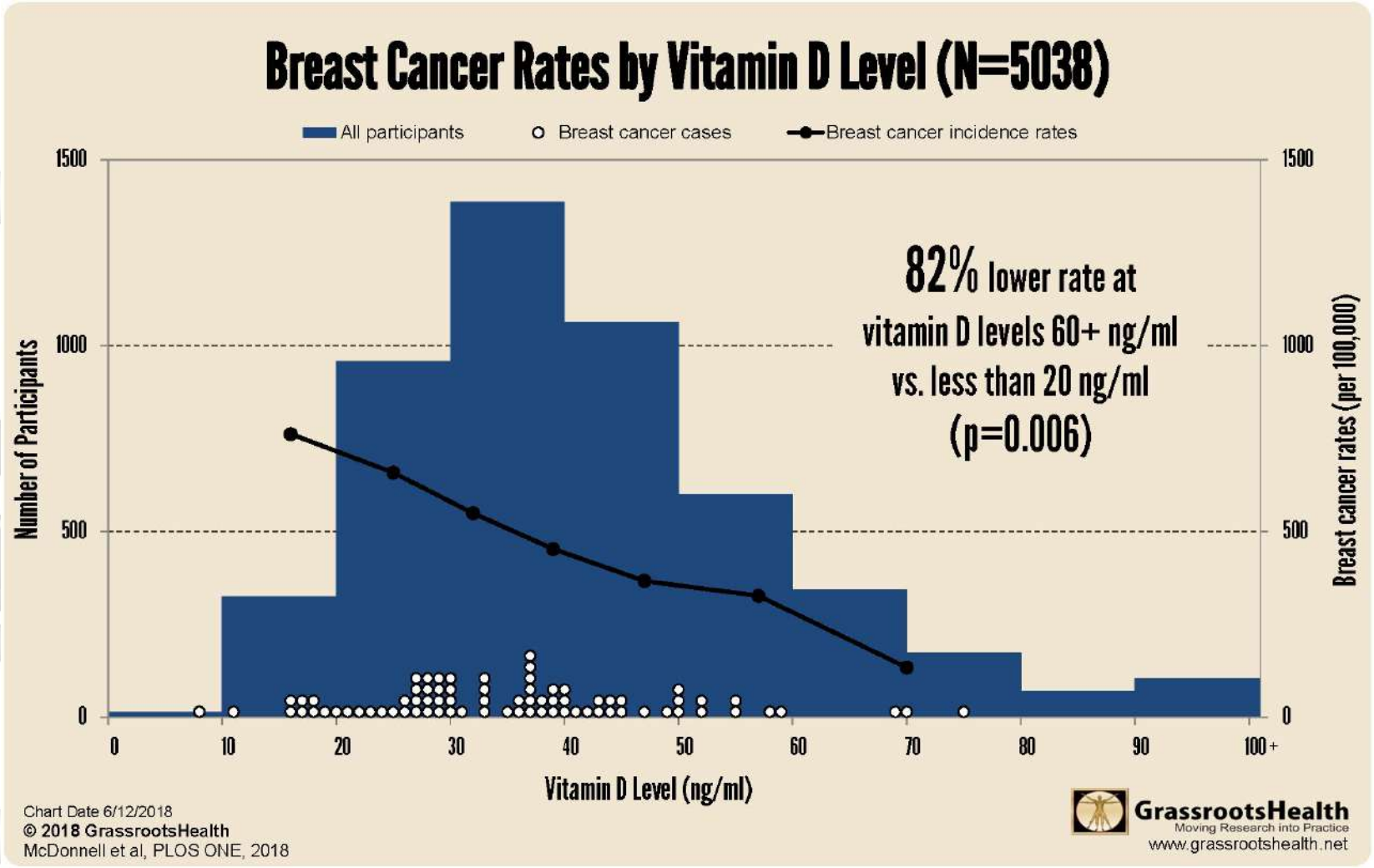
The dose/response variation as shown in our research and that of others shows a very large variation, **a factor of six in terms of response**. One person can take 4000 IU/day and get to 20 ng/ml (50 nmol/L), another can take exactly the same amount, 4000 IU/day, and get to 120 ng/ml (300 nmol/L).

Causes include co-nutrient deficiencies, absorption and GI issues, life-stage, medical conditions, weight, etc.

CANCER RISK REDUCTION

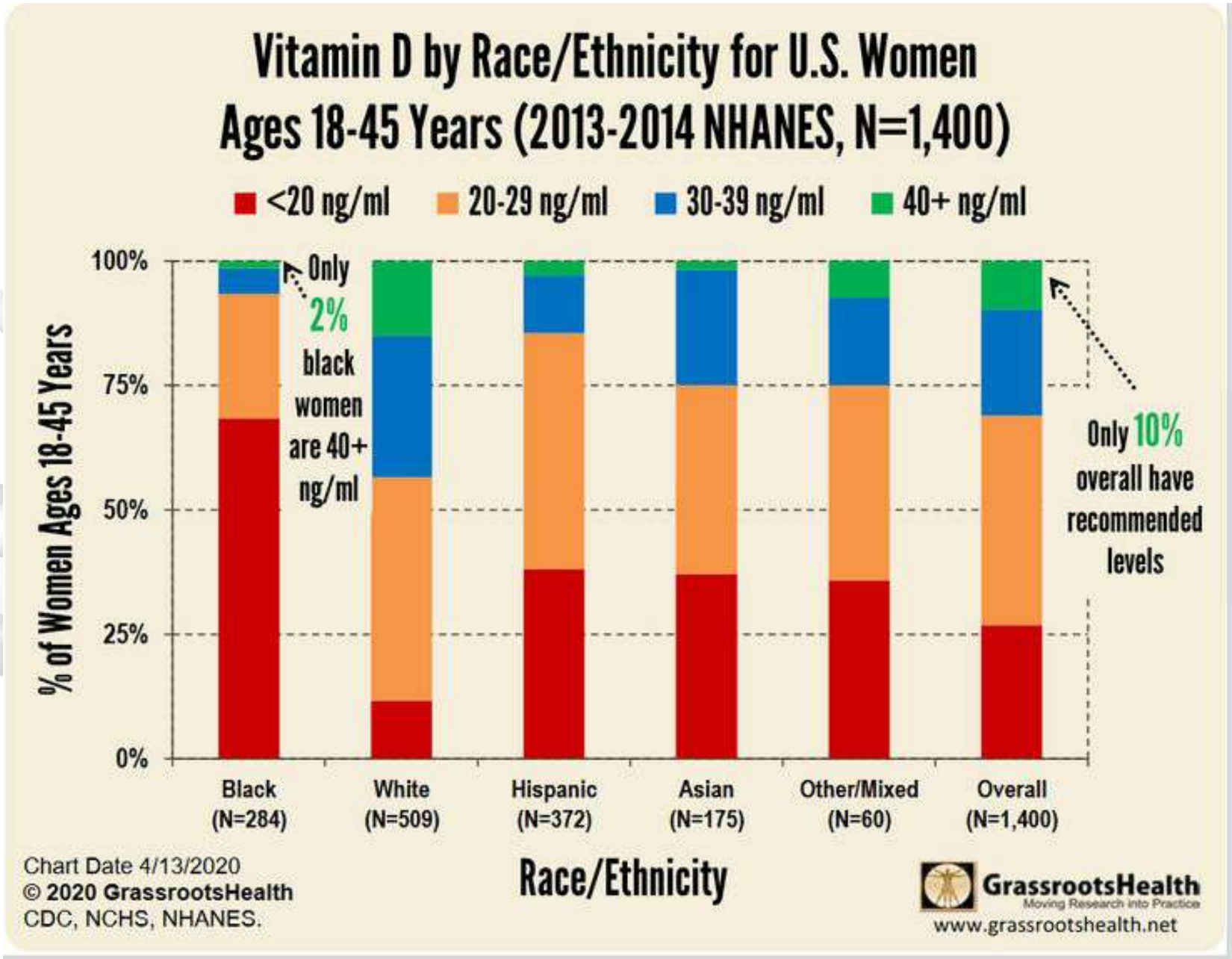


BREAST CANCER RISK REDUCTION



Results

Cox regression showed that women with 25(OH)D concentrations ≥60 ng/ml had an 82% lower risk of breast cancer than women with concentrations <20 ng/ml, adjusted for age, BMI, smoking status and calcium supplement intake (HR=0.20, P=0.02).


Vitamin D by Race/Ethnicity for U.S. Women
Ages 18-45 Years (2013-2014 NHANES, N=1,400)
<20 ng/ml
20-29 ng/ml
30-39 ng/ml
40+ ng/ml
% of Women Ages 18-45 Years
100%
75%
50%
25%
0%
Only 2% black women are 40+ ng/ml
Only 10% overall have recommended levels
Black (N=284)
White (N=509)
Hispanic (N=372)
Asian (N=175)
Other/Mixed (N=60)
Overall (N=1,400)
Race/Ethnicity
Chart Date 4/13/2020
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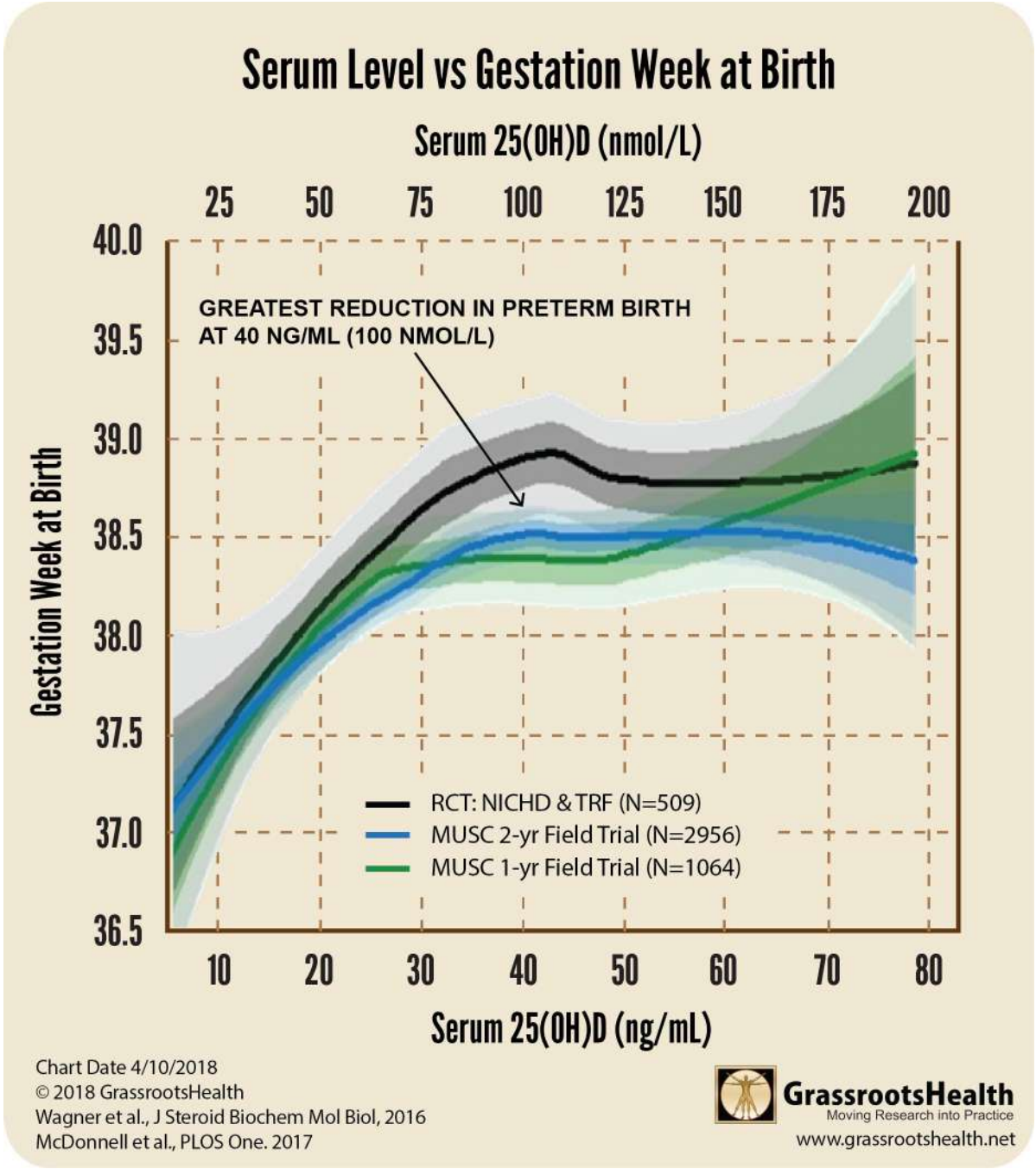
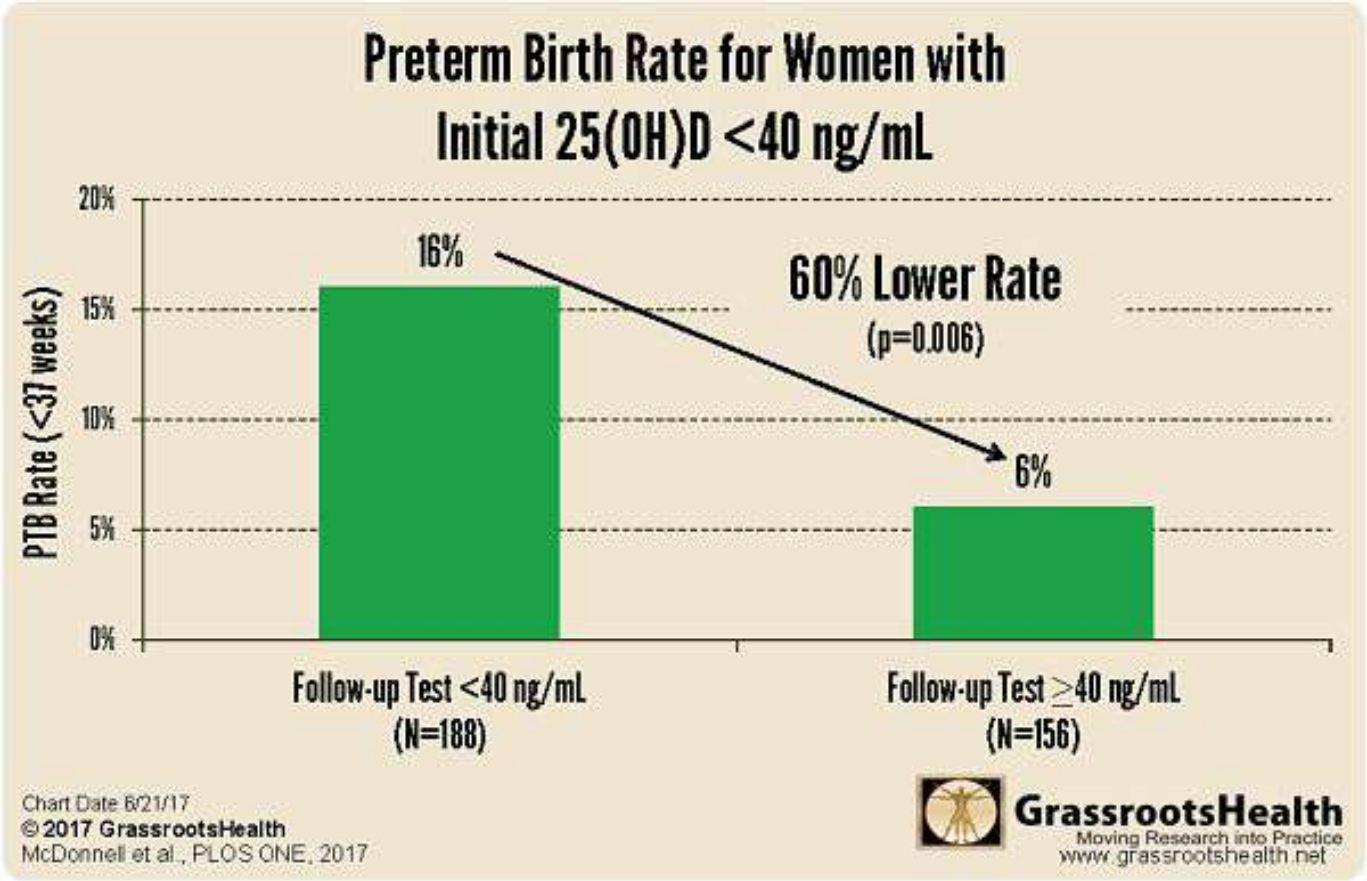
40-60% REDUCTION PRETERM



60% REDUCTION PRETERMS



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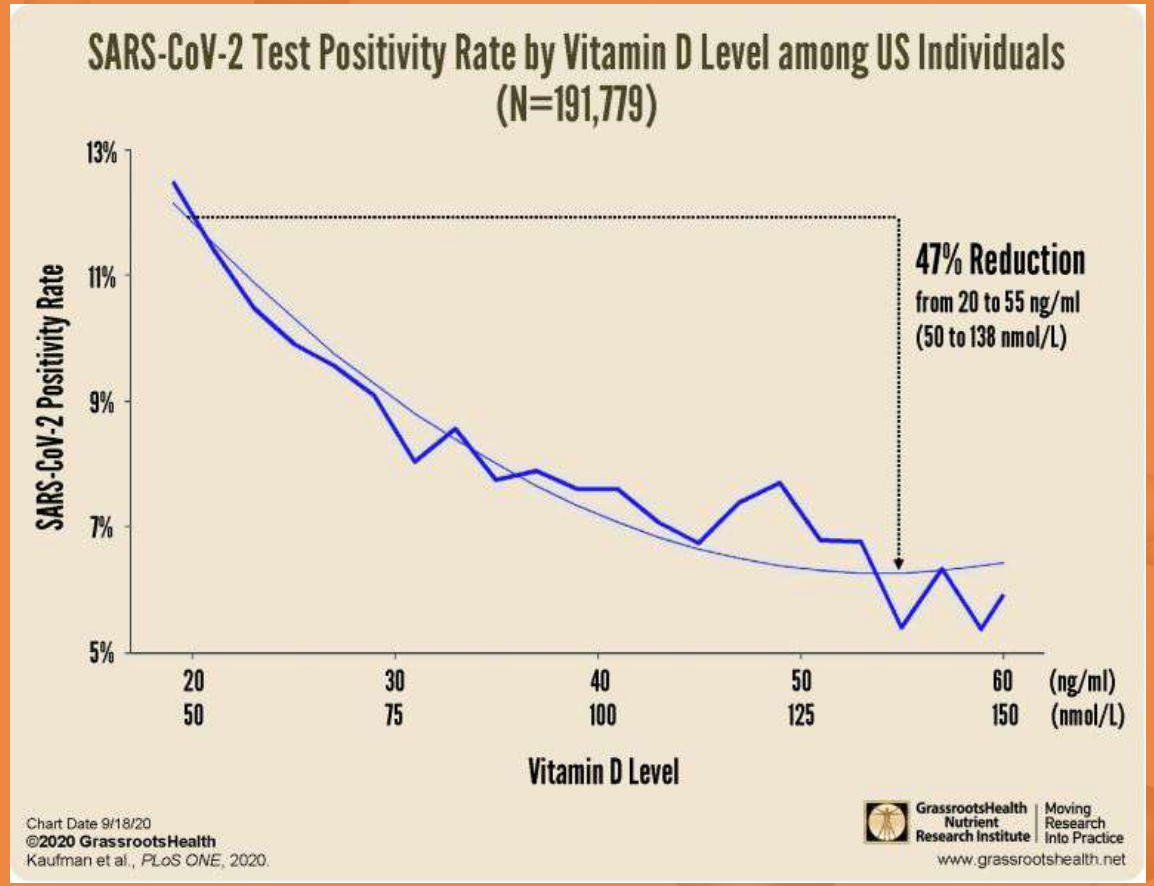
Vitamin D & COVID-19

Kaufman et al.: An analysis of over 190,000 US SARS-CoV-2 test results shows positivity rate halved with vitamin D levels of 55 ng/ml or higher vs. less than 20 ng/ml

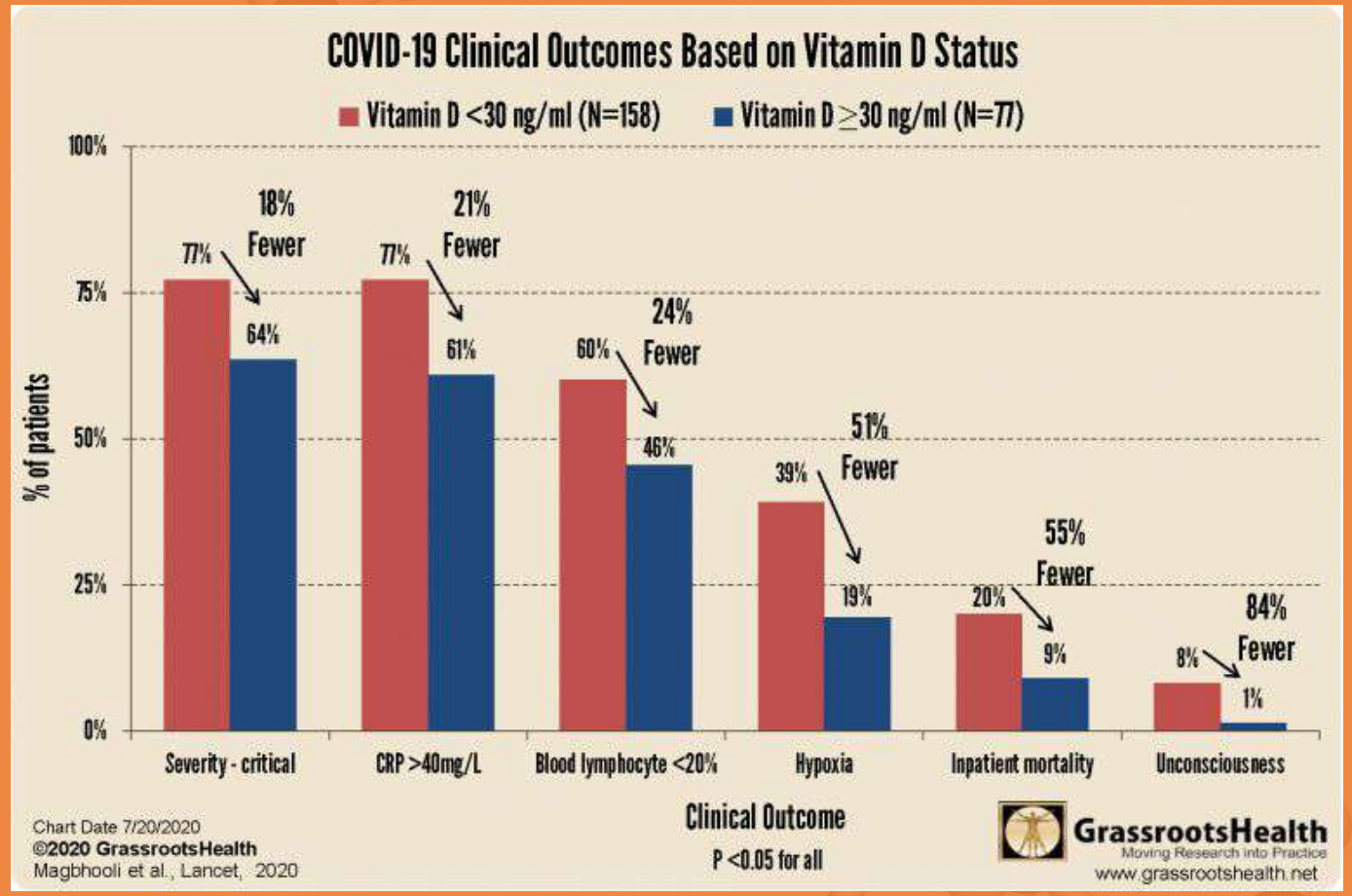


Radujkovic et al.: <12 ng/ml had a 6-fold higher risk of severe disease resulting in the need for invasive mechanical ventilation and/or death, and approximately 15 fold higher risk of death.

Carpagnano et al.: 81% of patients with acute respiratory failure due to COVID-19 had vitamin D levels <30 ng/ml; 24% had ≤10 ng/ml. When looking at mortality rates after 10 days of hospitalization, it was found that those with severe vitamin D deficiency had a 50% probability of death, compared to 5% among those >10 ng/ml.

Merzon et al.: 60% increased risk in COVID-19 infection for vitamin D <30 ng/ml compared to 30 ng/ml or higher, and almost doubled risk of hospitalization for <30 ng/ml.

Higher Vitamin D Serum Level Status Associated with Better Clinical Outcomes



The graph shows clinical outcomes based on vitamin D status – a vitamin D level above 30 ng/ml was associated with

- Less severe COVID-19 and lower lymphocyte counts (marker of mild-moderate cases)
- Less acute inflammation (CRP) possibly resulting in reduced risk of “cytokine storm”
- 51% fewer cases of low blood oxygen (hypoxia) and 84% fewer cases of unconsciousness
- 55% fewer deaths

COSTS & BENEFITS WITH VITAMIN D

SARS-CoV-2 Positivity

Vitamin D levels at or above **55** vs. less than 20 ng/ml (Kaufman et al.)

53% LOWER RISK

Hospitalization Due to COVID-19

Vitamin D levels at or above **30** vs. less than 30 ng/ml (Merzon et al.)

52% LOWER RISK

Death Due to COVID-19

Vitamin D levels at or above **10** vs. less than 10 ng/ml (Carpagnano et al.)

90% LOWER RISK

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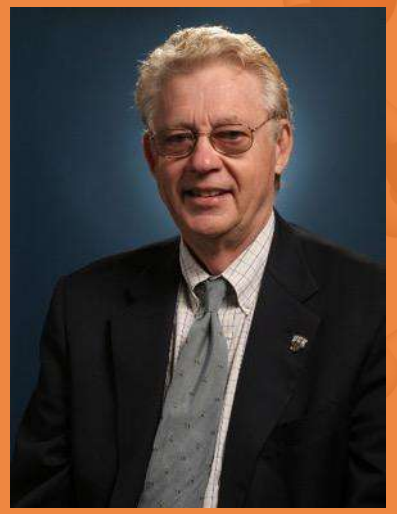
KEY RESEARCHERS ON PANEL



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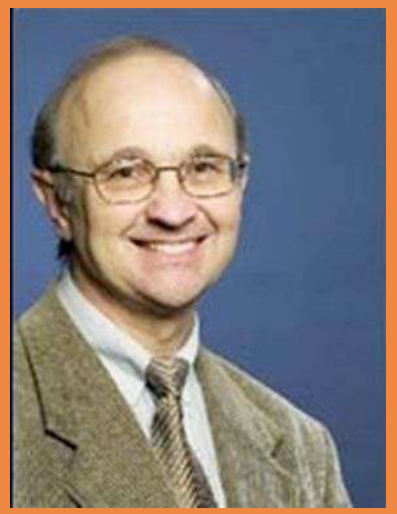

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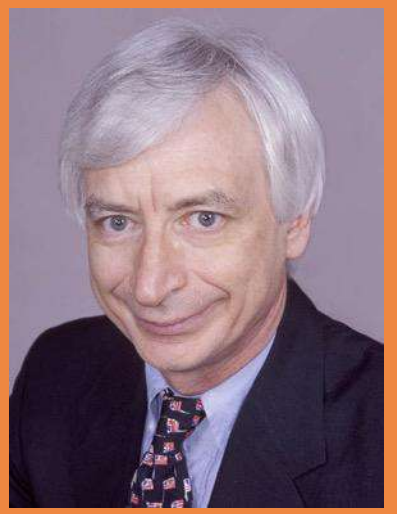

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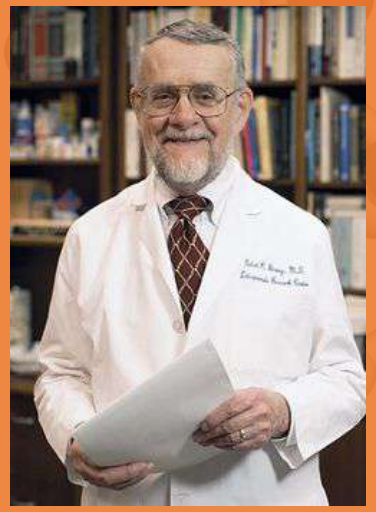
KEY RESEARCHERS ON PANEL



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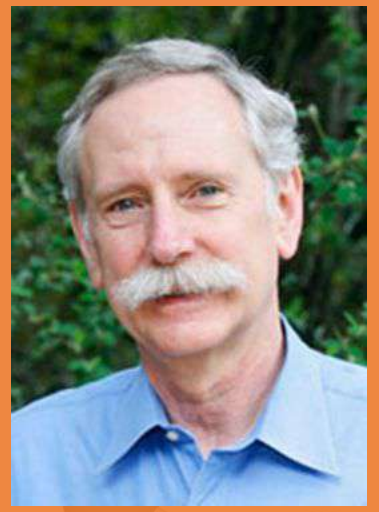

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Harvard University

Carol Wagner, MD
Medical University SC

Bruce Hollis, PhD
Medical University SC

Roger Newman, MD
Medical University SC

Serum 25(OH)D, ng/ml

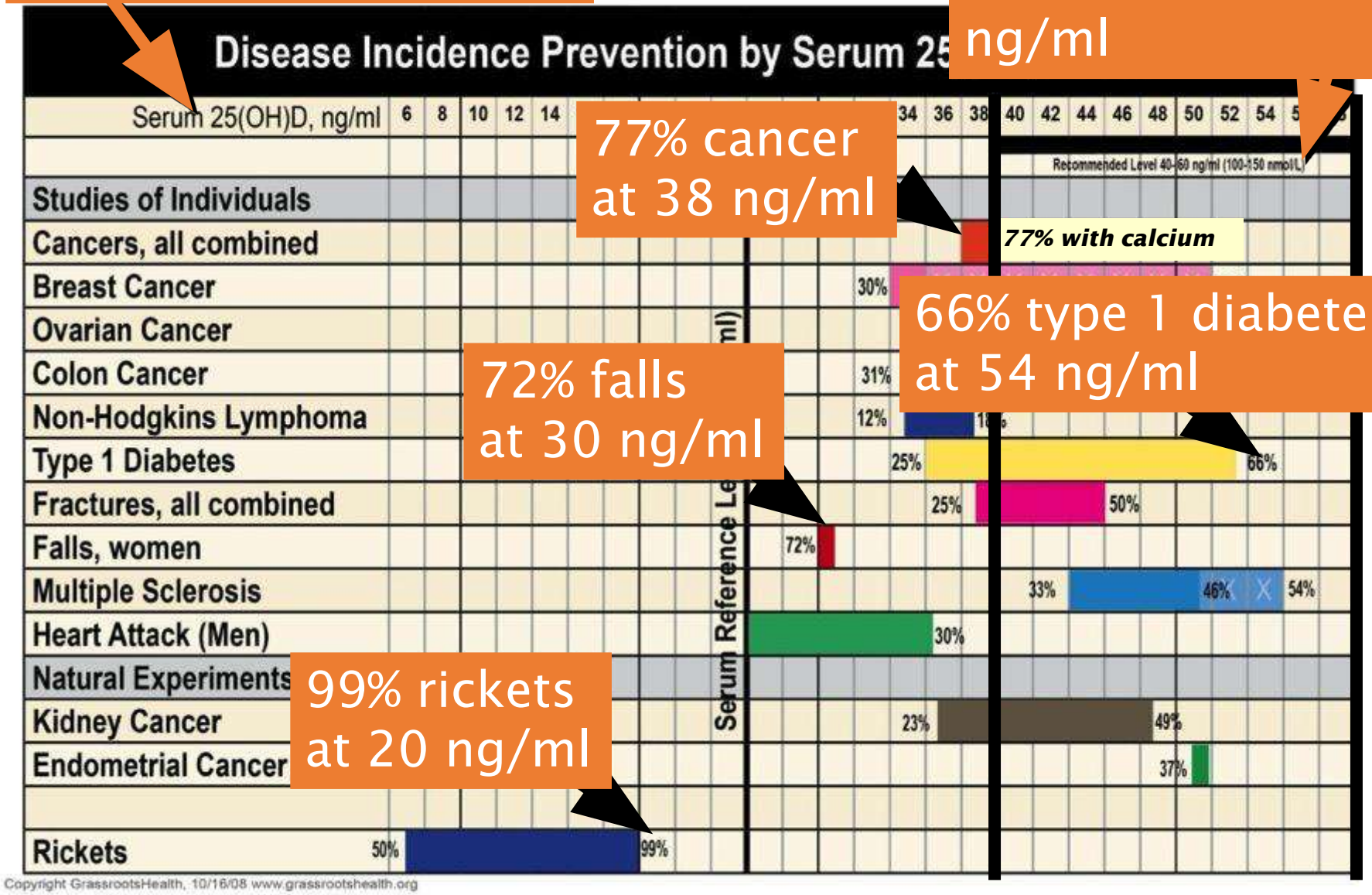
Recommended level 40-60 ng/ml

77% cancer at 38 ng/ml

66% type 1 diabetes at 54 ng/ml

72% falls at 30 ng/ml

99% rickets at 20 ng/ml



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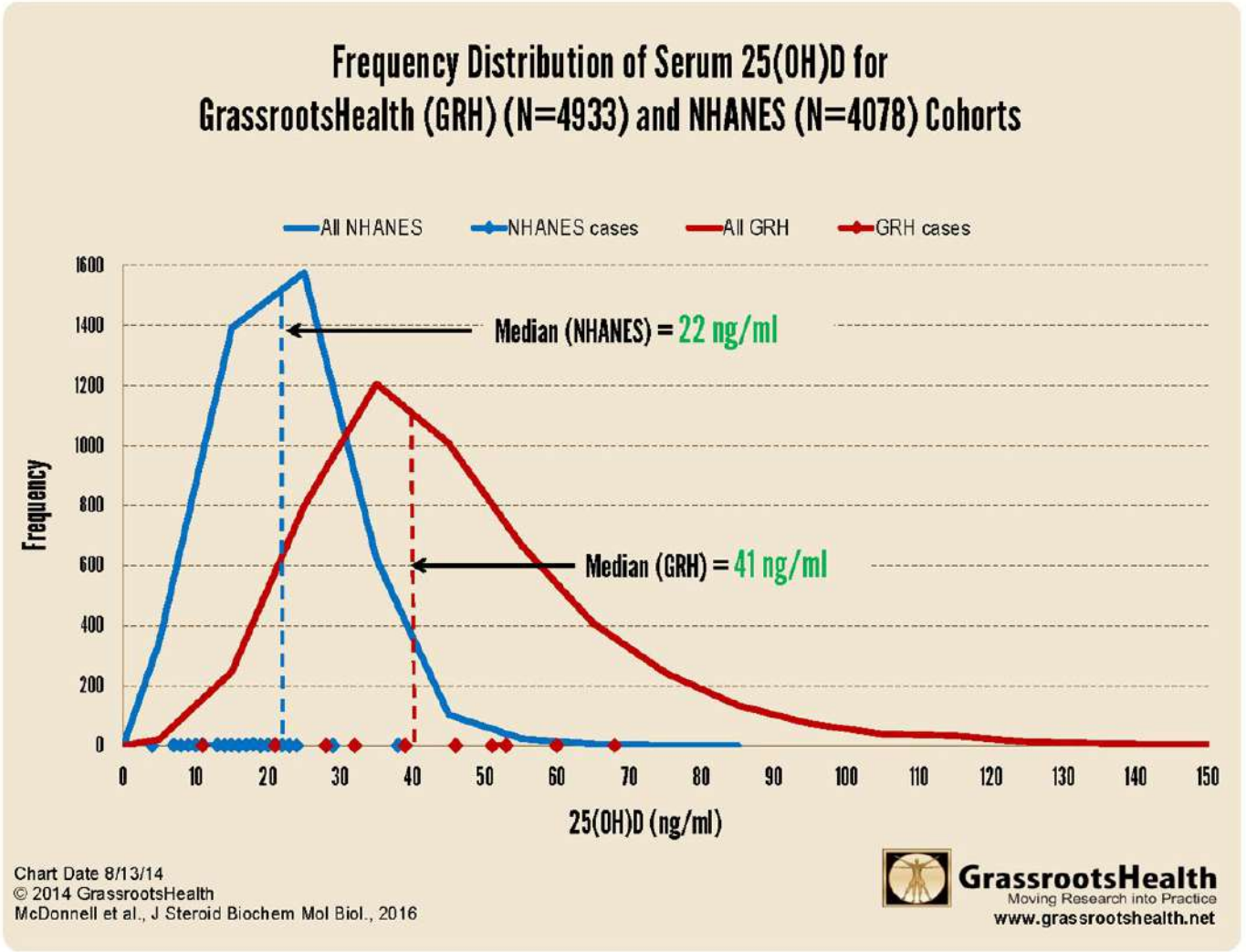
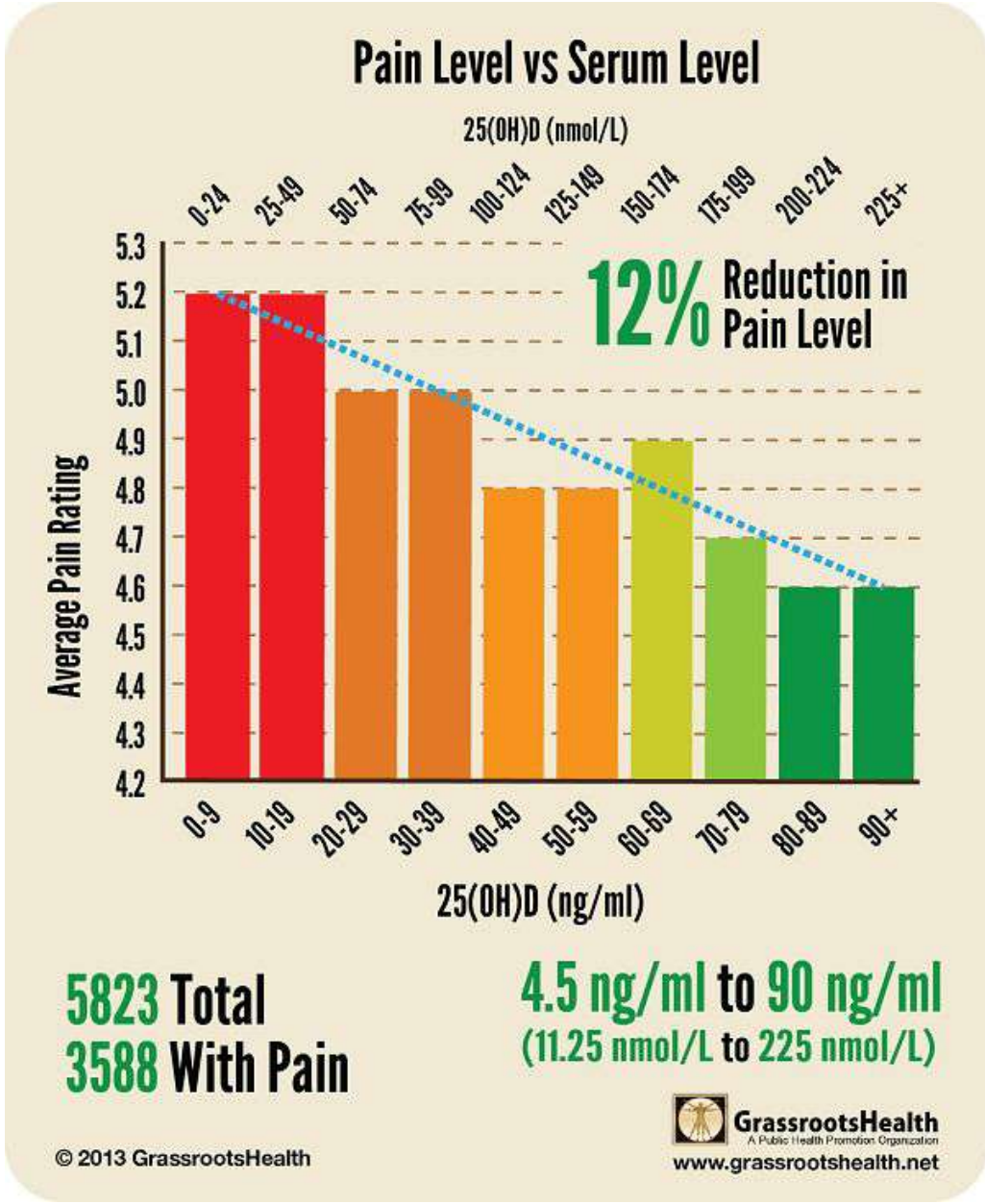
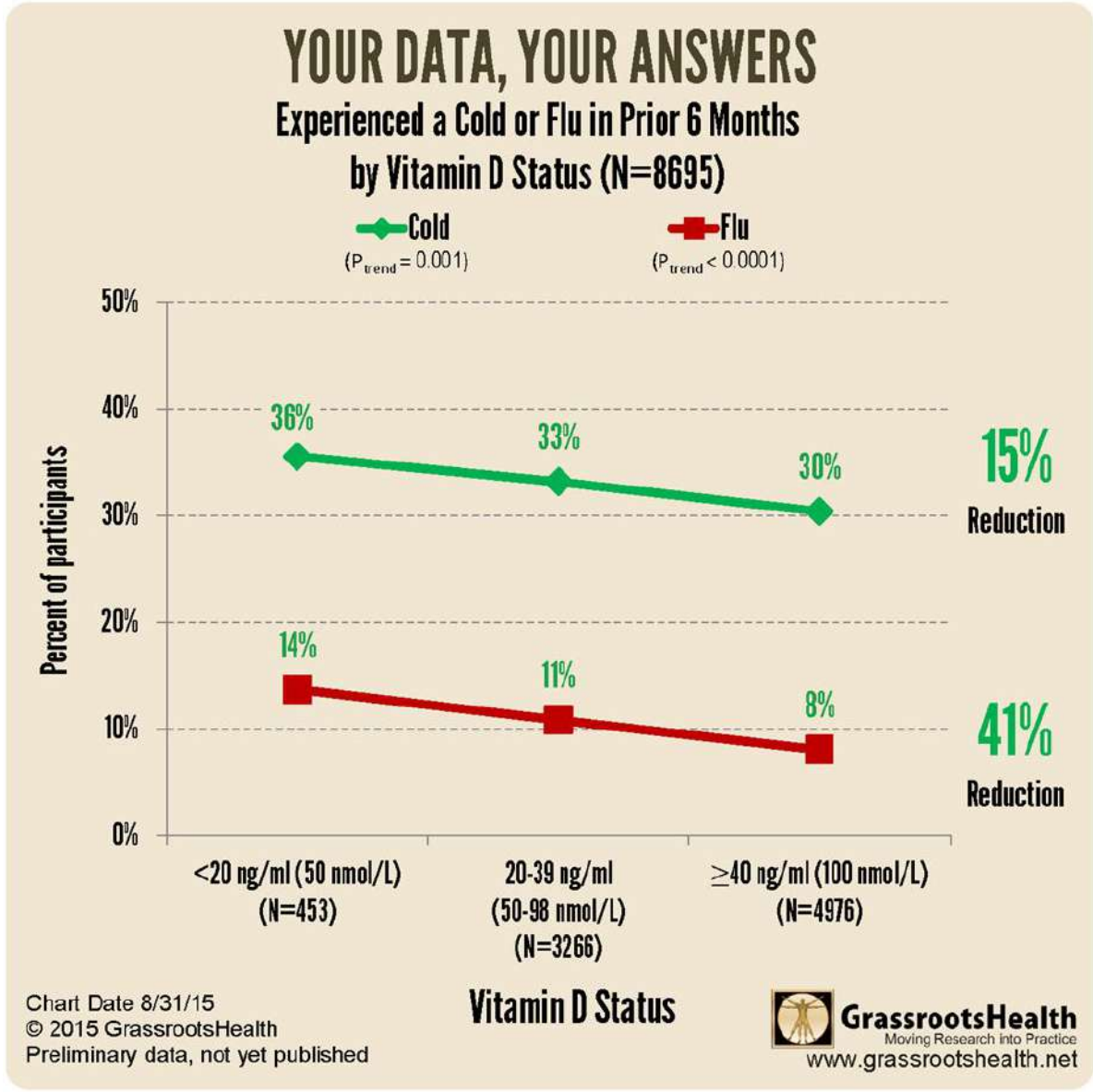
60% LOWER DIABETES INCIDENCE



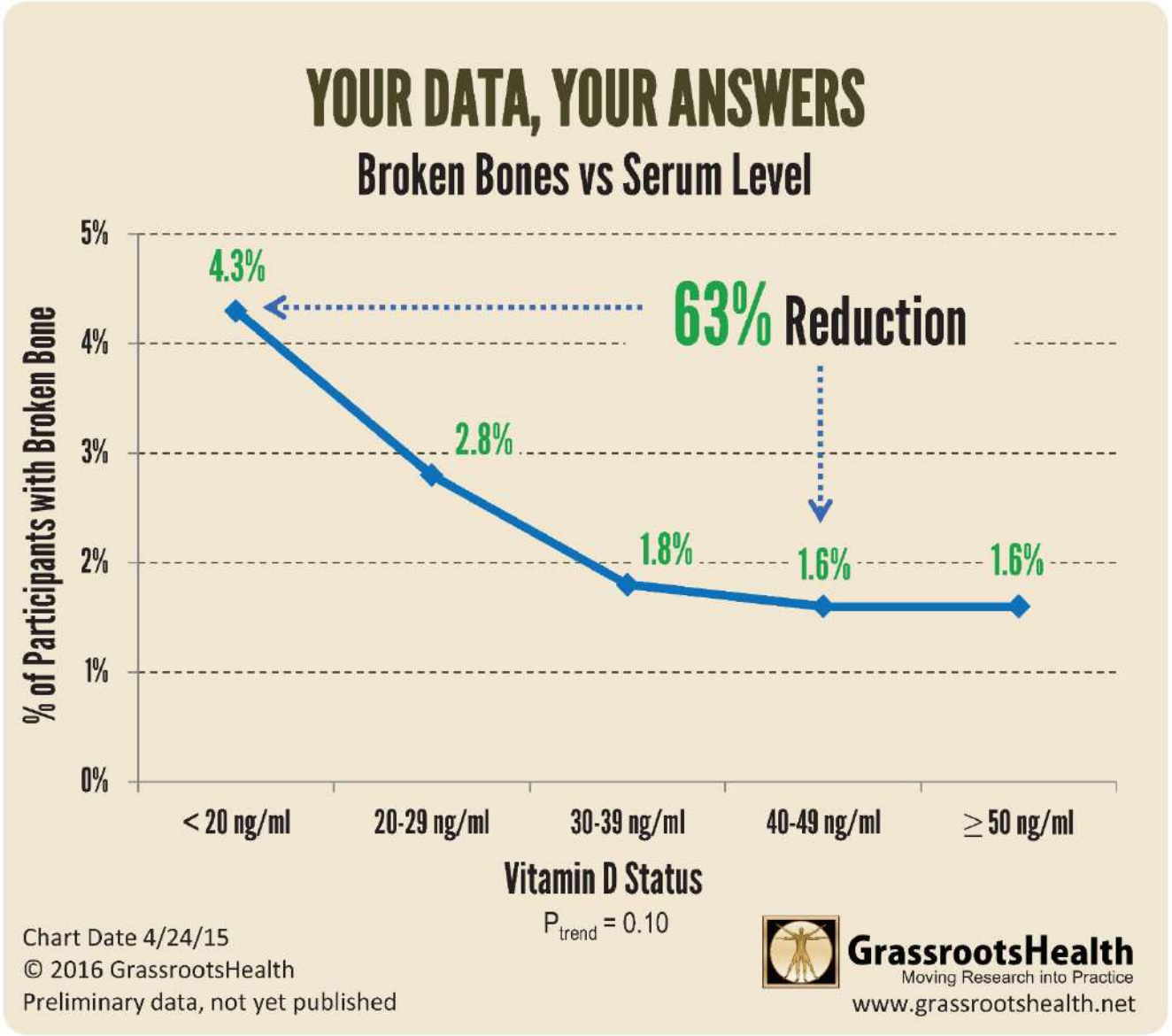
PAIN LEVEL VS. SERUM LEVEL



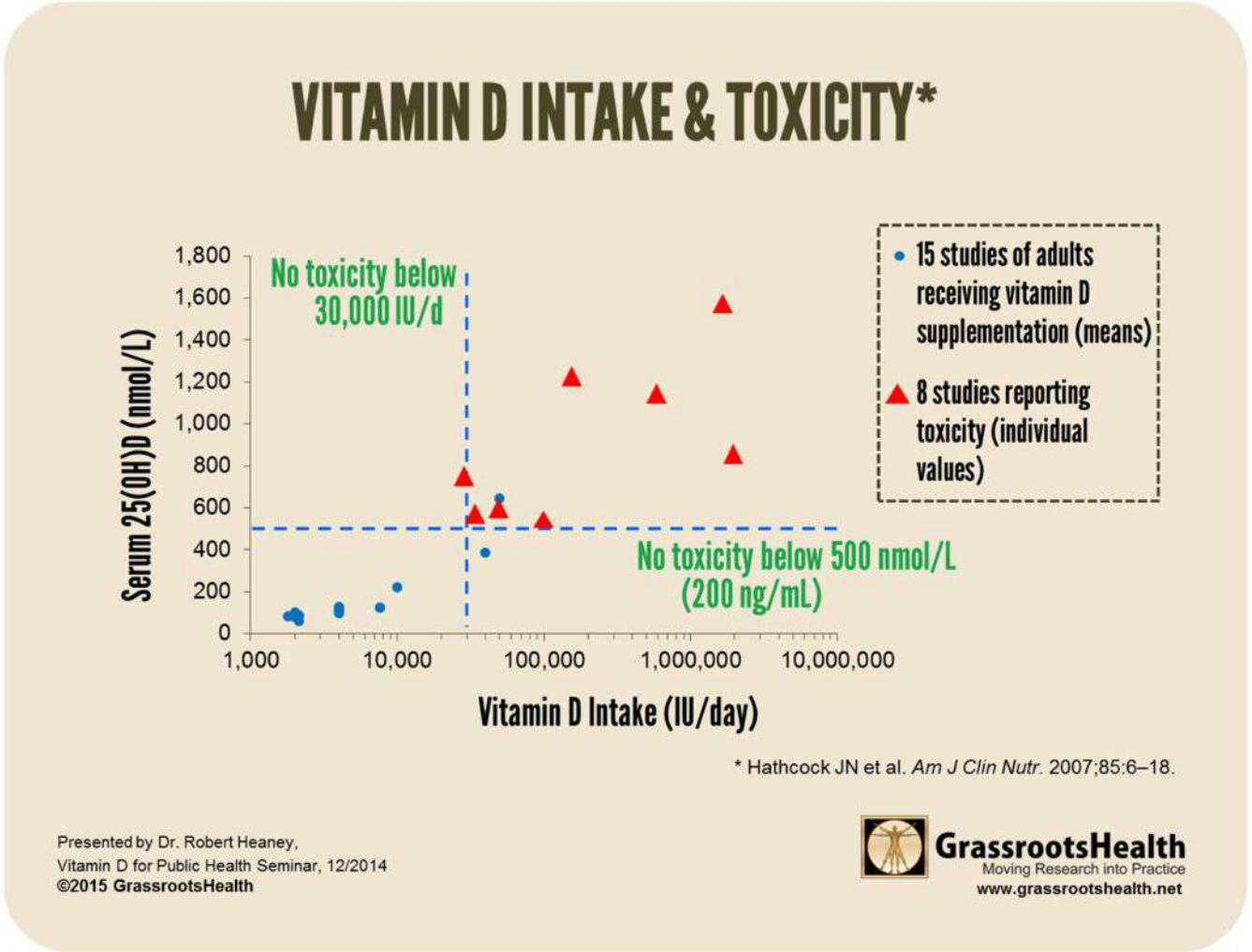
15%-41% REDUCTION COLDS/FLU



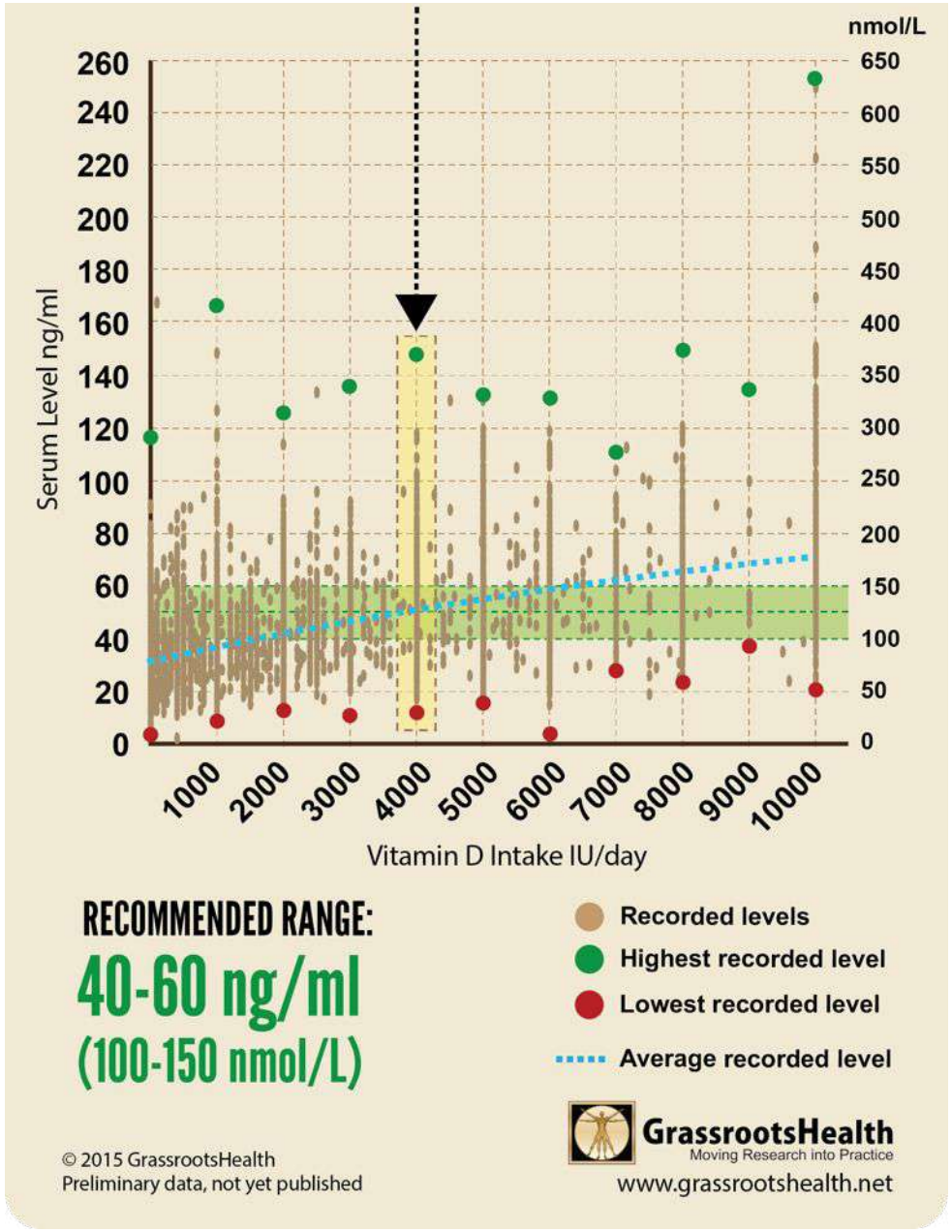
63% REDUCTION BROKEN BONES



VITAMIN D INTAKE & TOXICITY



SERUM LEVEL BY INTAKE (N= 7324)



DOSAGE CHART 90%

Vitamin D intake observed to produce noted 25(OH)D serum levels in 90% of adults (age 18 years and older), weighing 150 lbs. (N=7324)

RECOMMENDED RANGE: 40-60 ng/ml

WHAT TO DO

1. **Test**
2. **Establish recommended intake level**
3. **Test again in 3-6 months**

(For supplements, vitamin D3, cholecalciferol may be used.)

Individuals should consult with a health care practitioner to develop a custom plan.

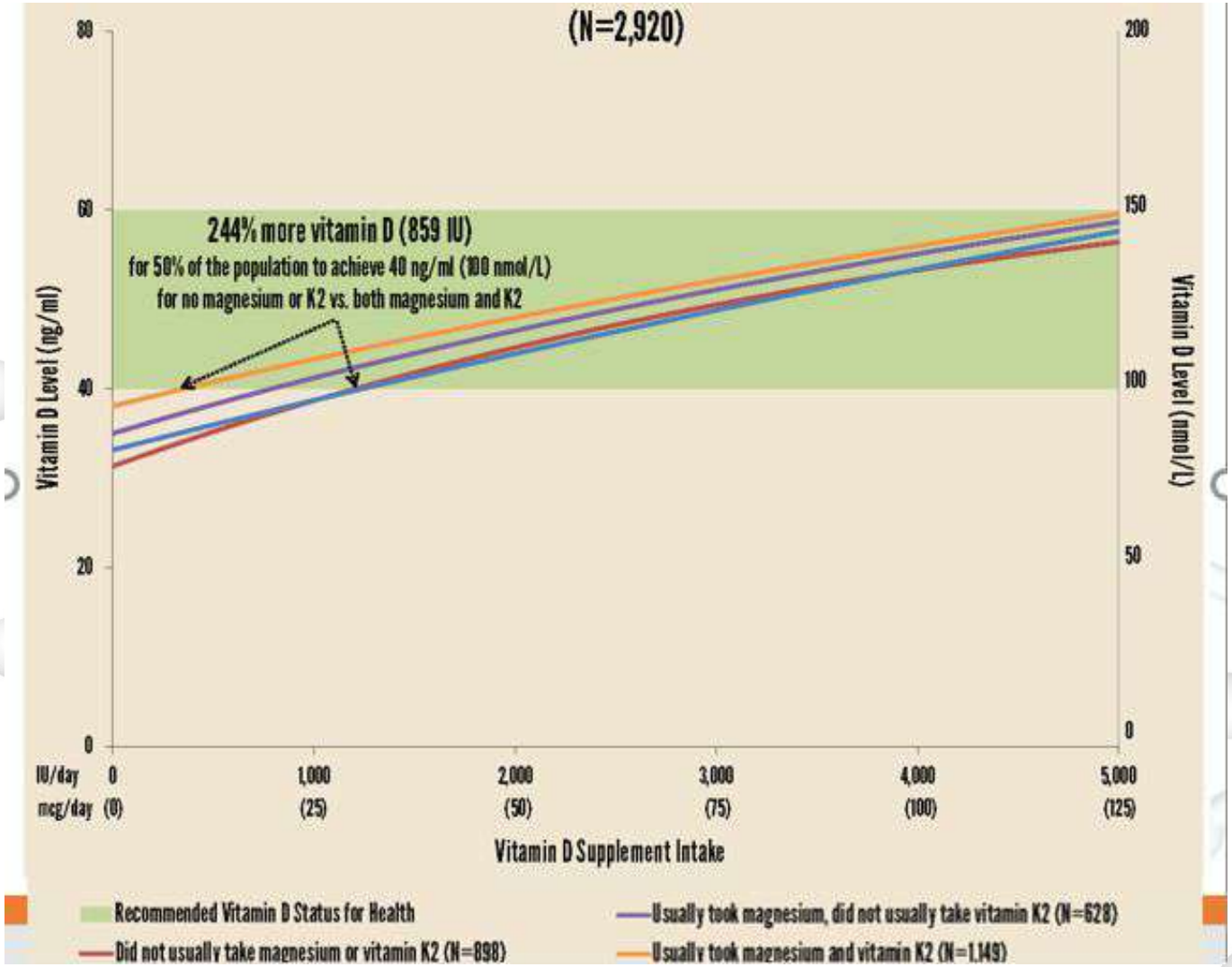
Change in Serum Level Based on Intake (IU/day) for 90% of Adults* (N=7324)

Current Level (ng/ml) \ Expected Level (ng/ml)	20	30	40	50	60
10	2000	4000	6000	10,000	10,000
15	1000	3000	6000	9000	10,000
20		2000	5000	8000	10,000
25		1000	4000	7000	10,000
30			3000	6000	10,000
35			1000	5000	9000
40				3000	8000
45				2000	6000
50					4000

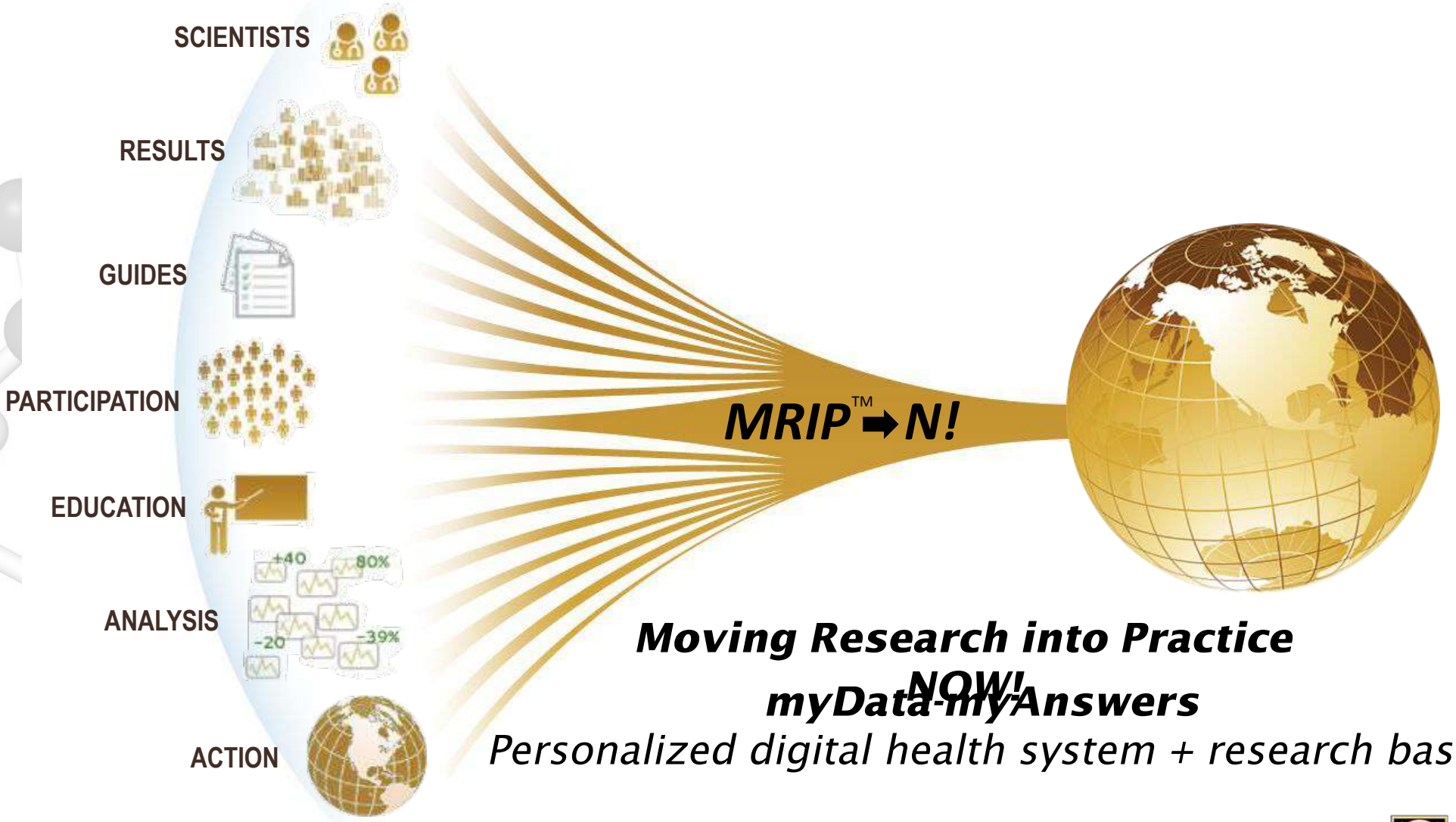
** values rounded to the nearest 1000 IU; highest recommended intake is 10,000 IU/day*

Example: With a starting serum level of 20 ng/ml, an additional intake of approximately 5000 IU/day would be sufficient for 90% of adults (age 18 years and older, weighing 150 lbs) to achieve a serum level of at least 40 ng/ml.

Vitamin D Dose-Response by Supplemental Magnesium and Vitamin K2 Intake



WHAT DOES IT TAKE?



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myData-myAnswers

Personalized digital health system + research base

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Action Steps

#1 Measure—the ‘right’ things; Develop Standards

#2 Create NEW Technologies—to measure, to educate

#3 Create new educational methods to match audiences

#4 Create new structures/benefits for professionals

#5 Analyze/Demonstrate Results

More Information?

Please contact

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