



GrassrootsHealth

*Public Health Research
IMPLEMENTATION Consortium*

vitamin **D**^{*}*action*

Breast Cancer
PREVENTION *Project*

A red ribbon graphic that loops around the text, with an arrow pointing to the left.

A yellow sun icon with rays.
PROTECT
OUR CHILDREN **NOW!**

A sense of

URGENCY

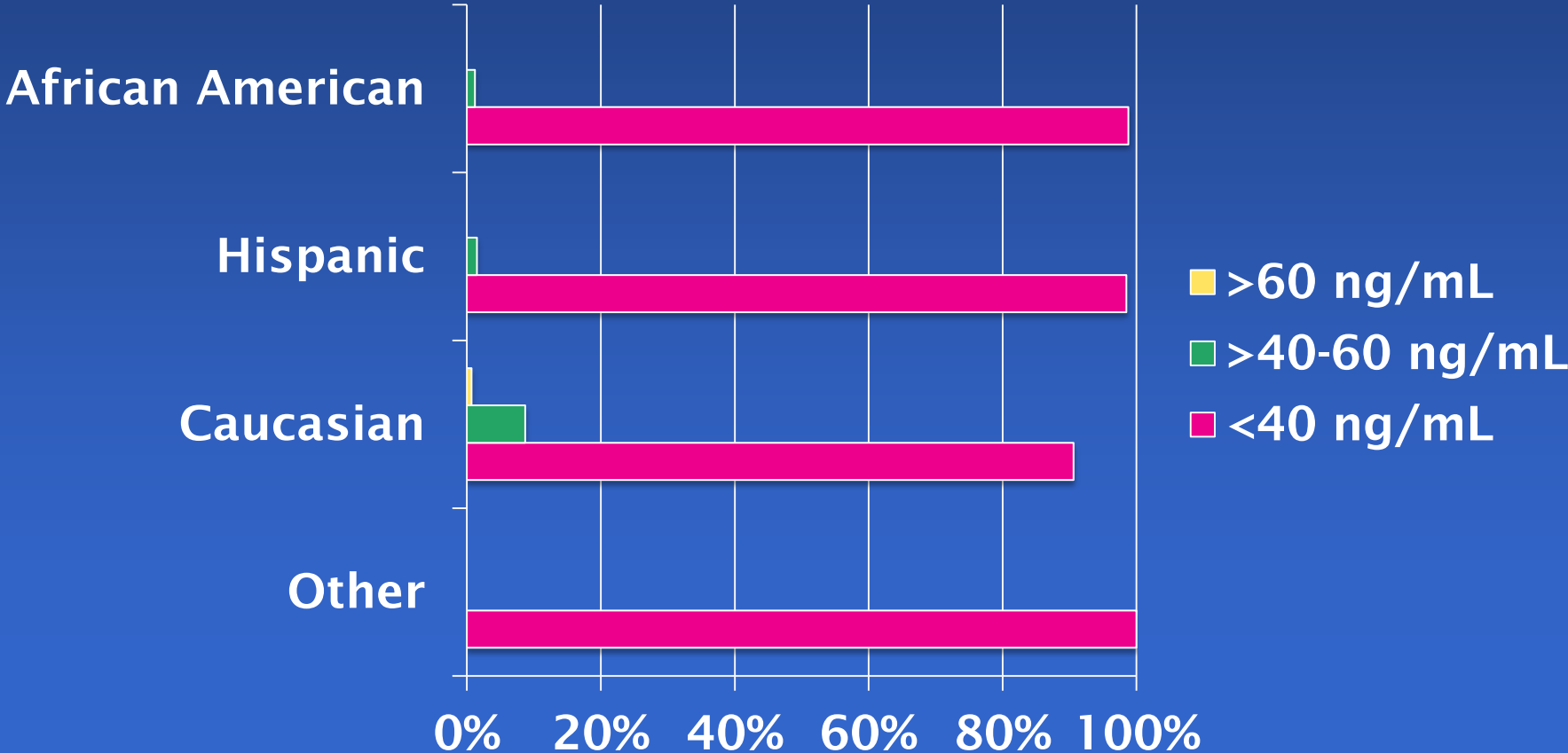
PROTECT
OUR CHILDREN **NOW!**



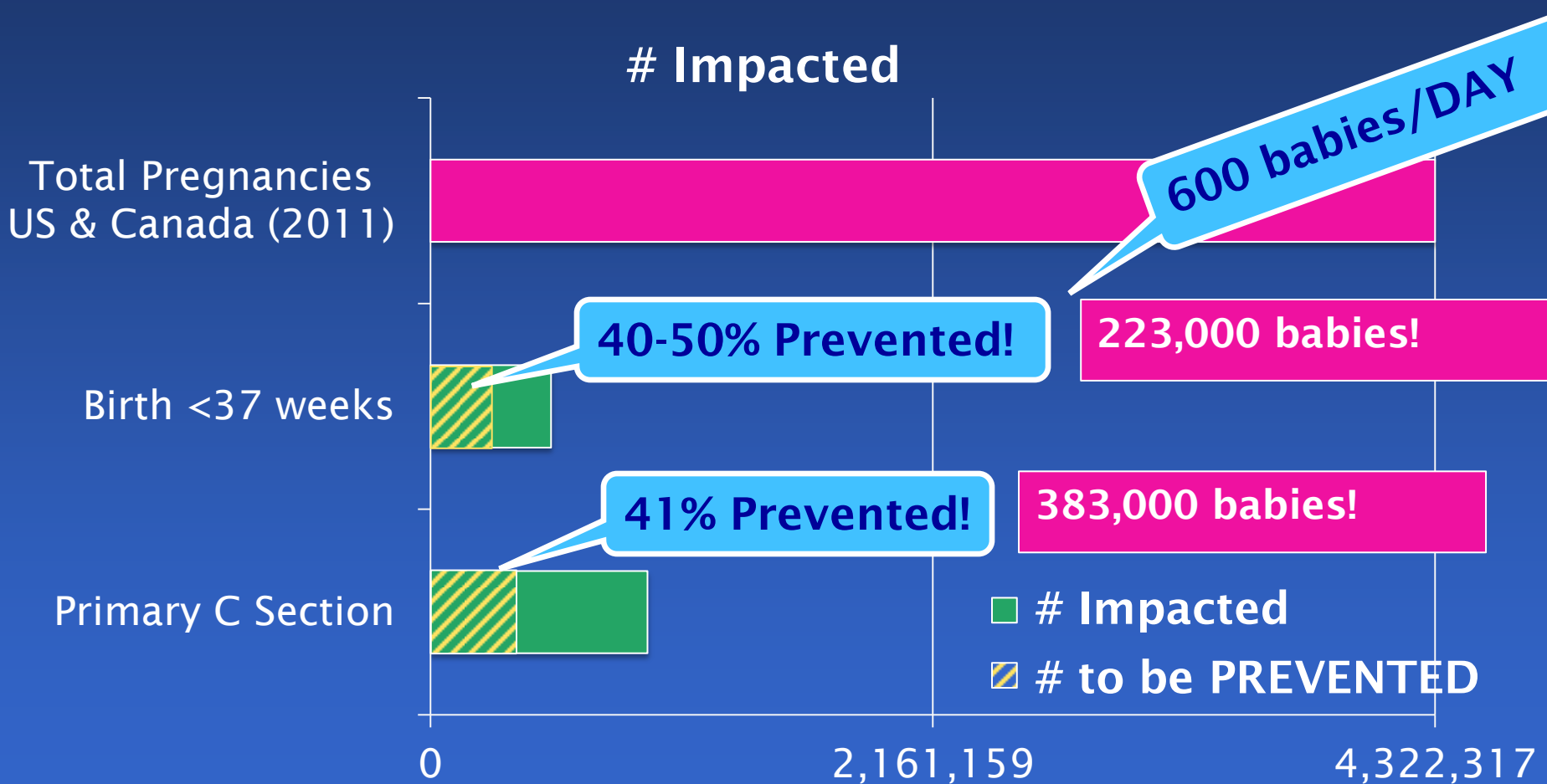
GrassrootsHealth
A Public Health Promotion Organization

Baseline 25(OH)D Levels by Race

Vitamin D Status of NICHD Pregnant Women at Baseline



Rates of Comorbidities and % Reduction with Vitamin D at Average 44 ng/ml



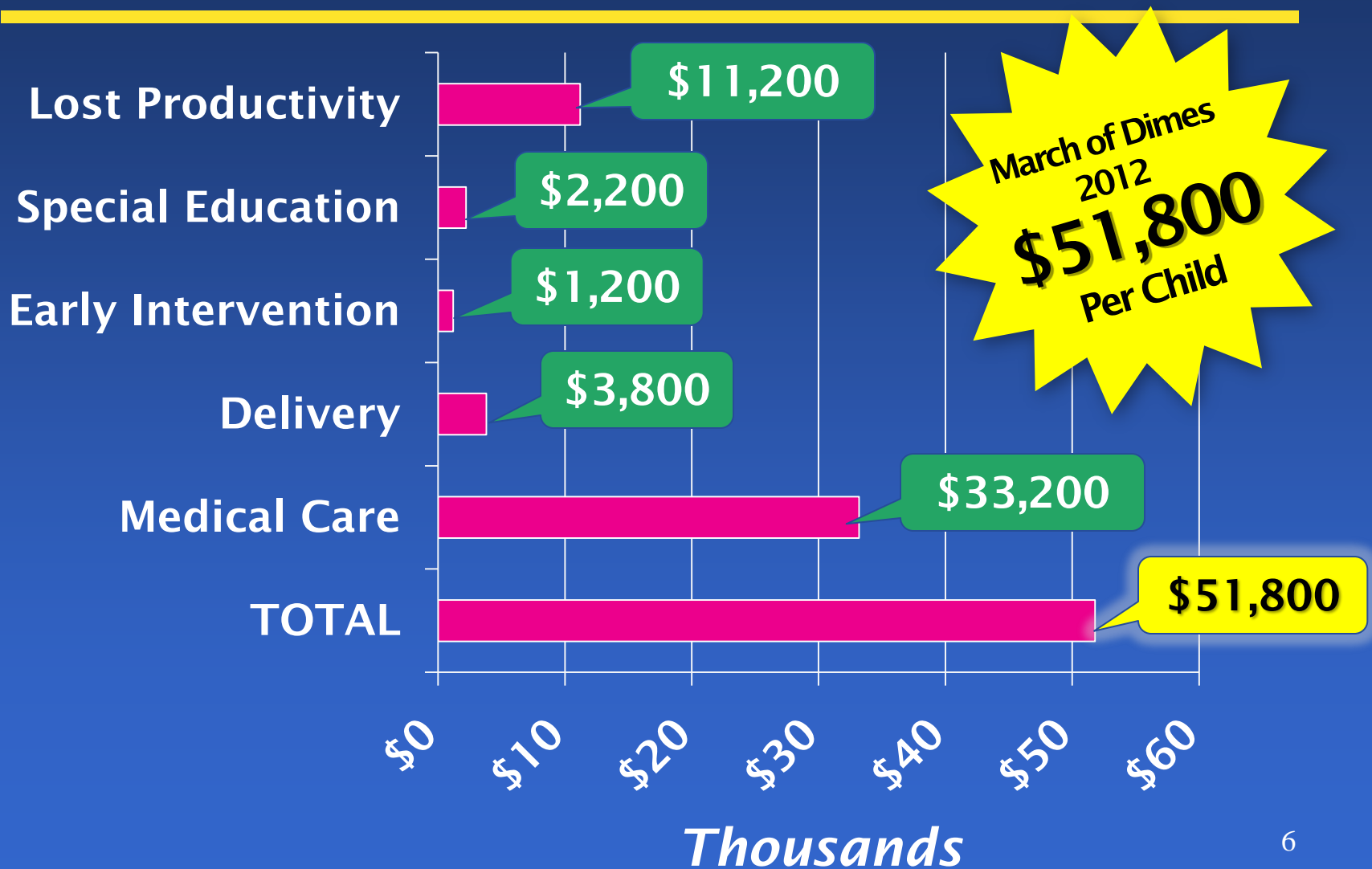
Hollis BW, Wagner CL. Vitamin D & Pregnancy: Skeletal effects, birth outcomes. Calcif Tissue Int. 2012

Developmental Disorders of Pre-Term Birth that might be PREVENTED

- Cerebral palsy (CP)
- Mental retardation (MR)
- Vision impairment (VI)
- Hearing loss (HL)

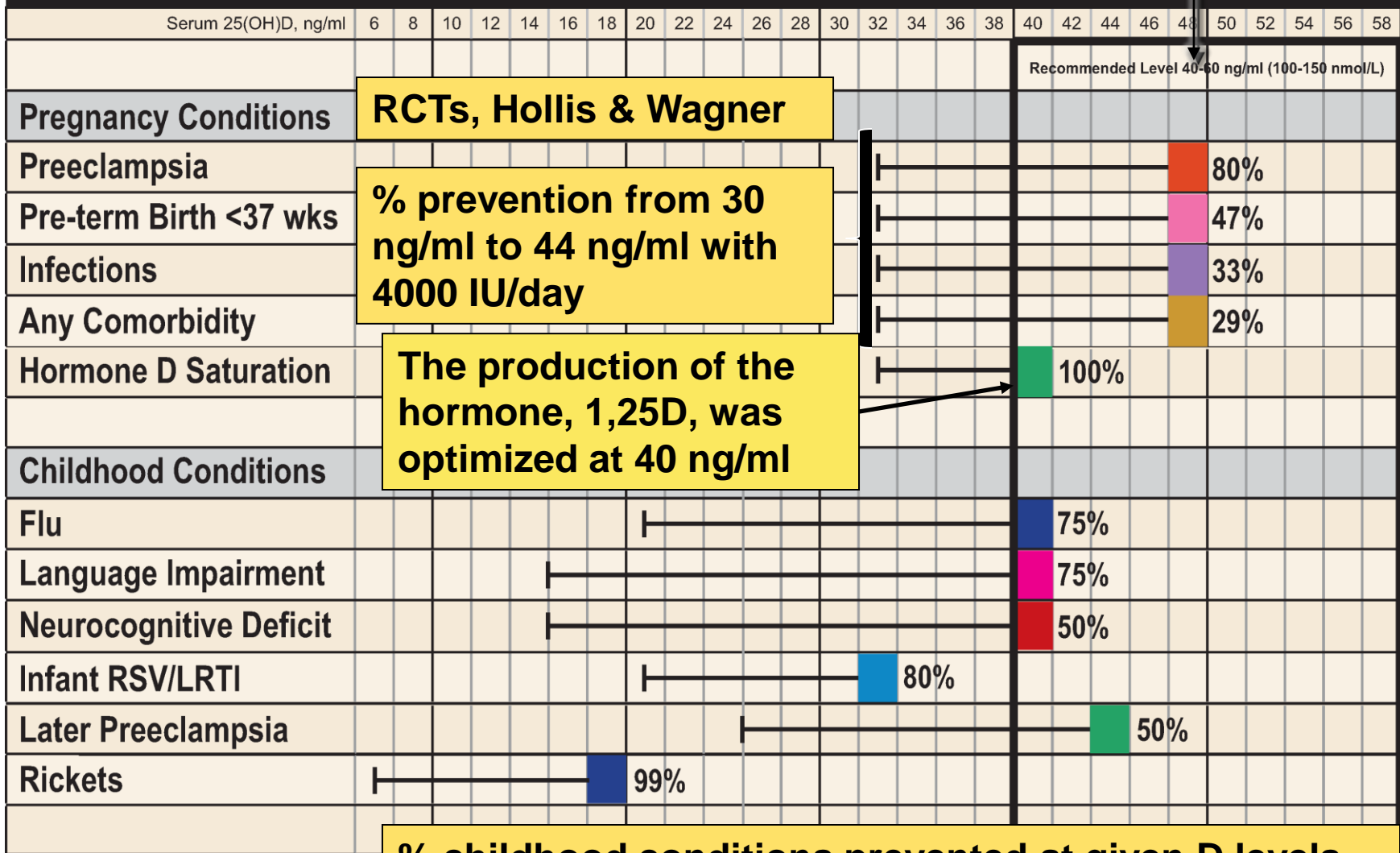


Cost to Society of Pre-Term Births



Recommended level 40-60 ng/ml (100-150 nmo/L)

Disease Incidence Prevention b



% childhood conditions prevented at given D levels

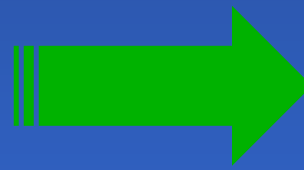
1-4 above are from Wagner, et al., Health Characteristics of NICHD 2012
 5 from Hollis, Wagner, et al, Vitamin D Supplementation ASBM 2011

*WHERE'S THE ***action**???*

Why doesn't 'the' government act?

Why don't institutions act?

What needs to happen?





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Design through Implementation

SCIENTISTS



RESULTS



GUIDES



PARTICIPATION



EDUCATION



ANALYSIS



PROMOTION



Introducing



**A New
PUBLIC HEALTH IMPLEMENTATION
Methodology**



Scientists

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Carol L. Wagner, M.D.
Principal Investigator

Robert Heaney, M.D.
Research Director

Leo Baggerly, Ph.D.
Senior Research Scientist

Cedric Garland, Dr. P.H.
Lead Investigator



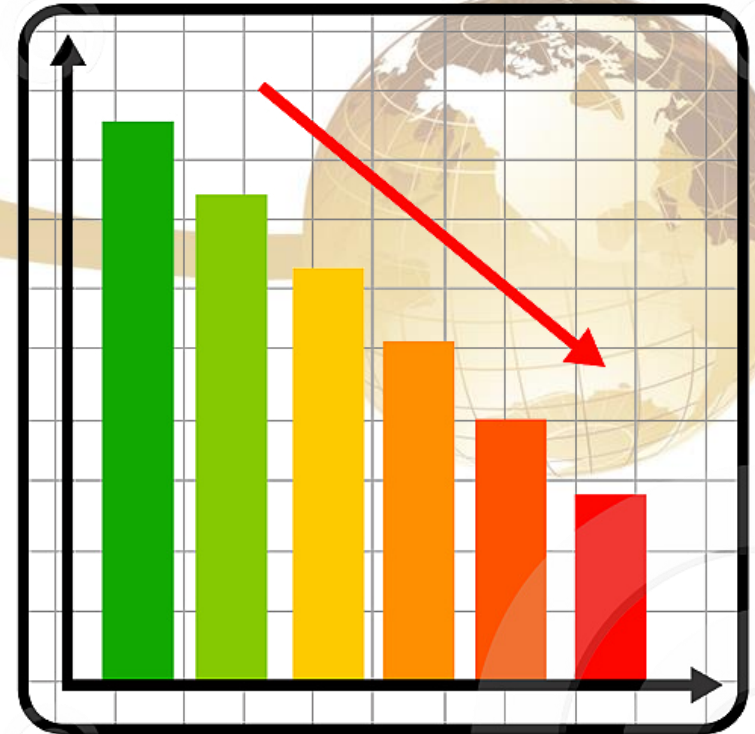


Results

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Choose Science that is

- **Demonstrable**
- **Short Term Results**
- **High Impact**
 - **Pregnancy**
 - **Children**
 - **Older Adults**





Guides

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Track health outcomes recommended by credible sources



Develop **ONLINE** guides for **USERS** to use to take action with the program

Nutrients NIH National Institute of Child Health and Human Development

Choose what to track*	Date	Enter Current Amount	Notes	Set a Goal
<input checked="" type="checkbox"/> Vitamin D Intake View dosage chart	<input type="text"/>	<input type="text"/> IU/day	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Folic Acid 600 mcg/day	<input type="text"/>	<input type="text"/> mcg/day	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Iron 27 mg/day	<input type="text"/>	<input type="text"/> mg/day	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Calcium 1000 mg/day	<input type="text"/>	<input type="text"/> mg/day	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Vitamin C 85 mg/day	<input type="text"/>	<input type="text"/> mg/day	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Vitamin A 770 mcg/day	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Vitamin E 15 mg/day	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input checked="" type="checkbox"/> Thiamin (B1) 1.4 mg/day	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

* Recommendations from the Institute of Medicine
Reference 2, Reference 3

Calendar: May 2013
 Su Mo Tu We Th Fr Sa
 5 6 7 8 9 10 11
 12 13 14 15 16 17 18
 19 20 21 22 23 24 25
 26 27 28 29 30 31
 Today Done

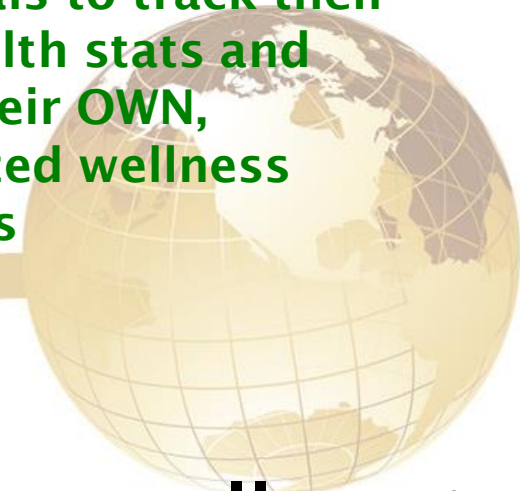


Participation

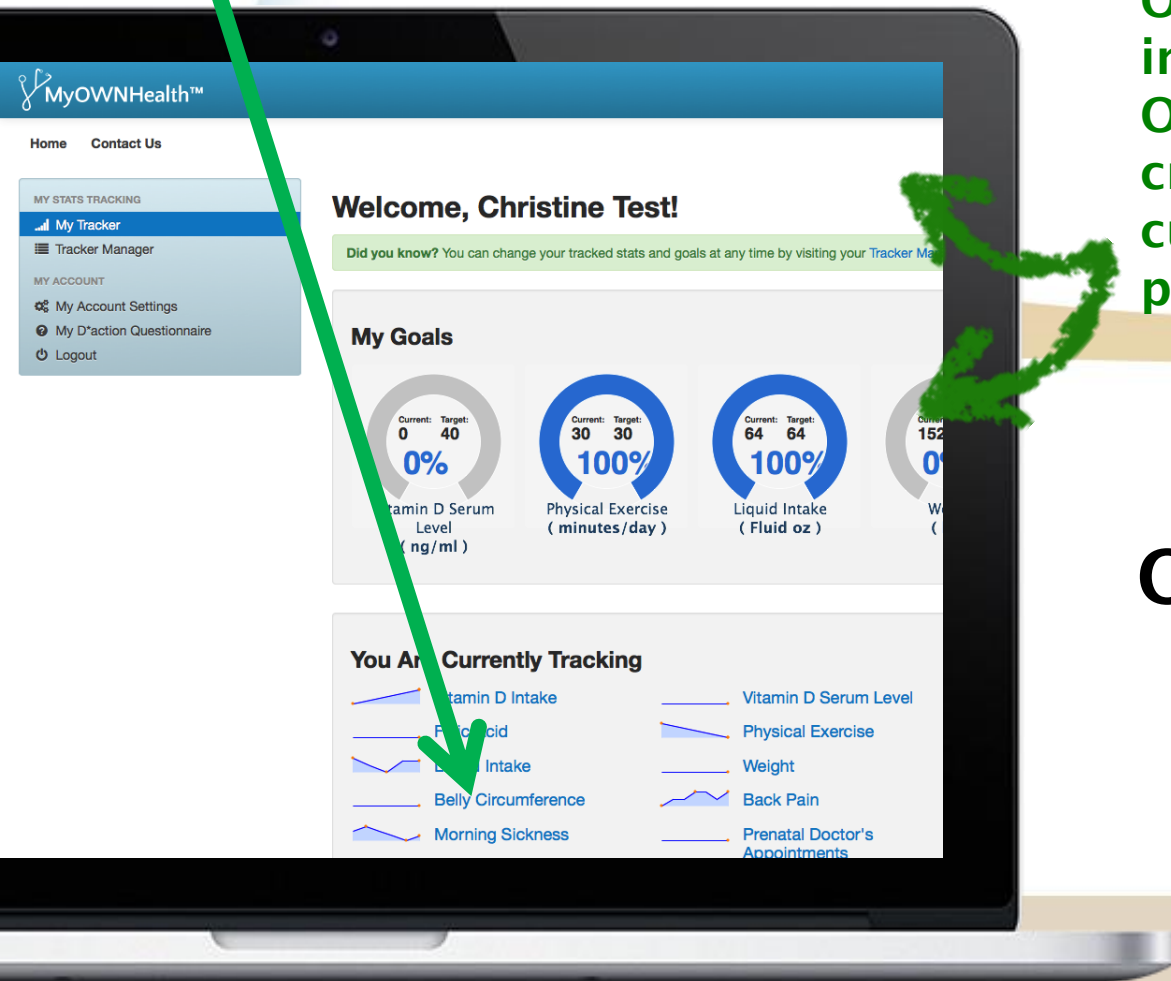
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Belly Circumference

Online system allows individuals to track their OWN health stats and create their OWN, customized wellness programs



Online enrollment (internet) based





Education

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Vitamin D & Kidney Stones Webinar w/ Dr. Cedric Garland



Breast Cancer Prevention With Vitamin D Dr. JoEllen Welsh



Vitamin D & Policy Creation Webinar Dr. Reinhold Vieth

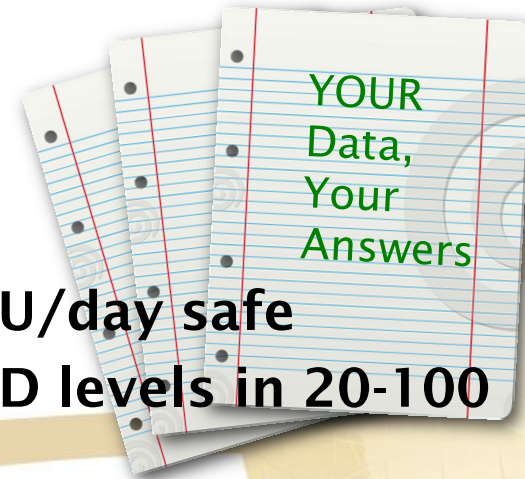




Analysis

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YOUR DATA, YOUR ANSWERS Published Papers

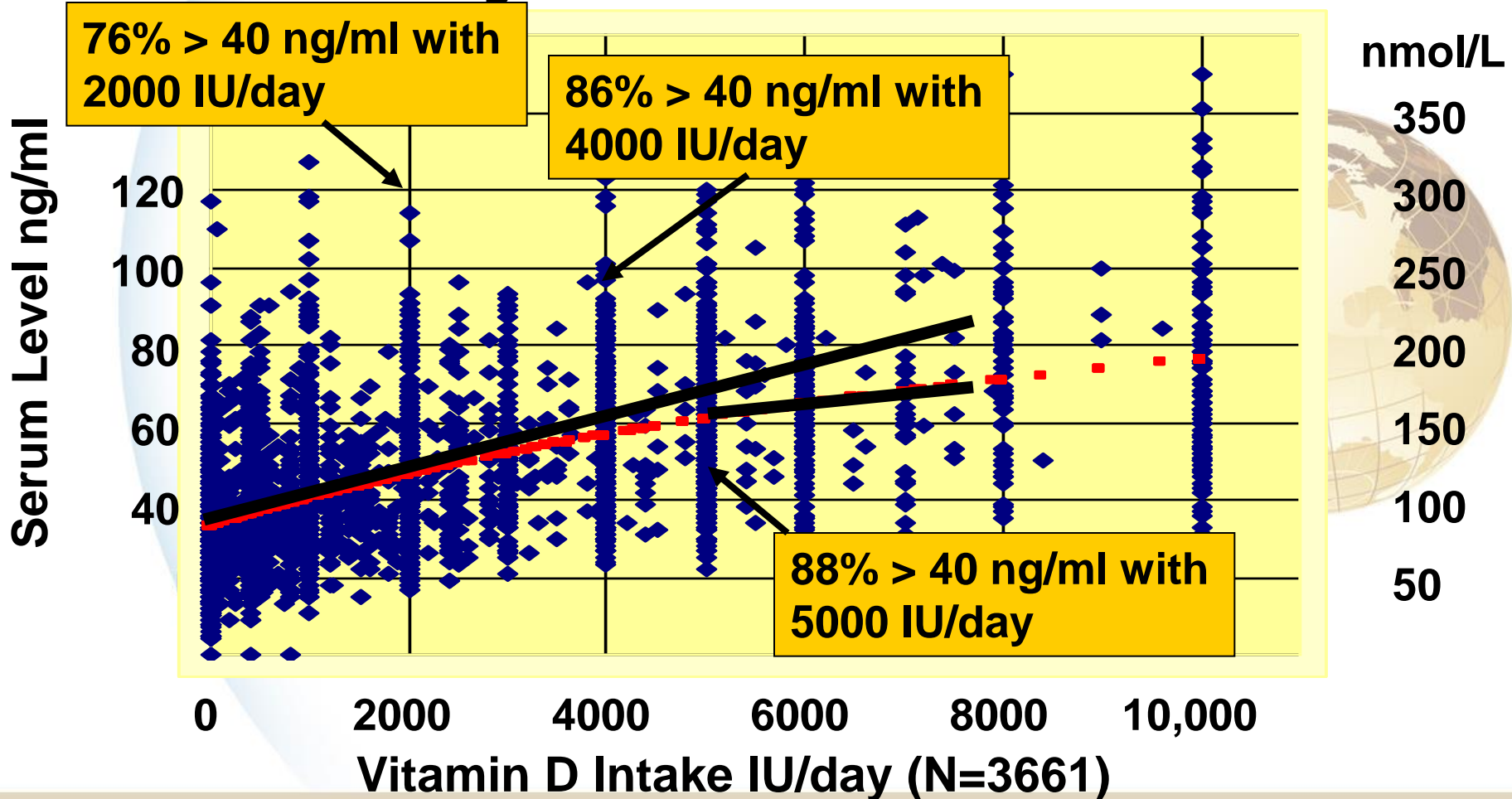


- Vitamin D Dose Response; 10,000 IU/day safe
- Kidney Stones *not* associated with D levels in 20-100 ng/ml (50-250 nmol/L) range
- Quantifying the non-food sources of basal vitamin D input; Quantifying food sources
- Upcoming:
 - Diabetes Prevention with Vitamin D
 - Preterm birth prevention with Vitamin D (with the Protect our Children NOW! project)



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D*action Project: Serum Level vs Intake





Moving Research into Practice
Design through Implementation

Breast Cancer Prevention Project

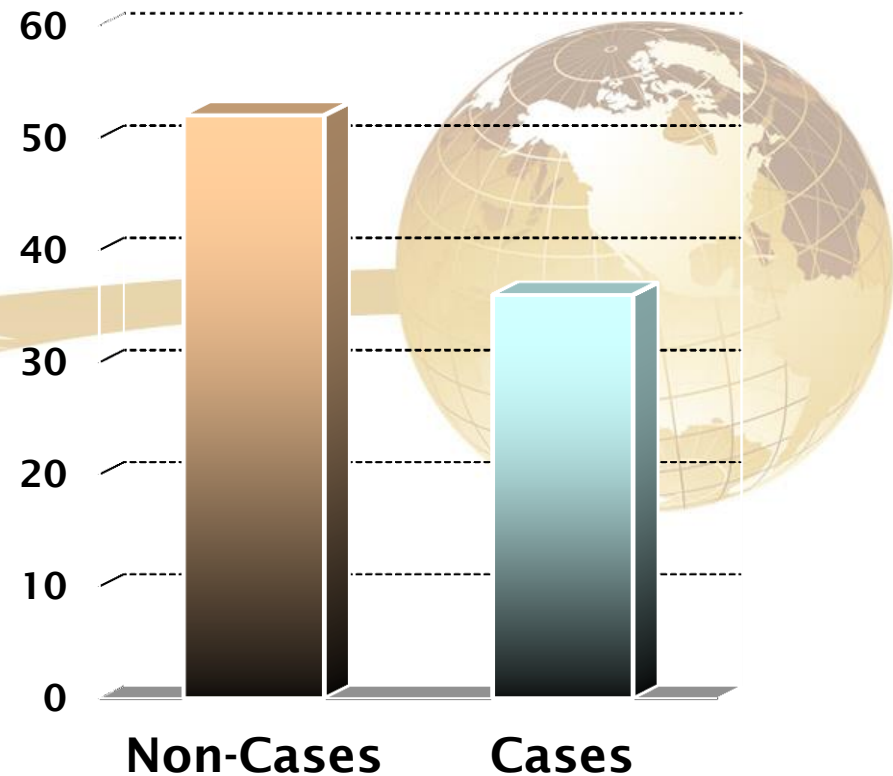
1238 non-cases

➤ **52 ng/ml (130 nmol/L)**

5 cases

➤ **36 ng/ml (90 nmol/L)**

**3 years to date
(5 year project)**





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Breast Cancer Prevention Project

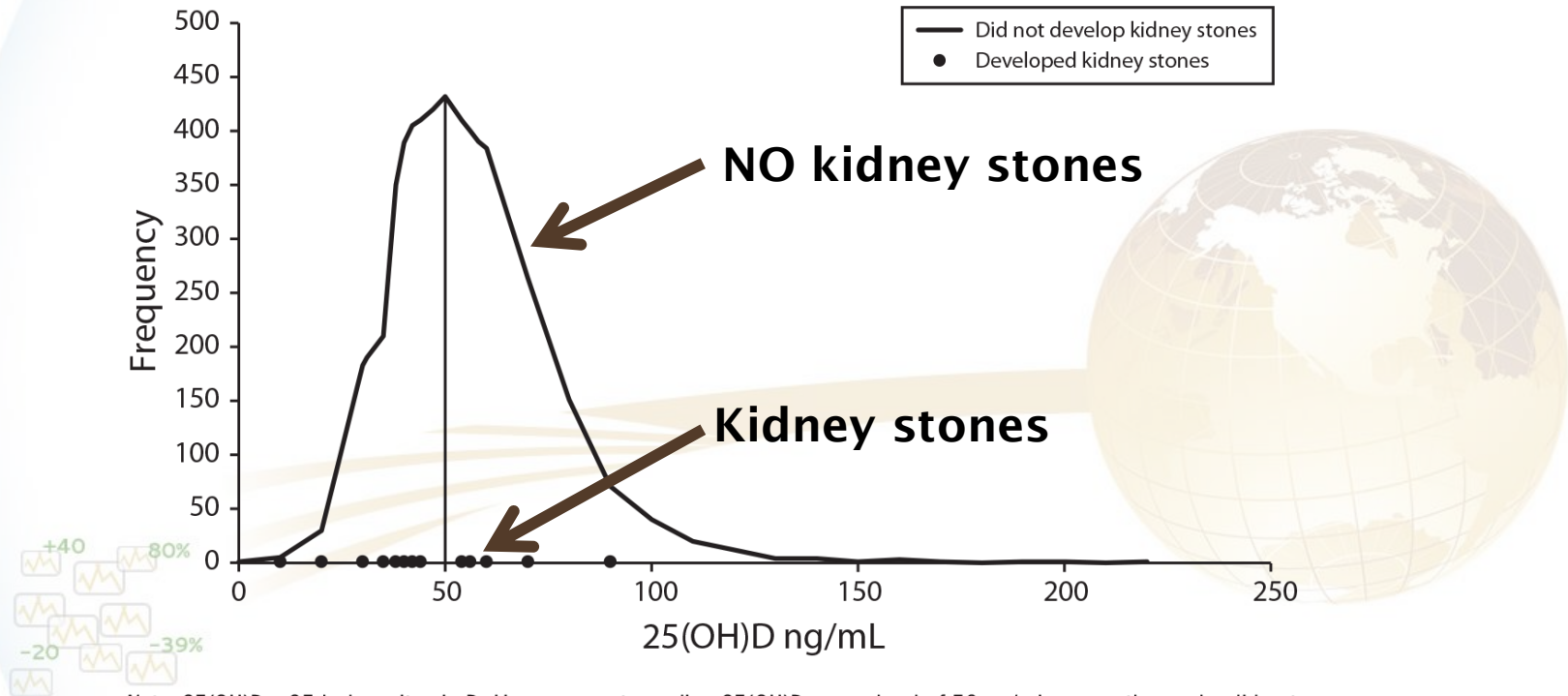
“The findings of our pilot study are enough to inform the medical community that the serum 25(OH)D concentration should be 40-60 ng/ml (100-150 nmol/L) in women of all ages, and that the need is urgent.”

Cedric F. Garland, Dr. P.H.
Moore's Cancer Center



Analysis

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Note. 25(OH)D = 25-hydroxyvitamin D. Line represents median 25(OH)D serum level of 50 ng/mL among those who did not develop kidney stones. We excluded an outlier of a participant who did not develop a kidney stone (397 ng/mL). A recommendation to consult with a physician was sent to the participant. The sample size was n = 2012.

FIGURE 1—Frequency distribution of 25(OH)D among participants who developed or did not develop kidney stones: GrassrootsHealth cohort, 2009–2012.



Promotion

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- **Press Releases**
- **Seminars**
- **Webinars**
- **Personal visits with major groups and individuals**





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Process thoroughly tested



- **Over 40 key scientists enlisted**
 - **Tested on over 10,000 participants**
 - **READY to be IMPLEMENTED**
- in a Community Setting**

Start NOW!

PROTECT
OUR CHILDREN NOW!



HOW to ACT to PREVENT PRE-TERM BIRTHS+

With a Community ACTION group of 500+ Pregnant Women



THIS YEAR
(2013-2014)



Who Will TAKE THE RESULTS and **CREATE** PUBLIC HEALTH ACTION!



**SHARE this
INFO!**



PROJECT Components

- 500 pregnant women – a community



- Test, supplement, re-test (3 times) during pregnancy
- Test infant
- Women TRACK their results, share
- PUBLISH RESULTS—25 Potential, \$1.3MM
- Create PUBLIC ACTION *NOW*

Community Steps

- **Scientist**
- **Politician**
- **Media**
- **Signup groups to participate (e.g., community centers, employees of hospital, businesses)**
- **Meet with private funding groups, individuals to secure local funding**
- **START!**



SUCCESS!



Acknowledgments

- **Robert P. Heaney, MD, Research Director, Co-Investigator**
- **Carol L. Wagner, MD, Principal Investigator**
- **Cedric F. Garland, Dr. P.H., Principal Investigator**
- **Leo L. Baggerly, Ph.D., Sr. Researcher**