

University of California Scientists Panel

**University of California Davis**

Bruce D. Hammock, Ph.D.  
Hari A. Reddy, Ph.D.  
Ray Rodriguez, Ph.D.

**University of California Los Angeles**

John Adams, M.D.  
Martin Hewison, Ph.D.  
H. Phillip Koeffler, M.D.  
Keith C. Norris, M.D.

**University of California Riverside**

Mathew Mizwicki, Ph.D.  
Anthony W. Norman, Ph.D.  
Laura P. Zanello, Ph.D.

**University of California San Diego**

Richard L. Gallo, M.D., Ph.D.  
Cedric F. Garland, Dr. P.H.  
Frank C. Garland, Ph.D.  
Edward D. Gorham, Ph.D.  
Tissa Hata, M.D.

**University of California San Francisco**

David Gardner, M.S., M.D.  
Bernard P. Halloran, Ph.D.

National Scientists Panel

John J. Cannell, M.D.  
Atascadero State Hospital  
Cedric F. Garland, Dr. P.H.  
University of California San Diego  
Frank C. Garland, Ph.D.  
University of California San Diego  
Edward Giovannucci, M.D., ScD.  
Harvard School of Public Health  
Edward D. Gorham, M.P.H., Ph.D.  
University of California San Diego  
William B. Grant, Ph.D.  
Sunlight, Nutrition and Health  
Research Center  
John Hathcock, PhD.  
Council for Responsible Nutrition  
Robert P. Heaney, M.D.  
Creighton University  
Michael F. Holick, Ph.D., M.D.  
Boston University School of Medicine  
Bruce W. Hollis, Ph.D.  
Medical University of South Carolina  
Candace Johnson, Ph.D.  
Roswell Park Cancer Institute  
Joan M. Lappe, Ph.D., R.N.  
Creighton University  
Anthony W. Norman, Ph.D.  
University of California Riverside  
Donald L. Trump, M.D.  
Roswell Park Cancer Institute  
Reinhold Veith, Ph.D.  
University of Toronto, Mt Sinai Hospital  
Walter C. Willett, Dr. P.H., M.D.  
Harvard School of Public Health

## The Vitamin D Deficiency Epidemic A Call to D\*action

40-60% of the entire US population is vitamin D deficient.

The causal link between severe vitamin D deficiency and rickets or the bone disease of osteomalacia is overwhelming, while the link between vitamin D insufficiency and osteoporosis with associated decreased muscle strength and increased risk of falls in osteoporotic humans is well documented by evidence-based intervention studies

There are newly appreciated associations between vitamin D insufficiency and many other diseases, including tuberculosis, psoriasis, multiple sclerosis, inflammatory bowel disease, type-1 diabetes, high blood pressure, increased heart failure, muscle myopathy, breast and other cancers which are believed to be linked to the non-calcemic actions of the parent vitamin D and its daughter steroid hormone. However a causal link has yet to be proven by appropriate vitamin D intervention studies.

It is projected that the incidence of many of these diseases could be reduced by 20%-50% or more, if the occurrence of vitamin D deficiency and insufficiency were eradicated by increasing vitamin D intakes. The appropriate intake of vitamin D required to effect a significant disease reduction depends on the individual's age, race, lifestyle, and latitude of residence. New evidence indicates that the intake should be in the range of 2000 IU per day for adults. Intake of 2000 IU/day is the current upper limit of the National Academy of Sciences, Institute of Medicine, Food and Nutrition Board.

It is well documented that the darker the skin, the greater the probability of a vitamin D deficiency. Even in southern Arizona, 55% of African Americans and 22% of Caucasians are deficient.

The COST to our society of vitamin D deficiency is \$100-\$200 billion dollars a year.

A Scientists' Call to Action has been issued to alert the public to the importance to have vitamin D serum levels between 40 and 60 nanograms/milliliter to prevent these diseases. Implementing this level is safe and inexpensive.

The benefit of an adequate vitamin D level to each individual will be better overall health and a reduction in illnesses and, ultimately, a significant reduction in health care costs. The benefit of adequate vitamin D levels to society/businesses is a more productive workforce and, lower health care costs.

The D\*action project has as its purpose to serve as a model for public health action on vitamin D. It is a test bed for techniques, and for providing outcome evaluation at a community level.

University of California Scientists Panel

**University of California Davis**

Bruce D. Hammock, Ph.D.  
Hari A. Reddy, Ph.D.  
Ray Rodriguez, Ph.D.

**University of California Los Angeles**

John Adams, M.D.  
Martin Hewison, Ph.D.  
H. Phillip Koeffler, M.D.  
Keith C. Norris, M.D.

**University of California Riverside**

Mathew Mizwicki, Ph.D.  
Anthony W. Norman, Ph.D.  
Laura P. Zanello, Ph.D.

**University of California San Diego**

Richard L. Gallo, M.D., Ph.D.  
Cedric F. Garland, Dr. P.H.  
Frank C. Garland, Ph.D.  
Edward D. Gorham, Ph.D.  
Tissa Hata, M.D.

**University of California San Francisco**

David Gardner, M.S., M.D.  
Bernard P. Halloran, Ph.D.

National Scientists Panel

John J. Cannell, M.D.  
Atascadero State Hospital  
Cedric F. Garland, Dr. P.H.  
University of California San Diego  
Frank C. Garland, Ph.D.  
University of California San Diego  
Edward Giovannucci, M.D., ScD.  
Harvard School of Public Health  
Edward D. Gorham, M.P.H., Ph.D.  
University of California San Diego  
William B. Grant, Ph.D.  
Sunlight, Nutrition and Health  
Research Center  
John Hathcock, PhD.  
Council for Responsible Nutrition  
Robert P. Heaney, M.D.  
Creighton University  
Michael F. Holick, Ph.D., M.D.  
Boston University School of Medicine  
Bruce W. Hollis, Ph.D.  
Medical University of South Carolina  
Candace Johnson, Ph.D.  
Roswell Park Cancer Institute  
Joan M. Lappe, Ph.D., R.N.  
Creighton University  
Anthony W. Norman, Ph.D.  
University of California Riverside  
Donald L. Trump, M.D.  
Roswell Park Cancer Institute  
Reinhold Veith, Ph.D.  
University of Toronto, Mt Sinai Hospital  
Walter C. Willett, Dr. P.H., M.D.  
Harvard School of Public Health

**The D\*action Community Project**

Major Goals Include PREVENTING at least 20% - 50% of  
Breast Cancer  
Colon Cancer  
Type 1 Diabetes  
Cardiovascular Diseases  
within 5 years!

Our goal for 2008-2009 is to form a D\*action Community  
in each of 3 major community areas, including  
San Diego County.

**D\*action Communities will have major public health activities:**

- 'Diagnosing & Treating the Vitamin D Deficiency' Seminars through UCSD's School of Medicine (two annually) to educate health care professionals.
- Monthly presentations within the community to 'train the trainers' in the community to help spread the word. Vitamin D testing will be done at each presentation.
- A five year program with 2000 people in the community to evaluate the results of the program in disease prevention and the creation of a long-term plan of action for the community.

Help put disease prevention at the forefront of public awareness.  
A contribution of \$245 supports 1 Daction messenger for 1 year;  
\$1225 covers a full 5 years of helping get this message out to everyone.

**Join us!**

Get your vitamin D level tested.  
Learn what you can do to solve this problem!  
<http://www.grassrootshealth.org/daction/signup.php>