Clerk

- House Bill No. 1328 -
- PRESENTER: PATRICK W. FISHER, BISMARCK, ND (WILL BE PRESENT AT HEARING TO GIVE TESTIMONY)
- Mr. Chairman and Members of the committee my name is Patrick W Fisher, Bismarck ND. I'm here today to speak in favor of passing House Bill 1328.
- My interest in vitamin D and the immune system began about 17 years ago. I was fascinated by it and I have pursued the subject ever since.
- in January of 2007 I had my first vitamin D test and a second vitamin D test in April of 2009. Both tests were covered under Medicare without objection.
- In April of 2009 I enrolled in a vitamin D study being conducted by a group called Grassroots Health. It is located near the campus of the University of California-San Diego. In this study participants do vitamin D tests every six months and those test are paid for by the

participants, so no insurance coverage issues are involved. Attached is a history of my personal vitamin D testing.

- On December 9th and 10th, 2014, I attended a vitamin D seminar (certified for 12 CMA credits) sponsored by the UC San Diego School of Medicine and Grassroots Health at La Jolla, CA.
- In 2009 I became aware of a doctor in Milwaukee who was very active in promoting the use of vitamin D in patients admitted to Mount Sinai Hospital in Milwaukee WI. He was director of admissions in that hospital.
- In one of our conversations he told me that he had found a study done by a group which had studied vitamin D deficiency among veterans who were receiving health care from the Veterans Administration facilities. The name of the paper is *The Relationship of Vitamin D Deficiency to Health Care Costs in Veterans,* Alan N. Peiris, et al., Military Medicine, 173, 12:1214, 2008. The focus of the research was comparing the cost of care in vitamin D deficient versus non-deficient patients. I was interested

in this as I thought the data would provide insight into the nursing home population.

- 40% of the Veteran participants were vitamin D deficient, defined as under 20 ng/mL. Overall medical expenses were 39% higher in the vitamin D deficient group compared to those with levels above 20 ng/mL. Awareness of the benefits of correcting vitamin D deficiency spread and the amount of testing for vitamin D level increased.
- Government regulations were then changed to limit vitamin D testing in Government health plans to certain specific conditions.
- Current public health insurance plans will pay for blood tests to determine cholesterol level without an existing disease. Many Insurance plans will not pay for blood tests to determine vitamin D level unless a current disease associated with vitamin D deficiency is claimed to exist. This distinction is illogical and unscientific. Both tests are necessary to supply information indicating the presence of conditions that may cause or permit

disease to occur or, as to vitamin D, to assure the immune system has what it needs to provide a robust response to pathogen attack.

- Not applying existing science to practice has health consequences, such as the deaths we see with Covid, and is extremely costly in many ways beyond healthcare costs.
- **According to current information hospitalized Covid patients are NOT being tested to determine their Vitamin D levels. This results in a failure to diagnose and treat a significant condition that then causes the need for ICU care, ventilation, and staffing chaos, not to mention needless death. (**See: *Over 200 Scientists & Doctors Call For Increased Vitamin D Use To Combat COVID-19,* copy provided. THIS IS A HIGH PRIORITY READ***).***
- Insurance companies negotiate laboratory fees down to a tiny fraction of what an individual would be charged.

- HB 1328 would facilitate including vitamin D testing in Employer healthcare programs, eldercare facilities, State employee plans and more.
- HB 1328 will remove a barrier that effectively deprives many from obtaining a necessary diagnostic tool which in turn will deprive them of a robust immune system and a **scientifically proven beneficial defense against viral, bacterial, fungal and other pathogens.**
- A South Dakota Medical School 2012 study found seventy-five percent of healthy working adults, 63 percent of nursing home residents and 83 percent of maternity patients had serum calcidiol levels (vitamin D) below 32 ng/mL. Mean levels were 26.4 ng/mL, 28.8 ng/mL, and 20.7 ng/mL, respectively. This is consistent with North Dakota data.
- I urge the passage of HB1328

- Personal History of presenter's Vitamin D tests.

TEST DATE	IU per DAY PRIOR TO TEST*	D3 (ng/mL) 25(OH)D	Lab ref range ng/mL	COMMENTS, Lab
1/16/2007	2,400 IU previous 4 yrs	34	32-100. Recom.Opt. Range 40-60 ng/mL	Altru test-Mayo
4/1/2009	4,500	48	"	Altru test-Mayo
4/9/2009	4,500	46	"	Daction-ZRT
11/17/2009	4,500	50	"	Daction-ZRT
5/27/2010	4,500	39	"	Daction-ZRT
11/16/2010	6,500	48	"	Daction-ZRT
5/17/2011	6,500	43	"	Daction-ZRT
11/23/2011	4,500	51	"	Daction-ZRT
4/20/2012	6,500	46	"	Daction-ZRT
11/6/2012	4,500	41	"	Daction-ZRT
4/23/2013	8,500	71	"	Daction-ZRT
11/7/2013	5,000	54	"	Daction-ZRT
3/20/2014	6,000	58	"	Daction-ZRT
10/10/2014	6,000	55	"	Daction-ZRT
3/27/2015	6,000	57	"	Daction-ZRT
12/2/2015	5,500	55	"	Daction-ZRT
4/22/2016	5,500	59	"	Daction-ZRT
11/8/2016	5,500	50	"	Daction-ZRT
4/11/2017	7,000	59	"	Daction-ZRT
9/13/2017	5,500	51	"	Daction-ZRT
3/26/2018	7,200	64	"	Daction-ZRT
9/13/2018	5,000	55	"	Daction-ZRT
12/20/2018	6,000	61	"	Daction-ZRT
5/20/2019	6,000	67	"	Daction-ZRT
11/5/2019	5,000	54	"	Daction-ZRT
4/28/2020	5,700	67	"	Daction-ZRT
10/17/20	5,700	63	"	Daction-ZRT

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#VitaminDforAll

PDF version

Over 100 Scientists, Doctors, & Leading Authorities Call For Increased Vitamin D Use To Combat COVID-19

Scientific evidence indicates vitamin D reduces infections & deaths

Dec 7, 2020

To all governments, public health officials, doctors, and healthcare workers,
Research shows low vitamin D levels almost certainly promote COVID-19 infections, hospitalizations, and deaths. Given its safety, **we call for immediate widespread increased vitamin D intakes.**
Vitamin D modulates thousands of genes and many aspects of immune function, both innate and adaptive. The scientific evidence[1] shows that:

- Higher vitamin D blood levels are associated with lower rates of SARS-CoV-2 infection.
- Higher D levels are associated with lower risk of a severe case (hospitalization, ICU, or death).
- Intervention studies (including RCTs) indicate that vitamin D can be a very effective treatment.
- Many papers reveal several biological mechanisms by which vitamin D influences COVID-19.
- Causal inference modelling, Hill's criteria, the intervention studies & the biological mechanisms indicate that **vitamin D's influence on COVID-19 is very likely causal**, not just correlation.

Vitamin D is well known to be essential, but most people do not get enough. Two common definitions of inadequacy are deficiency < 20ng/ml (50nmol/L), the target of most governmental organizations, and insufficiency < 30ng/ml (75nmol/L), the target of several medical societies & experts.[2] Too many people have levels below these targets. **Rates of vitamin D deficiency <20ng/ml exceed 33% of the population in most of the world, and most estimates of insufficiency <30ng/ml are well over 50% (but much higher in many countries).**[3] Rates are even higher in winter, and several groups have notably worse deficiency: the overweight, those with dark skin (especially far from the equator), and care home residents. These same groups face increased COVID-19 risk.
It has been shown that 3875 IU (97mcg) daily is required for 97.5% of people to reach 20ng/ml, and 6200 IU (155mcg) for 30ng/ml,[4] intakes far above all national guidelines. Unfortunately, the report that set the US RDA included an admitted statistical error in

which required intake was calculated to be ~10x too low.[4] Numerous calls in the academic literature to raise official recommended intakes had not yet resulted in increases by the time SARS-CoV-2 arrived. Now, many papers indicate that vitamin D affects COVID-19 more strongly than most other health conditions, with increased risk at levels < 30ng/ml (75nmol/L) and severely greater risk < 20ng/ml (50nmol/L).[1]

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[1] The evidence was comprehensively reviewed (188 papers) through mid-June [Benskin '20] & more recent publications are increasingly compelling [Merzon et al '20; Kaufman et al '20; Castillo et al '20]. (See also [Jungreis & Kellis '20] for deeper analysis of Castillo et al's RCT results.)

[2] E.g.: 20ng/ml: National Academy of Medicine (US, Canada), European Food Safety Authority, Germany, Austria, Switzerland, Nordic Countries, Australia, New Zealand, & consensus of 11 international organizations. 30ng/ml: Endocrine Society, American Geriatrics Soc., & consensus of scientific experts. See also [Bouillon '17].

[3] [Palacios & Gonzalez '14; Cashman et al '16; van Schoor & Lips '17] Applies to China, India, Europe, US, etc.

[4] [Heaney et al '15; Veugelers & Ekwaru '14]

Evidence to date suggests the possibility that the COVID-19 pandemic sustains itself in large part through infection of those with low vitamin D, and that deaths are concentrated largely in those with deficiency. The mere possibility that this is so should compel urgent gathering of more vitamin D data. Even without more data, **the preponderance of evidence indicates that increased vitamin D would help reduce infections, hospitalizations, ICU admissions, & deaths.**

Decades of safety data show that vitamin D has very low risk: Toxicity would be extremely rare with the recommendations here. The risk of insufficient levels far outweighs any risk from levels that seem to provide most of the protection against COVID-19, and this is notably different from drugs & vaccines. Vitamin D is much safer than steroids, such as dexamethasone, the most widely accepted treatment to have also demonstrated a large COVID-19 benefit. Vitamin D's safety is more like that of face masks. **There is no need to wait for further clinical trials to increase use of something so safe, especially when remedying high rates of deficiency/insufficiency should already be a priority.**

Therefore, we call on all governments, doctors, and healthcare workers worldwide to immediately recommend and implement efforts appropriate to their adult populations to increase vitamin D, at least until the end of the pandemic. Specifically to:

1. Recommend amounts from all sources sufficient to **achieve 25(OH)D serum levels over 30ng/ml (75nmol/L)**, a widely endorsed minimum with evidence of reduced COVID-19 risk.
2. Recommend to adults **vitamin D intake of 4000 IU (100mcg) daily** (or at least 2000 IU) in the absence of testing. 4000 IU is widely regarded as safe.[5]
3. Recommend that adults at increased risk of deficiency due to excess weight, dark skin, or living in care homes may need higher intakes (eg, 2x). Testing can help to avoid levels too low or high.

4. Recommend that adults not already receiving the above amounts get 10,000 IU (250mcg) daily for 2-3 weeks (or until achieving 30ng/ml if testing), followed by the daily amount above. This practice is widely regarded as safe. The body can synthesize more than this from sunlight under the right conditions (e.g., a summer day at the beach). Also, the NAM (US) and EFSA (Europe) both label this a "No Observed Adverse Effect Level" even as a daily maintenance intake.
5. **Measure 25(OH)D levels of all hospitalized COVID-19 patients** & treat w/ calcifediol or D3, to at least remedy insufficiency <30ng/ml (75nmol/L), possibly with a protocol along the lines of Castillo et al '20 or Rastogi et al '20, until evidence supports a better protocol.

Many factors are known to predispose individuals to higher risk from exposure to SARS-CoV-2, such as age, being male, comorbidities, etc., but **inadequate vitamin D is by far the most easily and quickly modifiable risk factor with abundant evidence to support a large effect**. Vitamin D is inexpensive and has negligible risk compared to the considerable risk of COVID-19.
Please Act Immediately

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[5] The following include 4000 IU within their tolerable intakes in official guidelines: NAM (US, Canada), SACN (UK), EFSA (Europe), Endocrine Society (international), Nordic countries, Netherlands, Australia & New Zealand, UAE, and the American Geriatrics Soc. (USA, elderly). No major agency specifies a lower tolerable intake limit. The US NAM said 4000 IU "is likely to pose no risk of adverse health effects to almost all individuals." See also [Giustina et al '20].

Residents of the USA: Text "Go VitaminDforAll" to 50409 to send this letter to your state's governor (free).
The signatories below endorse this letter. Affiliations do not imply endorsement of the letter by the institutions themselves.
This letter takes no position on other public health measures besides vitamin D.
Personal views of individual signatories on any other matter do not represent the group as a whole.
All signatories declare no conflicts of interest except as noted.
To emphasize: **The organizing signatories have no conflicts of interest in this area (financial or otherwise)**, nor have they done research in this area prior to 2020.

Signatories (135)	recom-mended intake	personal daily intake
Dr. Karl Pfleger, PhD AI & Computer Science, Stanford. Former Google Data Scientist. Biotechnology Investor, AgingBiotech.info, San Francisco, CA, USA. (organizing signatory)	4000 IU	6000 IU
Dr. Gareth Davies, PhD Medical Physics, Imperial College, London, UK. Codex World's Top 50 Innovator 2019. Independent Researcher. Lead	4000 IU	5000 IU

author of "Evidence Supports a Causal Role for Vitamin D Status in COVID-19 Outcomes." (organizing signatory)		
Dr. Bruce W Hollis, PhD. Professor of Pediatrics, Medical University of South Carolina, USA.	4000 IU	6000 IU
Dr. Barbara J Boucher, MD, FRCP (London). Honorary Professor (Medicine), Blizard Institute, Bart's & The London School of Medicine and Dentistry, Queen Mary University of London, UK. (significantly contributing signatory)	4000 IU	2000 IU
Dr. Ashley Grossman, MD FRCP FMedSci. Emeritus Professor of Endocrinology, University of Oxford, UK. Professor of Neuroendocrinology, Barts and the London School of Medicine. 2020 Endocrine Society Laureate Award.	2000 IU	2200 IU
Dr. Gerry Schwalfenberg, MD, CCFP, FCFP. Assistant Clinical Professor in Family Medicine, University of Alberta, Canada.	4000 IU	5000 IU
Dr. Giovanna Muscogiuri, MD PhD. Associate Editor, European Journal of Clinical Nutrition. Department of Clinical Medicine and Surgery, Section of Endocrinology, University "Federico II" of Naples, Naples, Italy..	4000 IU	1000 IU
Dr. Michael F. Holick, PhD MD. Professor Medicine, Physiology and Biophysics and Molecular Medicine, Director Vitamin D, Skin and Bone Research Laboratory, Boston University Medical Center, USA. (6000 IU) Disclosure: Consultant Biogena and speaker's Bureau Abbott Inc.	4000 IU	6000 IU
Dr. John Umhau, MD, MPH. CDR, USPHS (ret). President, Academy of Medicine of Washington, DC, USA. Ex-NIH: co-author of the first peer-reviewed report linking vitamin D deficiency with acute respiratory infection. (significantly contributing signatory)	4000 IU	5000 IU
Dr. Pawel Pludowski, MD, dr hab. Associate Professor, Biochemistry, Radioimmunology and Experimental Medicine, Children's Memorial Health Institute, Warsaw, Poland. Chair, European Vitamin D Association (EVIDAS) [non-profit].	4000 IU	2000 IU
Dr. Cedric F. Garland, DrPH. Professor Emeritus, Department of Family Medicine and Public Health, University of California, San Diego, USA.	4000 IU	6000 IU
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