Reviewer's report

Title: Variation in Vitamin D Supplementation Among Adults in a Multi-Race/Ethnic Health Plan Population, 2008

Version: 1 Date: 25 June 2012

Reviewer: erin LeBlanc

Reviewer's report:

When assessing the work, please consider the following points:

1. Is the question posed by the authors new and well defined? The question is well defined. It is more updated data than previous data on this question.
2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work? The methods are appropriate and well described.
3. Are the data sound and well controlled? Data appear sound with appropriate controls.
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? The manuscript appears to relevant standards for reporting.
5. Are the discussion and conclusions well balanced and adequately supported by the data? I would suggest that the conclusions and discussion need to be modified in their tone and more in line with the IOM and USPSTF recent recommendations. The IOM stated that most people do not need supplementation but the tone of the conclusions seemed to suggest to me that the authors felt that not enough people are on supplementation. Without vitamin D levels and/or dietary information about Vitamin D intake I do not believe that the authors can make the conclusion that more supplementation is necessary for all people. I think the data are important to show how many people take supplements but I don’t think this data should be translated to a need for more supplementation among all persons. There are individuals more at risk of Vitamin D deficiency—those with obesity, darker skin pigmentation, malabsorption, etc where some professional societies (Endocrine Society Task Force report) recommend higher vitamin D supplementation. I think this article should focus on the decreased supplementation use among these higher risk groups (higher skin pigmentation and obesity) compared to other groups as an interesting conclusion of importance.
6. Do the title and abstract accurately convey what has been found? I think this conclusion in abstract should be modified as described above.
7. Is the writing acceptable? Yes, it is clearly written.

REVISIONS SUGGESTED:
I would recommend a revision to the conclusions of the abstract and paper. I think it would be best to just conclude how much supplementation is being used in the population, especially among those with different characteristics. I would not put so much emphasis on whether this means more people need supplementation. The IOM said that most don’t need supplementation so it seems to be inconsistent for these authors to suggest that most people (when many took supplements of some kind) need to take supplements.

4th line of background needs to be updated with USPTF recent conclusions that Vitamin D does not prevent fractures at low doses and inconclusive at higher doses.

2nd paragraph, 4th line of background on referencing levels of deficiency, Insufficiency and sufficiency I would recommend referencing the Endocrine society’s task force report which clearly states these levels.

2nd paragraph 3rd to last line—these are not recent studies so don’t fit with this sentence. I would recommend referencing the Endocrine Society Task Force report.

4th paragraph of background please specify what you mean by recommended daily intake—please give a IU amount.

5th paragraph of background—I don’t think the discussion of D3 vs D2 fits here very well—I don’t think this is necessary for this paper and is a bit distracting.

I can’t agree that people getting Vitamin D from just one source were not likely meeting IOM recommendations. The IOM stated that most people got 600 IU and didn’t need supplements. I don’t believe we can determine whether 1 or 2 supplements meets Vitamin D needs without knowing the number of days taken, the dietary vitamin D, sun exposure…I think it would be best to just describing whether people got 1 or 2 supplements and not make too many conclusions about total amount of Vitamin D.

Statistical analysis: First sentence was a bit confusing—can you clarify whether there was a difference by age or not.

First line of discussion is not c/w IOM report. Please cite literature stating these facts.

For toxicity dosages, I would use 4000 IU as the UL suggested by IOM and Endocrine Society Task Force.

Figure 1b: I am a bit confused how the Age 51-85 has such a higher prevalence of Vitamin D use because the numbers when broken down by ethnicity do not suggest such a difference. Can you confirm these numbers are correct.

- Minor Essential Revisions

Methods abstract: Would reword first sentence to …from a 2008 general health survey…in a large Northern California health plan…
I found it hard to tell the different colors in the figure

- Discretionary Revisions

I think it would be very interesting to know if obese, diabetic and hypertensive populations took statistically less Vitamin D than populations without those conditions. I think this is a potentially very interesting conclusion as those who are obese may need more Vitamin D and higher supplementation and tend to have lower levels. See the endocrine society task force report about these recommendations for those at risk of vitamin D deficiency.

Assessment of the manuscript, what do you advise should be the next step?

Overall, I think this is a very interesting, well written, and well thought out paper. I just think the conclusions need a bit of modification in tone so that more consistent with different recommendations currently out there—or better referenced or described to show which recommendations they are discussing.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

- Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? NO
- Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future? NO
- Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? NO
- Do you have any other financial competing interests? NO
- Do you have any non-financial competing interests in relation to this paper?

Dr. LeBlanc received grant funding from the following pharmaceutical companies. They do not represent a financial competing interest.

Sanofi #EFC11319 Elder (PI) 12/1–11/15
Sanofi-Aventis
Lixisenatide as an add-on to Standard-of-Care Treatment in Type 2 Diabetic Patients after an Acute Coronary Syndrome

A randomized, double-blind, placebo-controlled, parallel-group, multicenter study to evaluate cardiovascular outcomes during treatment with lixisenatide in type 2 diabetic patients after an Acute Coronary Syndrome event

Role: Co-Investigator

LeBlanc (PI) 04/12–09/13
Amgen, Inc

Risk Factors Associated with Fractures during Bisphophonate Therapy (Bisphosphonates FX)

Examines the association between patient characteristics and fracture risk in those in bisphosphonates.

Role: Principal Investigator