

## **Author's response to reviews**

**Title:** Physicians and Nurses Use and Recommend Dietary Supplements: Report of a Survey

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June 5, 2009

TO: Nutrition Journal and reviewers

FROM: Annette Dickinson, Nicolas Boyon, and Andrew Shao

SUBJECT: Response to reviewers of submitted article on survey of physicians' and nurses' usage and recommendation of dietary supplements.

We greatly appreciate the thoughtfulness of the reviewers' comments on our submitted manuscript, and we hereby provide a table showing our response. We believe the resulting amended manuscript is substantially improved by these changes.

REVIEWER COMMENT	RESPONSE
<b>COMMENTS BY BLOCK</b>	
Overall concern: possible nonrepresentativeness of the sample	Discussed as part of response to specific comments, below.
p. 3, last sentence. Careful about overstating positive research on specialty supplements.	Change sentence to say "have been found in many studies to improve joint health."
p. 5, nature of All Global Panel. Who uses it? Age distribution? Time since they got their MD? Skewed toward younger doctors or women? Why selection on basis of not being affiliated with market research company?	Modify to read: "The All Global online panel is comprised of physicians, nurses and other healthcare professionals recruited by telephone to serve on a standing panel designed and used exclusively by All Global for market research studies. For a fee paid to All Global, companies (mostly pharmaceutical companies and market research firms such as Ipsos) can obtain access to the panel in order to invite physicians and/or nurses who have "opted into" the panel to participate in a survey on a specific topic. The overall panel includes more than 200,000 participants from the U.S. and Europe. Samples drawn from the panel can be designed to reflect the demographics of the U.S. population of physicians and nurses (or a subset of that population, e.g., specific specialists) as reported by the Medical Marketing Service

	<p>for the American Medical Association and the National Sample Survey of Registered Nurses. To protect against conflicts of interest, subjects included in our sample drawn from the All Global panel may not be affiliated with a market research company or advertising agency, a medical education company, or a pharmaceutical or dietary supplement company.”</p> <p>For the information of the reviewers, we also attach some tables comparing the age distribution of our sample with the universe of physicians and nurses, although it is our recommendation to omit this level of detail in the manuscript itself.</p>
<p>p. 5 and following: little numbers in brackets such as (j1) are unfamiliar. What are they?</p>	<p>These are remnants of the tracking process, indicating spots where authors inserted comments, in the process of editing the manuscript. These remnants do not show up in our Word document but did appear in the PDF, and they have now been removed.</p>
<p>p. 10, second paragraph. Is it correct to say that the Nurses and Health Professionals study data refer only to multivitamins? Does “about one-third” refer to baseline data (1980 and 1986)? The questions have been asked repeatedly.</p>	<p>Numerous studies have reported on food intakes and supplement use in the Harvard cohorts for various nutrients. None of these reported the overall use of “dietary supplements” in the cohort, and Dickinson confirmed this with Walter Willett. Instead, each study reported usage of the nutrients or supplements that are the subject of the report. The three studies cited are examples of studies that refer to a cohort’s use of “multivitamins.”</p> <p>Amend beginning of paragraph to read:  “<u>There are reports on the use of multivitamins and various specific nutrients from several very large and longstanding cohorts of health professionals that have been the subject of many investigations of diet/disease relationships by researchers at Harvard University. The reports relating to <u>multivitamin</u> use are most relevant for</u></p>

	<p>comparison to our survey results. In our survey, 24% of physicians said they typically used only a multivitamin on a regular basis, and an additional 27% said they regularly used a variety of supplements. Among nurses, 27% said they typically only used a multivitamin on a regular basis, and an additional 32% said they used a variety of supplements regularly. We do not have data regarding the prevalence of multivitamin use as part of the “variety” of supplements, but we estimate that at least a third (but less than half) of these health professionals used a multivitamin on a regular basis.”</p> <p>Clarified reference to nurses and male health professionals study to indicate that usage levels refer to relatively current use, not baseline use. Omitted reference to dates of establishment of these cohorts, to eliminate confusion about dates. Also omitted the references to the 1982 study of a subset of nurses and the 1982 baseline physicians’ data, which are not related to current levels of use.</p>
<p>p. 11, top. Do data on male physicians refer to the screening in 1982?</p>	<p>Yes, but this reference has now been omitted, as it does not relate to current levels of use.</p>
<p>p. 11, middle paragraph. Reference to EARs, RDAs, and AIs may be unclear to uninitiated.</p>	<p>Amend the statement to omit reference to specific values and say: “...the intakes of many users as well as nonusers of dietary supplements fall short of recommended levels for a number of vitamins and minerals.”</p>
<p>p. 11, inaccurate to say respondents “could potentially be self-selected.” More accurate to say they are “likely to be self-selected.”</p>	<p>Amend sentence to say, “Respondents to this survey were physicians and nurses who agreed to participate in an ongoing panel from which companies may recruit subjects for market research, and who later also agreed to participate in this specific survey on the topic of dietary supplements. These respondents therefore are likely to be self-</p>

	<p>selected to include healthcare professionals with an interest in dietary supplements. The level of overall dietary supplement use in our survey is relatively high (72% in physicians and 79% in nurses), but the level of <u>regular</u> use (51% in physicians and 59% in nurses) is comparable to that found in other surveys.”</p>
<p>p. 12, conclusions. What is point that reader should derive from article? Last sentence is not persuasive.</p>	<p>Point is to confirm that physicians and nurses use and recommend dietary supplements. Last sentence has been omitted. Also, we have added a paragraph (see below) regarding the need for more nutrition education and continuing education, including specific education about dietary supplements.</p>
<p>Overall: why should so many physicians and nurses be taking supplements, when mainstream medicine appears to be so negative about them? Explore possible reasons. Are opinions changing? Are responders younger?</p>	<p>Add a new paragraph at the end of the Discussion section: “It may appear surprising that physicians and nurses are as likely as the general population to be using dietary supplements, in view of the negative views sometimes expressed editorially in medical journals. (refs) Much of the criticism arises from concern about fringe products and exaggerated claims and does not in fact relate to core products such as those most commonly used both by consumers and by healthcare professionals, namely multivitamins, single nutrients, omega-3 fatty acids, glucosamine, and the more common botanicals. Indeed, articles affirmatively recommending multivitamins and some other dietary supplements appear in the same medical journals that are inclined to be editorially critical. (refs) Physicians and nurses, as well as lay consumers, are exposed to these divergent views and must make their own decisions regarding their personal approach to wellness. The majority opt to use dietary supplements.”</p>

<p><b>COMMENTS BY JOHNSON</b></p> <p>Need more data on how survey respondents compare to general population of physicians and nurses, and whether differences may have introduced bias.</p>	<p>Please see response to Gladys Block’s comments on pages 2-3, above.</p>
<p>P 5, add a reference to document that response rates are “well within norms for online surveys among healthcare professionals.”</p>	<p>No published reference. Text reference is to longterm experience and practice in market research related to healthcare issues, including extensive experience with the All Global panel.</p>
<p>p. 8. Add references to document that level of usage is similar to levels reported in some surveys of the general population.</p>	<p>References are to NHANES and to CRN’s 2007 Consumer Confidence Survey. Also added reference to large multiethnic cohort. Amended text to clarify comparisons to regular supplement use and overall use.</p>
<p>Conclusion: Final statement not consistent with statement on p. 8 that most had not received formal education or training about dietary supplements and many would be interested in CME on this subject. Edit final sentence to reflect the need for continuing education regarding appropriate use of dietary supplements for patients.</p>	<p>Omit final sentence of conclusion and replace with: “However, most physicians and nurses in this survey indicated that they had not received any formal education or training on the subject of dietary supplements and expressed an interest in Continuing Education regarding these products. There is a need for expanded medical education regarding the general topic of nutrition as well as the more specific topic of dietary supplements.”</p> <p>Also, added new paragraph to discussion section, on general lack of nutrition emphasis in medical education: “Most respondents in our survey said they had not received education or training about dietary supplements and expressed an interest in Continuing Medical Education on this topic. There has been a longstanding concern that medical education fails to provide practitioners with a sound basis for evaluating the role of nutrition in health and disease. (ref) Providing more nutrition education in medical schools and increasing the availability of Continuing</p>

	<p>Medical Education relating to nutrition, including discussion of the role of dietary supplements, would be beneficial for physicians and nurses as well as for the patients they treat and serve.”</p>
<p><b>ADDITIONAL POINT</b></p> <p>Additional point, not raised by reviewers but raised in the context of a poster presentation at Experimental Biology 2009: Manuscript needs to include data on reasons for recommending dietary supplements to patients, as well as reasons why healthcare professionals take dietary supplements themselves. Almost every attendee who viewed the poster asked about the reasons given for recommending supplements to patients.</p>	<p>Added new paragraph in Results:          “The reasons for recommending dietary supplements to patients were similar to the physicians’ and nurses’ own reasons for using such products. The most common reason was for overall health and wellness (41% of physicians and 62% of nurses). Physicians and nurses also recommended supplements for reasons related to bone health (41% and 58%, respectively), joint health (37% and 36%), flu or colds (24% and 39%), heart health (33% and 26%), immune health (19% and 36%), musculoskeletal pain (26% for both), and energy (19% and 25%).”</p> <p>For symmetry and comparison purposes, we have also added the relevant figures for “musculoskeletal pain,” in the list of reasons for their own use of dietary supplements.</p>

ATTACHMENT: Detail regarding age of sample compared to all physicians and nurses.

Age of Respondents

Age	Physicians		Nurses	
	Sample	Universe (Source: MMS Inc*)	Sample	Universe (Source: 2004 National Sample Survey of Registered Nurses)
Under 30	0%	6%	4%	3%
30-39	16%	24%	22%	11%
40-49	37%	25%	32%	22%
50-59	35%	25%	37%	25%
60-69	11%	15%	5%	38%
70+	1%	6%	0%	

\*Note: Medical Marketing Service Inc. (MMS) was the first firm franchised by the American Medical Association (AMA) to manage the AMA Physicians Professional Data.

Our sample for physicians includes more subjects in the age range 40 to 59 than in younger or older groups, compared to the universe of U.S. physicians, and our sample for nurses includes more subjects in the age range 30 to 60 than in older ages. We believe this is because we limited the sample to physicians and nurses who are currently working in an outpatient practice and seeing more than 50 patients per week.

Years Qualified

Years Qualified	Physician Sample(n=900)	Nurse Sample (n=277)
3 years or less	1%	5%
4-5 years	3%	8%
6-10 years	20%	23%
11-15 years	21%	23%
16-20 years	24%	17%
21-30 years	29%	17%
Over 30 years	3%	8%

The sample shows a fairly even distribution in terms of number of years qualified in their current practice or specialty.

Physicians who have been qualified in their practice or specialty for more than 20 years are more likely to take dietary supplements than are physicians who have been qualified for a shorter amount of time. We believe this variable primarily reflects their age, as supplement use is higher in physicians over 50 than in those under 50.

Years Qualified	Percentage of Supplement Users
10 years or less	64%
11- 20 years	70%
More than 20 years	80%