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Smart Prevention—Health Care Cost Savings Resulting from the Targeted Use of Dietary Supplements

An Economic Case for Promoting Increased Intake of Key Dietary Supplements as a Means to Combat Unsustainable Health Care Cost Growth in the United States



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Significant cost savings can be realized by health care payers, such as insurance companies and consumers, through the use of dietary supplements that have a demonstrable and substantial effect on the risk of costly disease-related events among targeted high-risk populations.

Approximately 75% of total U.S. health care expenditures are spent on preventable diseases, but only 3% of total health care expenditures are invested in disease prevention programs.

A common question among policymakers, public health experts, and consumers is whether health care treatment costs can be avoided if more preventive measures are adopted.

A significant amount of scientific research has been conducted examining dietary supplements, and many studies demonstrate that these supplements have a positive effect on reducing the risk of a disease event.

What was missing was an objective and systematic assessment of the current state of scientific findings regarding the link between the use of dietary supplements and the reduction in the risk of a disease that requires costly treatment services.

Frost & Sullivan examined the potential health care cost savings if people over the age of 55 at risk of those diseases use certain dietary supplements that have been shown to lower those disease risks.

THIS REPORT EXAMINES THE FOLLOWING DISEASE CONDITIONS AND DIETARY SUPPLEMENT COMBINATIONS:

- Coronary heart disease (CHD) and the potential health care cost savings when using omega-3 fatty acids, three B vitamins (folic acid, B6, and B12), phytosterols, and psyllium dietary fiber
- Diabetes-attributed CHD and the potential health care cost savings when using chromium picolinate
- Age-related eye disease (ARED), specifically age-related macular degeneration and cataracts, and the potential health care cost savings when using lutein and zeaxanthin
- Osteoporosis and the potential health care cost savings when using the combination of calcium and vitamin D or when using magnesium

The report demonstrates that significant cost savings can be realized by health care payers, such as insurance companies and consumers, through the use of dietary supplements that have a demonstrable and substantial effect on the risk of costly disease-related events among targeted high-risk populations. Specifically, the report examines evidence showing that the use of key dietary supplements can reduce overall hospital utilization costs associated with heart disease, age-related eye disease, diabetes, and bone disease in the United States among those at a high risk of experiencing a costly, disease-related event. Thus, targeted dietary supplementation regimens are recommended as a means to help control rising societal health care costs, and as a means for high-risk individuals to minimize the chance of having to deal with potentially costly events and to invest in increased quality of life.

SOME OF THE FINDINGS INCLUDE:

- **Omega-3:** Nearly \$4 billion in cumulative net CHD-attributed cost savings from 2013 to 2020 is potentially realizable if the entire target population (U.S. adults over the age of 55 diagnosed with CHD) were to use omega-3 dietary supplements at preventive intake levels.
- **B Vitamins:** A cumulative 808,225 CHD-related medical events from 2013 to 2020 could be avoided if all U.S. adults over the age of 55 diagnosed with CHD were to use the B vitamins folic acid, B6, and B12 at preventive intake levels.
- **Phytosterols:** An average of \$4.23 billion per year in avoidable hospital utilization costs is potentially realizable if all U.S. adults over the age of 55 diagnosed with CHD were to use phytosterol dietary supplements at preventive intake levels.
- **Psyllium Dietary Fiber:** An average annual total savings of \$4.38 billion per year from 2013 to 2020 is potentially realizable if all U.S. adults over the age of 55 diagnosed with CHD were to use preventive intake levels of psyllium fiber.
- **Chromium Picolinate:** A cumulative 649,944 events from 2013 to 2020 could potentially be avoided if all U.S. diabetics over the age of 55 diagnosed with CHD were to use chromium picolinate dietary supplements at preventive intake levels.
- **Lutein and Zeaxanthin:** An average of \$3.87 billion per year in avoidable health care utilization costs is potentially realizable if all U.S. adults over the age of 55 diagnosed with ARED were to use lutein and zeaxanthin dietary supplements at preventive intake levels.
- **Calcium and Vitamin D:** Over \$12 billion in cumulative net osteoporosis-attributed cost savings is potentially realizable if the entire target population (U.S. women over the age of 55 diagnosed with osteoporosis) were to use calcium and vitamin D dietary supplements at preventive intake levels.
- **Magnesium:** A cumulative savings of \$6.8 billion from 2013 to 2020 in avoidable hospital utilization costs is potentially realizable if all U.S. women over the age of 55 diagnosed with osteoporosis were to use magnesium dietary supplements at preventive intake levels.



IDENTIFYING AND MOTIVATING THOSE AT RISK TO USE EFFECTIVE DIETARY SUPPLEMENTS

There are many ways to identify and motivate those at high risk for coronary heart disease, diabetes-related CHD, age-related eye disease, and osteoporosis, to use effective dietary supplements, including:

- the use of new technologies that identify high-risk populations before they experience costly acute treatment events;
- the use of incentives for consumers, health care professionals, and other key stakeholders to address the antecedents of disease as opposed to the utilization of acute treatment services;
- and increased general education about the economic savings to individuals and the health care system from smart prevention strategies.

Only then can an approach that utilizes certain dietary supplements that have been shown scientifically to help reduce the risk of experiencing a costly disease event among high disease-risk population groups be effective at controlling potential health care costs.

RESEARCH METHODOLOGY:

Frost & Sullivan conducted a systematic literature review of scientific studies that investigated a causal relationship between dietary supplement intake and the incidence of specific health conditions of interest. Case studies, observational epidemiologic studies, and clinical trials adhering to best practice scientific methodologies were included, independent of whether the findings were positive, negative, or null. Once the database of possible studies was created, each study was thoroughly reviewed and assessed to determine whether there was a quantifiable relationship between supplement intake and the incidence of a specific chronic disease event, either directly or indirectly through a specified and validated biomarker. From those studies, one of two approaches was used to calculate a relative risk reduction metric and the number of persons needed to treat to achieve one avoided medical event in order to determine the overall impact of the dietary supplement intervention on a disease event occurrence.

Armed with this information, Frost & Sullivan then turned to the Agency for Healthcare Research & Quality for current costs of particular medical events associated with the disease endpoints, and determined the saved expenses from the reduction of a single medical event along with the expected annual cost of the medical intervention for that portion of the entire target population likely to experience such a medical event. The study generated the number of avoided medical events and the savings from reduced hospital utilization. It recognized that not all members of a targeted population would suffer a medical event, but that the number needed to treat with supplements would greatly exceed those utilizing the healthcare system for treatment of the disease. Finally, acknowledging that some portion of the population is already using these dietary supplements, the researchers determined that portion of the cost savings that is already being realized with supplement usage, and that portion still to be realized with increased supplement utilization.



This brochure contains information adapted with permission from an economic report by Frost & Sullivan titled "Smart Prevention—Health Care Cost Savings Resulting from the Targeted Use of Dietary Supplements." This economic report is intended to prompt discussion among health care practitioners, health care payers, thought leaders in the prevention and wellness communities, and public policy personnel about potential cost savings to consumers, third-party payers and government agencies. It is further recommended that consumers who may find the report and its findings of interest open a dialogue about smart prevention with their health care practitioners to determine which dietary supplements may be appropriate for them.

The report was funded through a grant from the CRN Foundation, a non-profit 501(c)(3) educational foundation of the Council for Responsible Nutrition, the leading trade association for the dietary supplement industry.

The report is available in its entirety, including full methodology and references, at:

www.supplementforsmartprevention.org