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# U.S. consumers not achieving seafood guidelines

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## Disease prevention through diet is cheaper than cures



Additional current data on the volumes and forms of seafood citizens of the United States consume is needed. Based on data through 2010, consumption varies by the consumers' ages, education and income levels.

While seafood consumption is increasing in many parts of the world, and some countries have made commitments regarding increasing seafood consumption, the United States is treading water.

This was highlighted in recent research by the U.S. Department of Agriculture (USDA), Department of Food Science and Nutrition, and Centre for Exercise, Nutrition and Health Sciences. "Intake of Seafood in the U.S. Varies by Age, Income and Education Level but Not by Race-Ethnicity" found that most Americans consume seafood, but in inadequate amounts to meet federal dietary guidance, especially when evaluated based upon energy needs.

## Dietary guidelines

The 2010 Dietary Guidelines for Americans from USDA and the U.S. Department of Health and Human Services specifies weekly consumption of at least 227 grams of seafood by all Americans aged 2 years and older. Depending upon an individual's energy needs, the recommended intake increases, and seafood should provide approximately one-fifth of the protein food group intake recommendation. No information as to type of seafood is specified, but the recommendation encourages consumption of sources with high omega-3 fatty acid content.

Very little is known about how well Americans, particularly population subgroups that may be at risk for inadequate intake, meet the guidelines. This research was undertaken to describe the prevalence of seafood consumption and, among consumers, the amounts of seafood eaten by sex, age group, income level, education level and race-ethnicity.

The research was based on data from 15,407 adults aged 19 and over who participated in the 2005-2010 National Health and Nutrition Examination Surveys. These were analyzed using methods to account for sporadic intake of seafood. They used data from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey (NHANES) and the USDA Agricultural Research Service What We Eat in America survey, the dietary assessment conducted in conjunction with NHANES.

Over 80 percent of Americans reported consuming seafood over the past 30 days. About 74 percent reported consuming fish, and 54 percent reported eating shellfish. The percentages varied by socio-demographic group, and younger age and lower income and education levels were associated with lower odds of being a seafood consumer. Among those who reported eating seafood, the average amount eaten was 158.2 g/week.

Knowing how important seafood is to women's health, it was shocking to see that among seafood consumers, women and individuals of lower age and education levels consumed less seafood. Approximately 80 to 90 percent of seafood consumers did not meet seafood recommendations when their needs were estimated by energy requirements. The continual confusion over advisories on mercury issues is still presumably playing a big role in this.

## Barriers to consumption

The report states: "A great deal of work remains to move Americans toward seafood consumption at current recommended levels." It lists some of the barriers to seafood consumption that the researchers perceived:

- Most studies have focused on perceptions of contaminant risks versus benefits from eating fish, particularly during pregnancy.
- Media messages conveying risks far outnumber those reporting the benefits of eating fish, especially farmed fish and seafood.
- Many debates, often within the seafood industry itself, continue about farmed versus wild seafood.
- Disputes about domestic versus foreign "cheaper" product continue.
- Clarity is lacking regarding eco-labels, seafood guides and sustainable versus unsustainably produced seafood.
- The types of aquaculture production systems, such as net pen enclosures in marine areas versus closed recirculating systems attract argument and debate.
- All the competition and debate, while common in developing production sectors, contributes to a complex message that can deter consumers.
- Many consumers perceive that wild fish are superior to farmed in taste and quality, although this provides opportunities for quality standards.
- Other studies of consumer choice, mostly from Europe, have identified tradition and habits as barriers to greater seafood consumption.
- Perceived as well as actual knowledge of health benefits may guide seafood decisions.
- Personal taste preference, price and availability are also influential factors.

Added to this could be:

- There is no national standard for fish names – "one name: one fish."

- There is no national plan or vision for seafood that connects industry, government and other significant stakeholders.
- □ There can be poor connectivity between industry and health professionals in agreed promotions.
- Consistent educational information is limited in distribution.
- There can be a lack of adequately trained staff where consumers purchase seafood.

The researchers also point out:

- Nearly two-thirds of the value of seafood sold in the United States is consumed in restaurants, which may suggest that handling and preparation of seafood are challenging for many consumers.
- Seafood allergies may be another barrier, as 2.5 percent of Americans report allergies to either fish or shellfish.
- Formative research is needed to identify barriers to consumption in targeted subgroups of Americans, particularly young adults and those with low income and education.
- Furthermore, it is likely factors that limit seafood intake by those who do not consume enough seafood are different from factors that lead people to not eat seafood.

## Public intervention needed

To attain the goal of meeting the Dietary Guidelines for Americans, the study points out that public health intervention is needed to shift non-seafood eaters to adopt regular consumption, to increase the amount of seafood consumed and to ensure that all consumers include n-3-rich seafood in their diets.

To meet the demands, the report advocates that adequate production, delivery infrastructure and waste prevention must be in place to ensure the availability of fresh, affordable seafood to support increased demand. Increasing seafood production for U.S. consumption is not an issue that impacts the U.S. alone, however, and requires acknowledgment of issues that shape seafood consumption worldwide.

The United States relies heavily on imported seafood and is clearly not seafood secure. By 2030, a predicted 66 percent of the world's middle classes will be centered in Asia, and as they are already big seafood consumers, this will increase the pressure on supplies. Whereas meeting food needs has led to an increase in freshwater and marine aquaculture, recent United Nations Food and Agriculture Organization reports indicate that seafood consumption in Western countries has effectively leveled off.

On the other hand, seafood consumption in Asian and developing countries is growing at a much higher rate through the use of aquaculture practices that require feed and water inputs. In this context, the ability to feed growing populations in addition to meeting seafood consumption recommendations will require coordination of sound aquaculture and fishery practices with trade policy, the report concludes.

## Perspectives

Consumption of seafood, particularly fish, is strongly associated with reduced risk of cardiovascular disease. While the benefits are often ascribed to the long-chain omega-3 fatty acids found in fatty fish, a recent review that examined the associations among fish consumption, omega-3 fatty acids and cerebrovascular disease concluded the beneficial effects of fish consumption may be due in part to the contribution of other nutrients in fish. Additionally, seafood is a great alternative to replace other, less-advantageous protein foods in diets.

A recent review of issues associated with fish consumption for cardiovascular risk reduction indicated that information regarding seafood intake, particularly with respect to variability of consumption among population subgroups in the United States, was lacking quality data. It is shocking, given the U.S. status as a major consumer of seafood and the known health benefits of seafood consumption, that such important information on seafood is not more current and available.

Over the years, much money has been spent on researching "cures." We seem to have forgotten that "preventions" are cheaper and more sustainable in the long term! Readers interested in more information on the seafood consumption research can check [www.mdpi.com/2072-6643/6/12/6060/htm#sthash.UR7cGS3P.dpuf](http://www.mdpi.com/2072-6643/6/12/6060/htm#sthash.UR7cGS3P.dpuf)

(<http://www.mdpi.com/2072-6643/6/12/6060/htm#sthash.UR7cGS3P.dpuf>).

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