

# **The Messages We Share: Science or Sensation?**

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American Dietetic Association Past President  
October 27, 2011

# Disclosures

- Board Member/Advisory Panel
  - 3 Everyday of Dairy Advisory Panel
  - Monsanto Think Tank
  - International Experts Movement for Essential Fatty Acid Education
  - Facts Up Front Campaign
  - Aspartame Advisory Panel
- Consultant
  - Solae
- Speaker's Bureau
  - Nutrient Rich Foods Coalition
  - National Dairy Council for 2010 DGA's

# Objectives

- Review how research drives practice – good/bad
- Review how fat in diets is viewed
- Outline responsibilities of professionals using research
- Identify ways to communicate science to the media, peers and the public

# The Issue of Academics: Is Your Science Well Understood & Communicated?

## Alpha Omega trial

Media headlines after the release of the study results ranged from “Omega-3 Fatty Acids’ Consumption Carries No Added Benefits”, “Low Dose Omega-3, Discovered Ineffective” to “It's Not Butter and It's Not Better “

## Heart Group's Omega-6 Advice Takes a Huge Hit

Compelling evidence review contradicts Heart Association's claim that Americans' extremely high intake of omega-6 fats is heart-healthy and poses no risks

*About Ramsden study*

Press release from university did not reflect properly the conclusions of the scientific article →

## ESC: It's Not Butter and It's Not Better

By Peggy Peck, Executive Editor, MedPage Today

Published: August 29, 2010

Reviewed by [Adam J. Carinci, MD](#); Instructor, Harvard Medical School and Dorothy Caputo, MA, RN, BC-ADM, CDE, Nurse Planner



## Pressure group claims university 'worryingly close' to dairy industry

By Ben Bouckley, 30-Sep-2011

1 comment

Related topics: [Health claims](#), [Industry](#), [Dairy-based ingredients](#), [Cardiovascular health](#)

**A row has erupted after Wageningen University rejected pressure group claims that its academics are "worryingly close" to the dairy industry, after the institution issued a press release that allegedly exaggerated research findings.**

The dispute followed the [publication of a milk research paper](#) by Soedamah-Muthu et al. in the *American Journal of Clinical Nutrition* this January, which was partly sponsored by Dutch Dairy Association (NZO).

An associated press release in Dutch from the university based in Holland claimed that drinking 3 glasses of milk a day could potentially reduce the risk of developing cardiovascular disease (CVD) by up to 18 per cent.

But one of the researchers who wrote the paper, Professor Walter Willet, rubbished the claim in remarks reported by Dutch newspaper *Volkskrant*:

He said: "The research only shows a weak and unimportant relationship between drinking milk and the development of heart and artery disease."

Willet added: "It is totally misplaced to claim...there is a demonstrable

# Miscommunications in the Press-Especially Headlines

James et al.

## Paper

“After 12 months there was no significant change in the difference in body mass index (mean difference 0.13, -0.08 to 0.34) or z score (0.04, -0.04 to 0.12).”

## Press Release

“Discouraging children from drinking fizzy drinks can prevent excessive weight gain, according to new research available on [bmj.com](http://bmj.com).”

Ebbeling et al.

## Paper

“change in body mass index (BMI) was the primary end point. The net difference,  $0.14 \pm 0.21$  kg/m<sup>2</sup>, was not significant overall”

## Press Release

“In randomized trial, a simple beverage-focused intervention led to weight loss”

# Obesity in The Media - MSN

Childhood obesity - Latest news, videos, and information- msnbc.com - Windows Internet Explorer provided by Y...

http://www.msnbc.msn.com/id/34725927/?q=Childhood obesity

File Edit View Favorites Tools Help

Google fat and kids Search - More >>

Saint Louis, MO 73° F Partly Cloudy 52° F 81° F Weekend 10-Day Get weather on your phone

WEB SEARCH

Many parents of fat kids in denial, study finds Search Ask Facebook Listen to music Amazon YouTube 73° Saint Louis, MO Options

Favorites Suggested Sites eBay Free Hotmail Web Slice Gallery Yahoo! Mail

(5747 unread) - cbdiek... CaringBridge / Joan Lu... Childhood obesity - ... Women's Sweaters & ...

Marketplace

Progressive  
Get a free quote

Great Gift Ideas!  
See Popular Products

Shortcuts

Corrections

Comics

Crosswords

Horoscopes

Lottery

Most popular

NewsTools

Sudoku

Newsletters & alerts

FirstPerson

Articles

What's the relation between stress and child obesity?  
Updated 3:13 p.m. CT, Wed., July 27, 2011  
Prof. Craig Gundersen explains why some Social Safety Net programs, aiming to reduce psychosocial stressors for low-income families, may also reduce child obesity.

TODAY Moms: Family dinners: Important, or overrated?  
Updated 7:42 a.m. CT, Wed., Oct. 12, 2011

3 Detroit schools get grants to fight obesity  
Updated 3:03 a.m. CT, Sun., Oct. 9, 2011

Richmond conference targets childhood obesity  
Updated 9:32 a.m. CT, Wed., Oct. 5, 2011

BCBS foundation to fight childhood obesity  
Updated 9:32 a.m. CT, Wed., Sept. 28, 2011

Kids say 'potato,' USDA says 'poh-tay-NO'  
Updated 2:14 a.m. CT, Mon., Sept. 26, 2011

TODAY Moms: Crib notes: Are hovering parents creating overweight kids?  
Updated 2:52 p.m. CT, Mon., Sept. 12, 2011

Parents May Underestimate Risks of Childhood Obesity  
Updated 10:49 a.m. CT, Thurs., Sept. 1, 2011

Finding healthy dining for the kids while traveling  
Updated 8:43 a.m. CT, Mon., Aug 29, 2011

U.S. hospitals poor at breast-feeding support: study  
Updated 1:19 p.m. CT, Tues., Aug 2, 2011

Healthier Happy Meals?  
Updated 8:08 p.m. CT, Tues., July 26, 2011

Step, two, three to health  
Updated 6:07 p.m. CT, Sun., June 5, 2011

Girls 'step up' to fitness  
Updated 3:12 p.m. CT, Sun., June 5, 2011

Stores feature plus sizes for kids  
Updated 5:35 p.m. CT, Tues., May 31, 2011

Related Photos

A school cafeteria worker hands out fruit

A chubby baby smiling

Internet 100%

start The... 3 M. 6 M. Chil... NN... 2 M. 3:34 PM

# Obesity in the Media – Facebook Group

Obesity - Windows Internet Explorer provided by Yahoo!

http://www.facebook.com/#!/pages/Obesity/100680624357

File Edit View Favorites Tools Help

Google fat and kids Search More >> connie...

Saint Louis, MO 72° F Partly Cloudy 52° F 81° F Weekend 10-Day Get weather on your phone


Report/Mark as Spam Obesity is a medica Search Ask Facebook Listen to music Amazon YouTube 72° Saint Louis, MO Options

facebook


Search


Connie Diekman Find Friends Home

Report Page Share

 **Obesity**  
Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse affect on health, leading to reduced life expectancy. Body mass index (BMI), which compares weight and height, is used to define a person as o  
Like · Comment · May 7, 2009 at 6:43pm


5 people like this.  
View all 26 comments

 **Eddy Kalumisi** je cherche une femme obes  
October 8 at 6:23am · Like · 2 people · Translate


 **David Stentz** I think obese people copout by calling it a medical condition they are powerless to control. I'm offended when I encounter people that smell badly and harbor anger towards others because they aren't comfortable but won't change. Socially, t...  
See More  
October 12 at 3:02pm · Like · 3 people


Write a comment...

RECENT ACTIVITY

 Obesity edited their Location and Attire.

There are no more posts to show.

**Do You Love Shoes?**  
style.justfab.com  
 Have new shoes delivered to you every month! Picked by our stylists. Take the quiz and get handpicked styles at JustFab.com.

**Browse Yearbooks**  
yearbookarchives.com  
 See if we have your yearbook!

Internet 100% 5:01 PM

# Media Messaging

The screenshot shows a Windows Internet Explorer browser window displaying the Twitter profile of FoodInsight.org. The browser's address bar shows the URL <http://twitter.com/FoodInsightOrg>. The page features the Twitter logo and navigation links: Home, Profile, Find People, Settings, Help, and Sign out. The profile header includes the FoodInsight.org logo, name, location (Washington, DC), and website (<http://www.foodin...>). The bio states: "Bio Communicating science-based information on health, nutrition, and food safety." Statistics show 105 following, 242 followers, and 34 listed. The "Tweets" section shows 77 tweets. The "Following" section displays a grid of profile pictures of users followed by FoodInsight.org. The "Actions" section includes options to message, block, or report for spam. The "Favorites" section is also visible. The browser's taskbar at the bottom shows the Start button and several open instances of the FoodInsight.org browser window. The system tray in the bottom right corner shows the time as 2:11 PM.

FoodInsight.org (FoodInsightOrg) on Twitter - Windows Internet Explorer provided by Yahoo!

<http://twitter.com/FoodInsightOrg>

File Edit View Favorites Tools Help

★ Favorites ☆ Suggested Sites eBay Free Hotmail Web Slice Gallery Yahoo! Mail

FoodInsight.org (FoodInsightOrg) on Twitter

Home Profile Find People Settings Help Sign out

**twitter**

**FoodInsightOrg**

INTERNATIONAL FOOD INFORMATION COUNCIL FOUNDATION

✓ Following

Lists Settings

RT @IFICMedia So much negative attn on school lunch lately. What about the good things they are doing? <http://bit.ly/97i0P4> #foodrevolution

11 minutes ago via web

Join @IFICMedia for new chat! Talking #diabetes on Thurs. 4/15 1 pm ET w/expert @tamirossrd. Join us at #foodinsight & send in ?s now!

11:05 AM Apr 8th via web

Does your spring cleaning routine include a #weight loss? <http://bit.ly/cytZmU> #nutrition #exercise

3:50 PM Apr 7th via web

RT@USDAFoodSafet No fooling w/ temps at holiday buffets! Keep hot foods hot, cold foods cold & refrigerate after 2 hrs <http://go.usa.gov/igO>

4:37 PM Apr 1st via web

To round out National #Nutrition Month, check out our new

Name FoodInsight.org  
Location Washington, DC  
Web <http://www.foodin...>  
Bio Communicating science-based information on health, nutrition, and food safety.

105 following 242 followers 34 listed

Tweets 77

Favorites

Actions  
message FoodInsightOrg  
block FoodInsightOrg  
report for spam

Following

View all...

RSS feed of FoodInsightOrg's tweets

Done

Start FoodInsight.org (FoodIn... FoodInsight.org (Foo...

Internet 100% 2:11 PM

# Fat in the Media

Pulp Free | Heart Attack Grill - Triple Bypass Burger - Windows Internet Explorer provided by Yahoo!

http://www.pulpfree.com/pf/86

File Edit View Favorites Tools Help

Google heart attack grill

Saint Louis, MO 72° F Partly Cloudy 52° F 81° F Weekend 10-Day Get weather on your phone

WEB SEARCH

Search Facebook Listen to music Amazon YouTube 72° Saint Louis, MO Options

Favorites Suggested Sites eBay Free Hotmail Web Slice Gallery Yahoo! Mail

Pulp Free | Heart Attack Grill - Triple Bypass...

This website wants to run the following add-on: 'QuickTime' from 'Apple Inc.'. If you trust the website and the add-on and want to allow it to run, click here...


## Heart Attack Grill - Triple Bypass Burger

Dave Schmid | December 9, 2006 | 9:46 AM

So this place called the **Heart Attack Grill** comes out with some burgers a few months ago that are essential the "Greatest Burger Ever Made" (well – I made that up...). The waitresses dress like nurses (skimpy in that manner – like girls on Halloween!). And now real nurses are complaining about their outfits. You think they'd complain about the burgers!

*The waitresses wear skimpy, cleavage-baring outfits, high heels and thigh-high stockings – a male fantasy that some nursing organizations say is an insult to the profession.*

Well, the point of this randomness of a post isn't about who's complaining about death, burgers and short nursing outfits, it's about this picture:



Man I WANT ONE! Doesn't that look good? OMG – gonobbb yeah Figures that I'm a burger guy

Downloading picture http://www.pulpfree.com/wp-content/themes/pulpfree/images/menu/reflect.png...

Internet 100%

start The... 3 M.. 7 M.. 3 I... NNS... 2 M.. 5:07 PM

### Recent

- This Is Your Life
- My Virtual Chumby
- Olney Srmat Poelpe Can Raed
- Tihs
- Initial Driving Impressions – 2012 Audi A6
- Stress Exercise

### Simliar

- The Big Burger
- Chicago Taste

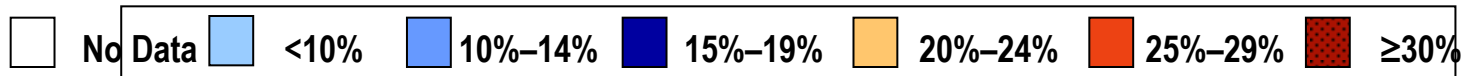
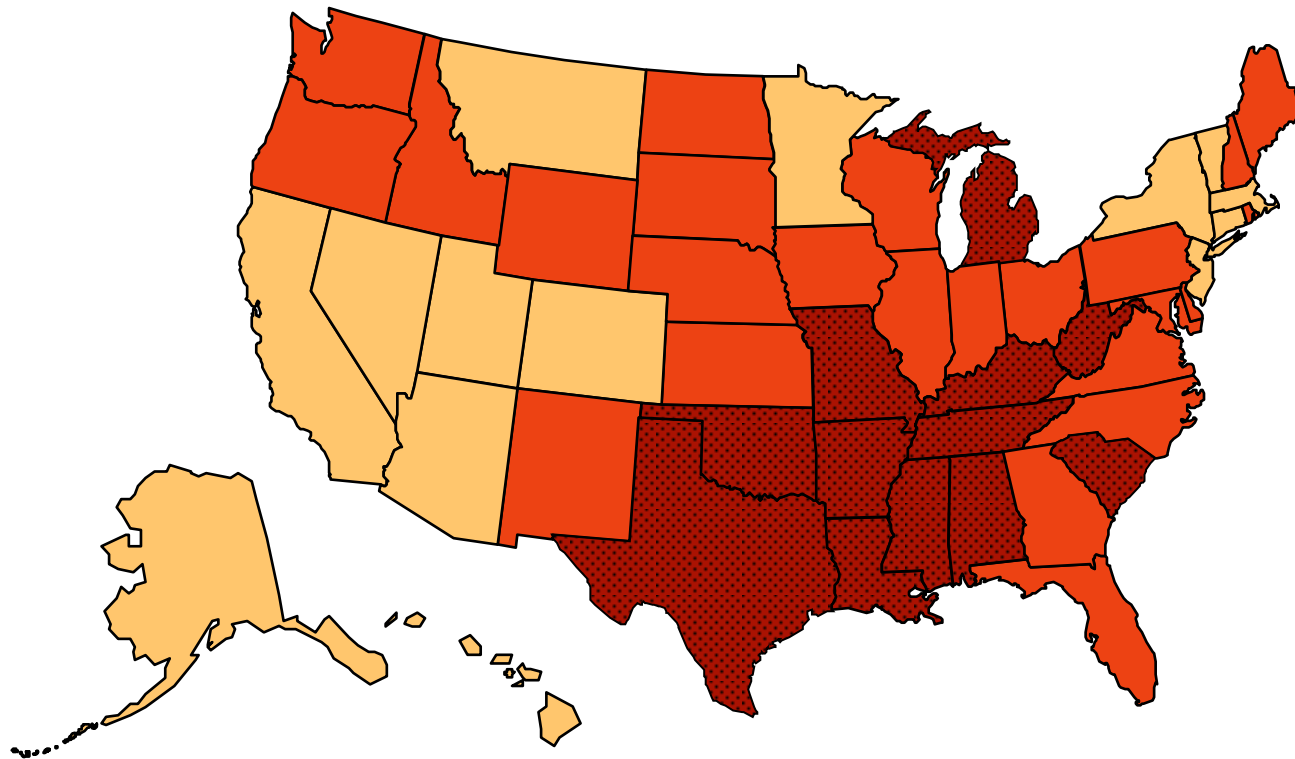
### Topics

- Birthdays
- Day In The Life
- demoscene
- Earworm
- Dance
- Instrumental

# Obesity Trends\* Among U.S. Adults

BRFSS, 2010

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs. overweight for 5' 4" person)

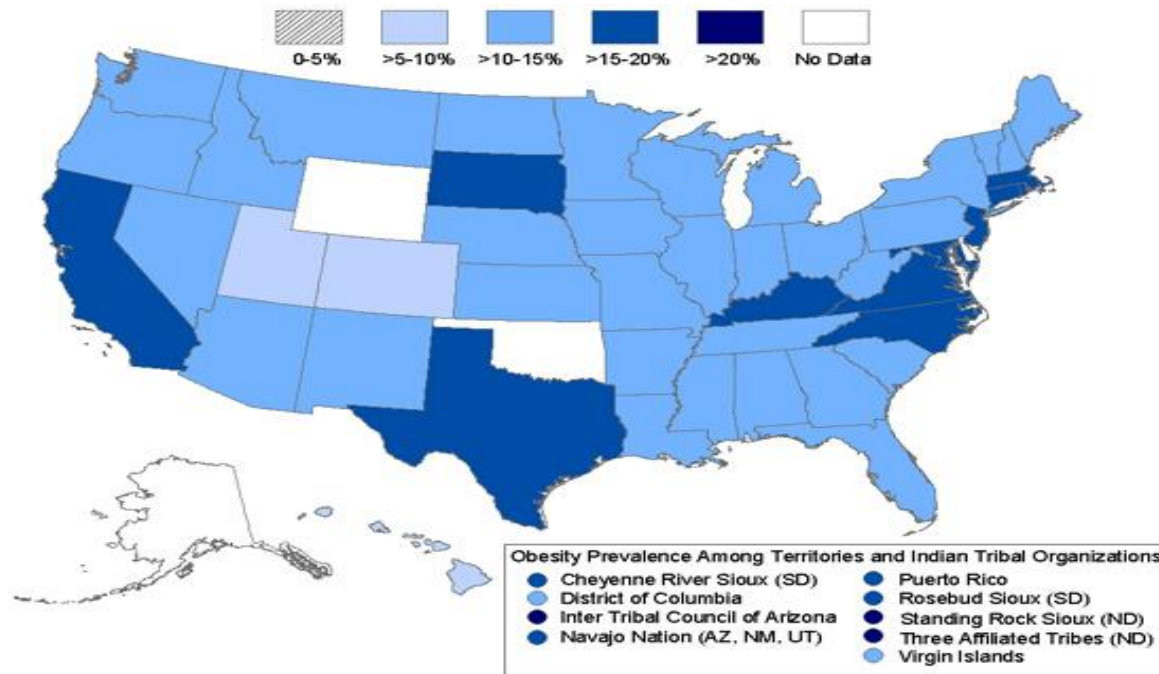


# The Public Health Issue: Obesity in Children

Example US

Approximately 17% (or 12.5 million) of children and adolescents aged 2—19 years are obese.

## 2009 State Prevalence Among Low-Income Children Aged 2 to 4 Years



# WHO Statistics on Childhood Weight - 2010

- Around 43 million children < five years were overweight
- Overweight and obesity on the rise in low- and middle-income countries, particularly in urban settings
- Close to 35 million overweight children are living in developing countries and 8 million in developed countries

# Health of Our Children

- 2008 FIT study reported 10% of children ages 2 – 5 are obese <sup>1</sup>
- RWJ Foundation reports 33% of 6 – 11 years old and 34% of 12 – 19 year olds are overweight or obese
- Nutrient gaps exist due to low fruit, vegetable and dairy intake

1. Nestle Feeding Infants and Toddlers Study released October 2011

2. Childhood Obesity. Robert Wood Johnson Foundation. [www.rwjf.org](http://www.rwjf.org)

**TABLE 6.1**

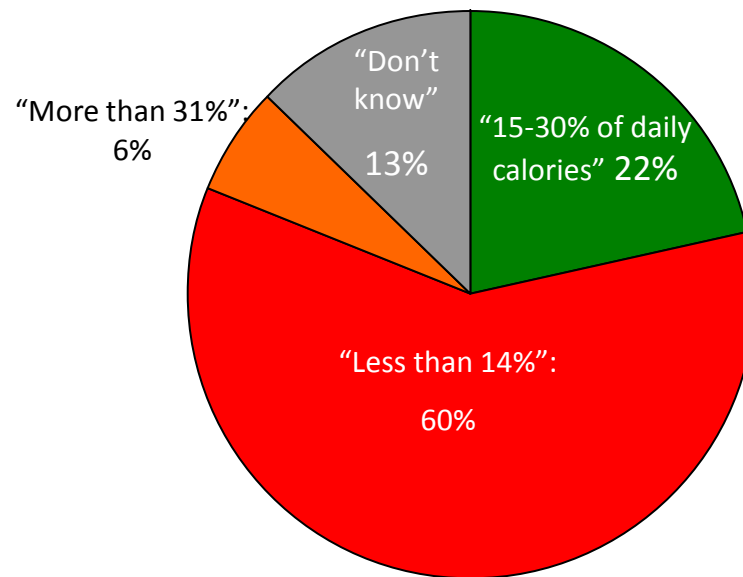
Recommended dietary intakes for total fat and fatty acid: infants (0-24 months) and children (2-18 years)

Fat/FA	Age Group	Measure	Numeric Amount	Level of Evidence
Total fat	0-6 mo	AMDR	40-60%E	Convincing
		AI	based on composition % of total fat in HM,	Convincing
	6-24 mo	AMDR	gradual reduction, depending on physical activity, to 35%E <sup>a</sup>	Convincing
	2-18 yr	AMDR	25-35%E*	Probable
SFA	2-18 yr	U-AMDR	8%E* Children from families with evidence of familiar dyslipidemia (high LDL cholesterol) should receive lower SFA but not reduced total fat intake	Probable
MUFA	2-18 yr	AMDR	total fat [%E] - SFA [%E] - PUFA [%E] - TFA [%E]	Probable
Total PUFA	6-24 mo	U-AMDR	<15%E	Probable
	2-18 yr	U-AMDR	11%E	Probable
LA & ALA	0-24 mo	Comment	essential and indispensable	Convincing
<b>n-6 PUFA</b>				
AA	0-6 mo	AI	0.2-0.3%E <sup>b</sup>	Convincing
		U-AMDR	Based on HM composition as %E of total fat	Convincing
LA	0-6 mo	AI	HM composition as %E of total fat	Convincing
	6-12 mo	AI	3.0-4.5%E	Convincing
	6-12 mo	U-AMDR	<10%E	Probable
	12-24 mo	AI	3.0-4.5%E	Convincing
	12-24 mo	U-AMDR	<10%E	Probable
<b>n-3 PUFA</b>				
ALA	0-6 mo	AI	0.2-0.3%E <sup>b</sup>	Convincing
	6-24 mo	AI	0.4-0.6%E	Probable
	6-24 mo	U-AMDR	<3%E	Probable
DHA	0-6 mo	AI	0.1-0.18%E <sup>b</sup>	Convincing
	0-6 mo	U-AMDR	no upper value within the HM range up to 0.75%E	Convincing
	0-6 mo	Comment	conditionally essential due to limited synthesis from ALA	Probable
	6-24 mo	AI	10-12 mg/kg	Probable

# What do Consumers Know about a Healthy Balanced Diet?

Global Average

Of my daily calories, from fat I should have...%

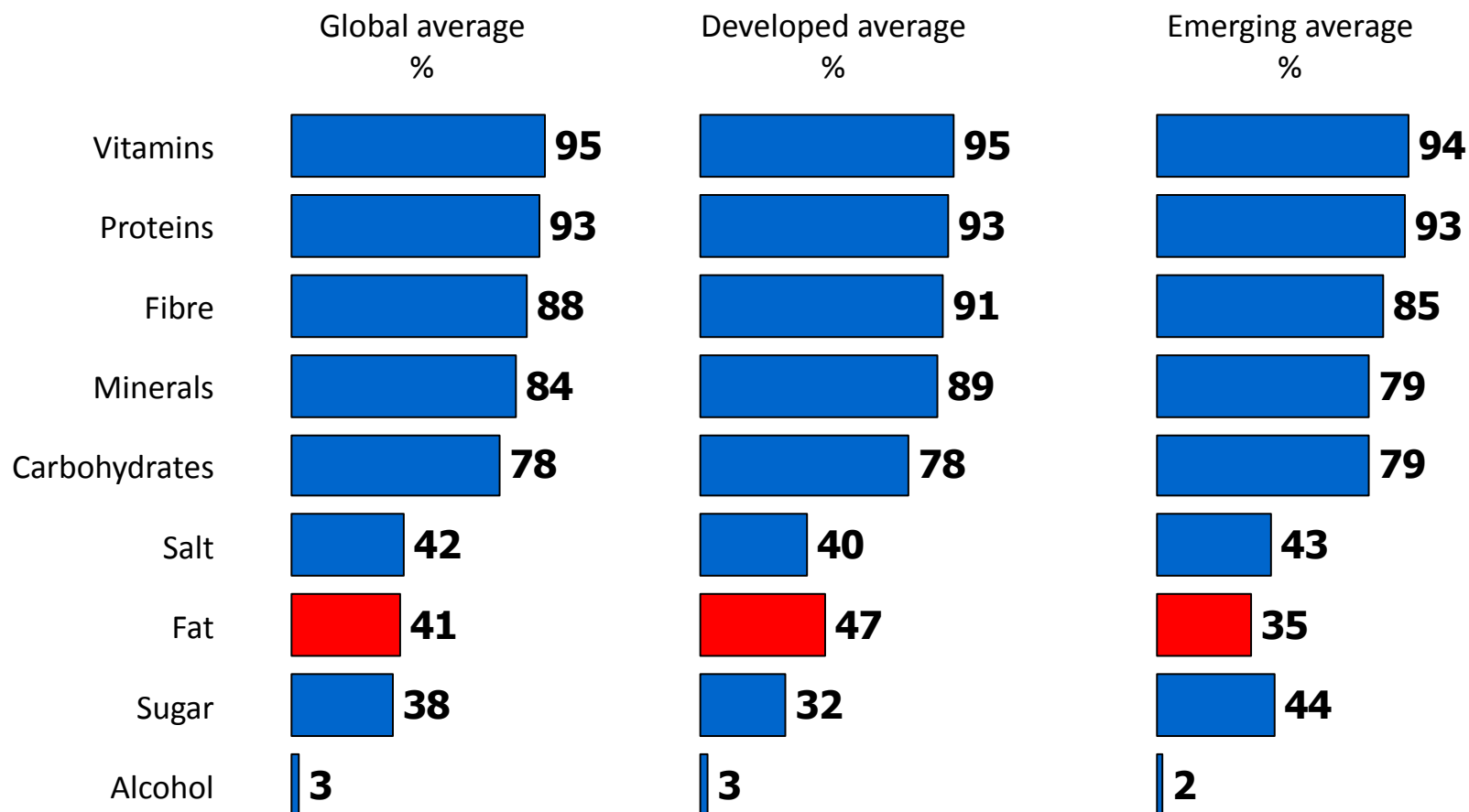


60% think that fat should deliver 14% of the daily energy,  
or less.

How much fat needed for a healthy balanced diet – Wave 2

Q - Thinking about how much fat you need for a healthy balanced diet. How much of your daily intake of calories do you think should come from fat?

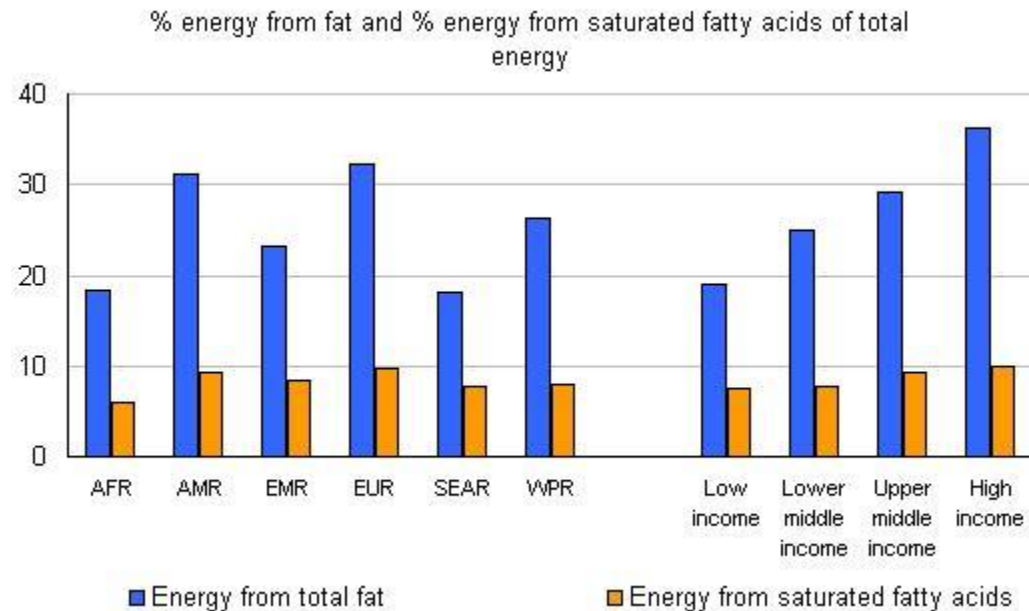
# What Foods do Consumers Think are Needed for a Balanced Diet?



Vitamins, proteins, fibre, minerals and carbohydrates are elements of a balanced diet. Fats are not.

# Calories from Fat and Calories from Sat Fats

[http://www.who.int/gho/ncd/risk\\_factors/unhealthy\\_diet\\_text/en/](http://www.who.int/gho/ncd/risk_factors/unhealthy_diet_text/en/)



# Fat Quality in the Diet of Children and Adolescents Across the World

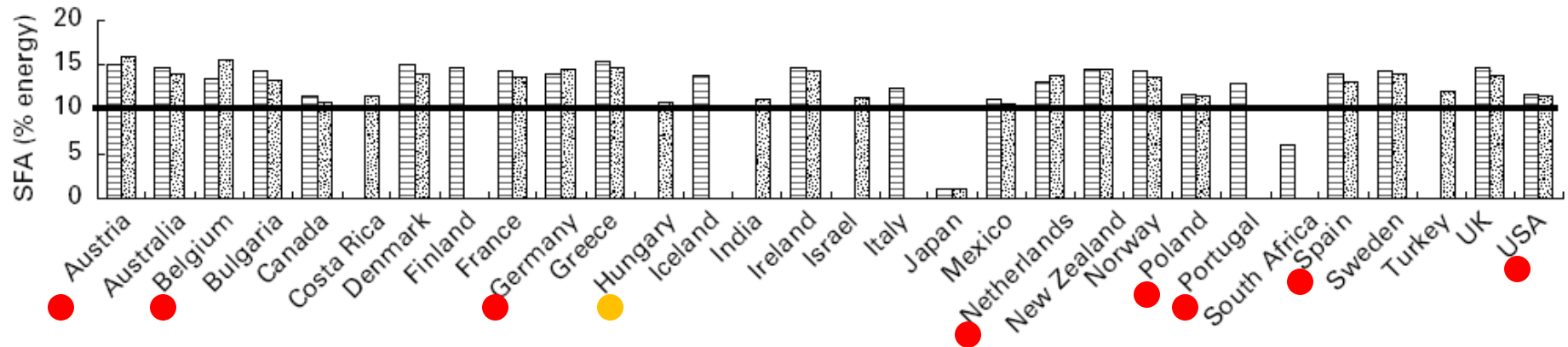


Fig. 2. SFA intakes (% energy) in children (□) and adolescents (▒) in thirty countries. Values are means. (—), Cut-off for the maximum dietary SFA (10 % energy) intake recommended by the WHO<sup>(18)</sup>.

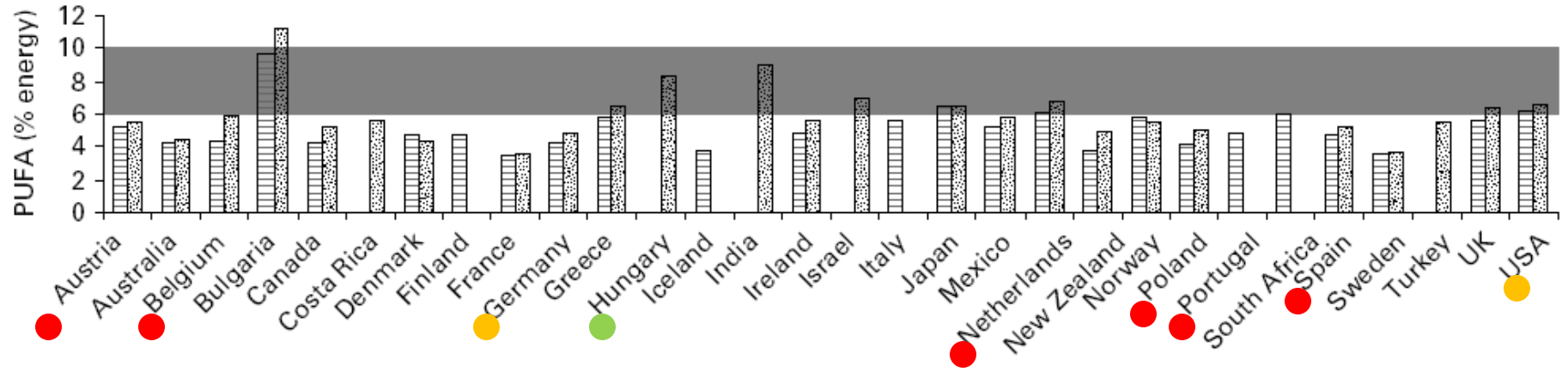
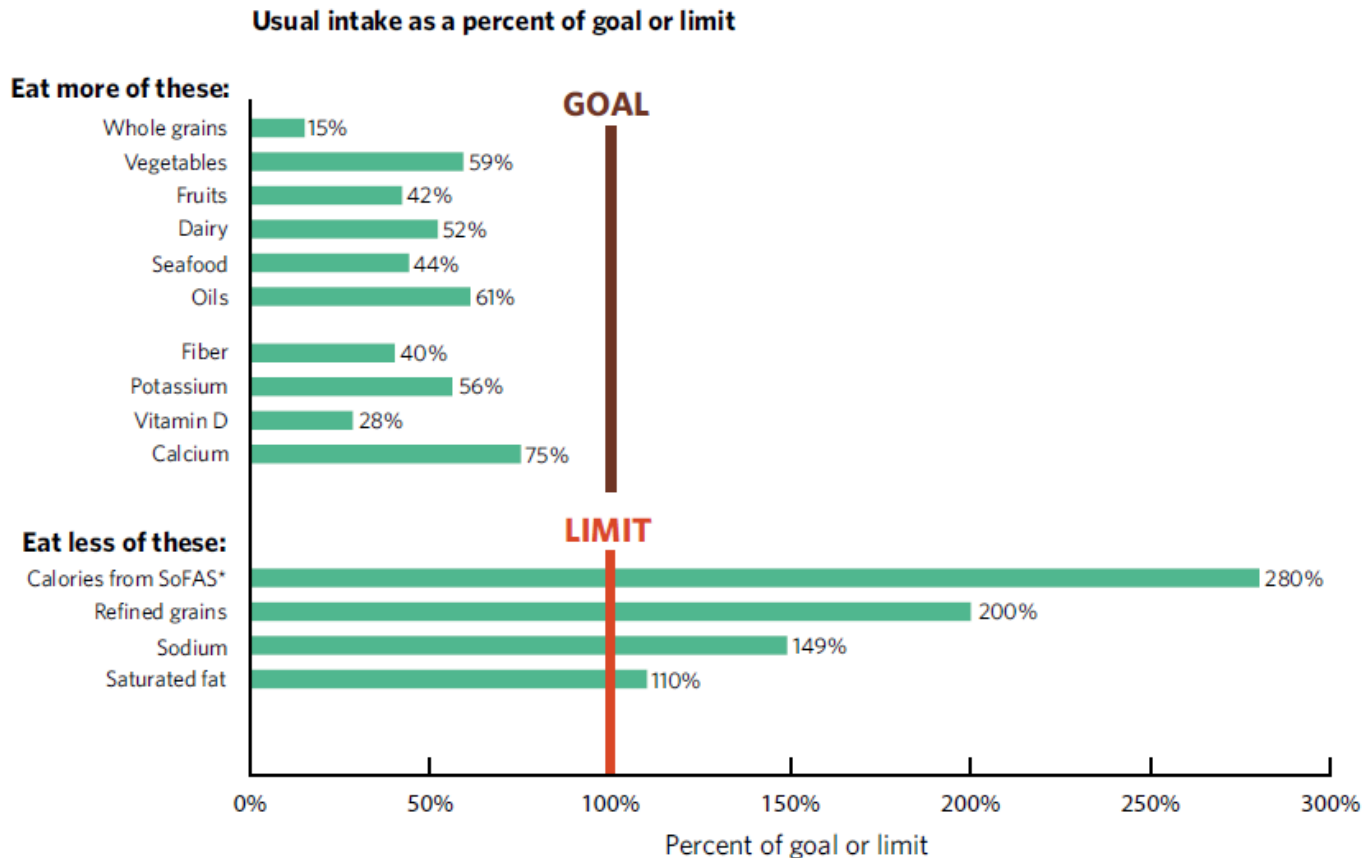


Fig. 3. PUFA intakes (% energy) in children (□) and adolescents (▒) in thirty countries. Values are means. (—), Total PUFA intake range (6–10% energy) recommended by the WHO<sup>(18)</sup>.

● Countries represented in the masterclass: *outside*, *close to*, *within* WHO recommendations

# Comparison of Intake to Recommendations

**FIGURE 5-1. How Do Typical American Diets Compare to Recommended Intake Levels or Limits?**



# Real Life Consumer Quotes on Types of Fat

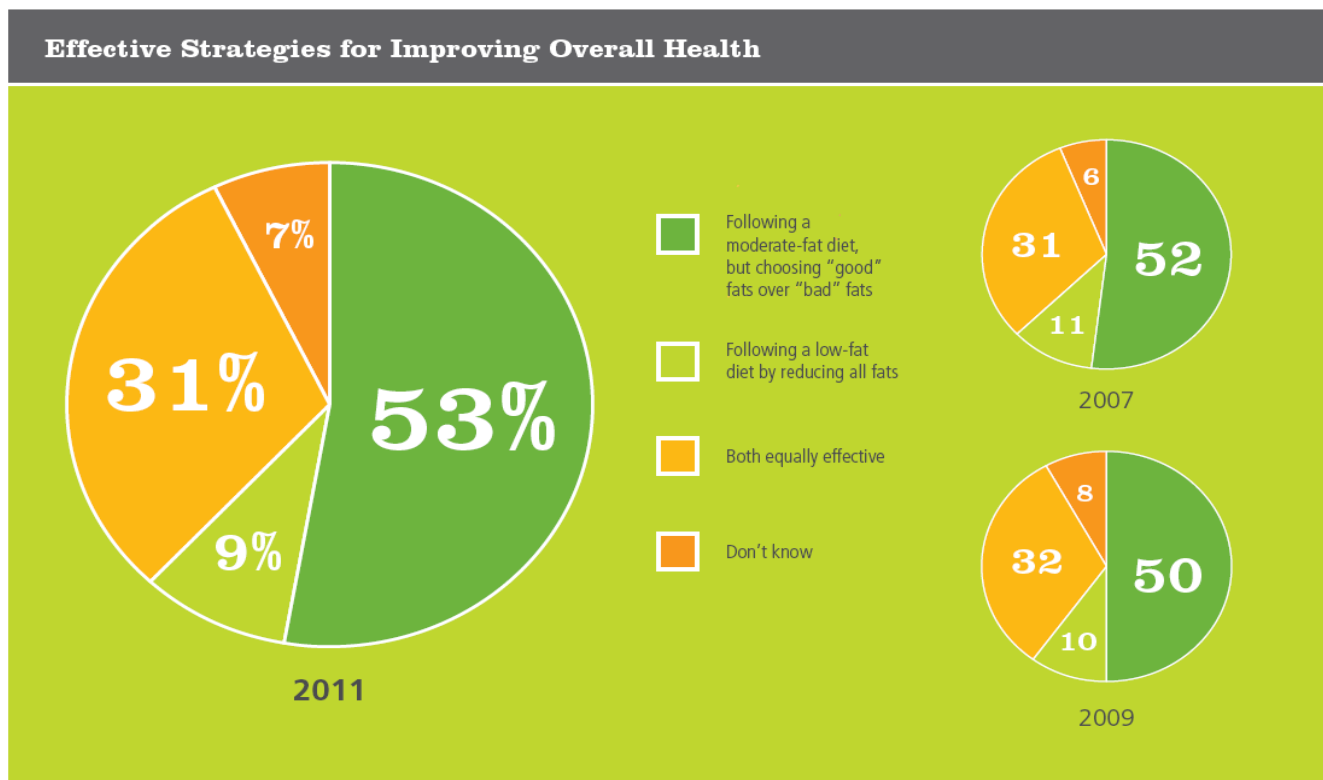
*Unsaturated, saturated...  
one of the two is good..*

*You hear so much that  
you don't know what to  
believe anymore*

*'Education and information I honestly don't  
know what saturated fat and what  
unsaturated fat is and how much saturated  
fat on a daily basis is good for me how much  
unsaturated fat I still don't know the  
difference. So for me it is about education and  
information'*

*It's a matter of  
terminology, not  
of health*

# Consumers are Still Confused 2011



53% know the importance of fat quality

2011 Consumer attitudes about Nutrition Survey

Online poll of 1000 **US adults** conducted by the United Soy Board

[http://www.soyconnection.com/health\\_nutrition/consumer\\_attitudes.php](http://www.soyconnection.com/health_nutrition/consumer_attitudes.php)

# Consumer Awareness Still Limited 2011

## Fats Consumers View as Very/Somewhat Healthy

	2009	2010	2011
Omega-3 fatty acids	75%	76%	79%
Polyunsaturated fat	29%	32%	33%
Monounsaturated fat	32%	30%	33%
Trans fat	9%	10%	9%
Saturated fat	7%	9%	8%

... but 77% cannot identify the good fats!

2011 Consumer attitudes about Nutrition Survey

Online poll of 1000 **US adults** conducted by the United Soy Board

[http://www.soyconnection.com/health\\_nutrition/consumer\\_attitudes.php](http://www.soyconnection.com/health_nutrition/consumer_attitudes.php)

# IFIC Survey 2011

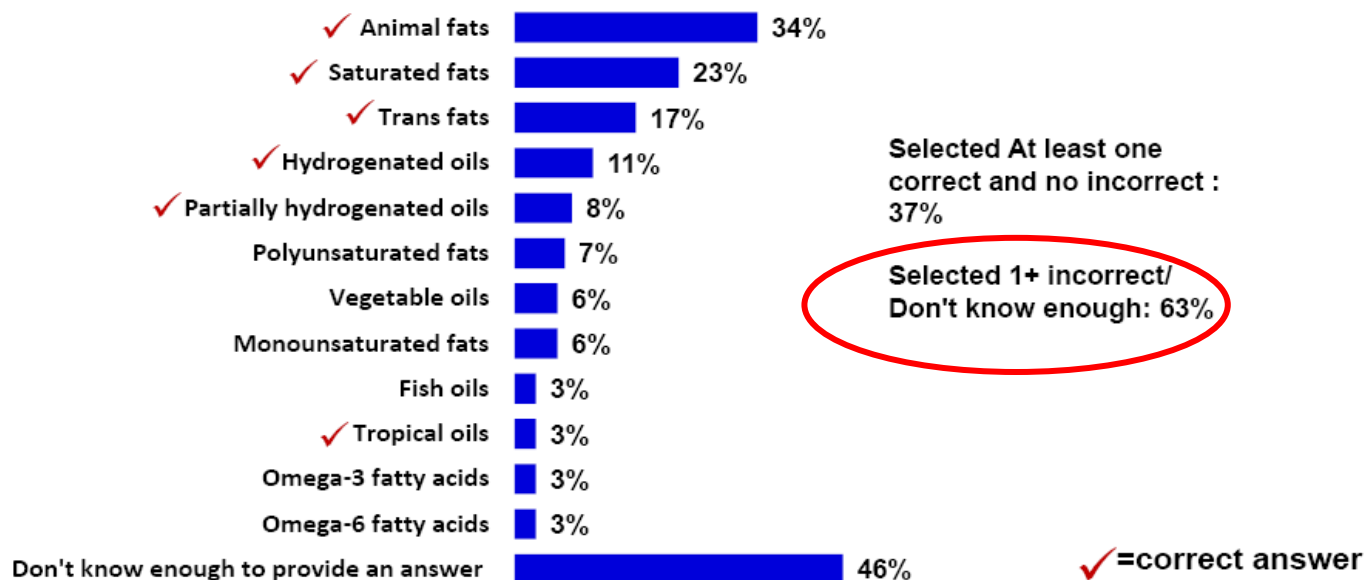
2011 FOOD & HEALTH SURVEY

3

DIETARY COMPONENTS

## Knowledge of Solid Fats

Less than 1% of Americans correctly named the six fats considered to be solid according to the 2010 Dietary Guidelines for Americans; nearly half are not willing to venture a guess.



Which of the following is a solid fat?\* [Select all that apply] (n=1000)

\*Question added in 2011.

# Real Life Consumer Quotes on a Healthy Diet

*'I don't care as long as it tastes OK'*

*'I try and justify the lack of a healthy diet by being more active.'*

*'I am quite ignorant on eating healthy and I think a lot of people are ignorant as to what you are supposed to eat and how many calories you are supposed to have.'*

*'If it says low in fat, you are drawn to it then really'*

# Changing Consumer Behaviors

- Recognize consumer confusion
- Assess their level of understanding
- Develop messages that are useful and accurate
- Put research studies into perspective

# Reviewing Research

- Design of study – RCT vs. observational
- Number of subjects and length of study
- Measurable outcomes and measures used
- Animal versus human studies
- Limitations identified
- Researchers affiliations
- Funding source

# Concerns of Industry Funding

- Conflicts of interest
  - “ a conflict between the private interests and the official responsibilities of a person in a position of trust.”
- Bias as defined in Oxford Dictionary–
  - “ an inclination or prejudice in favour of a particular person, thing or viewpoint”
- National Academy of Science says Bias – “deviation of either inferences or results from the truth”

“Funding Food Science and Nutrition Research: Financial Conflicts and Scientific Integrity: JADA; May, 2009.  
Accessed June 30, 2011

# Scientific Bias

- Sample size
- Data-collection
- Data-quality
- Statistical analysis
- Confounding variables
- Publication bias

“Funding Food Science and Nutrition Research: Financial Conflicts and Scientific Integrity:  
JADA; May, 2009. Accessed June 30, 2011

# Personal Bias

- Previous body of work
- Personal goals for achievement
- Achieving peer recognition
- Ethical or values-based
- Philosophical
- Publish or perish
- Financial incentives, gifts, etc

“Funding Food Science and Nutrition Research: Financial Conflicts and Scientific Integrity: JADA; May, 2009. Accessed June 30, 2011

# Other Areas of Potential Conflict

- Foundation funded research
- Government funded research
- Academicians on advisory panels to –
  - Industry
  - Government
  - NGO's
  - Grant panels

“Funding Food Science and Nutrition Research: Financial Conflicts and Scientific Integrity: JADA; May, 2009. Accessed June 30, 2011

# Responsibility of Professionals

- Regularly read scientific studies
- Understand *how* to read scientific studies
- Assess value of the study in the “Bigger” world context
- Respond to media appropriately
- Utilize tools designed for assessing research
- ADA Evidence Analysis Library
- USDA Evidence Analysis Library

# ADA Evidence Analysis Process

Step 1: Formulate Question

- Develop the Question

Step 2: Gather Research

- Gather and Classify the Research

Step 3: Appraise Articles

- Critically Appraise Each Article

Step 4: Summarize

- Summarize the evidence in an Overview Table and Evidence Summary

Step 5: Grade

- Develop Conclusion Statement and Grade the Strength of the Supporting Evidence

# USDA's Nutrition Evidence Library

- Specializes in conducting systematic reviews to inform Federal nutrition policy and programs.
- The Library evaluates, synthesizes, and grades the strength of the evidence to support conclusions.
- An objective and transparent methodology is used to define the state of food and nutrition-related science. **The Library is a key resource for making food and nutrition research accessible to all Americans**

# How You Can Convey the Science?

- Check relevance of sample, sample size, study length and study design
- Understand observational vs. RCT
- Review limitations of the study
- Read press release on the study
- Review the overall body of evidence
- Develop message based on **Body of Evidence** –  
Not Just 1 study

# Conclusions

- Consumers – some professionals - remain confused by scientific reporting
- Knowing *How* to interpret research is a professional responsibility
- Questioning *questionable* reporting of outcomes is a professional responsibility
- Communicating science based, useful messages  
*Changes Consumer Behaviors*

Thank You