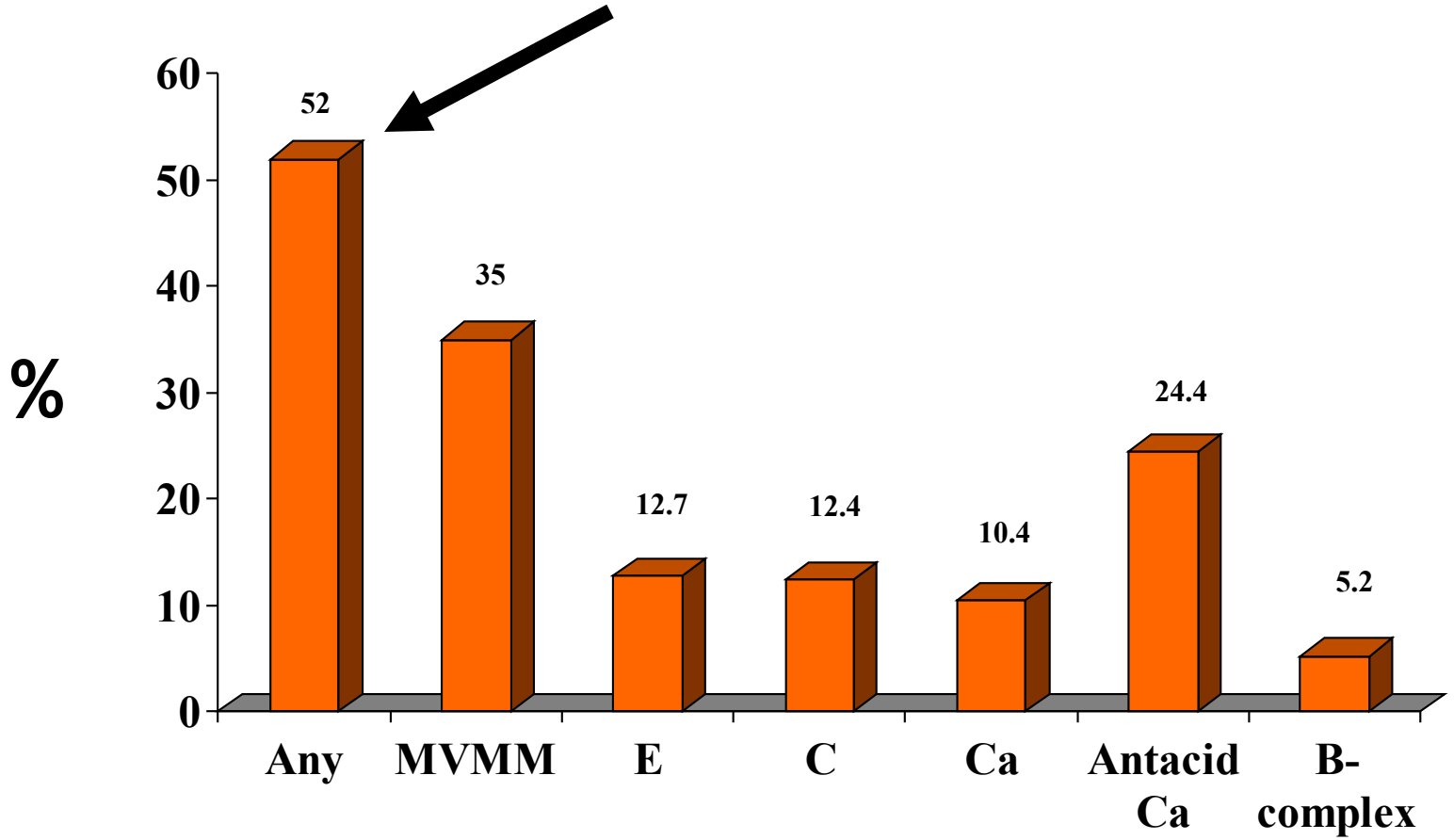
OFFICE OF DIETARY SUPPLEMENTS

NOADS

NHANES Online Analyst for Dietary Supplements

Mary Frances Picciano, PhD
Office of Dietary Supplements
National Institutes of Health

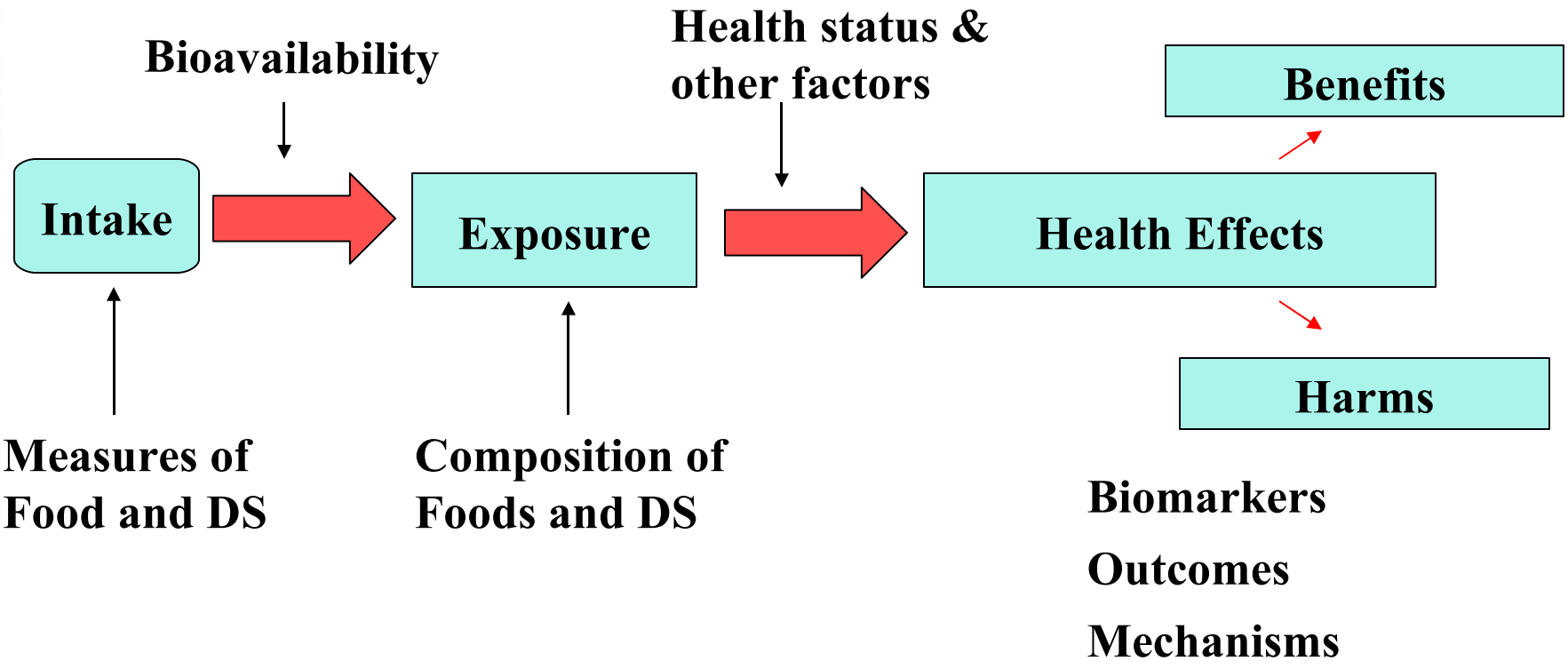
Dietary Supplement Use Among US Adults exceeds 50% NHANES 99-00 (n=4862)



Widespread Usage of Dietary Supplement Raises Important Public Health Questions

- To what extent do supplements contribute to overall nutrient intakes?
- Do dietary supplements contribute additional nutrients to diets already deemed adequate or do they fill gaps?
- How do total usual nutrient intakes relate to related biomarkers and health outcomes?

Assessing Heath Effects of Foods and Dietary Supplements and their Constituents

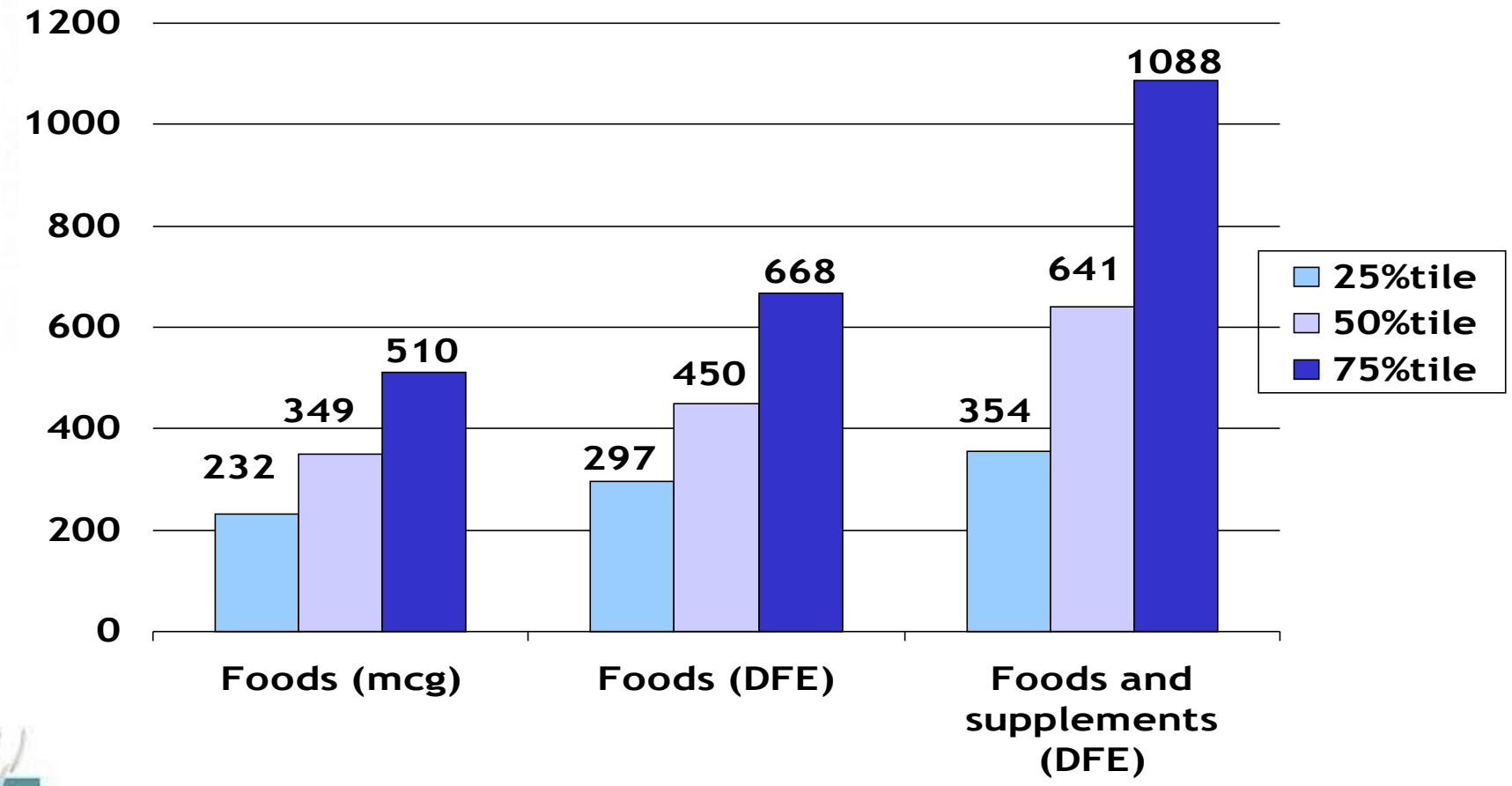


Total Usual Nutrient Intake

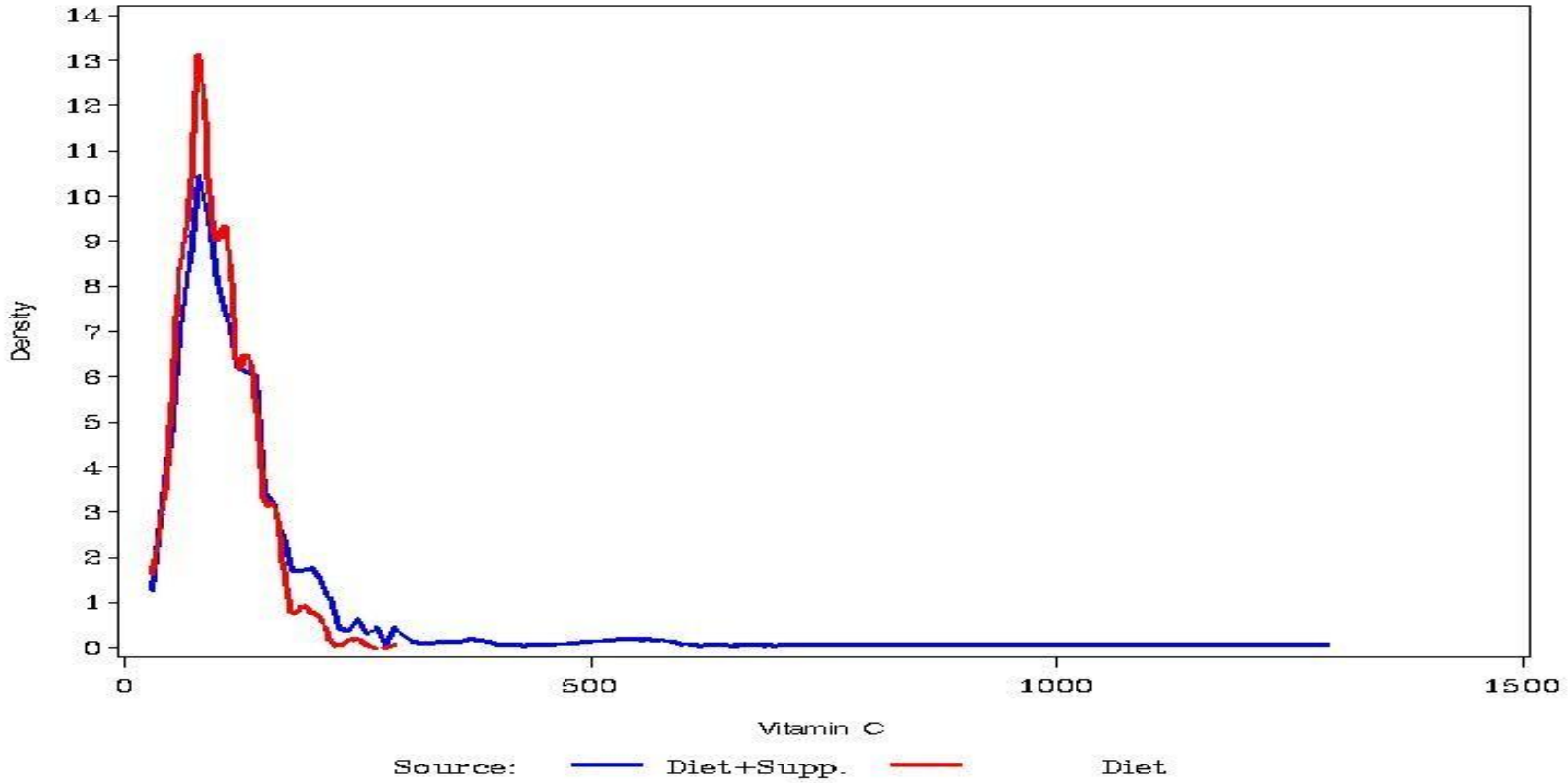
- Total usual nutrient intake = nutrient intake from food and from supplement sources
- Important to include dietary supplements in total nutrient intake:
  - For some nutrients, portion of intake from supplements may be large (e.g., Vitamin C)
  - Adequacy and excess likely to be underestimated if only food sources are considered
  - Some UL's defined only for supplement-derived nutrient intake (e.g., Mg)

Dietary supplement use shifts the intake distribution curve for folate

Source NHANES 2001-2002

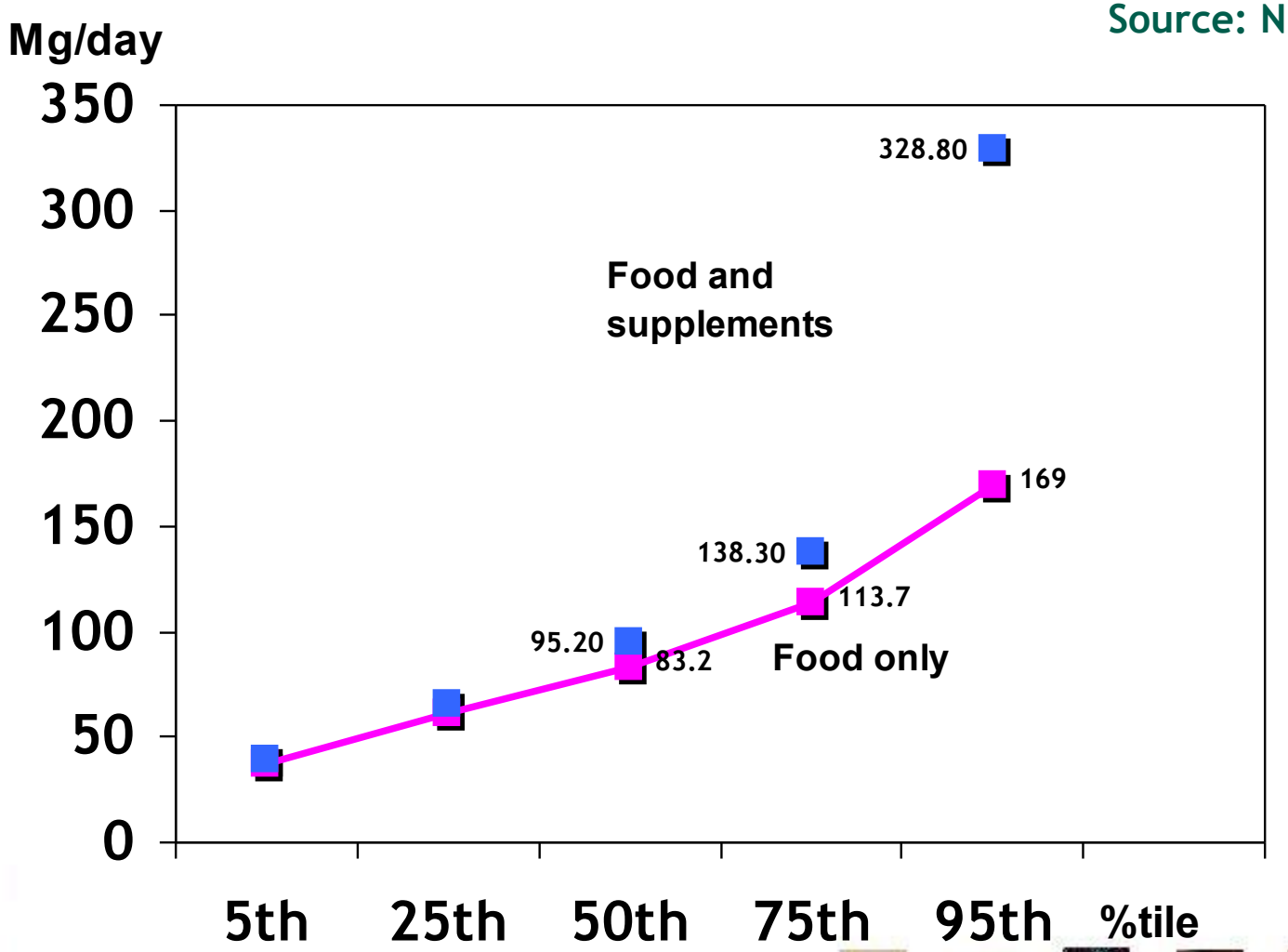


Dietary supplement intake shifts the distribution curve for Vitamin C *NHANES III*



Dietary supplement intake shifts the distribution curve for Vitamin C

Source: NHANES III



Challenges and Opportunities

Accounting for dietary supplements in intake assessment is a challenge:

- **Consumption patterns are just beginning to be understood**
- **Definitions are not standardized across studies**

Challenges and opportunities (cont)

- **Supplements and infrequently consumed items affect usual intake differently:**
  - Supplements ***add*** to food nutrient intake
  - Infrequently consumed items (e.g., spinach, lycopene) are either consumed or not.

- **For estimation of usual intake, important to include nutrient intakes from both supplements and infrequently consumed food items**

Copyright 2003 by Randy Glasbergen.
www.glasbergen.com

**"Don't tell me to improve my diet.
I ate a carrot once and nothing happened!"**

NHANES Data and Usual Nutrient Intake

- **Dietary Supplements** intake data are collected in the household interview over the past 30 days

- **Food** intake data are collected in the Mobile Exam Center (MEC) over the past 24 hours

Complex Data Files

NOADS

NHANES
Online Analyst for
Dietary Supplements








Overall Goal of NOADS

To enable researchers and public health officials to analyze NHANES public use data files for tabulation of total usual nutrient intakes from food and supplements in a rapid, cost-effective and accurate fashion

Development of NOADS

- An user-friendly, accessible and intuitive web-based analysis tool for NHANES data
- A tool that runs in **REAL TIME**
- Employs the IOWA method for combining Food and Supplement intakes to estimate Total Nutrient Intake
- Applies proper sample weights
- Performs statistical analyses
- Can download results to WORD or EXCEL files

File Edit View Go Bookmarks Tools Help

http://noads.rti.org/cgi-bin/htmsql.exe/noads_overview.hsql

Welcome to NIH Fed... Prescriptions and he... Directory of Retailers ITAS Login ODS Washingtonian The John F. Kenned... Montgomery County...

mywebsearch Search Highlight 74° Forecast --/65°

National Institutes of Health
OFFICE OF DIETARY SUPPLEMENTS






Search Go

Home | Health Info | Research | News & Events | Funding | About

NOADS: NHANES Online Analyst for Dietary Supplements

Overview

The ODS NHANES Online Analyst for Dietary Supplements (NOADS) is a tool to enable individuals to quickly analyze data on nutrient intake from dietary supplements and food. NOADS is based on the National Health and Nutrition Examination Survey (NHANES) public access data from the surveys conducted in 1999-2000 and 2001-2002. NOADS links to select variables from these NHANES surveys and provides the user the opportunity to generate data tables with descriptive statistics.

NOADS data tables are not preset groups of data but rather are generated in real time based upon the selections the user makes from a set of variables. In the background, NOADS automatically applies the appropriate statistical weights for the NHANES data set so that the resulting NHANES sample data are statistically representative of the U.S. population. If the user elects to analyze nutrient intake data from foods and dietary supplements combined, NOADS will use a daily usual intake estimate that incorporates nutrient contribution from food and supplement sources.

In addition to creating data tables of nutrient intake, the user can also analyze nutritional biomarker levels in blood and serum, or separately produce population-based prevalence of the use of supplements and relate these data to demographic and lifestyle variables.

Click here or at the top of the page to BEGIN ANALYSIS.

NOADS

BEGIN ANALYSIS

References

- NOADS Overview
- How to Make NOADS Work with Your Computer
- How to Use NOADS
- What Does NOADS Do for You?
- Variables Used in NOADS
- Notes to Users
- FAQs
- Properties

File Edit View Go Bookmarks Tools Help

http://noads.rti.org/cgi-bin/htmsql.exe/noads_interface.hsql

Welcome to NIH Fed... Prescriptions and he... Directory of Retailers ITAS Login ODS Washingtonian The John F. Kenned... Montgomery County...

mywebsearch Search Highlight 80° Forecast --/68°

National Institutes of Health
OFFICE OF DIETARY SUPPLEMENTS

Search Go

Home | Health Info | Research | News & Events | Funding | About

NOADS: NHANES Online Analyst for Dietary Supplements

Instructions: Please select the type of analysis you want to do, the years, source of nutrients, analysis variables, groups, statistics and any additional analysis you wish to perform. Then click on "Run Report" to see the results of your chosen analysis.

For more information about each step, click on the underlined words. For more information about the process behind the steps, click on the question mark next to each step.

Step by step instructions can be found in References by clicking on How to Use NOADS. If you are new to NOADS, you may want to print the How to Use NOADS page for a reference.

Step 1: Select Type of Analysis ?

- (•) Prevalence of Use
- ( ) Intake

Step 2: Select Years ?

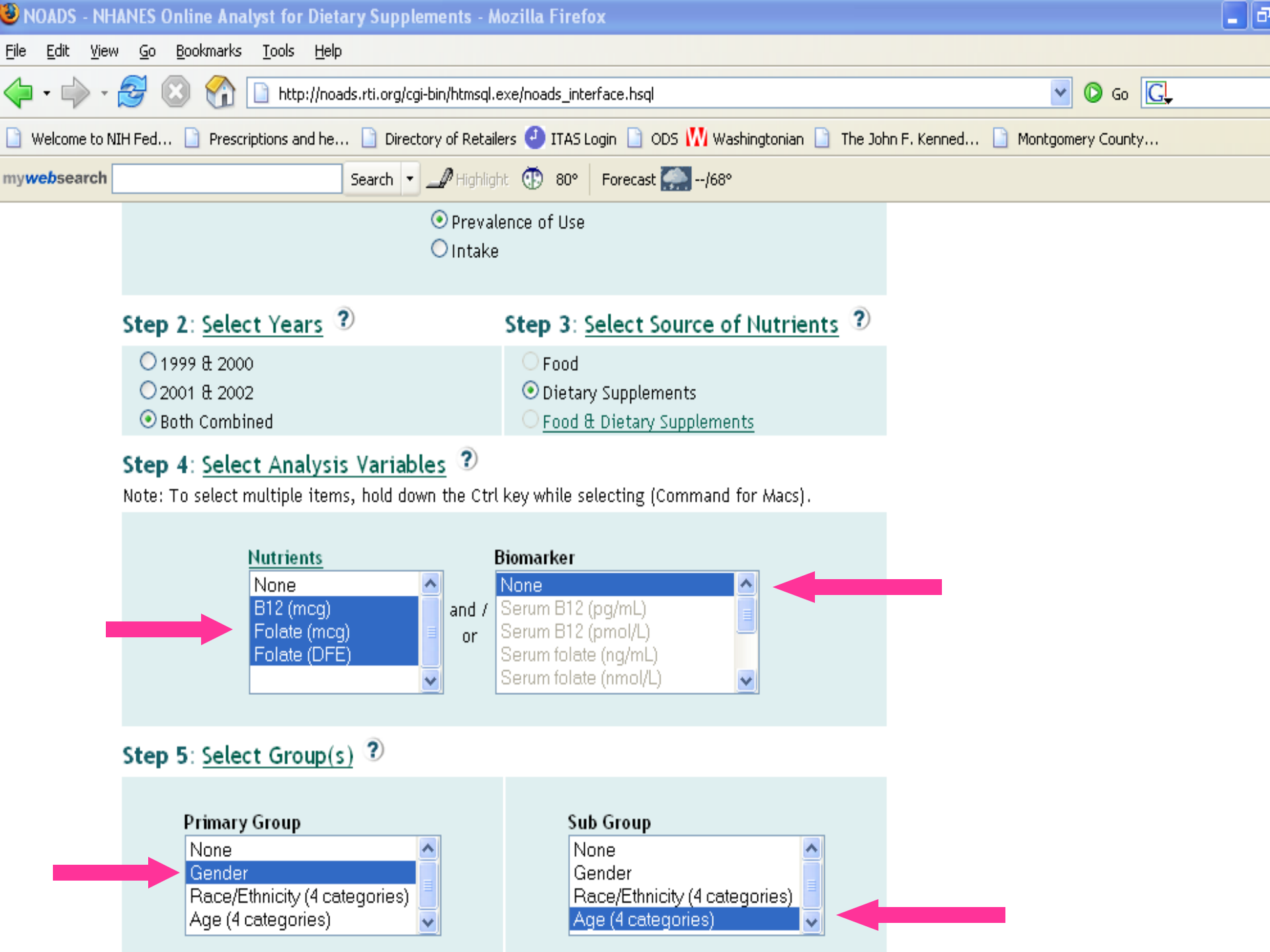
- ( ) 1999 & 2000
- ( ) 2001 & 2002
- (•) Both Combined

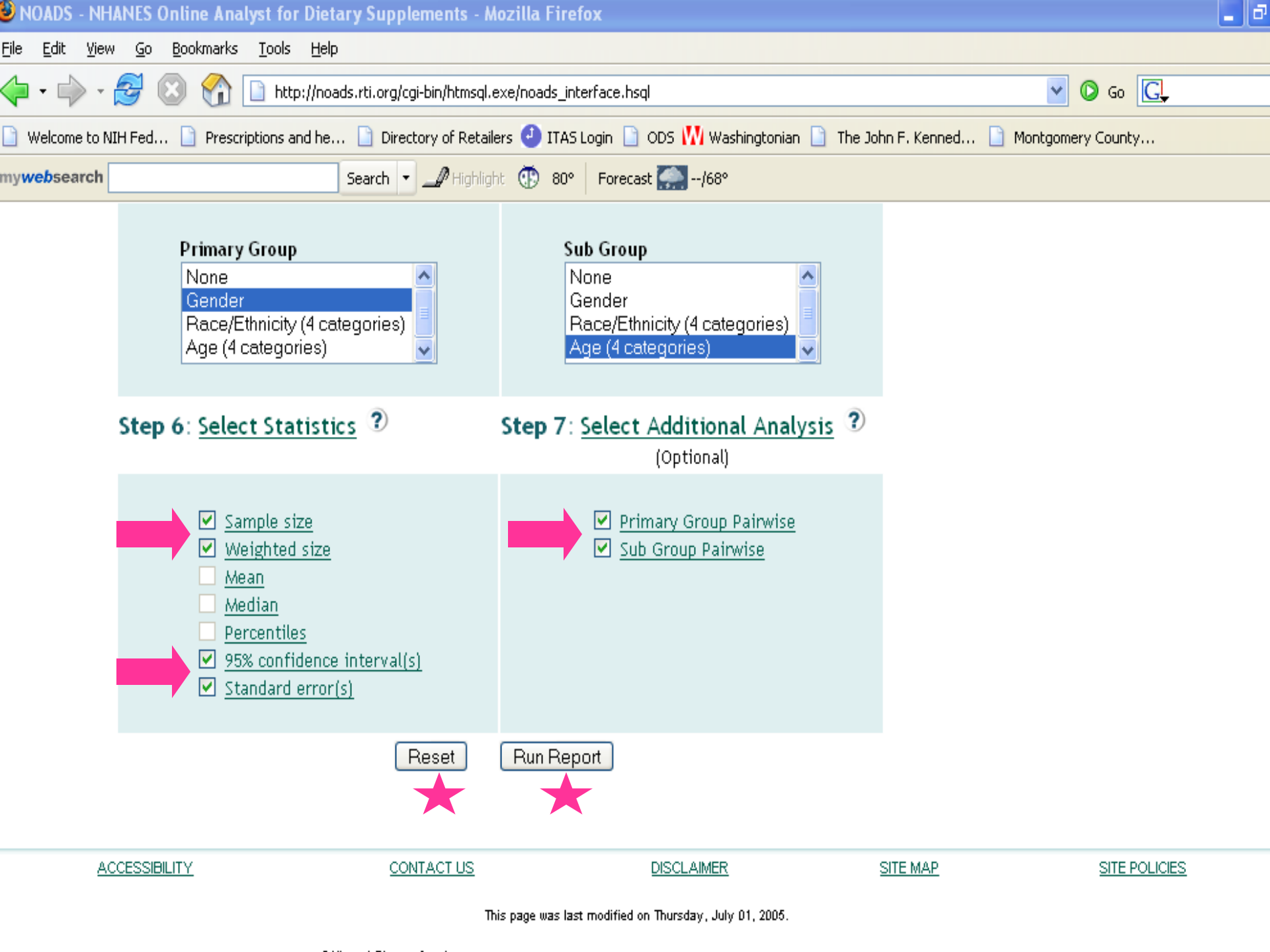
Step 3: Select Source of Nutrients ?

- ( ) Food
- (•) Dietary Supplements
- ( ) Food & Dietary Supplements

References

- NOADS Overview
- How to Make NOADS Work with Your Computer
- How to Use NOADS
- What Does NOADS Do for You?
- Variables Used in NOADS
- Notes to Users
- FAQs
- Properties


NOADS - NHANES Online Analyst for Dietary Supplements - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://noads.rti.org/cgi-bin/htmsql.exe/noads_interface.hsql
Go
Welcome to NIH Fed... Prescriptions and he... Directory of Retailers ITAS Login ODS Washingtonian The John F. Kenned... Montgomery County...
mywebsearch Search Highlight 80° Forecast --/68°
Prevalence of Use
Intake
Step 2: Select Years
1999 & 2000
2001 & 2002
Both Combined
Step 3: Select Source of Nutrients
Food
Dietary Supplements
Food & Dietary Supplements
Step 4: Select Analysis Variables
Note: To select multiple items, hold down the Ctrl key while selecting (Command for Macs).
Nutrients
None
B12 (mcg)
Folate (mcg)
Folate (DFE)
and / or
Biomarker
None
Serum B12 (pg/mL)
Serum B12 (pmol/L)
Serum folate (ng/mL)
Serum folate (nmol/L)
Step 5: Select Group(s)
Primary Group
None
Gender
Race/Ethnicity (4 categories)
Age (4 categories)
Sub Group
None
Gender
Race/Ethnicity (4 categories)
Age (4 categories)


NOADS - NHANES Online Analyst for Dietary Supplements - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://noads.rti.org/cgi-bin/htmsql.exe/noads_interface.hsql
Go
Welcome to NIH Fed... Prescriptions and he... Directory of Retailers ITAS Login ODS Washingtonian The John F. Kenned... Montgomery County...
mywebsearch Search Highlight 80° Forecast --/68°
Primary Group
None
Gender
Race/Ethnicity (4 categories)
Age (4 categories)
Sub Group
None
Gender
Race/Ethnicity (4 categories)
Age (4 categories)
Step 6: Select Statistics
Step 7: Select Additional Analysis
(Optional)
Sample size
Weighted size
Mean
Median
Percentiles
95% confidence interval(s)
Standard error(s)
Primary Group Pairwise
Sub Group Pairwise
Reset
Run Report
ACCESSIBILITY
CONTACT US
DISCLAIMER
SITE MAP
SITE POLICIES
This page was last modified on Thursday, July 01, 2005.

http://noads.rti.org - Step 1 Question - NOADS - Mozilla ...

mywebsearch Search Highlight

Question Mark at Step 1.

Prevalence of Use is the percent of the population that is using dietary supplements. Intake is the mean or median amount of usual intake of a nutrient. See FAQs in References for more information about calculation of usual intake by NOADS.

Done

erface.hsql

ogin ODS Washingtonian The John F. Kenned...

Forecast --/68°



Health Info Research News & Events

the years, source of nutrients,
s you wish to perform. Then click on

words. For more information about
to each step.

g on How to Use NOADS. If you are new to NOADS, you may want to print the How to Use NOADS page for a reference.

Step 1: Select Type of Analysis ?

- Prevalence of Use
- Intake

NOADS: NHANES Online Analyst for Dietary Supplements

Download to Excel

Modify the Analysis Parameters

Prevalence of B12 (mcg) intake from Dietary Supplements

Grouped by: Gender
Subgrouped by: Age (4 categories)
Combined 1999-2000 and 2001-2002 Data

Descriptive statistics for prevalence of B12 (mcg) intake from Dietary Supplements, grouped by Gender, subgrouped by Age (4 categories)

Gender	Age (4 categories)	Sample Size	Prevalence (%)	SE of Prevalence	95% CI for Prevalence
Male	19-30	1,139	21.8	1.6	(18.6, 25.0)
	31-50	1,594	34.8	1.5	(31.8, 37.8)
	51-70	1,419	40.3	1.9	(36.5, 44.2)
	71+	929	39.1	1.8	(35.4, 42.7)
	Total	5,081	33.6	1.0	(31.4, 35.7)
Female	19-30	1,505	32.4	1.8	(28.7, 36.0)
	31-50	1,762	42.5	1.4	(39.6, 45.5)
	51-70	1,425	48.0	2.1	(43.7, 52.4)
	71+	1,048	47.3	1.6	(44.0, 50.6)

Pairwise comparisons for prevalence of B12 (mcg) intake from Dietary Supplements between the groups of Gender

Gender Comparison		Sample Size	Difference in Prevalences	SE of Difference in Prevalences	95% CI for Difference in Prevalences	t-Test for Difference=0	p-Value
Male	Female	10,821	-8.7	1.0	(-10.8, -6.7)	-8.7	<0.001

Pairwise comparisons for prevalence of B12 (mcg) intake from Dietary Supplements between the groups of Age (4 categories), within the groups of Gender

Gender	Age (4 categories) Comparison		Sample Size	Difference in Prevalences	SE of Difference in Prevalences	95% CI for Difference in Prevalences	t-Test for Difference=0	p-Value
Male	19-30	31-50	2,733	-13.0	2.1	(-17.3, -8.7)	-6.2	<0.001
	19-30	51-70	2,558	-18.5	2.3	(-23.2, -13.8)	-8.1	<0.001
	19-30	71+	2,068	-17.2	2.4	(-22.2, -12.3)	-7.1	<0.001
	31-50	51-70	3,013	-5.5	2.0	(-9.6, -1.5)	-2.8	0.009
	31-50	71+	2,523	-4.3	2.0	(-8.4, -0.1)	-2.1	0.045
	51-70	71+	2,348	1.3	2.1	(-3.1, 5.7)	0.6	0.554
Female	19-30	31-50	3,267	-10.1	2.3	(-14.9, -5.3)	-4.3	<0.001
	19-30	51-70	2,930	-15.6	2.5	(-20.7, -10.6)	-6.3	<0.001
	19-30	71+	2,553	-14.9	2.4	(-19.8, -10.0)	-6.2	<0.001
	31-50	51-70	3,187	-5.5	2.9	(-11.4, 0.3)	-1.9	0.064
	31-50	71+	2,810	-4.8	2.4	(-9.7, 0.1)	-2.0	0.056
	51-70	71+	2,473	0.8	2.1	(-3.5, 5.0)	0.4	0.717
Total	19-30	31-50	6,000	-11.5	2.0	(-15.6, -7.4)	-5.8	<0.001
	19-30	51-70	5,488	-17.2	1.7	(-20.5, -13.8)	-10.4	<0.001
	19-30	71+	4,621	-16.8	1.9	(-20.6, -13.1)	-9.1	<0.001

Usual Intake of Vitamin B12 and Folate

Step 1: Select Type of Analysis

- ○ Prevalence of Use
- ◉ Intake

Step 2: Select Years

- ○ 1999 & 2000
- ◉ 2001 & 2002
- ○ Both Combined

Step 3: Select Source of Nutrients

- ○ Food
- ○ Dietary Supplements
- ◉ Food & Dietary Supplements

Step 4: Select Analysis Variables

Note: To select multiple items, hold down the Ctrl key while selecting (Command for Macs).

Nutrients

- None
- B12 (mcg)
- Folate (mcg)
- Folate (DFE)

and / or

Biomarker

- None
- Serum B12 (pg/mL)
- Serum B12 (pmol/L)
- Serum folate (ng/mL)
- Serum folate (nmol/L)

Step 5: Select Group(s)

Primary Group

- None
- Gender
- Race/Ethnicity (4 categories)
- Age (4 categories)

Sub Group

- None
- Gender
- Race/Ethnicity (4 categories)
- Age (4 categories)

Step 6: Select Statistics

- [x] Sample size
- [x] Weighted size
- [x] Mean
- [x] Median
- [x] Percentiles
- [x] 95% confidence interval(s)
- [x] Standard error(s)

Step 7: Select Additional Analysis

(Optional)

- [x] Primary Group Pairwise
- [x] Sub Group Pairwise

NOADS: NHANES Online Analyst for Dietary Supplements

Download to Excel
Modify the Analysis Parameters

Usual intake of B12 (mcg) from Food and Dietary Supplements

Grouped by: Gender
Subgrouped by: Race/Ethnicity (4 categories)
2001-2002 Data

Descriptive statistics for usual intake of B12 (mcg) from Food and Dietary Supplements, grouped by Gender, subgrouped by Race/Ethnicity (4 categories)

Gender	Race/Ethnicity (4 categories)	Sample Size	Weighted Size	Mean	SE of Mean	95% CI for Mean	Median	SE of Median	5th Pctile	SE of 5th Pctile	10th Pctile	SE of 10th Pctile	15th Pctile	SE of 15th Pctile	25th Pctile	SE of 25th Pctile	50th Pctile	SE of 50th Pctile	75th Pctile	SE of 75th Pctile	P
Male	Non-Hispanic White	1,236	68,153,550	32.8	4.5	(23.3, 42.3)	7.5	0.4	1.0	0.2	1.8	0.2	2.8	0.2	4.1	0.2	7.5	0.4	14.4	n/a	
	Non-Hispanic Black	504	9,795,819	15.0	4.5	(5.5, 24.5)	4.8	n/a	n/a	n/a	0.6	n/a	1.2	n/a	2.0	n/a	4.8	n/a	9.2	0.5	
	Mexican American	550	7,590,671	15.1	2.7	(9.3, 20.8)	4.9	n/a	n/a	n/a	0.9	n/a	1.4	n/a	2.7	n/a	4.9	n/a	9.1	0.9	
	Other	157	8,249,480	10.5	1.1	(8.1, 12.9)	4.9	n/a	n/a	n/a	1.0	n/a	1.7	n/a	2.6	n/a	4.9	n/a	10.0	0.9	

Pairwise comparisons for usual intake of B12 (mcg) from Food and Dietary Supplements between the groups of Race/Ethnicity (4 categories), within the groups of Gender

Gender	Race/Ethnicity (4 categories) Comparison		Sample Size	Weighted Size	Difference in Means	SE of Difference in Means	95% CI for Difference in Means	t-Test for Difference=0	p-Value
Male	Non-Hispanic White	Non-Hispanic Black	1,740	77,949,369	17.8	6.9	(3.0, 32.6)	2.6	0.021
	Non-Hispanic White	Mexican American	1,786	75,744,221	17.7	4.9	(7.3, 28.2)	3.6	0.003
	Non-Hispanic White	Other	1,393	76,403,029	22.3	4.3	(13.1, 31.5)	5.2	<0.001
	Non-Hispanic Black	Mexican American	1,054	17,386,490	-0.1	4.8	(-10.3, 10.1)	-0.0	0.986
	Non-Hispanic Black	Other	661	18,045,299	4.5	4.3	(-4.7, 13.6)	1.0	0.317
	Mexican American	Other	707	15,840,150	4.5	2.3	(-0.3, 9.3)	2.0	0.062
Female	Non-Hispanic White	Non-Hispanic Black	1,867	82,797,415	22.8	3.6	(15.1, 30.5)	6.3	<0.001
	Non-Hispanic White	Mexican American	1,884	77,315,271	21.6	5.3	(10.2, 33.0)	4.0	0.001
	Non-Hispanic White	Other	1,535	81,863,103	20.8	5.3	(9.5, 32.0)	3.9	0.001
	Non-Hispanic Black	Mexican American	1,085	19,045,533	-1.2	4.5	(-10.7, 8.3)	-0.3	0.785
	Non-Hispanic Black	Other	736	23,593,365	-2.1	3.2	(-8.9, 4.8)	-0.6	0.529

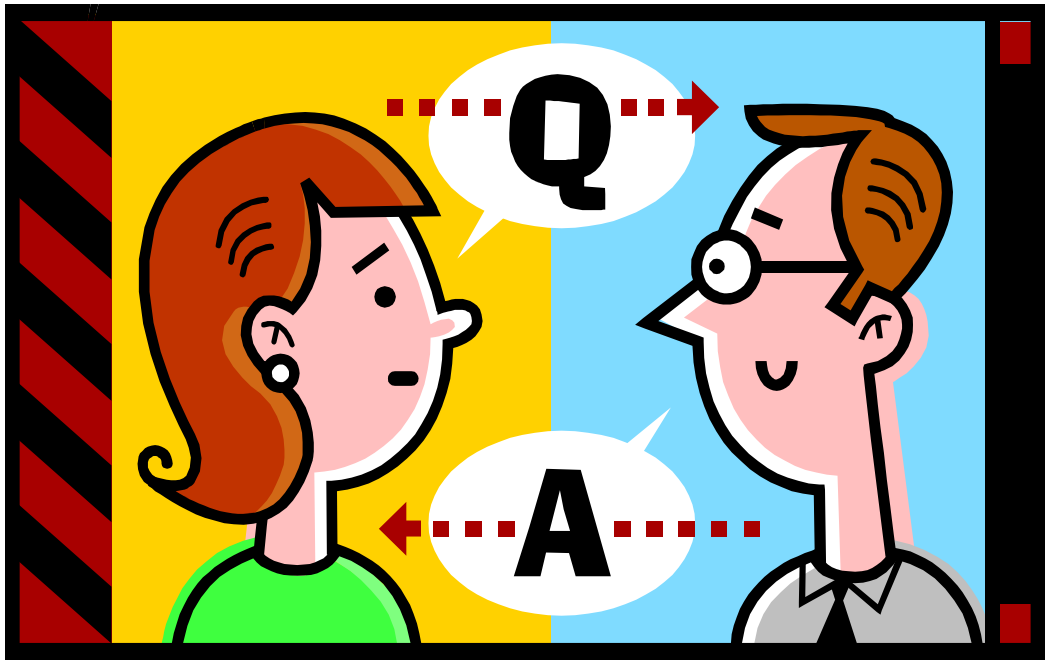
Evaluation Criteria

- Ease of Navigation
- Assessment of organization for ease of use
- Determine utility of NOADS as it exists and determine how it may be improved
- Solicit input on rank order of nutrients and statistical evaluation procedures to be added

Current Status of NOADS

- **Prototype is developed for Folate and Vitamin B-12**
- **Evaluated at Experimental Biology Meeting in April and at this FNCE**
- **ODS Plans to expand nutrients included and relevant biomarkers and well as functionality**

Thank you for Listening



Visit the ODS Website

http://dietary-supplements.info.nih.gov/