

Evidence of Use of Dietary Supplements by the Elderly: Current Usage Patterns: Who and What?

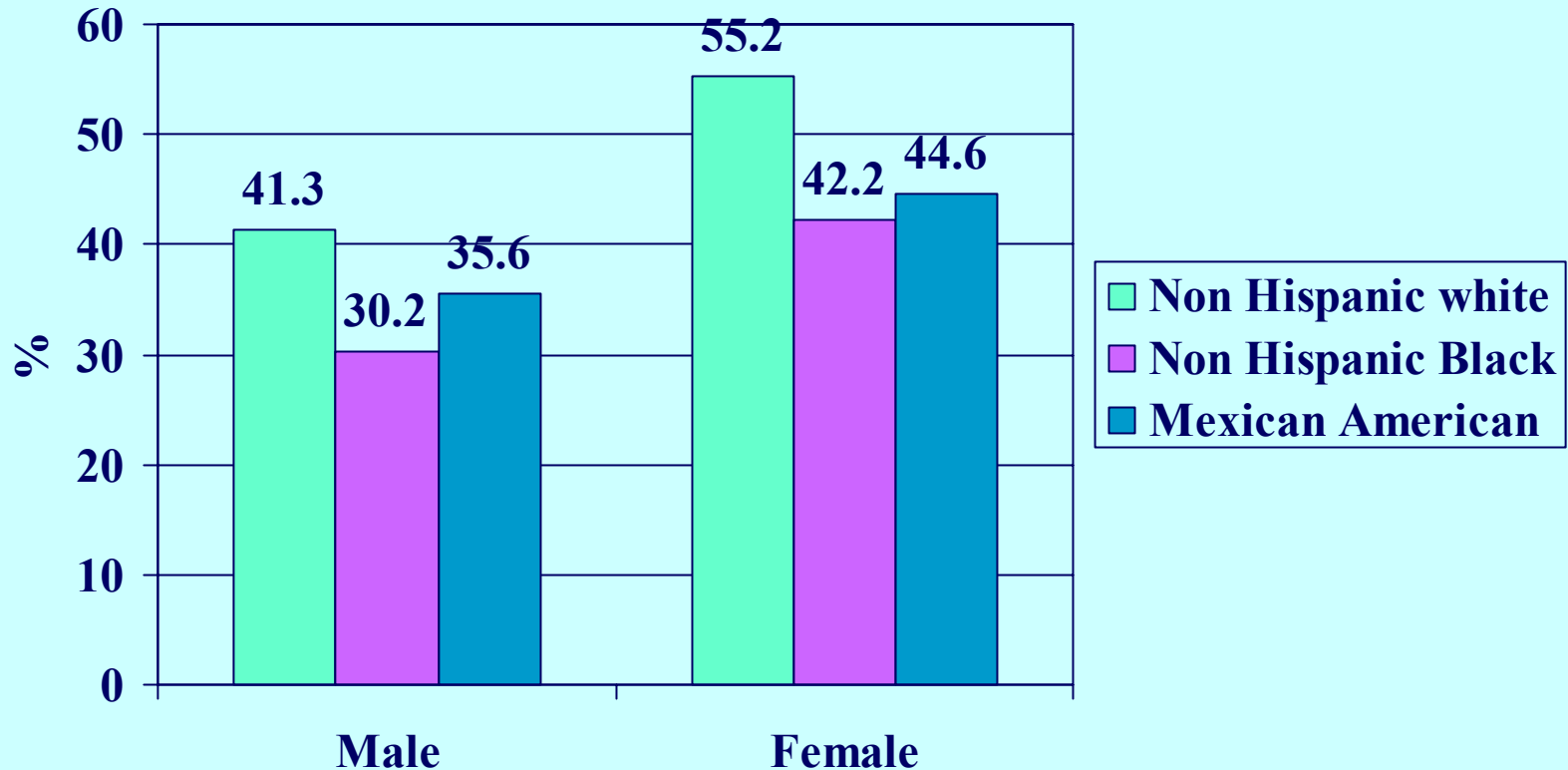
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Supplement Use in the Elderly

- What do we know?
 - How many elders are using supplements?
 - Is supplement use increasing among the elderly?
 - Are they taking multivitamin preparations or single nutrients?
 - What are the characteristics of users vs. non-users?
 - What about herbal/other supplements?

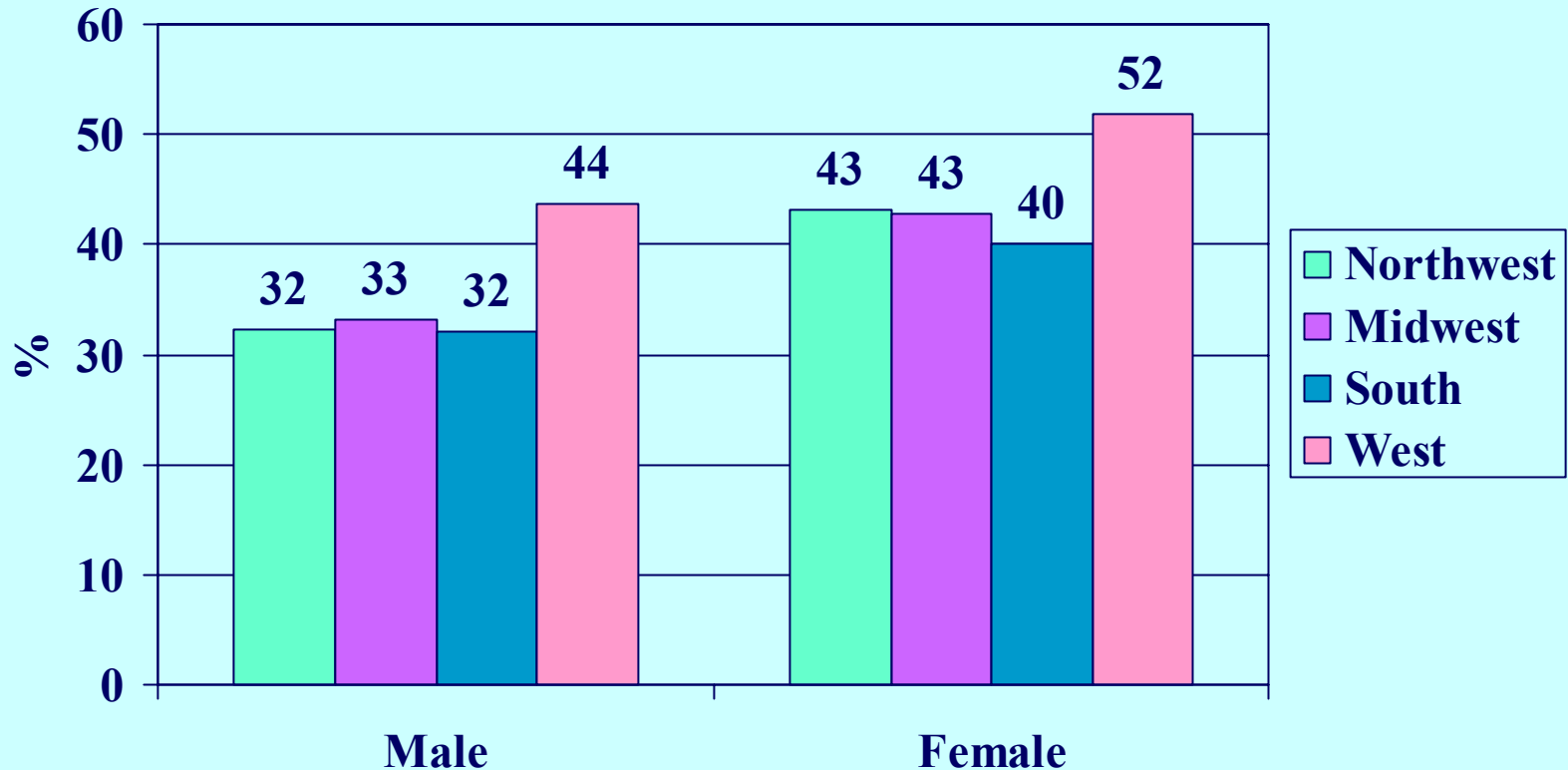
NHANES III, 1988-94 (60+ y)



From: Ervin, RB et al. Vital and Health Statistics Series 11, No. 244, June 1999.

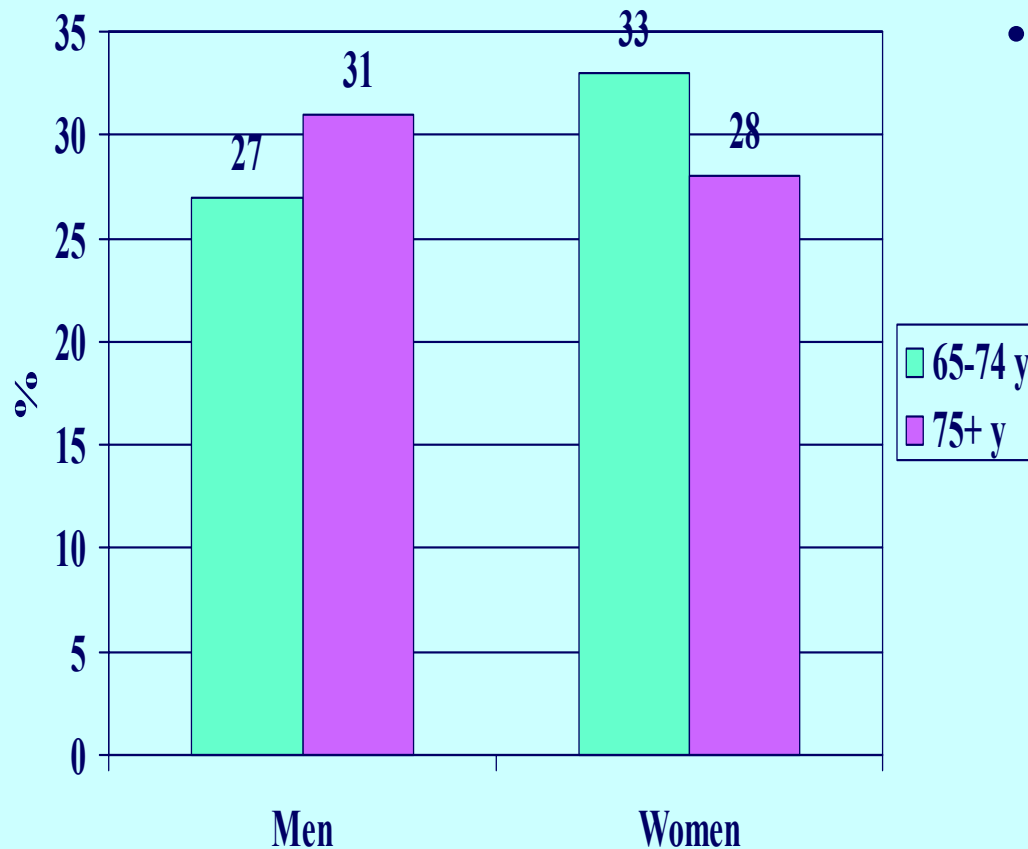
N: Male, NHW=1826, NHB=596, MA=609; Female, NHW=2135, NHB=659, MA=568

NHANES III, 1988-94 (all ages)



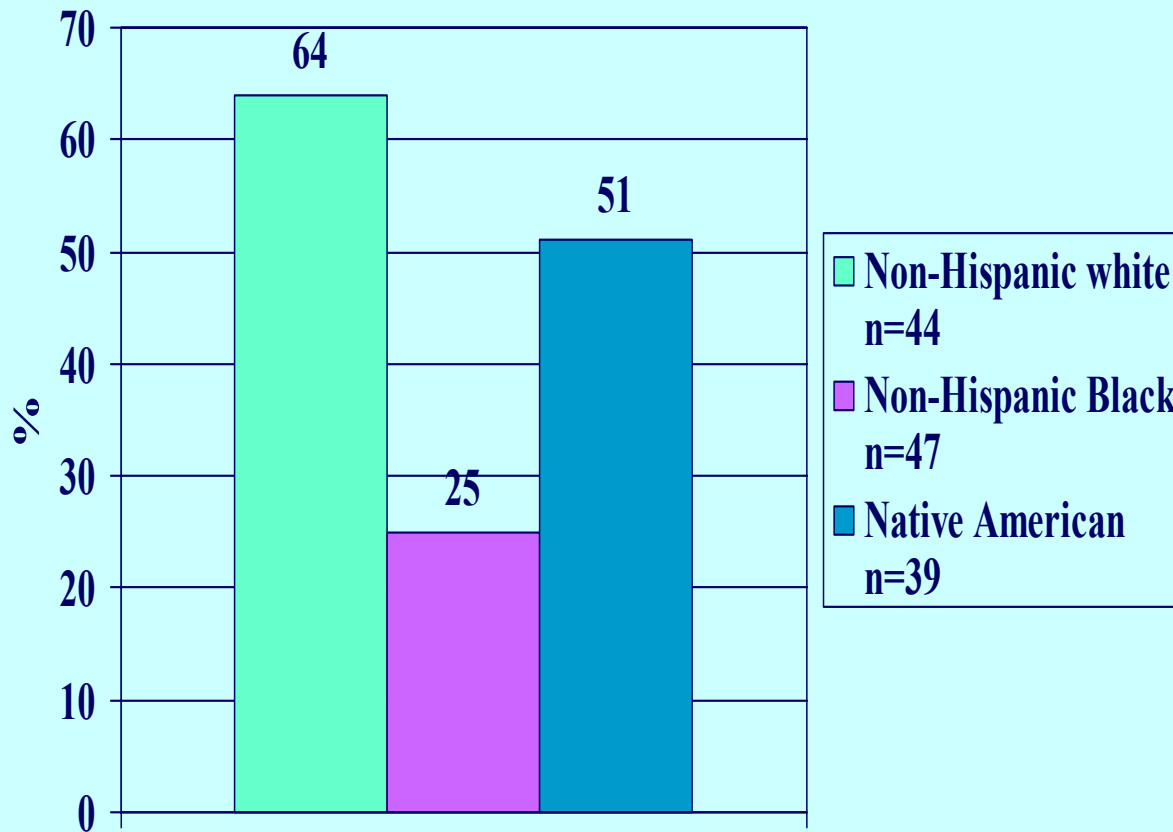
From: Ervin, RB et al. Vital and Health Statistics Series 11, No. 244, June 1999.

Multi-nutrient Supplement Use (%) by Older Adults in Beaver Dam, WI (1988-90, 65-86 y)



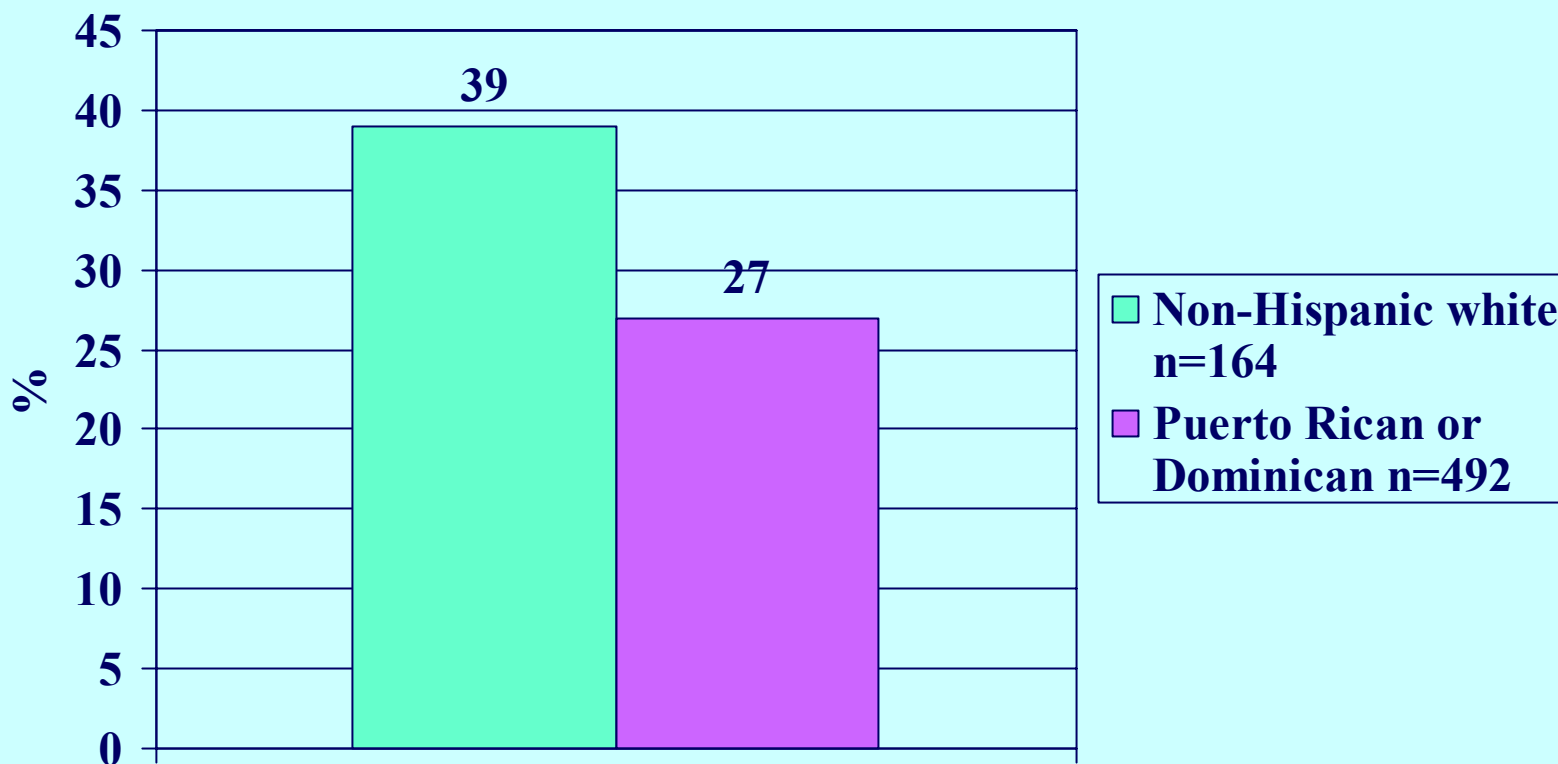
- Supplement users (43-86 y) were more likely than non-users to:
 - have higher education
 - be physically active
 - drink < 91 g alcohol/wk
 - be never smokers
 - have lower BMI
 - have better nutrient intakes from diet

Supplement Use (%) by Rural Elders in North Carolina (70 + y)



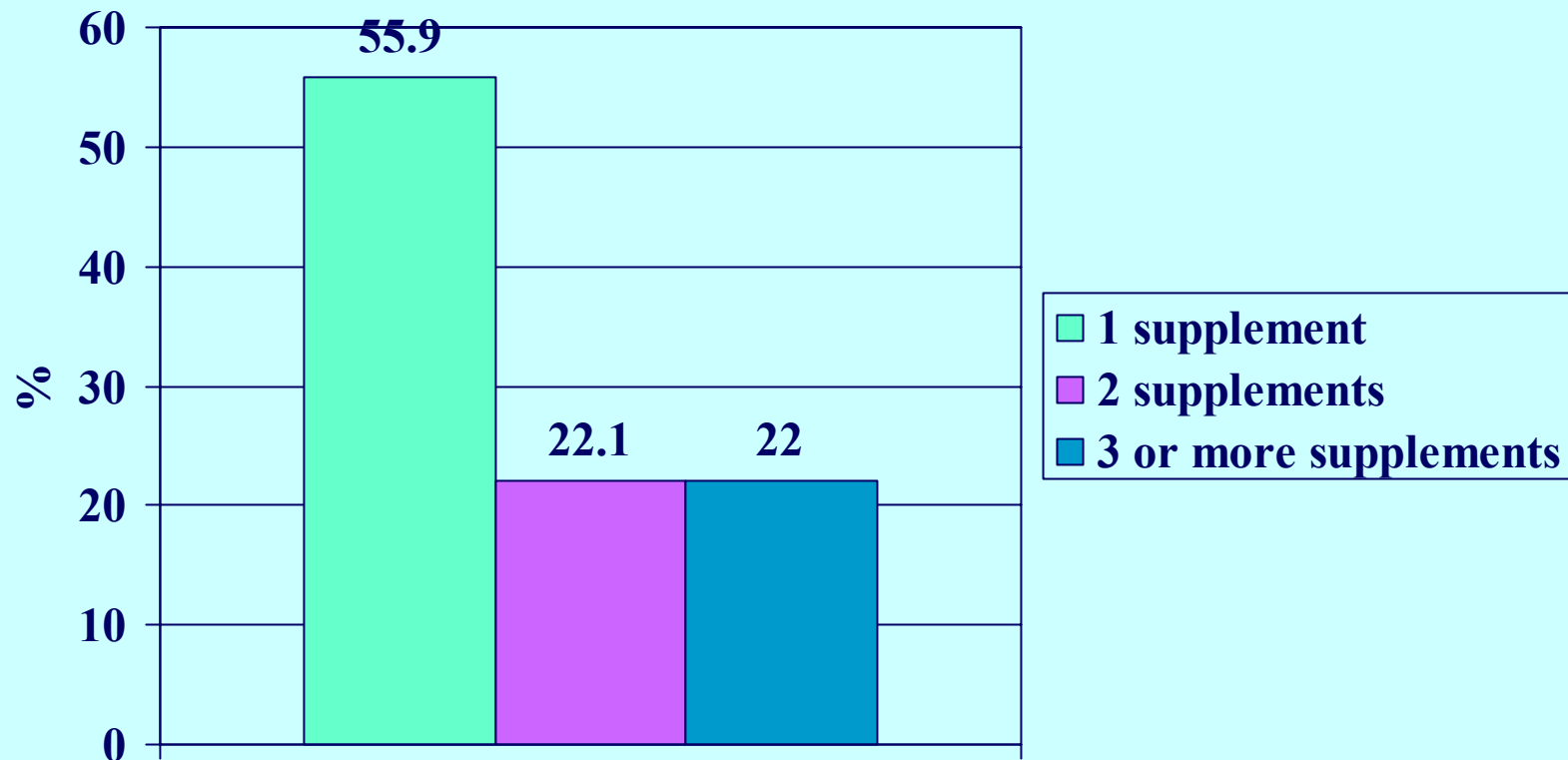
- Supplement users were more likely than non-users to:
 - have better diets
 - be female
 - be married

Massachusetts Hispanic Elders Study (1992-96, 60 + y)



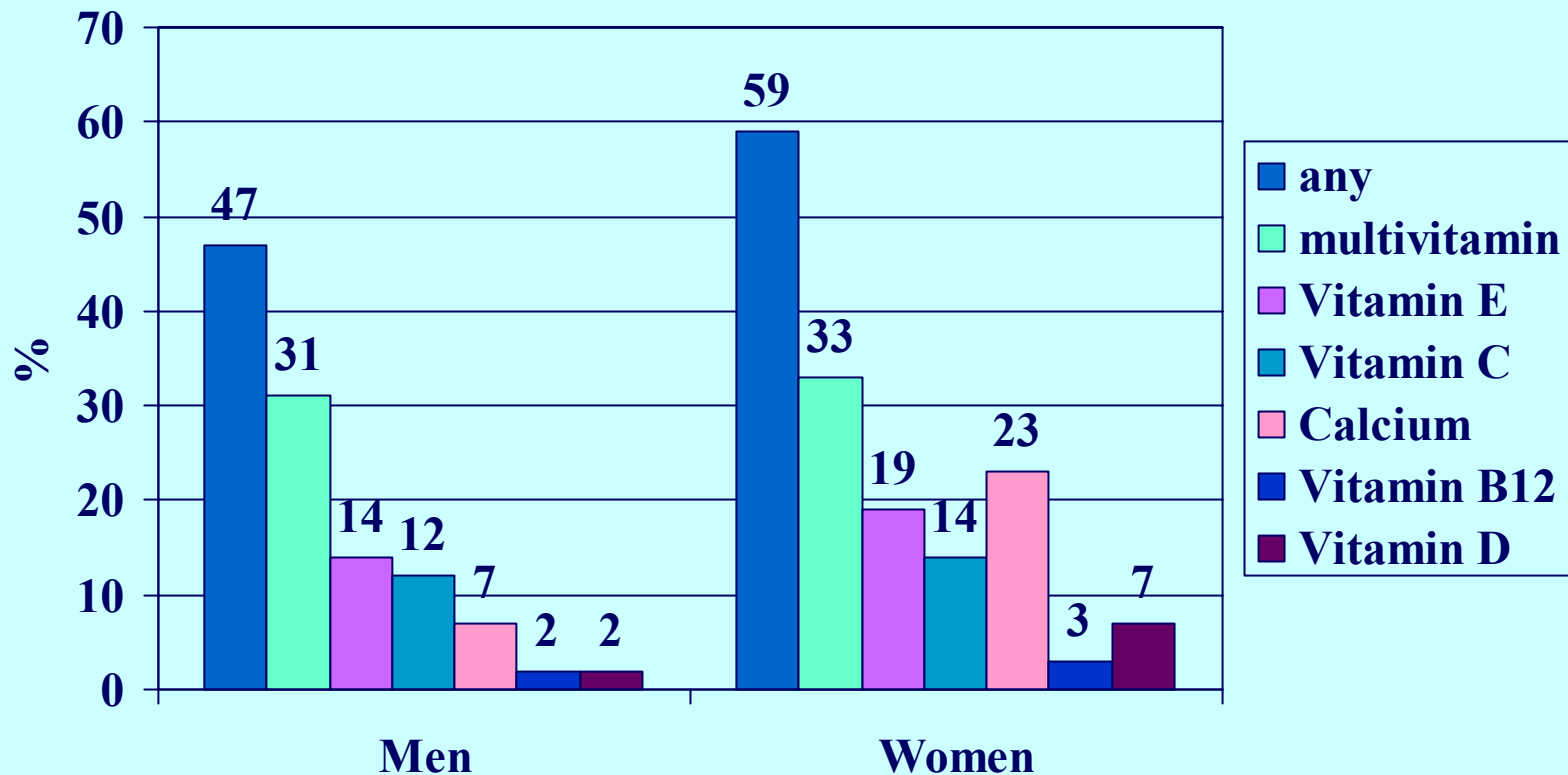
NHANES III, 1988-94 (40 + y)

Supplements Used (% of Users)

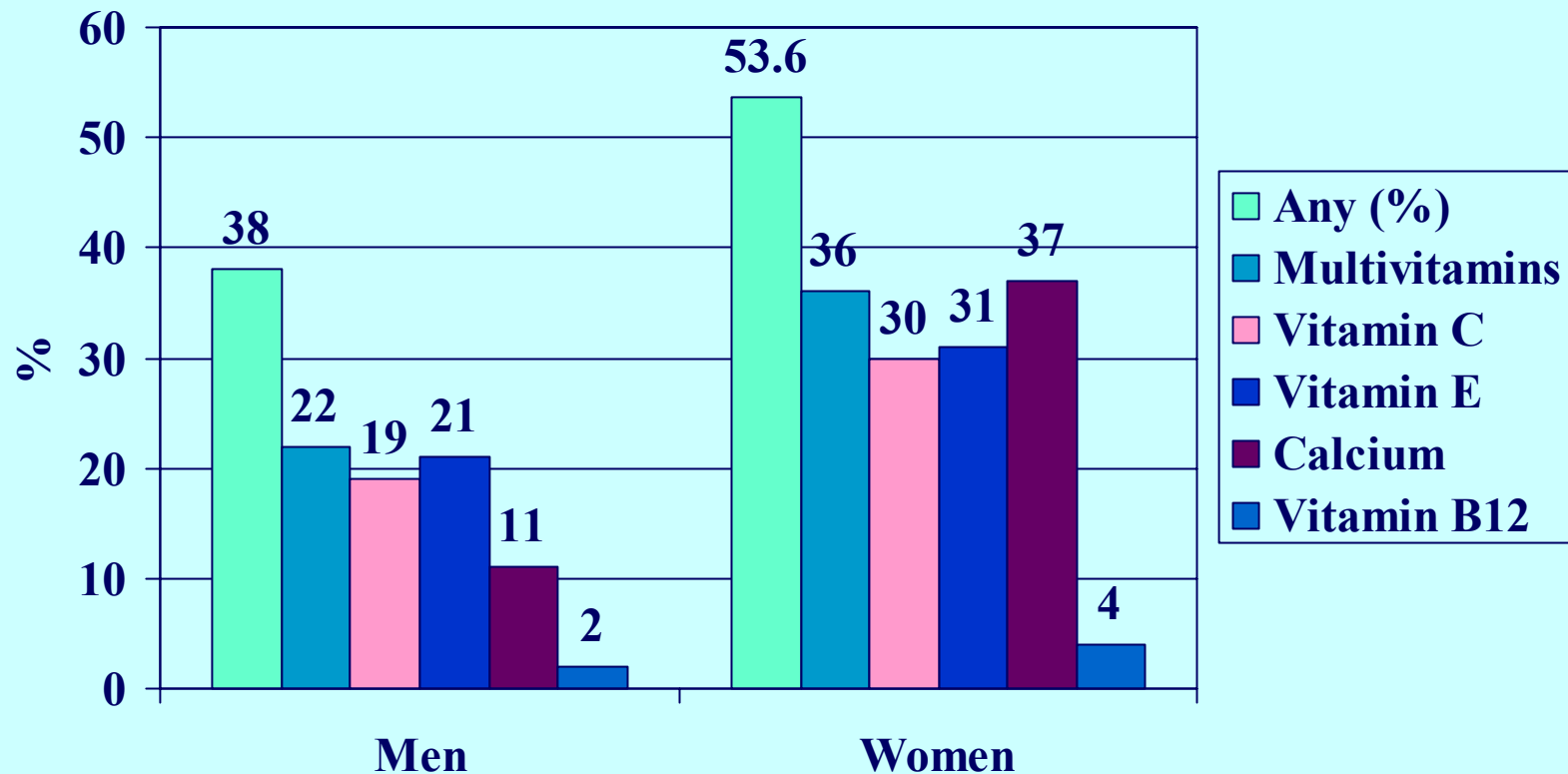


From: Ervin, RB et al. Vital and Health Statistics Series 11, No. 244, June 1999.

Supplement Use (%) by Older Adults in the Slone Survey (1998-99, 65+ y)

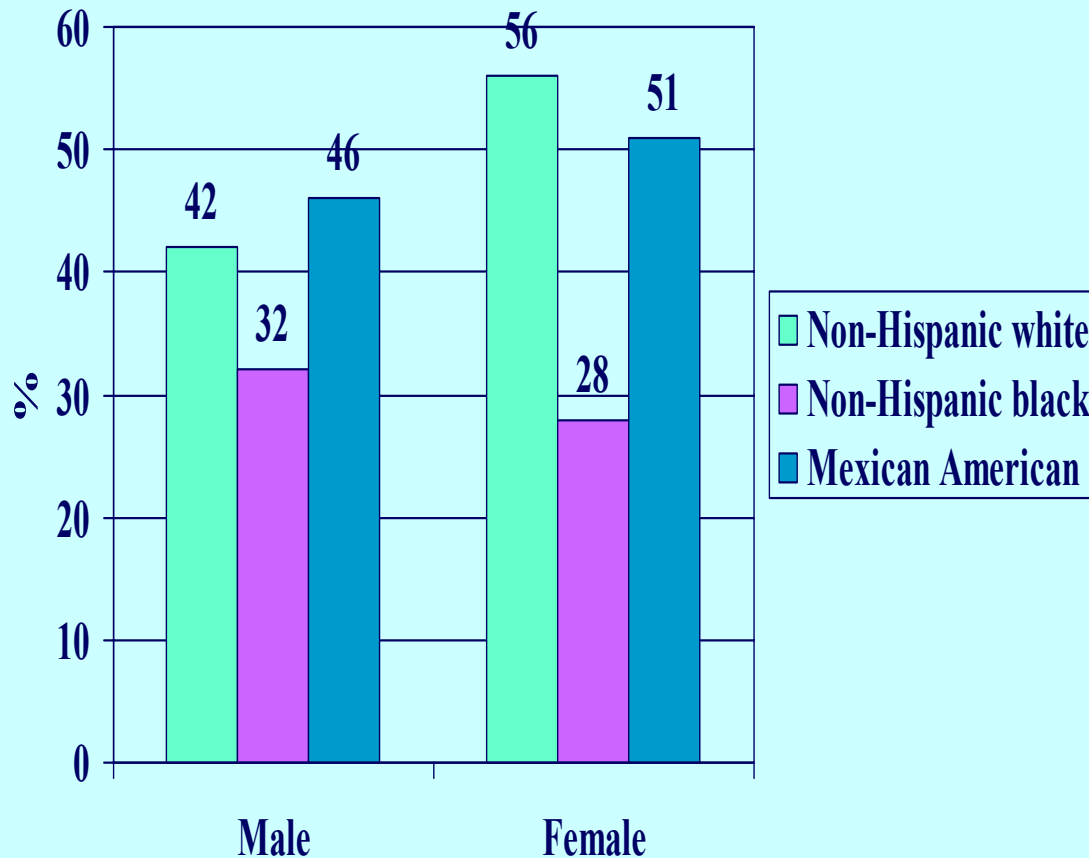


Baltimore Longitudinal Study of Aging 1993-1999 (60 + y)



Calcium from Supplements

NHANES III, 1988-94 (60 +y)



% below 924 mg/d*

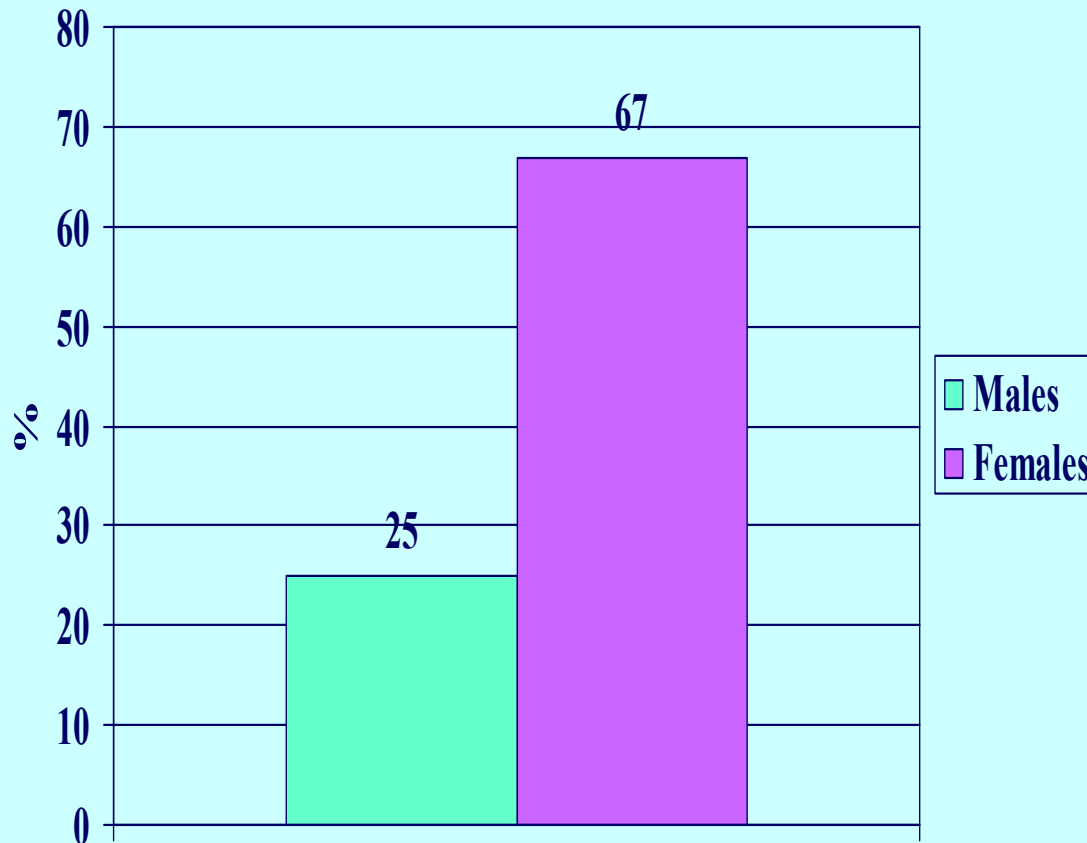
supplement

	no	yes
• Males		
– NHW	73	58
– NHB	87	80
– MA	77	64
• Females		
– NHW	86	64
– NHB	91	86
– MA	88	75

From: Ervin, RB and Kennedy-Stephenson J. J Nutr 2002;132:3422-3427.

* Healthy People 2010 calcium objective

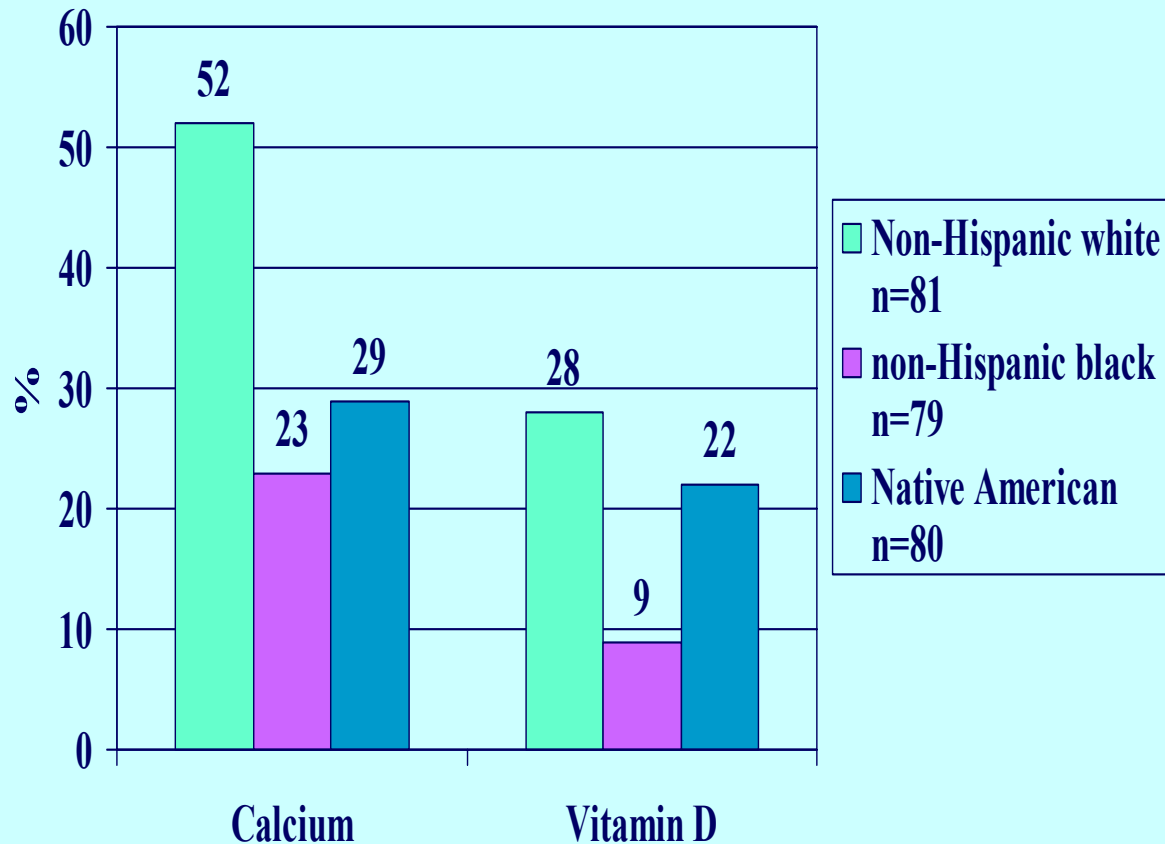
Calcium Supplement Use in a NE US Medicare HMO, (65 +y)



Factors associated with calcium use:

- history of fracture
- been told they have osteoporosis
- using bone medication
- higher dairy intake

Calcium and vitamin D Supplement Use (%) by Rural Elders in North Carolina (70 + y)



Dietary Intake by supplement use:

Calcium:

Users 572 mg

Non-users 498 *

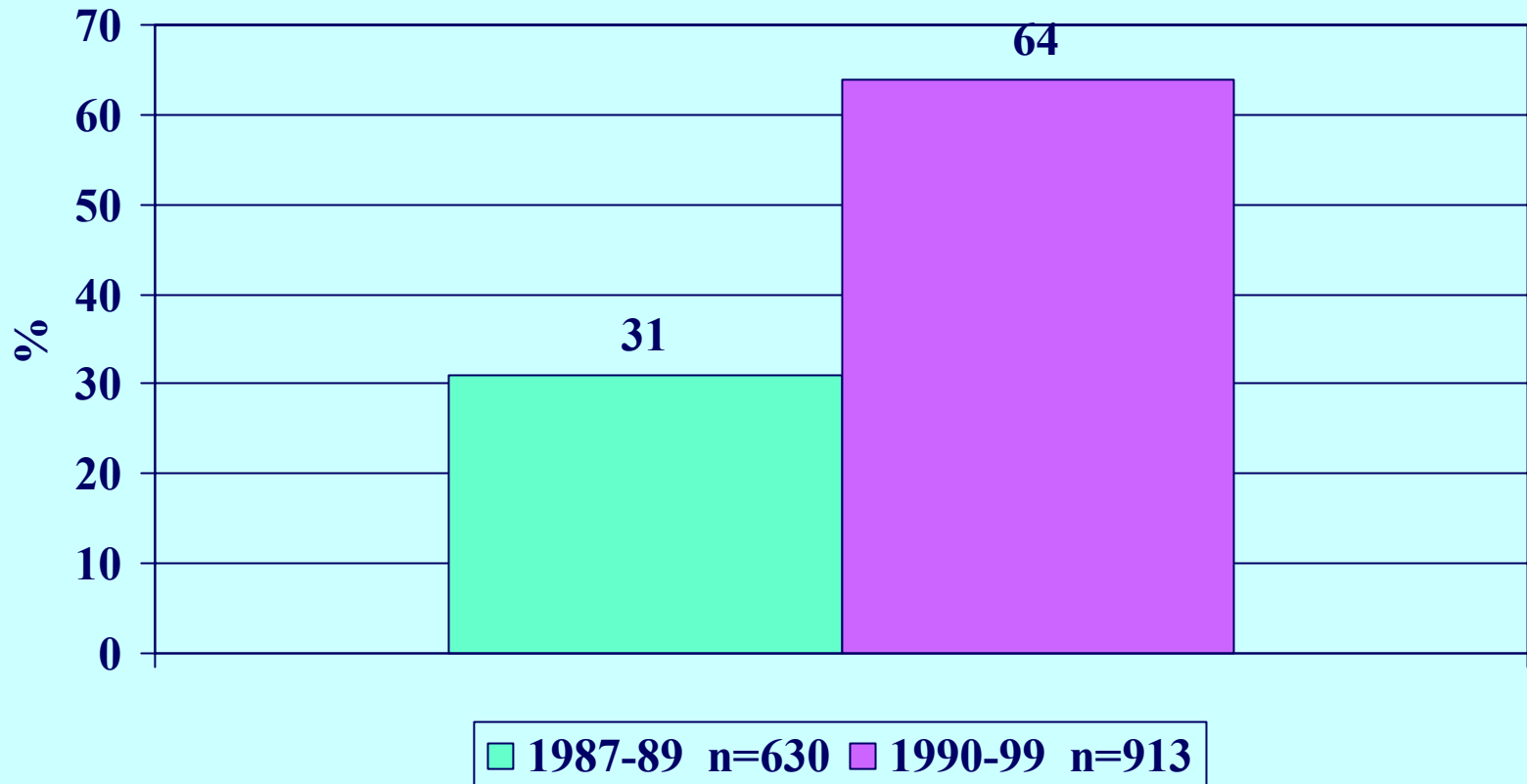
Vitamin D

Users 603 mg

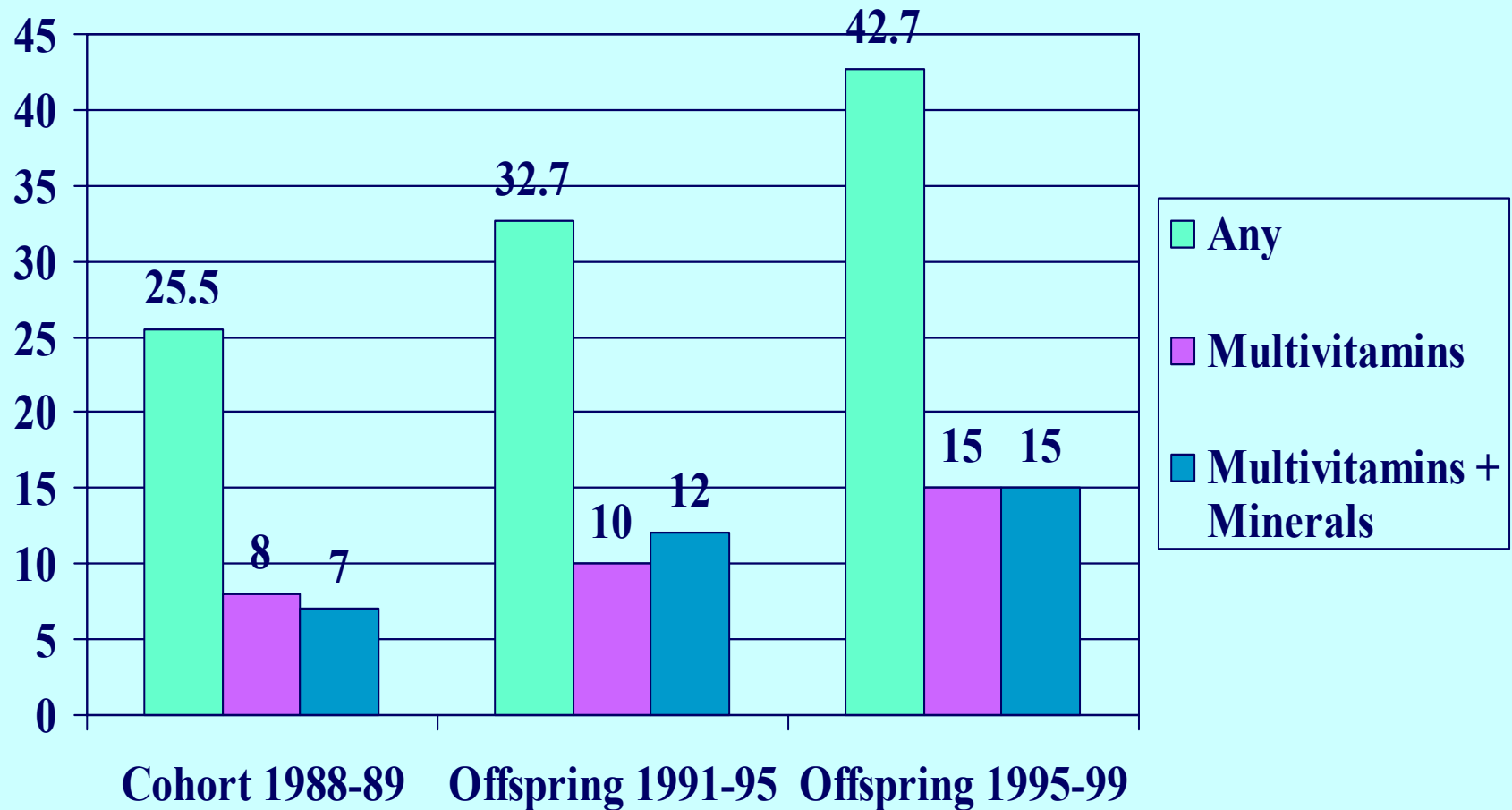
Non-users 506 *

*p<0.05

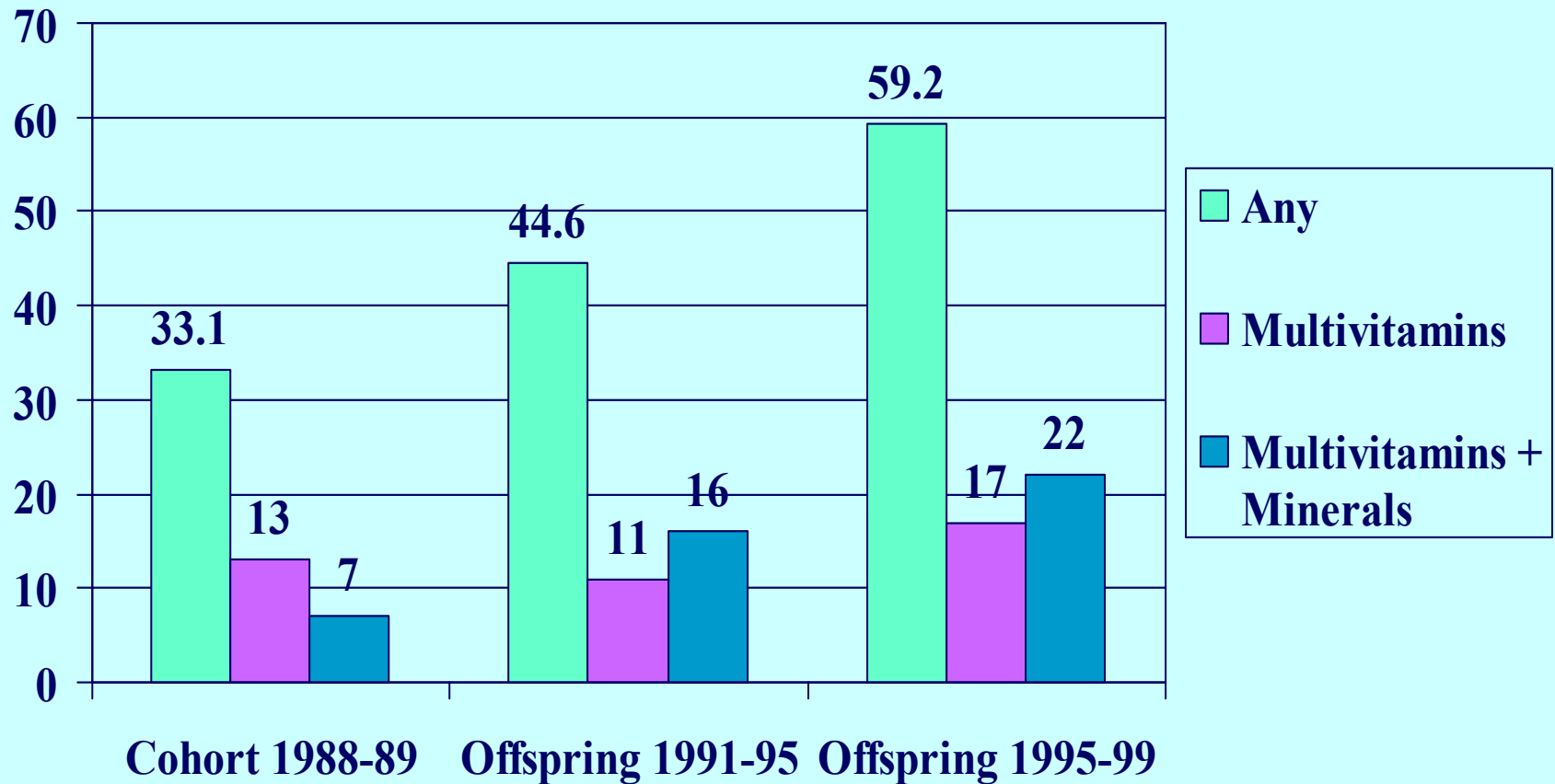
Supplement Use in the Normative Aging Study: Men, (60 + y)



Supplement Use in the Framingham Studies, Men, 60 + y

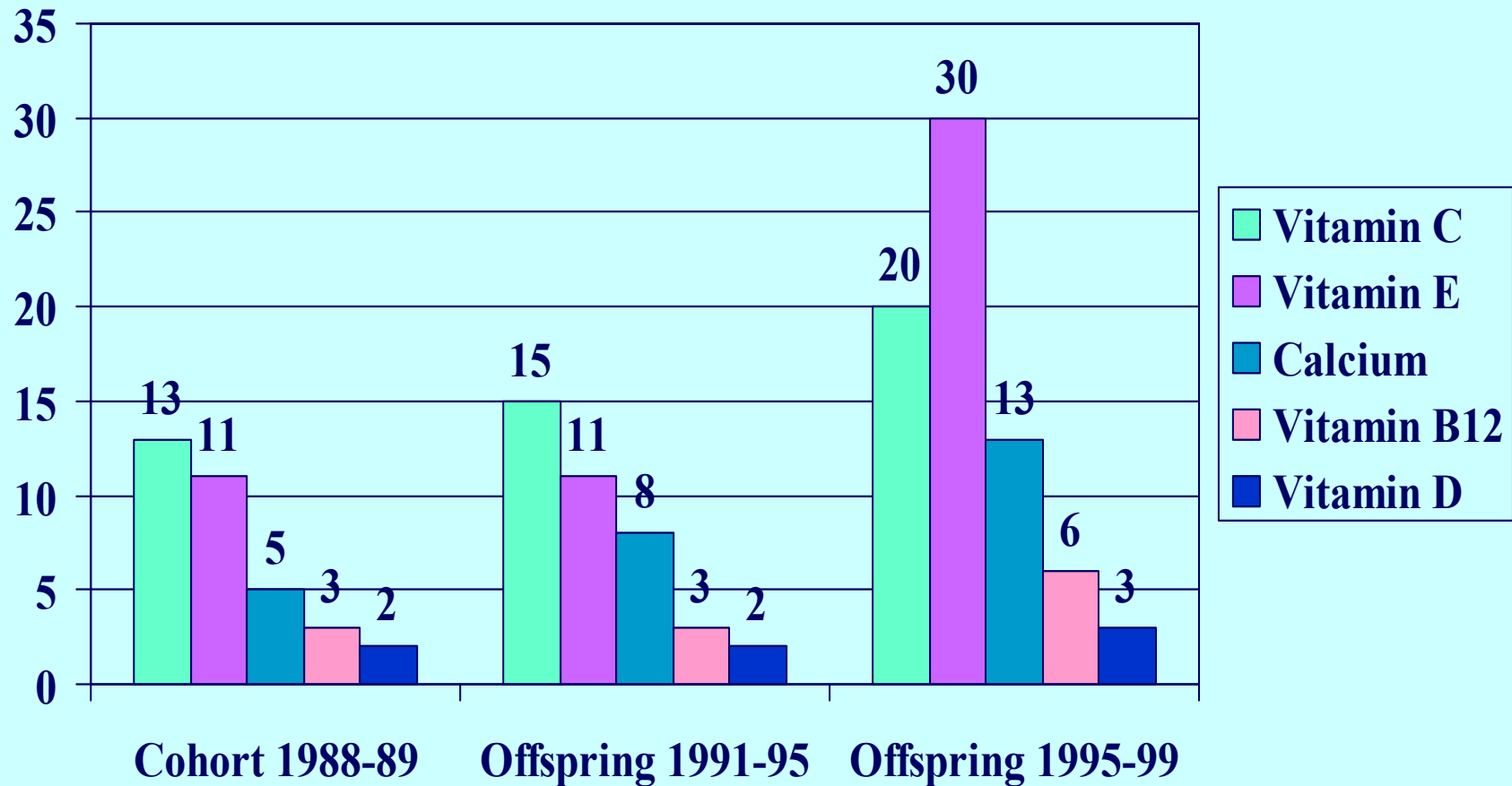


Supplement Use in the Framingham Studies, Women, 60 + y



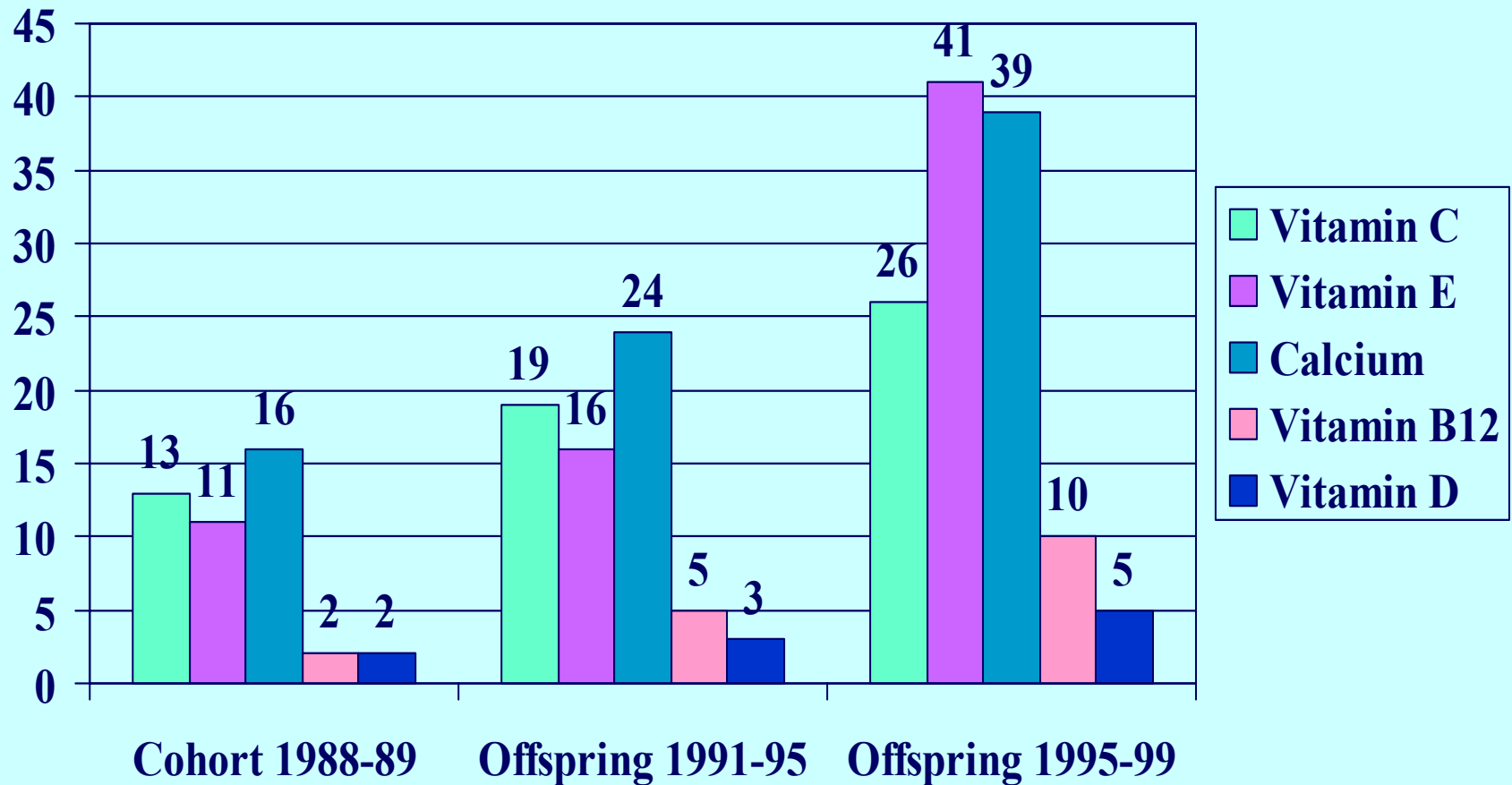
Individual Vitamin/Mineral Use in the Framingham Studies

Men, 60 + y



Individual Vitamin/Mineral Use in the Framingham Studies

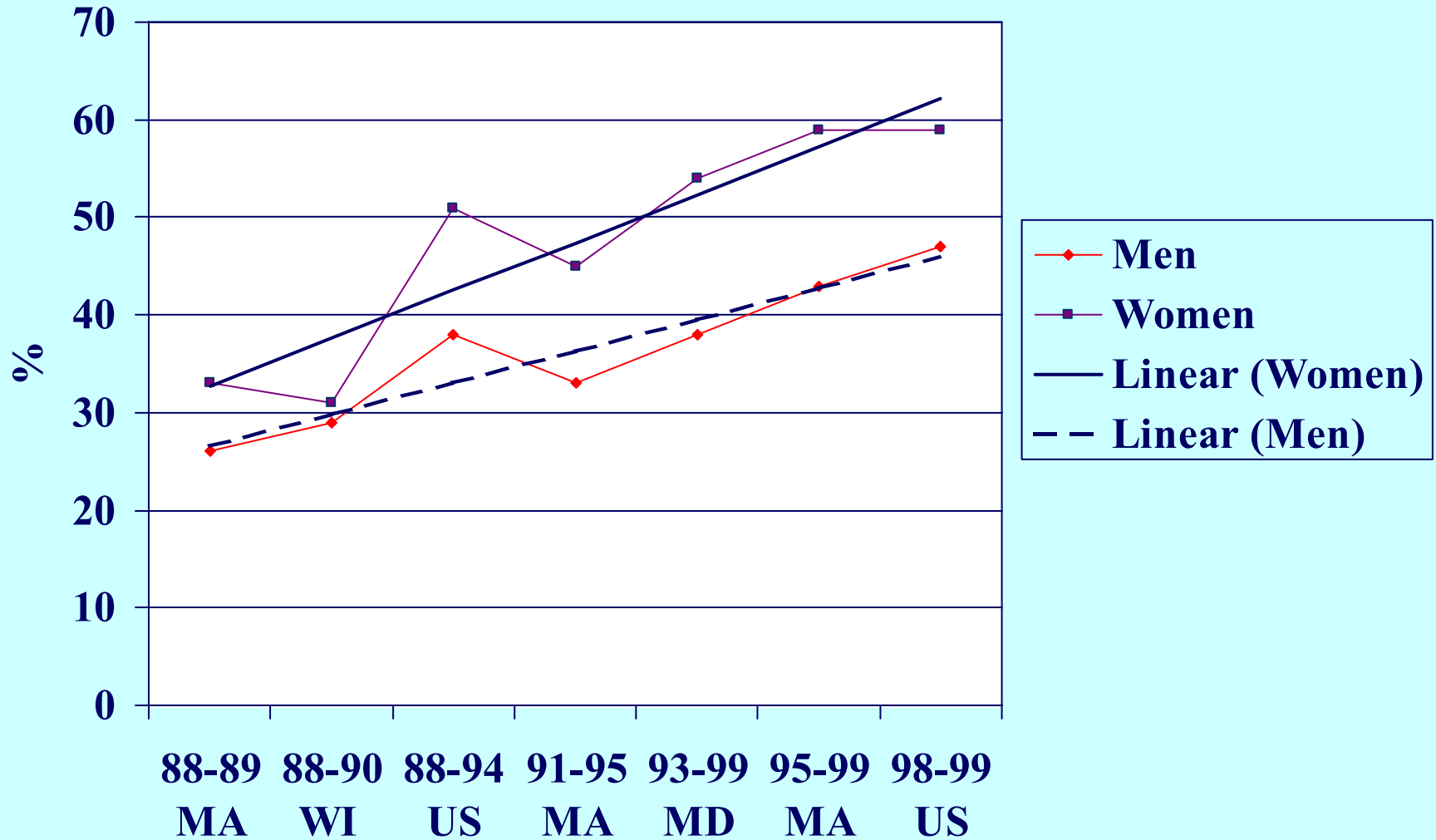
Women, 60 + y



Characteristics Associated with Supplement Use, Framingham Offspring 1995-99

	Women	Men
– BMI \leq 25	64%	
>25	56%	
– Alcohol users	64%	46%
non-users	52%	35%
– Smoking past	65%	
never	55%	
current	47%	

Trend in Supplement Use



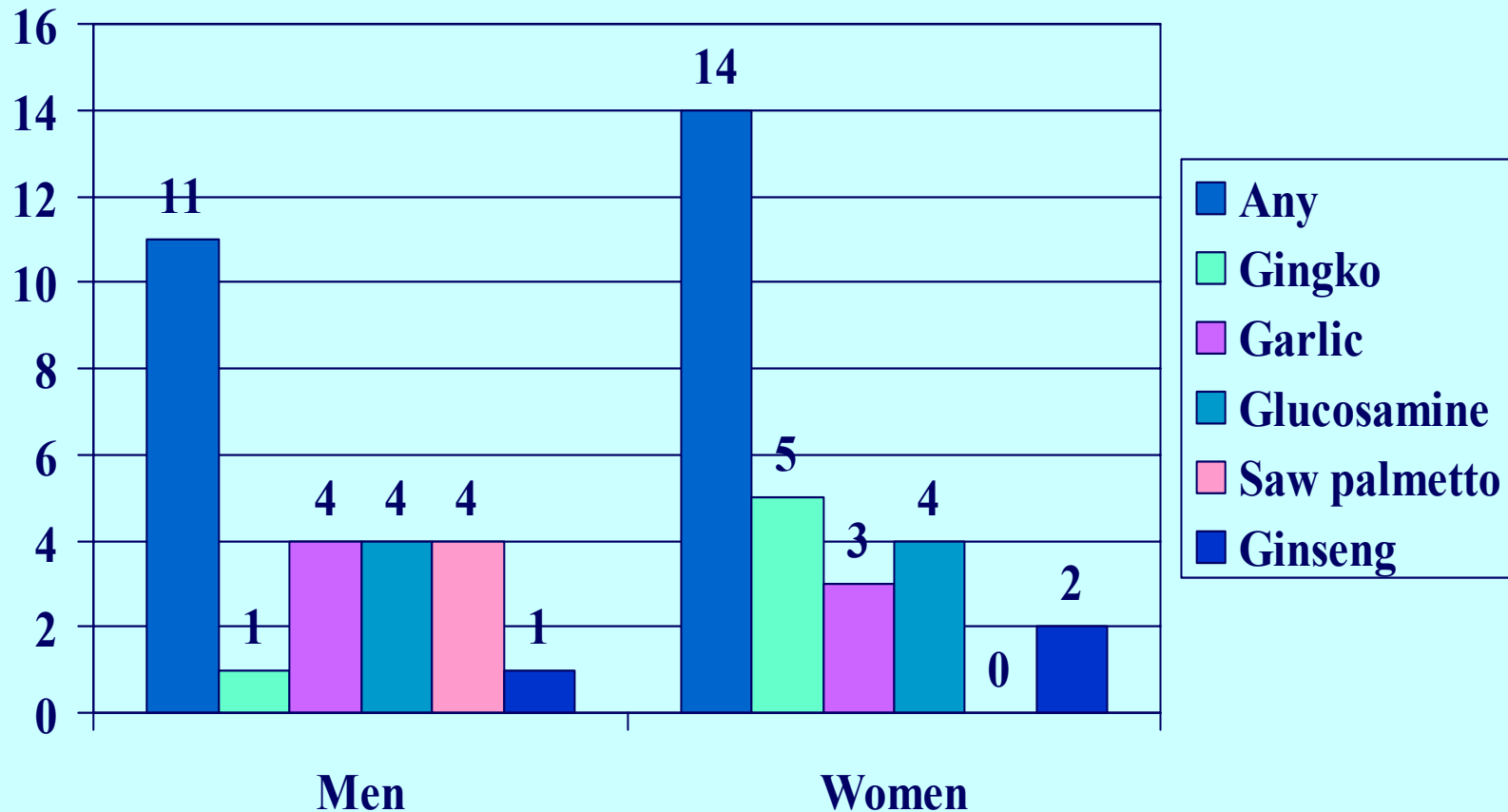
Herbal/Other Supplement Products Reported in NHANES III (3.6% Reported Any Use)

Product	N	Product	N
Lecithin	127	Fiber	18
Garlic	117	Anabolic mixtures	18
Amino Acids	102	Kelp	17
Fish/other oils	52	Co-enzyme Q10	16
Alfalfa	44	Choline/inositol	15
Ginseng	36	Acidophilus	13
Bee pollen	23	Wheat bran	14
Psyllium	23	Brewers yeast	12
Aloe vera	18	Goldenseal	11

Characteristics Associated With Herbal/ Other Supplement Use in NHANES III

- Female
- 45-75 y
- “Other” ethnicity (than white, black or Hispanic)
- West region
- Education > 12 y
- Higher income
- Divorced
- Greater alcohol use
- Former smoker
- > 5 Fruit and vegetable servings/d
- Exercise reported
- Overweight/obese
- Good/excellent self reported health

Herbal/other Supplement Use (%) by Older Adults in the Slone Survey (1998-99, 65+ Y)



From: Kaufman DW et al. JAMA 2002;287:337-344. Nationwide telephone survey. N: Men=243; women=351 aged 65+

Use of Herbal Products by Adults in Minneapolis (1999, N=376)

- 61.2% reported some use in past 12 m
- Users were more likely to:
 - Be female
 - Use vitamin supplements
 - Have higher education
- Products used
 - Ginseng 31%
 - Echinacea 28
 - Garlic 25
 - Ginkgo 21
 - St John's wort 18
 - Ginger 17
 - Ephedra 12
 - Goldenseal 10
 - Kava 6
 - Saw palmetto 4

Summary

- Supplement use
 - Increasing rapidly
 - Currently more than 40% men and 50% women
- More users
 - Are women
 - Are non-Hispanic white
 - Have higher SES
 - Have better diets
 - Participate in other positive health behaviors
- Herbal/other supplement use
 - Poorly defined
 - Growing rapidly

Conclusions

- Those most in need of supplements are not using them as frequently as those already practicing good health behaviors
- African Americans and some Hispanic groups may benefit from greater supplement use
- Among specifically recommended supplements for elders, calcium use is widespread but use of vitamin D and vitamin B12 remain low
- We know very little about the possible effects of rapidly increasing use of herbal/other supplements

Research Needs

- Prevalence and patterns of use of herbal/other supplements
- Continued monitoring of vitamin/mineral supplement use
 - Improved data on dose and length of use
- Better understanding of implications for dietary assessment and research on diet and health
 - Effects of individual vs. multiple nutrients and of interactions
 - Confounding with dietary intake
- Methods to improve communication
 - appropriate supplement use for elders most likely to benefit
 - potential risks, particularly for new, untested supplements