

# **Alternative and Complementary Medicine (CAM) Use in the U.S.**

## **New Data from the National Health Interview Survey (NHIS) Available in the Integrated Health Interview Series (IHIS)**

**Brian R. Lee** – MPH, PhD, Minnesota Population Center

email: [leex1412@umn.edu](mailto:leex1412@umn.edu)

**Miriam L. King** – PhD, Minnesota Population Center

**Andrew Ward** – PhD, MPH, Kansas Health Institute

138<sup>th</sup> Annual APHA Annual Meeting and Exposition

Denver, CO

November 6-10, 2010

# Objectives

- CAM usage in the U.S.
- Background to IHIS
- IHIS website content
- Performing a data extraction
- Sample analyses

# CAM in the U.S. Population

- Almost 4 out of 10 adults used CAM in past 12 months (NCHS, 2007)
- Modest increases since 2002
  - Acupuncture
  - Massage
  - Meditation
  - Yoga
- Differences in prevalence across multiple factors
  - Education
  - Health status
  - Cultural background
- Important to consider motivational factors and perceived benefits

## Overview

- The Integrated Health Interview Series (IHIS) is a NICHD-funded collaboration at the University of MN
  - School of Public Health
  - Minnesota Population Center
  
- Harmonize, document, and disseminate publicly-available NHIS data from the 1960s to the present

## Challenges to NHIS Data Use

- A large number of distinct files per year (range, 6-21 files)
- Managing different survey levels (household, family, person, episode)
- Numerous variables (~33,000 unique variable names between 1969 and 2009)
- Changes in question wording and response categories
- Harmonization of various file structures and variables, sample weighting schemes, and variance estimation

## IHIS Data

- IHIS now includes over 7000 integrated variables from:
  - Household and Person files for 1969-2009
  - Sample Adult/Sample Child files for 1997-2009
  - Supplements from 1969-1996
- Household and person-level variables

## IHIS Content

- Demographics
- Socio-economic
- Housing characteristics
- Geographical identifiers
- Chronic health conditions
- Healthy behaviors
- Risky behaviors
- Activity limitations
- Access to medical care
- Health insurance coverage
- Mental health
- Primary preventive practices
- Alternative health practices

## CAM Topics in IHIS




- Acupuncture
- Ayurveda
- Biofeedback
- Chelation
- Chiropractic
- Lifestyle diet
- Energy healing
- Folk medicine
- Herbal supplements
- Homeopathic treatment
- Hypnosis
- Massage
- Movement therapy
- Naturopathy
- Prayer
- Relaxation techniques
- Vitamins
- Yoga



## CAM Measures

- Ever use
- Recent use
- Frequency of use
- Cost
- Reasons for use
- Reasons for not using
- Concordant conventional medicine
- Treatment for specific conditions
- Perceived benefit

# IHIS Website (www.ihis.us)

MINNESOTA POPULATION CENTER, UNIVERSITY OF MINNESOTA		
 <b>Integrated Health Interview Series</b>		
<a href="#">Home</a> <a href="#">Create an Extract</a> <a href="#">Variables</a> <a href="#">FAQ</a> <a href="#">Contact Us</a>		
<p><b>Data</b></p> <p><a href="#">IHIS Registration</a>  <a href="#">Create an Extract</a>  <a href="#">Download or Revise Extracts</a>  <a href="#">Get Other NHIS Data</a></p> <p><b>Documentation</b></p> <p><a href="#">FAQ</a>  <a href="#">Variables</a>  <a href="#">Surveys</a>  <a href="#">User Notes</a>  <a href="#">Citation</a>  <a href="#">IHIS-NHIS Concordance</a></p> <p><b>Supplementary Material</b></p> <p><a href="#">Links to NCHS</a>  <a href="#">Brochure</a>  <a href="#">Newsletter</a>  <a href="#">Bibliography</a></p> <p><b>Contact Us</b></p> <p><a href="#">Comments and Questions</a>  <a href="#">People</a></p>	<p><b>INTEGRATED HEALTH INTERVIEW SERIES</b></p> <p>Harmonized data and documentation for the U.S. National Health Interview Survey (NHIS)</p> <hr/> <ul style="list-style-type: none"> <li>• Annual data from the 1960s to the present</li> <li>• Easily linked to additional variables in NHIS public use data</li> <li>• Comprehensive on-line documentation</li> <li>• Absolutely free!</li> </ul> <hr/> <p>over 40 years of data • over 5000 integrated variables</p>  <p>Harmonizing the leading source of information on the health of the U.S. population</p>	<p><b>IHIS News</b></p> <p>New data released for 1969-2009 (08/10)</p> <p>BMICALC and linking keys corrected (08/10)</p> <p><b>Other MPC Projects</b></p> <p>IPUMS-International  IPUMS-USA  IPUMS-CPS  NAPP  NHGIS  ATUS</p>
<p>Funding provided by:</p>  <p>National Institute of Child Health and Human Development</p> <p>Copyright © Minnesota Population Center, University of Minnesota.</p>		

# Variable Availability

Integrated Variables			Select Samples	Search Variables	Options and Help ▼
Household ▼	Person ▼	A-Z ▼			

Use the menu buttons to browse variables and modify how they are displayed. [More information](#) on using this page.



## Variable Content

- Each variable on the IHIS website contains
  - Availability (which survey years)
  - Universe statement
  - Codes and frequencies
  - Recommended weights
  - Survey text
  - Comparability over survey years

# Variable Description & Comparability

## **HEALTH**

**Label: Health status**

[Include in extract](#)

[Select samples](#)

### **Availability** [\[hide\]](#)

1972-2009

### **Universe** [\[hide\]](#)

1972-2009: All persons.

### **Weights** [\[hide\]](#)

1972-2009 : [PERWEIGHT](#)

### **Codes**

### **Survey Text**

### **Description**

HEALTH rates an individual's general health (as self-reported by the person in question or evaluated by a family member) on a four-point (1972-81) or five-point (1982 forward) Likert scale, ranging from "excellent" to "poor" (along with an unrated "unknown" category).

For 1997 forward, [HSTATYR](#) reports whether the health status of sample adults and sample children was better, worse, or about the same as one year ago.

### **Comparability — General**

Beginning in 1982, the number of rank-ordered responses for respondents to select from changed from four (excellent, good, fair, and poor) to five (excellent, very good, good, fair, and poor). The relative frequency of responses more favorable than "fair" (i.e., combining "excellent," "very good," and "good" versus combining "excellent" and "good") is similar before and after 1982. Nonetheless, researchers should exercise care in comparing results before and after 1982. For analyses straddling the 1972-81 and 1982 forward divide, analysts may wish to recode HEALTH dichotomously (comparing persons with "poor" or "fair" health to persons whose health is rated "good" or better, or comparing persons whose health is rated "poor" to persons whose health is rated better than "poor.")

# Variable Codes and Frequencies

## HEALTH

Label: Health status

Include in extract

Select samples

- Category availability view  
 Case-count view (unweighted)

Code	Label	usa ..... 2009	usa ..... 2008	usa ..... 2007	usa ..... 2006	usa ..... 2005	usa ..... 2004	usa ..... 2003	usa ..... 2002	usa ..... 2001	usa ..... 2000
1	Excellent	31,057	26,080	26,487	26,015	33,754	32,409	32,162	33,409	36,621	36,163
2	Very Good	26,429	22,073	22,464	22,677	29,938	28,585	28,374	28,108	31,068	30,948
3	Good	21,803	18,484	19,183	19,366	25,009	23,743	22,348	22,442	23,239	23,877
4	Fair	6,957	5,645	5,679	5,743	7,336	7,053	6,642	6,755	7,114	6,884
5	Poor	2,098	1,817	1,791	1,705	2,322	2,289	2,152	2,195	2,300	2,324
7	Unknown-refused	55	91	120	148	210	263	372	334	295	286
8	Unknown-not ascertained	.	1	1	1	.	6	.	1	.	4
9	Unknown-don't know (pre1997: Unknown)	47	45	39	61	80	112	98	141	122	132

# Data Extract: Samples

## Data extract, step 2 of 6: Select samples ([help](#))

Select the samples to be included in your extract.

### Extract file type

- Rectangular
- Hierarchical

### Select samples

- 1997 forward
- 1960s
  - 1969
- 1970s
  - 1970
  - 1971
  - 1972
  - 1973
  - 1974
  - 1975
  - 1976
  - 1977
  - 1978
  - 1979
- 1980s
  - 1980
  - 1981
  - 1982
  - 1983
  - 1984
  - 1985
  - 1986
  - 1987
  - 1988
  - 1989
- 1990s
  - 1990
  - 1991
  - 1992
  - 1993
  - 1994
  - 1995
  - 1996
  - 1997
  - 1998
  - 1999
- 2000s
  - 2000
  - 2001
  - 2002
  - 2003
  - 2004
  - 2005
  - 2006
- All Samples

[Continue to next step](#)

[Continue to next step](#)



# Data Extract: Variables

## Data extract, step 3 of 6: Select variables – review ([help](#))

Listed below are the variables currently included in your data extract. You can unselect variables, add more variables, or continue with the rest of the extract process.

[Add more variables](#) [Continue to next step](#)

An "X" indicates the variable is available in the sample.

Variables saved for extract <a href="#">[top]</a>										
Add to Extract	Variable	Label	Type	2000	2001	2002	2003	2004	2005	2006
<input checked="" type="checkbox"/>	<a href="#">PSU</a>	Primary sampling unit (PSU) for variance estimation	H	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">SERIAL</a>	Sequential Serial Number, Household Record	H	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">STRATA</a>	Stratum for variance estimation	H	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">YEAR</a>	Survey year	H	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">PERNUM</a>	Person number in household	P	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">PERWEIGHT</a>	Final basic annual weight	P	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">SAMPWEIGHT</a>	Sample adult/sample child weight	P	X	X	X	X	X	X	X

[Add more variables](#) [Continue to next step](#)

Variables			Options and Help 
Household 	Person 	A-Z 	

[Finished adding variables](#)

Education Variables -- Person <a href="#">[top]</a>											
<a href="#">Include in extract</a>	Variable	Variable Label	Type	Codes	06	05	04	03	02	01	00
<input checked="" type="checkbox"/>	<a href="#">EDUC</a>	Educational attainment	P	<a href="#">codes</a>	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">EDUCREC1</a>	Educational attainment recode, nonintervalled	P	<a href="#">codes</a>	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">EDUCREC2</a>	Educational attainment recode, intervalled	P	<a href="#">codes</a>	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">HEADSTAREV</a>	Ever attended Head Start	P	<a href="#">codes</a>	X	X	X	X	X	X	X
<input checked="" type="checkbox"/>	<a href="#">HEADSTARNOW</a>	Now attending Head Start	P	<a href="#">codes</a>	X	X	X	X	X	X	X

# Data Extract: Summary

## Data extract, step 6 of 6: Submit ([help](#))

### Extract File Type and Estimated Size

File Type: Rectangular  
Estimated size: 26.3 Mb

### Samples

Sample	Note
2000	
2001	
2002	
2003	
2004	
2005	
2006	

### Variables

Type	Variable	Label
H	<a href="#">YEAR</a>	Survey year
H	<a href="#">SERIAL</a>	Sequential Serial Number, Household Record
H	<a href="#">STRATA</a>	Stratum for variance estimation
H	<a href="#">PSU</a>	Primary sampling unit (PSU) for variance estimation
P	<a href="#">PERNUM</a>	Person number in household
P	<a href="#">PERWEIGHT</a>	Final basic annual weight
P	<a href="#">SAMPWEIGHT</a>	Sample adult/sample child weight
P	<a href="#">EDUC</a>	Educational attainment
P	<a href="#">EDUCREC1</a>	Educational attainment recode, nonintervalled
P	<a href="#">EDUCREC2</a>	Educational attainment recode, intervalled
P	<a href="#">HEADSTAREV</a>	Ever attended Head Start
P	<a href="#">HEADSTARNOW</a>	Now attending Head Start

### Use these buttons to make changes to your extract.



### Write a brief description of your extract (optional)

Analysis of Education Variables

# Download Data & Documentation



INTEGRATED HEALTH INTERVIEW SERIES

[Home](#) [Create an Extract](#) [Variables](#) [FAQ](#) [Contact Us](#)

## Download or Revise Extracts

Use the links provided below to download a data extract (right-click the links for the data, command files, and codebook) or to revise an extract (that is, use a previous extract as the basis for defining a new extract). For instructions on downloading and opening an extract on your computer go [here](#). Note: data files will be available for 72 hours, after which they are subject to deletion.

Extracts for Download or Revision						
Extract Number	Date	Data	Command Files	Codebook	Revise Extract	Description
00018	01-21-10	<a href="#">data</a>	<a href="#">SPSS</a> <a href="#">SAS</a> <a href="#">STATA</a>	<a href="#">codebook</a>	<a href="#">revise</a>	Analysis of Education Variables
00017	01-20-10	<a href="#">data</a>	<a href="#">SPSS</a> <a href="#">SAS</a> <a href="#">STATA</a>	<a href="#">codebook</a>	<a href="#">revise</a>	Revision of (IHIS worked examples )
00016	01-20-10	<a href="#">data</a>	<a href="#">SPSS</a> <a href="#">SAS</a> <a href="#">STATA</a>	<a href="#">codebook</a>	<a href="#">revise</a>	IHIS worked examples
00015	09-01-09				<a href="#">revise</a>	testing singleton PSUs
00014	09-01-09				<a href="#">revise</a>	Revision of (testing 1969 integrity)
00013	09-01-09				<a href="#">revise</a>	testing 1969 integrity
00012	04-17-09				<a href="#">revise</a>	Revision of 00011
00011	04-16-09				<a href="#">revise</a>	
00010	03-11-09				<a href="#">revise</a>	IHIS data check
00009	01-16-08				<a href="#">revise</a>	work for SHADAC
00008	12-10-07				<a href="#">revise</a>	Revision of 005 (cohort effect analysis of BMI over time)
00007	12-10-07				<a href="#">revise</a>	Revision of 006 (assessing bmi coding)
00006	11-30-07				<a href="#">revise</a>	assessing bmi coding
00005	11-30-07				<a href="#">revise</a>	cohort effect analysis of BMI over time
00004	11-07-07				<a href="#">revise</a>	Revision of 002 (cohort effects analysis)
00003	10-25-07				<a href="#">revise</a>	data categorizing verification
00002	10-24-07				<a href="#">revise</a>	cohort effects analysis
00001	10-04-07				<a href="#">revise</a>	cohort effects analysis

Funding provided by: [NICHD](#).

Copyright © [Minnesota Population Center](#), [University of Minnesota](#).

## Proportion of Reported CAM use Among Adults 18+, by Survey Year

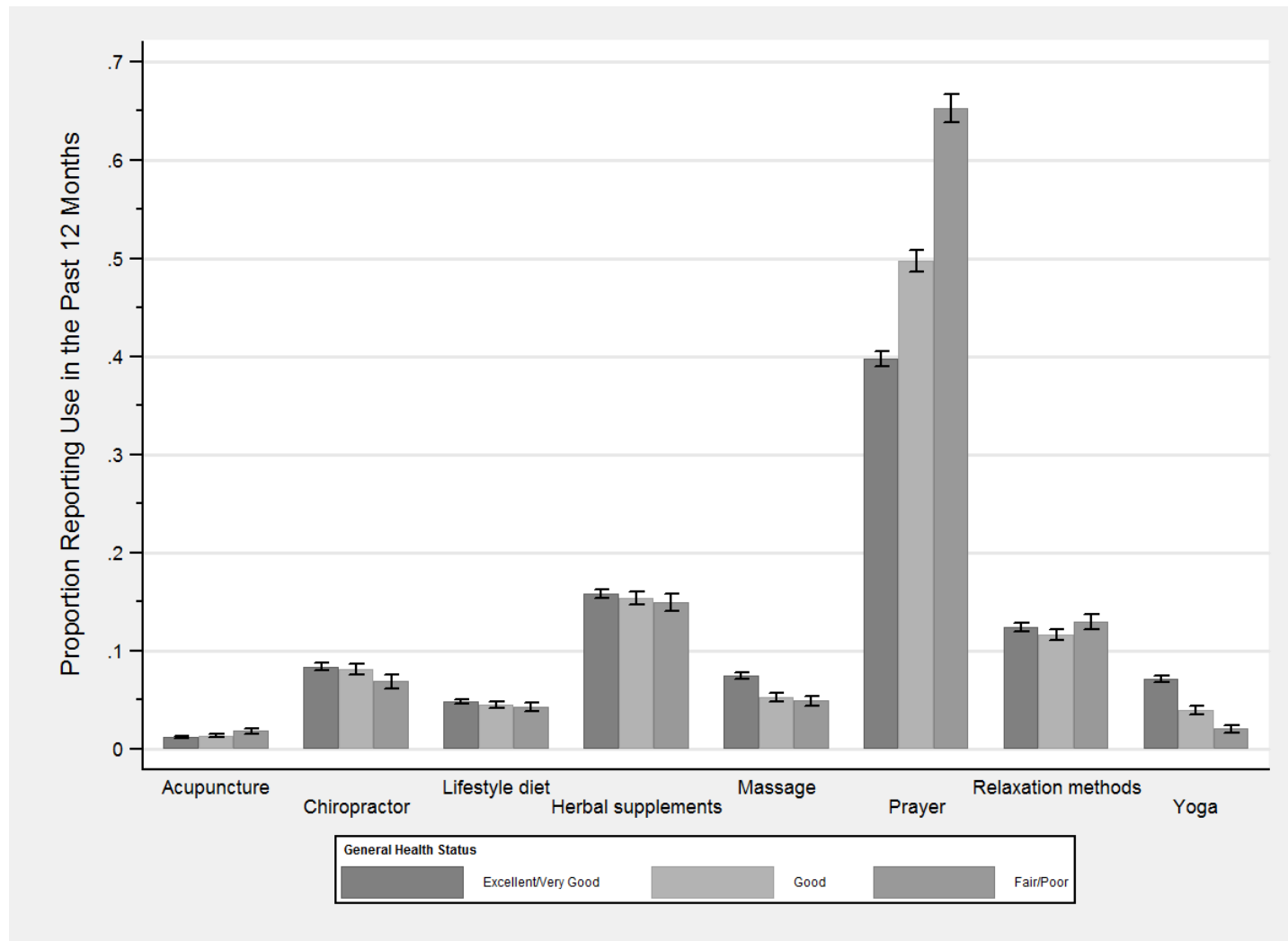
Class <sup>a</sup>	CAM	1999		2002		2007	
		Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Ever	Acupuncture	---	---	0.040	(0.04, 0.04)	0.064	(0.06, 0.07)
	Chiropractor	---	---	0.199	(0.19, 0.21)	0.236	(0.23, 0.25)
	Yoga	---	---	0.076	(0.07, 0.08)	0.100	(0.09, 0.10)
Recent	Acupuncture	0.014	(0.01, 0.02)	0.011	(0.01, 0.01)	0.014	(0.01, 0.02)
	Chiropractor	---	---	0.075	(0.07, 0.08)	0.086	(0.08, 0.09)
	Yoga	---	---	0.052	(0.05, 0.05)	0.061	(0.06, 0.07)
Treat	Acupuncture	---	---	0.859	(0.82, 0.90)	0.853	(0.81, 0.90)
	Chiropractor	---	---	0.865	(0.85, 0.88)	0.802	(0.78, 0.82)
	Yoga	---	---	0.171	(0.15, 0.19)	0.137	(0.12, 0.16)

<sup>a</sup> Ever: ever use

Recent: use within past 12 month

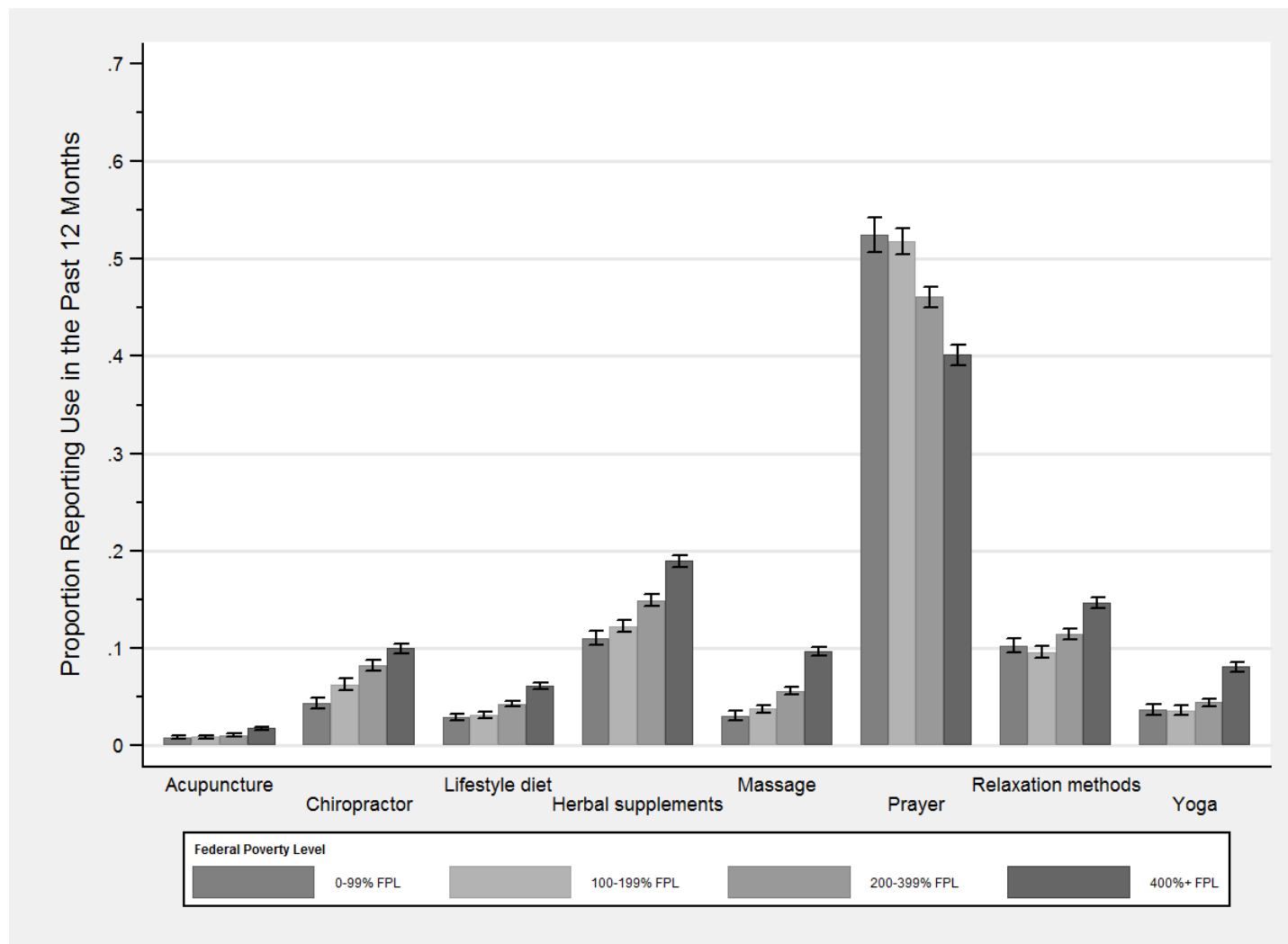
Treat: use within past 12 months, and used to treat a specific health problem

# Recent CAM use Among Adults 18+, by General Health Status



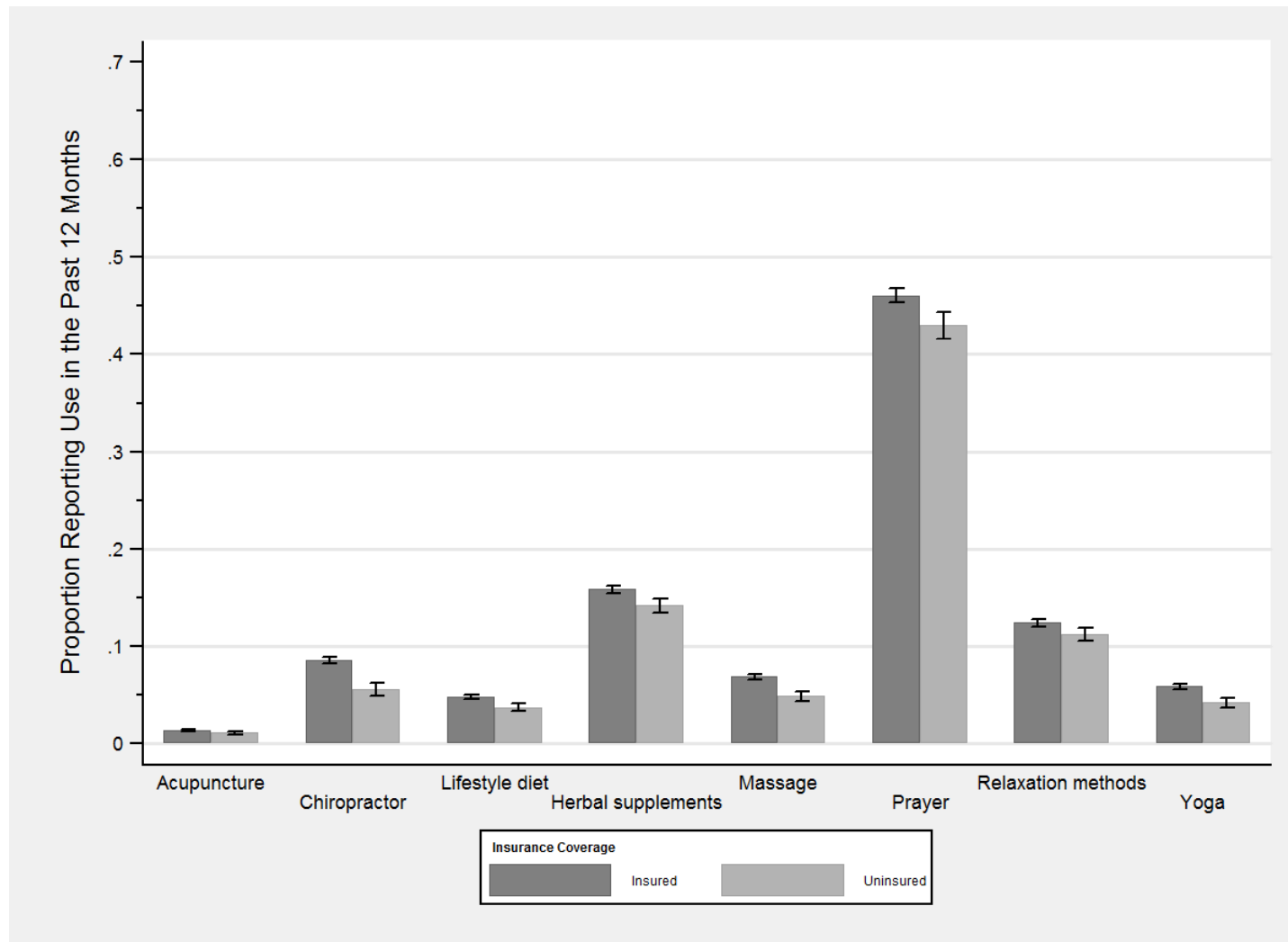
Source: 1999, 2002, and 2007 IHIS data

# Recent CAM use Among Adults 18+, by Poverty Status



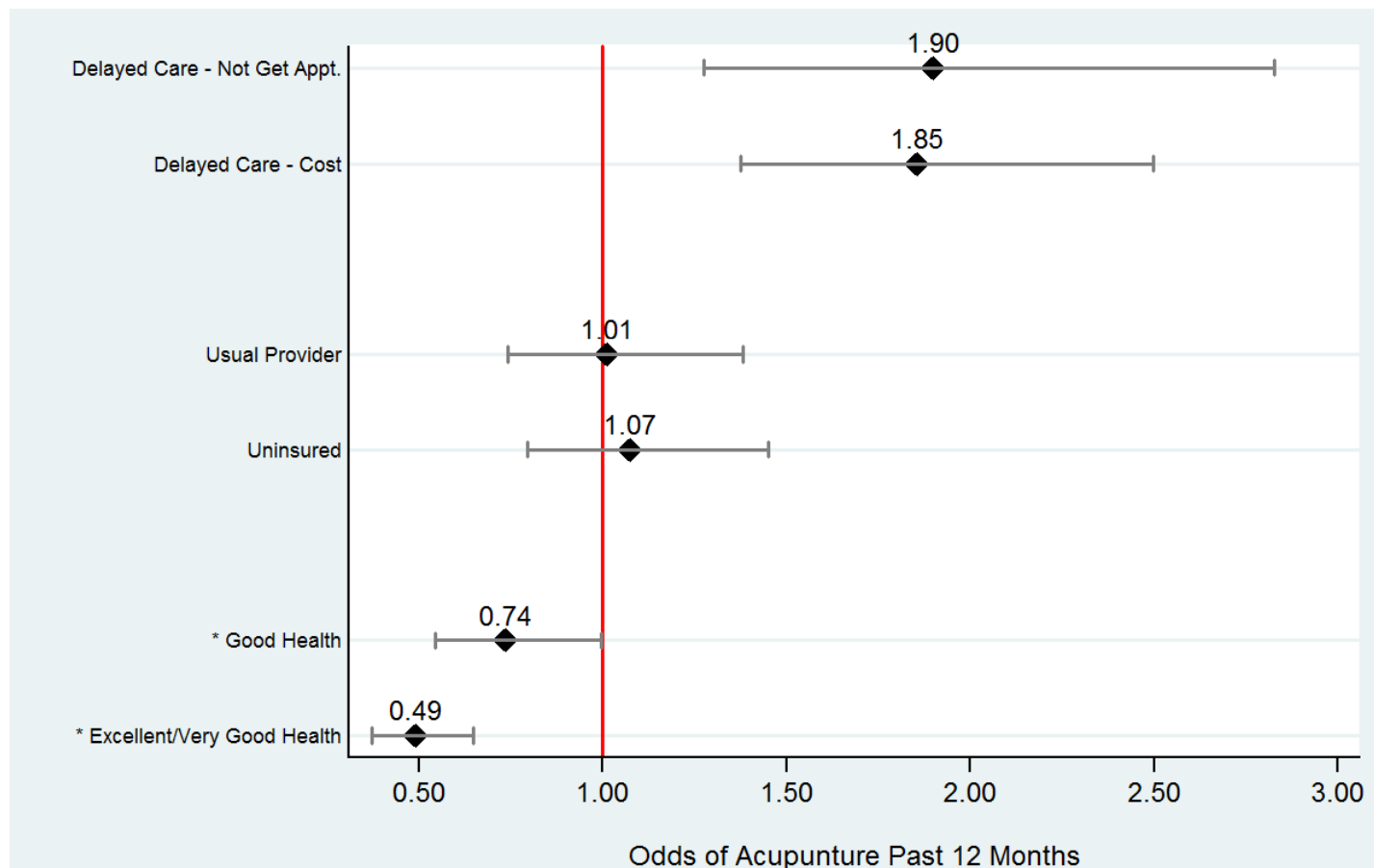
Source: 1999, 2002, and 2007 IHIS data

# Recent CAM use Among Adults 18+, by Insurance Status



Source: 1999, 2002, and 2007 IHIS data

# Odds of Acupuncture for Adults 18+, Based on General Health Status and other Health-related Factors

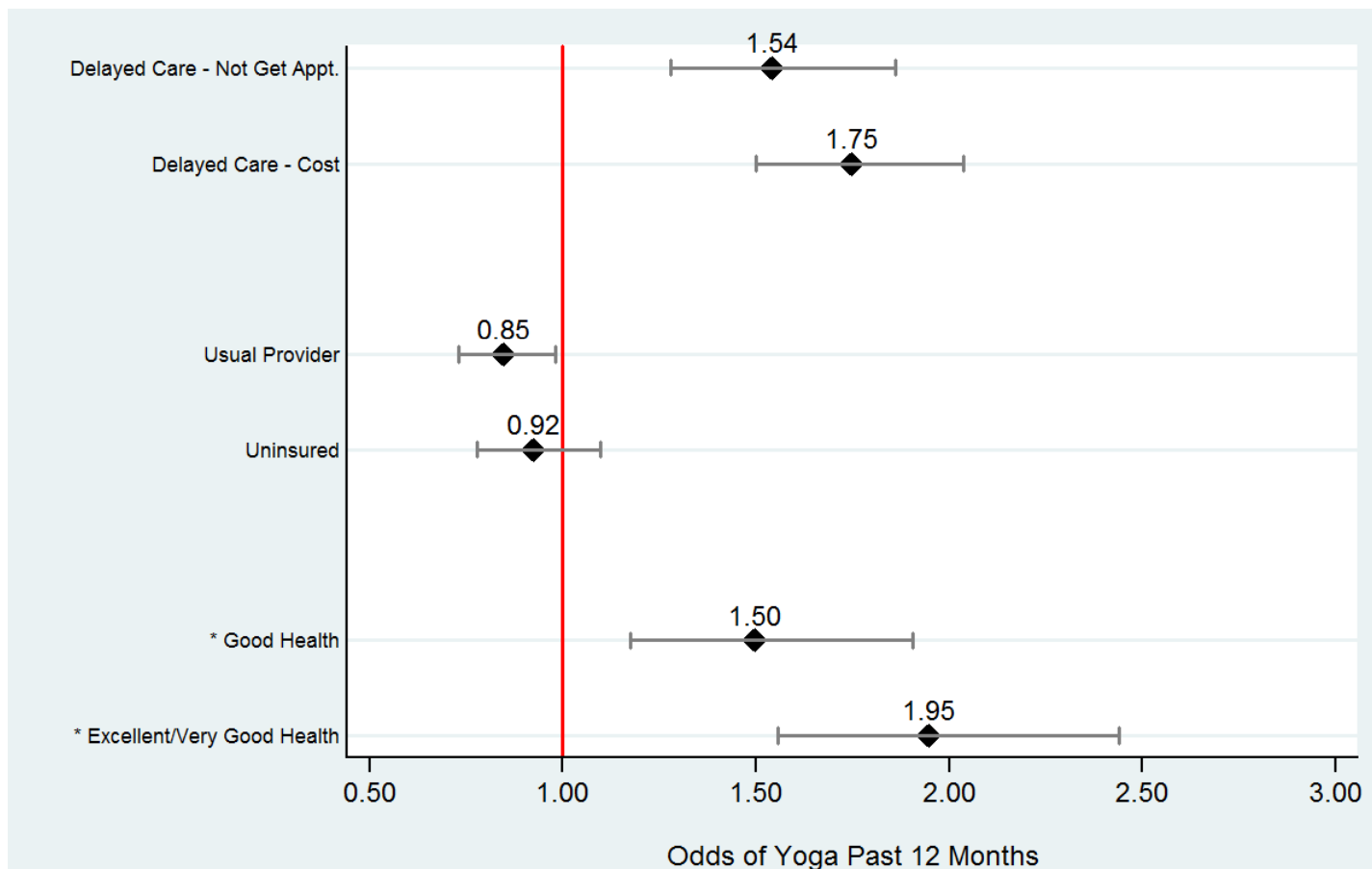


\* Reference group for general health status are those with fair/poor health  
 Adjusting for sex, age, education, race, poverty status, and Census region

Source: 2002, and 2007 IHIS data



# Odds of Yoga for Adults 18+, Based on General Health Status and other Health-related Factors



\* Reference group for general health status are those with fair/poor health  
 Adjusting for sex, age, education, race, poverty status, and Census region

Source: 2002, and 2007 IHIS data

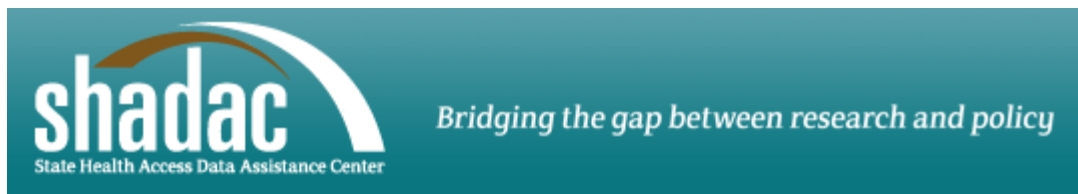
# Why Use the IHIS System

- Available FREE online
- Easy to use
- Saves time
- Consistent coding
- Online documentation
- Comparisons over four decades
- Online tabulator
- Customizable extracts
- Syntax files (SAS, SPSS, Stata)
- Variable search engine
- User support  
[ihis@pop.umn.edu](mailto:ihis@pop.umn.edu)

# For Additional Information



- <http://www.ihis.us>
- [ihis@pop.umn.edu](mailto:ihis@pop.umn.edu)



- <http://www.shadac.org>



- <http://www.pop.umn.edu>