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Kimberly Brinker _____ 04/19/2012_____
Signature of Student Date

Approval Sheet

Oral contraceptive use and vitamin D status among women ages 15-44 in the US: a cross-sectional study

By
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Degree to be awarded: Master of Public Health
Career MPH: Applied Epidemiology

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Abstract Cover Page

Oral contraceptive use and vitamin D status among women ages 15-44 in the US: a cross-sectional study

BY

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MPH, Emory University, 2012
BSN, Emory University, 2004

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An abstract of
A Thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements of the degree of
Master of Public Health in the Career MPH program
2012

Abstract

Oral contraceptive use and vitamin D status among women ages 15-44 in the US: a cross-sectional study

By

Kimberly Brinker

Purpose: This analysis was conducted to determine the association between oral contraceptive (OC) use and vitamin D status in women ages 15-44 by analyzing data from the National Health and Nutrition Examination Survey (NHANES) 2001-2006.

Methods: The sample was limited to women ages 15-44 who were not pregnant or breastfeeding, had no history of having an ovary removed or hysterectomy, and were not taking any forms of estrogen and progestin for any reason other than OC. Characteristics including age, race, income, body mass index (BMI), dietary supplement use, and seasonality were analyzed. Women with serum 25(OH)D levels $\leq$19ng/mL were considered vitamin D insufficient while those whose serum 25(OH)D levels >19ng/mL were considered sufficient. A logistic regression model was used to estimate prevalence ratio of vitamin D insufficiency by oral contraceptive use when taking the aforementioned characteristics into account.

Results: OC use was significantly associated with vitamin D status when accounting for age, race, income, BMI, dietary supplement use, and seasonality. Women using OC had a lower prevalence of vitamin D insufficiency than non-OC users (prevalence ratio 0.59). Among women who were categorized as vitamin D insufficient, 19.1% were OC users whereas 44.6% were non-OC users.

Conclusion: The findings suggest that OC use does affect serum 25(OH)D concentrations.

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Table of Contents

Introduction

Vitamin D is a fat-soluble vitamin that can be found in fortified foods, dietary supplements, and is synthesized when ultraviolet rays from sunlight come into contact with skin.[1] The primary function of vitamin D is to promote calcium absorption in the gastrointestinal tract and sustain adequate levels of serum calcium and phosphate for proper bone growth.[1] Vitamin D plays a major role in the prevention of bone demineralization and osteoporosis, but also has an impact on how neuromuscular and immune systems function. Moreover, several reports have noted the vitamin's contribution to lowering the risk of chronic illnesses such as cardiovascular disease, infectious disease, some cancers, and autoimmune disorders.[2]

Vitamin D is typically measured by serum 25-Hydroxyvitamin D [25(OH)D] concentrations which is considered the best marker for vitamin D status and reflects vitamin D obtained through both diet and sun exposure.[3] The Institute of Medicine's review of data conclude that persons with serum 25(OH)D concentrations less than 12ng/mL are considered vitamin D deficient, those with concentrations between 12-20 ng/mL are considered at risk for inadequacy, and those with concentrations $\geq$20 ng/mL are considered adequate.[1]

The National Health and Nutrition Examination Survey (NHANES) is a nationally representative study of the health and nutritional condition of non-institutionalized participants living in the Unites States.[4] According to a recent study of NHANES data, the season-adjusted prevalence of vitamin D inadequacy among women aged 14-50 ranged between 24-26% from 2001-2006.[5] Most studies have focused on risk factors associated with Vitamin D deficiency that pertain to older adults because vitamin D insufficiency and osteoporosis increase with age in the elderly population. This is thought to occur in older adults for several reasons including the

inability of skin to synthesize vitamin D efficiently, a greater likelihood of spending more time indoors, and the potential for inadequate intake of the vitamin.[1]

Women of reproductive age, however, are another population that should be monitored closely for vitamin D insufficiency as estrogen plays a role in serum 25(OH)D concentrations. The hormone has been found to increase circulating levels of vitamin D binding protein (DBP), which is synthesized in the liver and transports vitamin D in plasma.[6] However, it is unclear whether higher levels of bound serum 25(OH)D truly reflects an improvement in vitamin D status.[7] This increase in Vitamin D binding protein has also been noted among pregnant women due to higher levels of estrogen during pregnancy. In a study conducted by Buillon et al., serum concentrations of DBP nearly doubled during pregnancy until 32-35 weeks gestation when levels dropped slightly. In comparison, non-pregnant women using estrogen-progestogens were found to have DBP levels between normal and those of pregnant women.[8]

Oral contraceptives (OC) that contain estrogen or a combination of estrogen/progestin have been found to affect serum 25(OH)D levels. In fact, several reports have noted a significant difference in 25(OH)D concentrations among women using OC compared to those not using OC.[9–11] The purpose of this study is to further examine the relationship between OC use and vitamin D status using data from a nationally representative dataset as the previously mentioned studies included smaller convenience samples. Thus, the results obtained from this study should be generalizable to the US population which is not the case for previously published studies.

Methods

Data source and participant selection

The NHANES survey consists of interviews conducted in participants' homes and standardized physical examinations that include laboratory tests utilizing blood and urine specimens provided by participants during the examination. The NHANES sample is selected through a complex, multistage design that includes selection of primary sampling units (counties), household segments within the counties, and finally sample persons from selected households. The sample design includes oversampling to obtain reliable estimates of health and nutritional measures for population subgroups, of which, non-Hispanic black and Mexican-American persons were oversampled.[4] Data for this analysis were restricted to women ages 15 – 44 who were not pregnant/breastfeeding at time of interview, had no history of an ovary removal or hysterectomy, and were not currently taking other forms of estrogen or progestin.

Outcome variables and covariate definitions

Participants were defined as vitamin D insufficient if their serum 25(OH)D levels were $\leq$ 19 ng/mL. Those who had levels >19ng/mL were considered vitamin D sufficient based on criteria set by the IOM.[1] Those who answered yes to "Are you taking birth control pills now?" were grouped into oral contraceptive users while those who did not were grouped as non-users of oral contraceptives.

Additional demographic and health-related covariates included race/ethnicity (non-Hispanic White, non-Hispanic Black, other race, and Mexican American/Other Hispanic); age (15–19, 20–29, 30–39, and 40–44 years). Income was categorized by means of poverty income ratio (PIR) in which participants were defined as poor (<0.99), near poor (1.00-1.99), and not

poor (2.00-5.00). BMI was classified in kg/m^2 according to criteria for by the National Heart, Lung, and Blood Institute: <18.5 (underweight), 18.5-24.9 (normal), 25-29.9 (overweight), and ≥ 30 (obese) [12]. Supplement use was categorized into two groups: respondents who answered yes or no to "current supplement use." Seasonality was based on month of the physical examination which was completed either between November and April or May and October.

Statistical Analysis

All analyses were performed using SUDAAN 10.0.1 (Research Triangle Institute, Research Triangle Park, NC). The study sample was weighted to produce national estimates using methods and procedures proposed by the NHANES. The "subpop" statement was used to create a subpopulation of women who met the study criteria as previously described. A logistic regression model was used to determine the association between oral contraceptive use and vitamin D status when taking demographic and health-related characteristics into account.

Adjusted prevalence ratios (PRs) reported with 95% confidence intervals (CI) were based on multivariate logistic regression models and used to determine the association between oral contraceptive use and vitamin D status. Point estimates of model-adjusted prevalence ratios were obtained through a new approach in SUDAAN, using functions of average marginal predictions, as proposed by Bieler et al.[13] All variables were assessed for two-way interactions and for confounding by comparing crude and adjusted prevalence ratio estimates. If the adjusted estimate exceeded 10% of the crude estimate, then a variable was considered a confounder of the relationship between OC use and vitamin D status.

Results

A total of 31,509 observations were aggregated from the NHANES 2001-2006. Analysis was restricted to 4,260 women according to the exclusion criteria illustrated in figure 1. When assessing for interaction, only three interaction terms were found to be statistically/near statistically significant: age and BMI (p=0.0018), race and dietary supplement use (p=0.0702), as well as age and seasonality (p=0.0682). However, since none of these interaction terms involved the exposure variable, OC use, each term was dropped, and only the individual variables were included in the final model. Race, income, BMI, and dietary supplement use were all found to be confounders between OC use and vitamin D status.

The estimated annual prevalence of OC use and vitamin D insufficiency was 19.0% (16.8 – 21.4) and 41.9% (38.6 – 45.2) respectively (Table 1). Among women who were vitamin D insufficient, 9.1% (7.6 – 11.0) were OC users; whereas 19.1% (15.4 – 23.4) of OC users were vitamin D insufficient. The prevalence of OC use was highest among respondents ages 20 – 29 (27.2%, 95% CI: 22.8 – 32.2) and lowest among respondents ages 40 – 45 (7.4%, 95% CI: 4.8 – 11.3). Non-Hispanic whites had the highest prevalence of OC use (22.9%, 95% CI: 19.8 – 26.3) compared to non-Hispanic blacks (10.3%, 95% CI: 8.3 – 12.7), Mexican-Americans/Other Hispanics (13.5%, 95% CI: 10.7 – 16.9), and respondents of other race (8.8%, 95% CI: 5.3 – 14.5). In addition, Non-Hispanic whites had the lowest prevalence of vitamin D insufficiency (26.5% 95% CI: 23.4 – 29.9) compared to non-Hispanic blacks (84.7%, 95% CI: 81.1 – 87.7), Mexican-Americans/Other Hispanics (57.8%, 95% CI: 52.9 – 62.6), and respondents of other race (67.9%, 95% CI: 57.6 – 76.8). Respondents that were not poor or normal weight had highest prevalence of OC use (22.1%, 95% CI: 19.0 – 25.5 and 23.5%, 95% CI: 20.1 – 27.2, respectively) and lowest prevalence of vitamin D insufficiency (34.3%, 95% CI: 31.0 – 37.6 and 30.7%, 95% CI: 27.0 – 34.6, respectively) compared to other categories. Respondents using dietary supplements or who

received their vitamin D blood level test between the months of May to October had lower prevalence of vitamin D insufficiency (32.1%, 95% CI: 28.5 – 36.0 and 33.7%, 95% CI: 30.2 – 37.5, respectively).

Oral contraceptive use, race, BMI, dietary supplement use, and month of vitamin D testing were all significantly associated with vitamin D insufficiency while age and income were not (Table 2). Adjusting for other covariates, those who were currently using oral contraceptive were less likely to be vitamin D insufficient than non-users (PR 0.59, 95% CI: 0.50 – 0.71). Non-Hispanic blacks were nearly three times as likely to be vitamin D insufficient compared to whites (PR 2.78, 95% CI: 2.44 – 3.17), followed by respondents of other race (PR 2.33, 95% CI: 1.93 – 2.80), and Mexican-American/Other Hispanics (PR 1.61, 95% CI: 1.38 – 1.88). Those who were obese and overweight were more likely to be vitamin D insufficient than those who were of normal BMI. Dietary supplements were significantly associated with a lower prevalence of vitamin D insufficiency (PR 0.82, 95% CI: 0.73 – 0.92). Those who had testing done during the winter months were more likely to be classified as Vitamin D insufficient (PR 1.43, 95% CI: 1.27 – 1.60).

Discussion

The findings suggest that OC use is associated with vitamin D status as a smaller proportion of women classified as vitamin D insufficient were using OCs compared with those who were not. The literature is limited in its assessment of OC use and vitamin D, but our findings were consistent with those of similar studies.[7,9,11] The results are important to note as the prevalence of OC use in our sample was 19% which represents a large fraction of the population. In fact, one study found that when women discontinued OC use, their 25(OH)D levels dropped in contrast to those whose 25(OH)D levels remained consistent with continued OC use.[11] However, further research is necessary to examine the relationship of the anabolic effect of OC on the synthesis of vitamin D binding protein, as well as the biological cause of this mechanism. In addition, it is unclear whether or not the type of OC (e.g., estrogen only, combination estrogen/progestin, etc.) makes a difference in serum 25(OH)D levels.

Within our study, age was not found to be a significant predictor of vitamin D status among women of reproductive age. Similarly, Looker et al. found that the risk of deficiency increased until age 18, after which it did not change significantly.[5] In comparison, the males' risk of deficiency increased significantly with age until age 30. It is certainly plausible that some of the difference may be attributable to OC use among women of reproductive age, although more research is necessary to test this hypothesis.

The literature has noted differences in vitamin D levels across race/ethnicity. Lanugova et al. found the highest incidence of vitamin D deficiency among blacks, followed by Hispanics, with the lowest deficiency among whites[14] which support our study's findings. It is of particular interest to note that non-hispanic blacks had the highest prevalence of vitamin D deficiency (84.7%) and only 10.3% reported OC use. In comparison, the prevalence of vitamin D

insufficiency among Mexican-Americans/other Hispanics was 57.8% while 13.5% reported OC use. The gap may partly be attributed to differences in skin pigmentation, but other factors that affect vitamin D status should be considered as well.

Income did not play a factor in vitamin D status in this study. Although socioeconomic status (SES) is a factor that has not been well examined in relation to vitamin D[15], a study analyzing NHANES III data found that adolescents with low income had three times the odds of vitamin D deficiency when compared to those of a higher income category.[16] However, this study did not control for race/ethnicity which is a variable that confounds the relationship between SES and vitamin D status.

Body mass index (BMI) has been found to correlate negatively with serum 25(OH)D levels.[17,18] The process in which vitamin D is released from fat is slow and often proportional to the concentration of the vitamin in adipose tissue.[19] However, a surplus of body fat can lead to increased sequestration into fat cells thus limiting availability resulting in lower serum 25(OH)D levels.[19] The results of our analysis show those who were overweight and obese had a higher prevalence of vitamin D insufficiency as anticipated.

Jorde et al. compared obese participants with lean ones and found a significant negative correlation between BMI and serum vitamin D after one year of high dose dietary supplementation. The obese participants needed higher vitamin D doses than the lean to achieve the same vitamin D levels.[20] Dietary supplement recommendations may need to be adjusted in accordance with BMI.

Finally, seasonality has been found to have an effect on serum 25(OH)D levels as vitamin D is synthesized when skin is exposed to sunlight, [21,22] and season of laboratory testing did play a role in serum 25(OH)D concentrations in our study. Women who have examinations done during

the winter, therefore, may have lower levels of serum 25(OH)D than those who had them drawn during the summer.

There are several limitations in the study that are noteworthy. The BMI results should be interpreted with caution as the scale for adult women was used for the 15-19 year-olds which may have underestimated the BMI for women in this group. Furthermore, our methods did not ensure that all women in our sample were premenopausal. Some of the women aged in their thirties or forties could have certainly started menopause which would have affected their estrogen levels. We also did not have information about the consistency of OC or dietary supplement use, so we were unable to estimate frequency of use.

In conclusion, our findings suggest that OC use does affect serum 25(OH)D levels. Given the current level of understanding of estrogen's effect on vitamin D status, it would be useful to obtain information about vitamin-D binding protein to compare levels among OC users and non-OC users. Furthermore, different types of OC as well as their components should be assessed for variations on their effect on vitamin D status.

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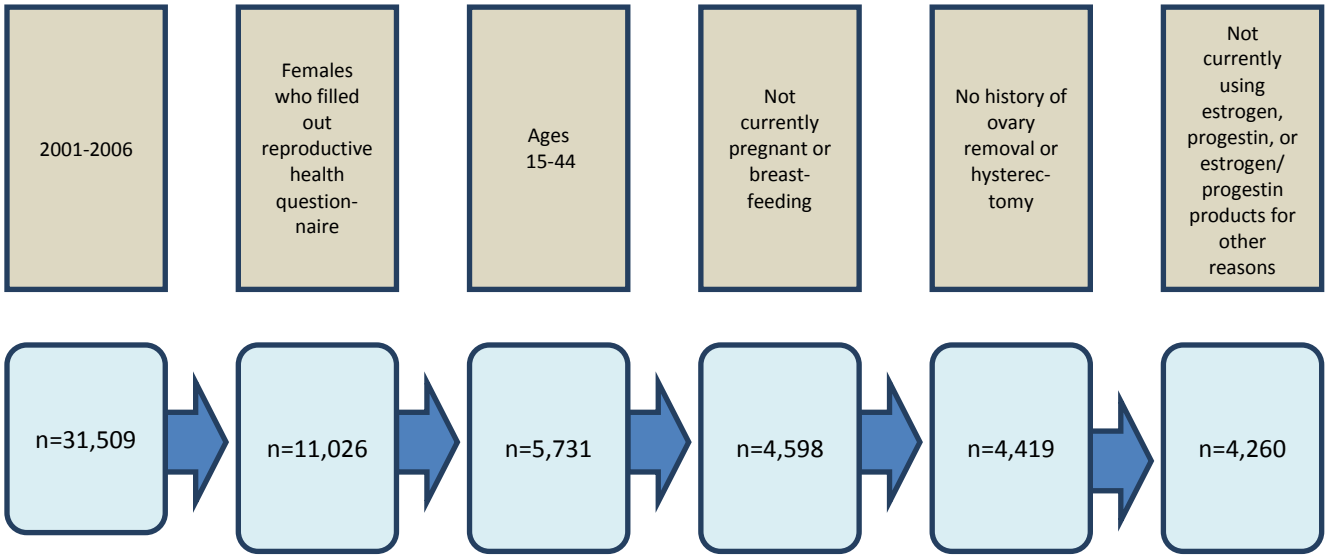
Appendices

Appendix A- NHANES Variable Names and Questions

Survey	Variable Name	Variable Indicator/Question
Demographics	RIAGENDR	Gender
	RIDAGEYR	Age
	RIDRETH1	Race/Ethnicity
	INDFMPIR	Family Poverty Income Ratio
	RIDEXPRG	Pregnancy Status at Exam
Dietary	DSD010	Have you used or taken any vitamins, minerals, or other dietary supplements in the past month?
Examination	BMXBMI	Body Mass Index (kg/m^2)
Laboratory	LBXVID: 2001-2002 LBDVID: 2003-2006	Serum 25(OH)D
Reproductive Health Questionnaire	RHQ200	Are you now breastfeeding a child?
	RHD280	Have you had a hysterectomy including a partial hysterectomy, that is, surgery to remove your uterus or womb?
	RHQ300	Have you had at least one of your ovaries removed either when you had your uterus removed or at another time?
	RHD440: 2001-2002 RHD442: 2003-2006	Are you taking birth control pills now?
	RHQ520	Are you now using Depo-Provera or injectables to prevent pregnancy?
	RHQ558	Are you taking pills containing estrogen only now?
	RHQ566	Are you taking progestin only pills now?
	RHQ574	Are you taking pills containing both estrogen and progestin now?
	RHQ584	Are you using patches containing estrogen only now?
	RHQ600	Are you using patches containing both estrogen and progestin now?

Appendix B- Figures

Figure 1: Exclusion criteria



Appendix C- Tables

Table 1. Distribution of population, reported oral contraceptive use, and prevalence of vitamin D insufficiency by select characteristics, NHANES, 2001-2006

Characteristic	Population Distribution %	Reported Oral Contraceptive Use % (95% CI)†	Prevalence of Vitamin D Insufficiency % (95% CI)
Overall Population	100.0	19.0 (16.8-21.4)	41.9 (38.6-45.2)
Vitamin D Insufficiency			
Yes	41.9	9.1 (7.6-11.0)	x
No	58.1	25.5 (22.0-29.3)	x
Current Oral Contraceptive Use			
Yes	19.0	x	19.1 (15.4-23.4)
No	81.0	x	44.6 (40.8-48.5)
Age			
15-19	17.5	16.6 (13.8-19.8)	42.7 (38.4-47.1)
20-29	31.4	27.2 (22.8-32.2)	43.2 (38.1-48.4)
30-39	33.2	18.9 (15.4-23.0)	39.6 (35.6-43.8)
40-45	17.9	7.4 (4.8-11.3)	43.0 (37.8-48.5)
Race			
Non-Hispanic White	64.5	22.9 (19.8-26.3)	26.5 (23.4-29.9)
Non-Hispanic Black	13.5	10.3 (8.3-12.7)	84.7 (81.1-87.7)
Mexican-American/Other Hispanic	15.8	13.5 (10.7-16.9)	57.8 (52.9-62.6)
Other	6.3	8.8 (5.3-14.5)	67.9 (57.6-76.8)
Income			
Poor	18.5	14.1 (10.5-18.8)	53.0 (46.4-59.4)
Near Poor	21.8	13.8 (10.6-17.8)	50.9 (45.5-56.3)
Not Poor	59.6	22.1 (19.0-25.5)	34.3 (31.0-37.6)
Body Mass Index			
Underweight	6.8	11.3 (6.6-18.6)	44.7 (36.7-53.0)
Normal	44.4	23.5 (20.1-27.2)	30.7 (27.0-34.6)
Overweight	22.3	19.5 (15.8-23.7)	44.0 (39.4-48.7)
Obese	26.5	12.6 (10.2-15.5)	58.1 (51.9-64.1)
Dietary Supplement Use			
Yes	43.2	22.7 (19.0-26.8)	32.1 (28.5-36.0)
No	56.8	16.1 (14.0-18.5)	49.4 (45.3-53.4)
Month Range of Vitamin D Test			
November-April	43.5	20.0 (17.6-22.6)	52.5 (48.0-57.0)
May-October	56.5	18.2 (15.1-21.9)	33.7 (30.2-37.5)

† C.I. Confidence interval

Table 2. Adjusted* prevalence ratios for vitamin D insufficiency, NHANES, 2001-2006

Characteristic	Prevalence Ratio	95% C.I.†	p-value
Current Oral Contraceptive Use			<0.0001
Yes	0.59	0.50-0.70	
No	*Reference*	x	
Age			0.1159
15-19	1.02	0.90-1.17	
20-29	*Reference*	x	
30-39	0.90	0.78-1.03	
40-45	0.95	0.80-1.13	
Race			<0.0001
Non-Hispanic White	*Reference*	x	
Non-Hispanic Black	2.78	2.44-3.17	
Mexican American/Other Hispanic	1.61	1.38-1.88	
Other Race	2.33	1.93-2.80	
Income			0.5435
Poor	1.02	0.88-1.18	
Near Poor	1.08	0.94-1.24	
Not Poor	*Reference*	x	
Body Mass Index			<0.0001
Underweight	1.06	0.87-1.30	
Normal	*Reference*	x	
Overweight	1.26	1.10-1.44	
Obese	1.59	1.36-1.86	
Dietary Supplement Use			0.0008
Yes	0.82	0.73-0.92	
No	*Reference*	x	
Month Range of Vitamin D Test			<0.0001
November-April	*1.43*	1.27-1.60	
May-October	*Reference*	x	

* Adjusted simultaneously for all other factors

† C.I. Confidence interval

Appendix D- SAS/SUDAAN Code

```
*Assigns the libname NH to the H:\Thesis\NHANES\DATA folder. This is where the new dataset will be
saved.
Remember to surround the pathname in quotation marks.*;
libname NH "H:\Thesis\NHANES\DATA";

*Assigns the libname DATA to the SAS transport file stored in the TEMP folder.
The xport statement tells SAS to extract the data from the transport file using the XPORT engine.*;
libname BMX_01          xport "H:\Thesis\NHANES\TEMP\BMX_B.xpt";
libname DEMO_01         xport "H:\Thesis\NHANES\TEMP\DEMO_B.xpt";
libname VITD_01         xport "H:\Thesis\NHANES\TEMP\L06VID_B.xpt";
libname RHQ_01 xport "H:\Thesis\NHANES\TEMP\RHQ_B.xpt";
libname FIL1_01 xport "H:\Thesis\NHANES\TEMP\dsq1_b.xpt";
libname BMX_03          xport "H:\Thesis\NHANES\TEMP\BMX_C.xpt";
libname DEMO_03         xport "H:\Thesis\NHANES\TEMP\DEMO_C.xpt";
libname VITD_03         xport "H:\Thesis\NHANES\TEMP\L06VID_C.xpt";
libname RHQ_03 xport "H:\Thesis\NHANES\TEMP\RHQ_C.xpt";
libname FIL1_03 xport "H:\Thesis\NHANES\TEMP\dsq1_c.xpt";
libname BMX_05          xport "H:\Thesis\NHANES\TEMP\BMX_D.xpt";
libname DEMO_05         xport "H:\Thesis\NHANES\TEMP\DEMO_D.xpt";
libname VITD_05         xport "H:\Thesis\NHANES\TEMP\VID_D.xpt";
libname RHQ_05 xport "H:\Thesis\NHANES\TEMP\RHQ_D.xpt";
libname FIL1_05 xport "H:\Thesis\NHANES\TEMP\dsq1_d.xpt";

*Copies the extracted dataset from the transport file to the H:\Thesis\NHANES\DATA folder.*;

proc copy in=BMX_01 out=NH;
run;
proc copy in=DEMO_01 out=NH;
run;
proc copy in=VITD_01 out=NH;
run;
proc copy in=RHQ_01 out=NH;
run;
proc copy in=FIL1_01 out=NH;
run;
proc copy in=BMX_03 out=NH;
run;
proc copy in=DEMO_03 out=NH;
run;
proc copy in=VITD_03 out=NH;
run;
proc copy in=RHQ_03 out=NH;
run;
proc copy in=FIL1_03 out=NH;
run;
proc copy in=BMX_05 out=NH;
run;
proc copy in=DEMO_05 out=NH;
run;
proc copy in=VITD_05 out=NH;
run;
proc copy in=RHQ_05 out=NH;
```

```
run;
proc copy in=FIL1_05 out=NH;
run;


*RENAME VARIABLES*;

data RHQ_6yr;
set NH.RHQ_B;
rename RHD440=RHD442;
run;

data VITD_6yr;
set NH.L06VID_B;
rename LBXVID=LBDVID;
run;


*APPEND DATA FILES*;

data BMI_6yr;
set NH.BMX_B (KEEP=SEQN BMXBMI)
        NH.BMX_C (KEEP=SEQN BMXBMI)
        NH.BMX_D (KEEP=SEQN BMXBMI);
        run;

data DEMO_6yr;
set NH.DEMO_B (KEEP=SEQN RIDEXMON RIDSTATR SDDSRVYR WTMEC2YR SDMVPSU
SDMVSTRA INDFMPIR RIAGENDR RIDAGEYR RIDEXPRG RIDRETH1)
        NH.DEMO_C (KEEP=SEQN RIDEXMON RIDSTATR SDDSRVYR WTMEC2YR SDMVPSU
SDMVSTRA INDFMPIR RIAGENDR RIDAGEYR RIDEXPRG RIDRETH1)
        NH.DEMO_D (KEEP=SEQN RIDEXMON RIDSTATR SDDSRVYR WTMEC2YR SDMVPSU
SDMVSTRA INDFMPIR RIAGENDR RIDAGEYR RIDEXPRG RIDRETH1);
        run;


data VITD_6yr2;
set VITD_6yr (KEEP=SEQN LBDVID)
        NH.L06VID_C (KEEP=SEQN LBDVID)
        NH.VID_D (KEEP=SEQN LBDVID)
        ;
        run;

data RHQ_6yr2;
set RHQ_6yr  (KEEP=SEQN RHQ010 RHQ200 RHD280 RHQ300 RHQ420 RHD442 RHQ510 RHQ520
RHQ540 RHQ554 RHQ558 RHQ562 RHQ566 RHQ570 RHQ574 RHQ580 RHQ584 RHQ596 RHQ600)
        NH.RHQ_C (KEEP=SEQN RHQ010 RHQ200 RHD280 RHQ300 RHQ420 RHD442 RHQ510
RHQ520 RHQ540 RHQ554 RHQ558 RHQ562 RHQ566 RHQ570 RHQ574 RHQ580 RHQ584 RHQ596
RHQ600)
        NH.RHQ_D (KEEP=SEQN RHQ010 RHQ200 RHD280 RHQ300 RHQ420 RHD442 RHQ510
RHQ520 RHQ540 RHQ554 RHQ558 RHQ562 RHQ566 RHQ570 RHQ574 RHQ580 RHQ584 RHQ596
RHQ600);
        run;
```

```
data DSQ1_6yr;
set NH.dsq1_b (KEEP=SEQN DSD010)
        NH.dsq1_c (KEEP=SEQN DSD010)
        NH.dsq1_d (KEEP=SEQN DSD010);
        run;

*MERGE DATA FILES*;

proc sort data=BMI_6yr;
by SEQN;
proc sort data=DEMO_6yr;
by SEQN;
proc sort data=VITD_6yr2;
by SEQN;
proc sort data=RHQ_6yr2;
by SEQN;
proc sort data=DSQ1_6yr;
by SEQN;

data NH.NHANES;
merge BMI_6yr
DEMO_6yr
VITD_6yr2
RHQ_6yr2 (IN=A)
DSQ1_6yr;
by SEQN;
IF A=1;
run;

proc contents data= NH.NHANES varnum;
run;

proc format;
value age
1="15-19"
2="20-29"
3="30-39"
4="40-44";

value race
1="NH-White"
2="NH-Black"
3="Mexican American or Other Hispanic"
4="Other Race";

value income
1="Poor"
2="Near Poor"
3="Not Poor"
.="Missing";

value _yn
1="Yes"
2="No"
.="Missing";
```

```
value yn
1="Yes"
0="No"
.="Missing";

value bmi
1="Underweight"
2="Normal"
3="Overweight"
4="Obese";

value RIDEXMON
1="November 1 through April 30"
2="May 1 through October 31";
run;


data NH.NHANES1;
set NH.NHANES;

If RHQ520=1 then depo= 1;
Else If RHQ520=2 then depo= 0;
Else If RHQ510=2 then depo= 0;
label depo = 'currently taking depo/inj';

If RHQ558=1 then estrogen= 1;
Else If RHQ558=2 then estrogen= 0;
Else If RHQ540=2 then estrogen= 0;
label estrogen = 'currently taking estrogen hormone';

If RHQ566=1 then progestin= 1;
Else If RHQ566=2 then progestin= 0;
Else If RHQ562=2 then progestin= 0;
label progestin = 'currently taking progestin hormone';

If RHQ574=1 then estpro= 1;
Else If RHQ574=2 then estpro= 0;
Else If RHQ570=2 then estpro= 0;
label estpro = 'currently taking estrogen/progestin hormones';

If RHQ584=1 then estonlypatch= 1;
Else If RHQ584=2 then estonlypatch= 0;
Else If RHQ580=2 then estonlypatch= 0;
label estonlypatch = 'currently using estrogen patch';

If RHQ600=1 then patch= 1;
Else If RHQ600=2 then patch= 0;
Else If RHQ596=2 then patch= 0;
label patch = 'currently using estrogen/progestin patch';


* Creating Sub-Pop Statement;
If 15<=RIDAGEYR<=44 and RIDEXPRG ^= 1 and rhq200 ^=1 and rhd280 ^=1 and rhq300 ^=1
and RHQ520 ^=1 and RHQ558 ^=1 and RHQ566 ^=1 and RHQ574 ^=1 and RHQ584 ^=1 and RHQ600
^=1
then subpop=1; else subpop=2;
```

```
* Create weighting variable;
If sddsrvyr in (2,3,4) then MEC6YR = 1/3 * WTMEC2YR; /*for 2001-2006*/

*Categorize age*;
if RIDAGEYR ge 15 and RIDAGEYR le 19 then age = 1;
else if RIDAGEYR ge 20 and RIDAGEYR le 29 then age = 2;
else if RIDAGEYR ge 30 and RIDAGEYR le 39 then age = 3;
else if RIDAGEYR ge 40 and RIDAGEYR le 44 then age = 4;

*Categorize race/ethnicity to code referent white as 1*;
If RIDRETH1 in (1,2) then race=3; /*Mexican American*/
Else if RIDRETH1=3 then race=1; /*Non-Hispanic White*/
Else if RIDRETH1=4 then race=2; /*Non-Hispanic Black*/
Else if RIDRETH1=5 then race=4; /*Other Race*/

*Categorize income by ratio of family income to poverty threshold*;
if INDFMPIR = . then income=.;
else if INDFMPIR le .99 then income=1;
else if 1.00<=INDFMPIR<=1.99 then income=2;
else if 2.00<=INDFMPIR<=5 then income=3;

*Categorize BMI*;
If BMXBMI < 18.5 then bmicat=1; */underweight*/;
Else if 18.5<=BMXBMI<=24.9 then bmicat=2; */normal*/;
Else if 25.0<=BMXBMI<=29.9 then bmicat=3; */overweight*/;
Else if BMXBMI >= 30.0 then bmicat=4; */obese*/;

*Categorize dietary supplement questions*;
If DSD010=1 then supptake= 1;
Else If DSD010=2 then supptake= 2;
label supptake = 'dietary supplements taken';

*Categorize Vit D 25(OH)D levels*;
If LBDVID <= 19 then vitdcat=1; */insufficient*/;
Else if LBDVID > 19 then vitdcat=0; */sufficient*/;

*Categorize reproductive health questions*;
If RHD442=1 then bthctrl= 1;
Else if RHD442=2 then bthctrl= 0;
Else If RHQ420=2 then bthctrl= 0;
label bthctrl = 'currently taking birth control';

*;

format
age                                    age.
race                              race.
income                            income.
bmicat                            bmi.
RIDEXMON                          RIDEXMON.
supptake                  _yn.
vitdcat bthctrl            yn.;
run;
```

```
proc sort data=NH.NHANES1;
by SDMVSTRA SDMVPSU;
run;

proc contents data=NH.NHANES1;
run;


* Table 1-Characteristics of Subpop;
*prevalence*;
proc crosstab data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
class age race income bmicat vitdcat supptake bthctrl RIDEXMON;
tables (age race income bmicat vitdcat supptake bthctrl RIDEXMON) ;
run;

*characteristics by birth control use*;
proc crosstab data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
class age race income bmicat vitdcat supptake bthctrl RIDEXMON;
tables (age race income bmicat vitdcat supptake RIDEXMON)* bthctrl ;
run;

*characteristics by vitamin D status*;
proc crosstab data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
class age race income bmicat vitdcat supptake bthctrl RIDEXMON;
tables (age race income bmicat supptake bthctrl RIDEXMON)* vitdcat ;
run;

* Table 2-Modeling;

*20-29 age ref group-interaction terms*;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
CLASS  age race income bmicat supptake RIDEXMON bthctrl;
REFLEV          age=2 race=1 income=3 bmicat=2 supptake=2 RIDEXMON=2 bthctrl=0;
MODEL vitdcat = bthctrl age race income bmicat supptake RIDEXMON age*race age*income age*bmicat
age*supptake age*ridexmon
age*bthctrl race*income race*bmicat race*supptake race*ridexmon race*bthctrl income*bmicat
income*supptake income*ridexmon
income*bthctrl bmicat*supptake bmicat*ridexmon bmicat*bthctrl supptake*ridexmon supptake*bthctrl
ridexmon*bthctrl;
PREDMARG age(2) race(1) income(3) bmicat(2) supptake(2) RIDEXMON(2) bthctrl(0)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
```

```
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

*20-29 age ref group- without interaction terms* ***OUTPUT USED***;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
CLASS  age race income bmicat supptake RIDEXMON bthctrl;
REFLEV          age=2 race=1 income=3 bmicat=2 supptake=2 RIDEXMON=2 bthctrl=0;
MODEL vitdcat = bthctrl age race income bmicat supptake RIDEXMON;
PREDMARG age(2) race(1) income(3) bmicat(2) supptake(2) RIDEXMON(2) bthctrl(0)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

 *Crude*;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
CLASS  age;
REFLEV          age=2;
MODEL vitdcat = age;
PREDMARG age(2)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
```

```
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
CLASS  race;
REFLEV          race=1;
MODEL vitdcat = race;
PREDMARG race(1)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1;
CLASS  income;
REFLEV          income=3;
MODEL vitdcat = income;
PREDMARG income(3)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;
```

```
PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1 ;
CLASS  bmicat;
REFLEV          bmicat=2;
MODEL vitdcat = bmicat;
PREDMARG bmicat(2)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1 ;
CLASS  supptake;
REFLEV          supptake=2;
MODEL vitdcat = supptake;
PREDMARG supptake(2)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1 ;
CLASS  RIDEXMON;
REFLEV          RIDEXMON=2;
MODEL vitdcat = RIDEXMON;
```

```
PREDMARG RIDEXMON(2)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;

PROC RLOGIST data=NH.NHANES1 design=WR;
nest SDMVSTRA SDMVPSU;
weight MEC6yR;
subpopn subpop=1 ;
CLASS  bthctrl;
REFLEV bthctrl=0;
MODEL vitdcat = bthctrl;
PREDMARG bthctrl(0)/ADJRR;

setenv labwidth=23 colspce=1;
print / betas=default
                betafmt=f7.4 sebetafmt=f8.4 lowbetafmt=f7.4 upbetafmt=f7.4
                t_betafmt=f6.2 p_betafmt=f7.4 ;

setenv labwidth=35 colspce=4;
                print / risk=default tests=default
                waldpfmt=f7.4 dffmt=f7.0 loworfmt=f9.2 uporfmt=f9.2;

setenv labwidth=30 decwidth=4 colwidth=8 colspce=3; print predmrg="PREDMARG" / pred_mrg=default
;

setenv labwidth=38 decwidth=2 colwidth=5 colspce=5; print pred_rr="Risk Ratio"/ predrisk=default;
RUN;
```

Appendix E- SUDAAN Output

```
The SAS System      17:10 Wednesday, April 11, 2012   1


                              S U D A A N
           Software for the Statistical Analysis of Correlated Data
         Copyright      Research Triangle Institute      October 2009
                                Release 10.0.1


DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method,
Assuming a
With Replacement (WR) Design
    Sample Weight: MEC6YR
    Stratification Variables(s): SDMVSTRA
    Primary Sampling Unit: SDMVPSU


Number of observations read    :  11026    Weighted count :122922227
Observations in subpopulation  :   4260    Weighted count : 51444676
Denominator degrees of freedom :     45



Date: 04-11-2012                              SUDAAN
Page:  1
Time: 17:11:30
Table: 1

Frequencies and Values for CLASS Variables
by: AGE.

---------------------------------
AGE             Frequency    Value
---------------------------------
Ordered
  Position:
  1                  1844    15-19
Ordered
  Position:
  2                   969    20-29
Ordered
  Position:
  3                   917    30-39
Ordered
  Position:
  4                   530    40-44
---------------------------------



Date: 04-11-2012                              SUDAAN
Page:  2
Time: 17:11:30
Table: 1

Frequencies and Values for CLASS Variables
by: RACE.

-----------------------------------------------------------------
RACE            Frequency                                  Value
-----------------------------------------------------------------
Ordered
  Position:
  1                  1590                               NH-White
Ordered
  Position:
```

```
  2                  1152                              NH-Black
Ordered
  Position:
  3                  1326    Mexican American or Other Hispanic
Ordered
  Position:
  4                   192                           Other Race
-------------------------------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: INCOME.

--------------------------------------
INCOME          Frequency        Value
--------------------------------------
Ordered
  Position:
  1                  1072         Poor
Ordered
  Position:
  2                  1024    Near Poor
Ordered
  Position:
  3                  1929     Not Poor
--------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: BMICAT.

----------------------------------------
BMICAT          Frequency          Value
----------------------------------------
Ordered
  Position:
  1                   318    Underweight
Ordered
  Position:
  2                  1840         Normal
Ordered
  Position:
  3                   958     Overweight
Ordered
  Position:
  4                  1115          Obese
----------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: VITDCAT.

---------------------------------
```

VITDCAT	Frequency	Value
Ordered Position: 1	1879	No
Ordered Position: 2	2381	Yes

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken	Frequency	Value
Ordered Position: 1	1379	Yes
Ordered Position: 2	2876	No

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position: 1	3153	No
Ordered Position: 2	566	Yes

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period	Frequency	Value

```
-------------------------------------------------------
Ordered
  Position:
  1                 2187    November 1 through April 30
Ordered
  Position:
  2                 2073       May 1 through October 31
-------------------------------------------------------


Date: 04-11-2012                                SUDAAN                                Page:
9
Time: 17:11:30
Table: 1

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE.

-------------------------------------------------------------------------------------------
-
|                 |                 | AGE
|
|                 |                 |-------------------------------------------------
|
|                 |                 | Total      | 15-19      | 20-29      | 30-39
|
-------------------------------------------------------------------------------------------
-
|                 |                 |            |            |            |
|
|                 | Sample Size     |       4260 |       1844 |        969 |        917
|
|                 | Weighted Size   | ********** | 9024854.93 | ********** | **********
|
|                 | SE Weighted     | 1815672.78 |  417950.69 |  725489.62 |  903527.73
|
|                 | Row Percent     |     100.00 |      17.54 |      31.38 |      33.20
|
|                 | SE Row Percent  |       0.00 |       0.54 |       1.01 |       1.23
|
|                 | Lower 95% Limit |            |            |            |
|
|                 |  ROWPER         |        .   |      16.47 |      29.38 |      30.78
|
|                 | Upper 95% Limit |            |            |            |
|
|                 |  ROWPER         |        .   |      18.67 |      33.45 |      35.72
|
|                 | Col Percent     |     100.00 |      17.54 |      31.38 |      33.20
|
|                 | SE Col Percent  |       0.00 |       0.54 |       1.01 |       1.23
|
|                 | Lower 95% Limit |            |            |            |
|
|                 |  COLPER         |        .   |      16.47 |      29.38 |      30.78
|
|                 | Upper 95% Limit |            |            |            |
|
|                 |  COLPER         |        .   |      18.67 |      33.45 |      35.72
|
|                 | Tot Percent     |     100.00 |      17.54 |      31.38 |      33.20
|
|                 | SE Tot Percent  |       0.00 |       0.54 |       1.01 |       1.23
|
|                 | Lower 95% Limit |            |            |            |
|
|                 |  TOTPER         |        .   |      16.47 |      29.38 |      30.78
|
```

	Upper 95% Limit				
	TOTPER	.	18.67	33.45	35.72

Table: 1

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE.

		AGE
		40-44
Sample Size		530
Weighted Size		9194695.65
SE Weighted		547813.34
Row Percent		17.87
SE Row Percent		0.82
Lower 95% Limit		
	ROWPER	16.27
Upper 95% Limit		
	ROWPER	19.59
Col Percent		17.87
SE Col Percent		0.82
Lower 95% Limit		
	COLPER	16.27
Upper 95% Limit		
	COLPER	19.59
Tot Percent		17.87
SE Tot Percent		0.82
Lower 95% Limit		
	TOTPER	16.27
Upper 95% Limit		
	TOTPER	19.59

Table: 2

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE.

		RACE			
		Total	NH-White	NH-Black	Mexican American or Other

					Hispanic
	Sample Size	4260	1590	1152	1326
	Weighted Size	**********	**********	6929741.94	8126818.30
	SE Weighted	1815672.78	1949458.64	596134.60	698123.99
	Row Percent	100.00	64.46	13.47	15.80
	SE Row Percent	0.00	1.98	1.29	1.42
	Lower 95% Limit				
	ROWPER	.	60.38	11.07	13.13
	Upper 95% Limit				
	ROWPER	.	68.35	16.30	18.88
	Col Percent	100.00	64.46	13.47	15.80
	SE Col Percent	0.00	1.98	1.29	1.42
	Lower 95% Limit				
	COLPER	.	60.38	11.07	13.13
	Upper 95% Limit				
	COLPER	.	68.35	16.30	18.88
	Tot Percent	100.00	64.46	13.47	15.80
	SE Tot Percent	0.00	1.98	1.29	1.42
	Lower 95% Limit				
	TOTPER	.	60.38	11.07	13.13
	Upper 95% Limit				
	TOTPER	.	68.35	16.30	18.88

Table: 2

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE.

	RACE
	Other Race
Sample Size	192
Weighted Size	3225373.53
SE Weighted	373052.17

	Row Percent	6.27
	SE Row Percent	0.73
	Lower 95% Limit	
	ROWPER	4.95
	Upper 95% Limit	
	ROWPER	7.90
	Col Percent	6.27
	SE Col Percent	0.73
	Lower 95% Limit	
	COLPER	4.95
	Upper 95% Limit	
	COLPER	7.90
	Tot Percent	6.27
	SE Tot Percent	0.73
	Lower 95% Limit	
	TOTPER	4.95
	Upper 95% Limit	
	TOTPER	7.90

Table: 3

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME.

		INCOME			
		Total	Poor	Near Poor	Not Poor
	Sample Size	4025	1072	1024	1929
	Weighted Size	**********	9072254.06	**********	**********
	SE Weighted	1773500.68	560533.10	586455.77	1207018.09
	Row Percent	100.00	18.54	21.83	59.63
	SE Row Percent	0.00	1.00	0.84	1.12
	Lower 95% Limit				
	ROWPER	.	16.60	20.19	57.36
	Upper 95% Limit				
	ROWPER	.	20.65	23.56	61.86
	Col Percent	100.00	18.54	21.83	59.63
	SE Col Percent	0.00	1.00	0.84	1.12
	Lower 95% Limit				
	COLPER	.	16.60	20.19	57.36
	Upper 95% Limit				

	COLPER	.	20.65	23.56	61.86
	Tot Percent	100.00	18.54	21.83	59.63
	SE Tot Percent	0.00	1.00	0.84	1.12
	Lower 95% Limit				
	TOTPER	.	16.60	20.19	57.36
	Upper 95% Limit				
	TOTPER	.	20.65	23.56	61.86

Table: 4

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT.

		BMICAT			
		Total	Underweig- ht	Normal	Overweight
	Sample Size	4231	318	1840	958
	Weighted Size	**********	3480458.80	**********	**********
	SE Weighted	1825704.07	311474.89	1029745.43	603504.16
	Row Percent	100.00	6.82	44.39	22.29
	SE Row Percent	0.00	0.56	1.21	0.93
	Lower 95% Limit				
	ROWPER	.	5.78	41.96	20.47
	Upper 95% Limit				
	ROWPER	.	8.04	46.83	24.21
	Col Percent	100.00	6.82	44.39	22.29
	SE Col Percent	0.00	0.56	1.21	0.93
	Lower 95% Limit				
	COLPER	.	5.78	41.96	20.47
	Upper 95% Limit				

	COLPER	.	8.04	46.83	24.21
	Tot Percent	100.00	6.82	44.39	22.29
	SE Tot Percent	0.00	0.56	1.21	0.93
	Lower 95% Limit				
	TOTPER	.	5.78	41.96	20.47
	Upper 95% Limit				
	TOTPER	.	8.04	46.83	24.21

Table: 4

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT.

	BMICAT
	Obese
Sample Size	1115
Weighted Size	**********
SE Weighted	736467.49
Row Percent	26.50
SE Row Percent	1.06
Lower 95% Limit	
ROWPER	24.43
Upper 95% Limit	
ROWPER	28.69
Col Percent	26.50
SE Col Percent	1.06
Lower 95% Limit	
COLPER	24.43
Upper 95% Limit	
COLPER	28.69
Tot Percent	26.50
SE Tot Percent	1.06
Lower 95% Limit	
TOTPER	24.43
Upper 95% Limit	
TOTPER	28.69

Table: 5

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: VITDCAT.

	VITDCAT

		Total	No	Yes
	Sample Size	4260	1879	2381
	Weighted Size	**********	**********	**********
	SE Weighted	1815672.78	1518950.69	969967.40
	Row Percent	100.00	58.11	41.89
	SE Row Percent	0.00	1.64	1.64
	Lower 95% Limit			
	ROWPER	.	54.78	38.63
	Upper 95% Limit			
	ROWPER	.	61.37	45.22
	Col Percent	100.00	58.11	41.89
	SE Col Percent	0.00	1.64	1.64
	Lower 95% Limit			
	COLPER	.	54.78	38.63
	Upper 95% Limit			
	COLPER	.	61.37	45.22
	Tot Percent	100.00	58.11	41.89
	SE Tot Percent	0.00	1.64	1.64
	Lower 95% Limit			
	TOTPER	.	54.78	38.63
	Upper 95% Limit			
	TOTPER	.	61.37	45.22

Time: 17:11:30
Table: 6

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken.

		dietary supplements taken		
		Total	Yes	No
	Sample Size	4255	1379	2876
	Weighted Size	**********	**********	**********
	SE Weighted	1804929.06	864422.31	1236199.93
	Row Percent	100.00	43.19	56.81
	SE Row Percent	0.00	1.04	1.04
	Lower 95% Limit			
	ROWPER	.	41.11	54.70
	Upper 95% Limit			
	ROWPER	.	45.30	58.89
	Col Percent	100.00	43.19	56.81
	SE Col Percent	0.00	1.04	1.04
	Lower 95% Limit			
	COLPER	.	41.11	54.70
	Upper 95% Limit			
	COLPER	.	45.30	58.89
	Tot Percent	100.00	43.19	56.81
	SE Tot Percent	0.00	1.04	1.04
	Lower 95% Limit			
	TOTPER	.	41.11	54.70
	Upper 95% Limit			
	TOTPER	.	45.30	58.89

Time: 17:11:30
Table: 7

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: currently taking birth control.

		currently taking birth control		
		Total	No	Yes
	Sample Size	3719	3153	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1668749.70	1543278.33	539935.80
	Row Percent	100.00	81.02	18.98
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit ROWPER	.	78.63	16.81
	Upper 95% Limit ROWPER	.	83.19	21.37
	Col Percent	100.00	81.02	18.98
	SE Col Percent	0.00	1.13	1.13
	Lower 95% Limit COLPER	.	78.63	16.81
	Upper 95% Limit COLPER	.	83.19	21.37
	Tot Percent	100.00	81.02	18.98
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit TOTPER	.	78.63	16.81
	Upper 95% Limit TOTPER	.	83.19	21.37

Time: 17:11:30
Table: 8

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period.

		Six month time period		
		Total	November 1 through April 30	May 1 through October 31
	Sample Size	4260	2187	2073
	Weighted Size	**********	**********	**********
	SE Weighted	1815672.78	2187487.95	2368578.24
	Row Percent	100.00	43.46	56.54
	SE Row Percent	0.00	4.05	4.05
	Lower 95% Limit ROWPER	.	35.56	48.28
	Upper 95% Limit ROWPER	.	51.72	64.44
	Col Percent	100.00	43.46	56.54
	SE Col Percent	0.00	4.05	4.05
	Lower 95% Limit COLPER	.	35.56	48.28
	Upper 95% Limit COLPER	.	51.72	64.44
	Tot Percent	100.00	43.46	56.54

	SE Tot Percent	0.00	4.05	4.05
	Lower 95% Limit			
	TOTPER	.	35.56	48.28
	Upper 95% Limit			
	TOTPER	.	51.72	64.44

S U D A A N
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Release 10.0.1

DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of observations read : 11026 Weighted count :122922227
Observations in subpopulation : 4260 Weighted count : 51444676
Denominator degrees of freedom : 45

Date: 04-11-2012 SUDAAN
Page: 1
Time: 17:11:31
Table: 1

Frequencies and Values for CLASS Variables
by: AGE.

AGE	Frequency	Value
Ordered Position: 1	1844	15-19
Ordered Position: 2	969	20-29
Ordered Position: 3	917	30-39
Ordered Position: 4	530	40-44

Date: 04-11-2012 SUDAAN
Page: 2
Time: 17:11:31
Table: 1

Frequencies and Values for CLASS Variables
by: RACE.

RACE	Frequency	Value
Ordered		

Position:		
1	1590	NH-White
Ordered		
Position:		
2	1152	NH-Black
Ordered		
Position:		
3	1326	Mexican American or Other Hispanic
Ordered		
Position:		
4	192	Other Race

Frequencies and Values for CLASS Variables
by: INCOME.

INCOME	Frequency	Value
Ordered		
Position:		
1	1072	Poor
Ordered		
Position:		
2	1024	Near Poor
Ordered		
Position:		
3	1929	Not Poor

Frequencies and Values for CLASS Variables
by: BMICAT.

BMICAT	Frequency	Value
Ordered		
Position:		
1	318	Underweight
Ordered		
Position:		
2	1840	Normal
Ordered		
Position:		
3	958	Overweight
Ordered		
Position:		
4	1115	Obese

Frequencies and Values for CLASS Variables
by: VITDCAT.

VITDCAT	Frequency	Value
Ordered Position: 1	1879	No
Ordered Position: 2	2381	Yes

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken	Frequency	Value
Ordered Position: 1	1379	Yes
Ordered Position: 2	2876	No

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position: 1	3153	No
Ordered Position: 2	566	Yes

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period	Frequency	Value
Ordered Position: 1	2187	November 1 through April 30
Ordered Position: 2	2073	May 1 through October 31

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, currently taking birth control.

AGE		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3719	3153	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1668749.70	1543278.33	539935.80
	Row Percent	100.00	81.02	18.98
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit ROWPER	.	78.63	16.81
	Upper 95% Limit ROWPER	.	83.19	21.37
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	81.02	18.98
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit TOTPER	.	78.63	16.81
	Upper 95% Limit TOTPER	.	83.19	21.37

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, currently taking birth control.

AGE		currently taking birth control		
		Total	No	Yes
15-19	Sample Size	1681	1466	215

	Weighted Size	8299867.95	6925337.81	1374530.14
	SE Weighted	409326.37	352958.76	145117.31
	Row Percent	100.00	83.44	16.56
	SE Row Percent	0.00	1.48	1.48
	Lower 95% Limit			
	ROWPER	.	80.24	13.79
	Upper 95% Limit			
	ROWPER	.	86.21	19.76
	Col Percent	18.42	18.98	16.07
	SE Col Percent	0.60	0.63	1.63
	Lower 95% Limit			
	COLPER	17.25	17.73	13.05
	Upper 95% Limit			
	COLPER	19.66	20.29	19.64
	Tot Percent	18.42	15.37	3.05
	SE Tot Percent	0.60	0.55	0.30
	Lower 95% Limit			
	TOTPER	17.25	14.31	2.50
	Upper 95% Limit			
	TOTPER	19.66	16.51	3.71

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, currently taking birth control.

AGE		currently taking birth control		
		Total	No	Yes
20-29	Sample Size	811	615	196
	Weighted Size	**********	**********	3795028.55
	SE Weighted	683168.51	643667.73	343389.66
	Row Percent	100.00	72.76	27.24
	SE Row Percent	0.00	2.34	2.34
	Lower 95% Limit			
	ROWPER	.	67.80	22.79
	Upper 95% Limit			
	ROWPER	.	77.21	32.20
	Col Percent	30.92	27.77	44.38
	SE Col Percent	1.08	1.30	2.60
	Lower 95% Limit			
	COLPER	28.79	25.23	39.21
	Upper 95% Limit			
	COLPER	33.14	30.46	49.67
	Tot Percent	30.92	22.50	8.42
	SE Tot Percent	1.08	1.17	0.73
	Lower 95% Limit			
	TOTPER	28.79	20.24	7.07
	Upper 95% Limit			
	TOTPER	33.14	24.93	10.01

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1

by: AGE, currently taking birth control.

AGE		currently taking birth control		
		Total	No	Yes
30-39	Sample Size	774	649	125
	Weighted Size	**********	**********	2782126.84
	SE Weighted	779820.18	705151.47	302529.99
	Row Percent	100.00	81.09	18.91
	SE Row Percent	0.00	1.86	1.86
	Lower 95% Limit			
	ROWPER	.	77.05	15.44
	Upper 95% Limit			
	ROWPER	.	84.56	22.95
	Col Percent	32.65	32.68	32.53
	SE Col Percent	1.25	1.32	2.79
	Lower 95% Limit			
	COLPER	30.19	30.07	27.17
	Upper 95% Limit			
	COLPER	35.22	35.40	38.39
	Tot Percent	32.65	26.48	6.18
	SE Tot Percent	1.25	1.09	0.69
	Lower 95% Limit			
	TOTPER	30.19	24.34	4.93
	Upper 95% Limit			
	TOTPER	35.22	28.73	7.72

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, currently taking birth control.

AGE		currently taking birth control		
		Total	No	Yes
40-44	Sample Size	453	423	30
	Weighted Size	8108348.06	7508449.41	599898.65
	SE Weighted	533123.78	497285.66	137853.98
	Row Percent	100.00	92.60	7.40
	SE Row Percent	0.00	1.58	1.58
	Lower 95% Limit			
	ROWPER	.	88.72	4.78
	Upper 95% Limit			
	ROWPER	.	95.22	11.28
	Col Percent	18.00	20.57	7.02
	SE Col Percent	0.91	1.03	1.54
	Lower 95% Limit			
	COLPER	16.23	18.58	4.47
	Upper 95% Limit			
	COLPER	19.91	22.72	10.84
	Tot Percent	18.00	16.67	1.33
	SE Tot Percent	0.91	0.84	0.30
	Lower 95% Limit			
	TOTPER	16.23	15.04	0.84
	Upper 95% Limit			
	TOTPER	19.91	18.44	2.10

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, currently taking birth control.

RACE		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3719	3153	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1668749.70	1543278.33	539935.80
	Row Percent	100.00	81.02	18.98
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit ROWPER	.	78.63	16.81
	Upper 95% Limit ROWPER	.	83.19	21.37
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	81.02	18.98
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit TOTPER	.	78.63	16.81
	Upper 95% Limit TOTPER	.	83.19	21.37

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, currently taking birth control.

RACE		currently taking birth control		
		Total	No	Yes
NH-White	Sample Size	1427	1101	326
	Weighted Size	**********	**********	6793458.24
	SE Weighted	1780016.71	1548875.32	557057.66
	Row Percent	100.00	77.11	22.89
	SE Row Percent	0.00	1.61	1.61
	Lower 95% Limit ROWPER	.	73.70	19.80
	Upper 95% Limit ROWPER	.	80.20	26.30
	Col Percent	65.88	62.70	79.44
	SE Col Percent	1.96	2.09	2.20
	Lower 95% Limit COLPER	61.83	58.40	74.65
	Upper 95% Limit			

	COLPER	69.71	66.81	83.53
	Tot Percent	65.88	50.80	15.08
	SE Tot Percent	1.96	1.89	1.13
	Lower 95% Limit			
	TOTPER	61.83	47.00	12.94
	Upper 95% Limit			
	TOTPER	69.71	54.59	17.51

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, currently taking birth control.

RACE		currently taking birth control		
		Total	No	Yes
NH-Black	Sample Size	982	880	102
	Weighted Size	5717292.74	5129209.30	588083.45
	SE Weighted	520159.99	478708.20	77166.19
	Row Percent	100.00	89.71	10.29
	SE Row Percent	0.00	1.10	1.10
	Lower 95% Limit			
	ROWPER	.	87.28	8.27
	Upper 95% Limit			
	ROWPER	.	91.73	12.72
	Col Percent	12.69	14.05	6.88
	SE Col Percent	1.27	1.46	1.00
	Lower 95% Limit			
	COLPER	10.34	11.36	5.12
	Upper 95% Limit			
	COLPER	15.49	17.27	9.17
	Tot Percent	12.69	11.39	1.31
	SE Tot Percent	1.27	1.17	0.18
	Lower 95% Limit			
	TOTPER	10.34	9.24	0.99
	Upper 95% Limit			
	TOTPER	15.49	13.96	1.73

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, currently taking birth control.

RACE		currently taking birth control		
		Total	No	Yes
Mexican American or Other Hispanic	Sample Size	1140	1017	123
	Weighted Size	6785392.89	5868987.96	916404.93
	SE Weighted	533824.07	464022.40	132656.23
	Row Percent	100.00	86.49	13.51
	SE Row Percent	0.00	1.55	1.55

	Lower 95% Limit ROWPER	.	83.07	10.68
	Upper 95% Limit ROWPER	.	89.32	16.93
	Col Percent	15.06	16.08	10.72
	SE Col Percent	1.30	1.36	1.62
	Lower 95% Limit COLPER	12.63	13.53	7.87
	Upper 95% Limit COLPER	17.87	19.01	14.43
	Tot Percent	15.06	13.03	2.03
	SE Tot Percent	1.30	1.12	0.31
	Lower 95% Limit TOTPER	12.63	10.94	1.50
	Upper 95% Limit TOTPER	17.87	15.45	2.76

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, currently taking birth control.

RACE		currently taking birth control		
		Total	No	Yes
Other Race	Sample Size	170	155	15
	Weighted Size	2867761.57	2614124.01	253637.56
	SE Weighted	360399.20	316555.38	78928.24
	Row Percent	100.00	91.16	8.84
	SE Row Percent	0.00	2.22	2.22
	Lower 95% Limit ROWPER	.	85.53	5.27
	Upper 95% Limit ROWPER	.	94.73	14.47
	Col Percent	6.37	7.16	2.97
	SE Col Percent	0.80	0.84	0.97
	Lower 95% Limit COLPER	4.94	5.64	1.53
	Upper 95% Limit COLPER	8.17	9.06	5.68
	Tot Percent	6.37	5.80	0.56
	SE Tot Percent	0.80	0.70	0.18
	Lower 95% Limit TOTPER	4.94	4.55	0.30
	Upper 95% Limit TOTPER	8.17	7.37	1.06

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, currently taking birth control.

		currently taking birth control

INCOME		Total	No	Yes
Total	Sample Size	3540	3003	537
	Weighted Size	**********	**********	8154814.92
	SE Weighted	1639247.75	1528862.47	519223.71
	Row Percent	100.00	81.12	18.88
	SE Row Percent	0.00	1.15	1.15
	Lower 95% Limit ROWPER	.	78.68	16.67
	Upper 95% Limit ROWPER	.	83.33	21.32
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	81.12	18.88
	SE Tot Percent	0.00	1.15	1.15
	Lower 95% Limit TOTPER	.	78.68	16.67
	Upper 95% Limit TOTPER	.	83.33	21.32

Time: 17:11:31
Table: 3

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, currently taking birth control.

INCOME		currently taking birth control		
		Total	No	Yes
Poor	Sample Size	923	810	113
	Weighted Size	7620745.83	6543986.89	1076758.94
	SE Weighted	558582.13	523883.01	167141.95
	Row Percent	100.00	85.87	14.13
	SE Row Percent	0.00	2.07	2.07
	Lower 95% Limit ROWPER	.	81.17	10.45
	Upper 95% Limit ROWPER	.	89.55	18.83
	Col Percent	17.65	18.68	13.20
	SE Col Percent	1.08	1.23	2.00
	Lower 95% Limit COLPER	15.57	16.33	9.67
	Upper 95% Limit COLPER	19.93	21.29	17.77
	Tot Percent	17.65	15.15	2.49
	SE Tot Percent	1.08	1.05	0.37
	Lower 95% Limit TOTPER	15.57	13.15	1.85
	Upper 95% Limit TOTPER	19.93	17.40	3.36

Time: 17:11:31
Table: 3

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, currently taking birth control.

INCOME		currently taking birth control		
		Total	No	Yes
Near Poor	Sample Size	893	788	105
	Weighted Size	9267695.34	7988294.23	1279401.11
	SE Weighted	518860.55	471257.81	183313.97
	Row Percent	100.00	86.20	13.80
	SE Row Percent	0.00	1.79	1.79
	Lower 95% Limit			
	ROWPER	.	82.17	10.57
	Upper 95% Limit			
	ROWPER	.	89.43	17.83
	Col Percent	21.46	22.81	15.69
	SE Col Percent	0.90	1.01	1.98
	Lower 95% Limit			
	COLPER	19.71	20.83	12.09
	Upper 95% Limit			
	COLPER	23.33	24.91	20.11
	Tot Percent	21.46	18.50	2.96
	SE Tot Percent	0.90	0.83	0.42
	Lower 95% Limit			
	TOTPER	19.71	16.89	2.23
	Upper 95% Limit			
	TOTPER	23.33	20.22	3.93

Time: 17:11:31
Table: 3

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, currently taking birth control.

INCOME		currently taking birth control		
		Total	No	Yes
Not Poor	Sample Size	1724	1405	319
	Weighted Size	**********	**********	5798654.88
	SE Weighted	1107879.12	1028390.02	445971.70
	Row Percent	100.00	77.95	22.05
	SE Row Percent	0.00	1.60	1.60
	Lower 95% Limit			
	ROWPER	.	74.55	19.00
	Upper 95% Limit			
	ROWPER	.	81.00	25.45
	Col Percent	60.89	58.51	71.11
	SE Col Percent	1.16	1.31	2.69
	Lower 95% Limit			
	COLPER	58.53	55.84	65.40
	Upper 95% Limit			
	COLPER	63.20	61.13	76.22
	Tot Percent	60.89	47.46	13.43
	SE Tot Percent	1.16	1.24	1.04
	Lower 95% Limit			

	TOTPER	58.53	44.97	11.47
	Upper 95% Limit			
	TOTPER	63.20	49.97	15.66

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, currently taking birth control.

BMICAT		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3693	3134	559
	Weighted Size	**********	**********	8483996.21
	SE Weighted	1676051.04	1539187.91	543553.42
	Row Percent	100.00	81.01	18.99
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit			
	ROWPER	.	78.62	16.81
	Upper 95% Limit			
	ROWPER	.	83.19	21.38
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	81.01	18.99
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit			
	TOTPER	.	78.62	16.81
	Upper 95% Limit			
	TOTPER	.	83.19	21.38

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, currently taking birth control.

BMICAT		currently taking birth control		
		Total	No	Yes
Underweight	Sample Size	232	207	25
	Weighted Size	2586944.82	2294793.41	292151.41
	SE Weighted	248595.60	251173.87	72775.55
	Row Percent	100.00	88.71	11.29
	SE Row Percent	0.00	2.90	2.90
	Lower 95% Limit			
	ROWPER	.	81.43	6.63
	Upper 95% Limit			
	ROWPER	.	93.37	18.57

	Col Percent	5.79	6.34	3.44
	SE Col Percent	0.51	0.66	0.91
	Lower 95% Limit			
	COLPER	4.84	5.13	2.01
	Upper 95% Limit			
	COLPER	6.91	7.81	5.83
	Tot Percent	5.79	5.14	0.65
	SE Tot Percent	0.51	0.52	0.16
	Lower 95% Limit			
	TOTPER	4.84	4.19	0.39
	Upper 95% Limit			
	TOTPER	6.91	6.29	1.08

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, currently taking birth control.

BMICAT		currently taking birth control		
		Total	No	Yes
Normal	Sample Size	1658	1356	302
	Weighted Size	**********	**********	4763706.19
	SE Weighted	979798.39	907985.20	375818.94
	Row Percent	100.00	76.53	23.47
	SE Row Percent	0.00	1.77	1.77
	Lower 95% Limit			
	ROWPER	.	72.77	20.10
	Upper 95% Limit			
	ROWPER	.	79.90	27.23
	Col Percent	45.41	42.90	56.15
	SE Col Percent	1.37	1.49	2.52
	Lower 95% Limit			
	COLPER	42.67	39.93	51.03
	Upper 95% Limit			
	COLPER	48.19	45.92	61.14
	Tot Percent	45.41	34.75	10.66
	SE Tot Percent	1.37	1.38	0.84
	Lower 95% Limit			
	TOTPER	42.67	32.04	9.08
	Upper 95% Limit			
	TOTPER	48.19	37.57	12.48

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, currently taking birth control.

BMICAT		currently taking birth control		
		Total	No	Yes

Overweight	Sample Size	826	707	119
	Weighted Size	9878610.25	7957548.98	1921061.27
	SE Weighted	588614.55	500562.66	233108.34
	Row Percent	100.00	80.55	19.45
	SE Row Percent	0.00	1.98	1.98
	Lower 95% Limit			
	ROWPER	.	76.26	15.77
	Upper 95% Limit			
	ROWPER	.	84.23	23.74
	Col Percent	22.11	21.98	22.64
	SE Col Percent	1.07	1.13	1.84
	Lower 95% Limit			
	COLPER	20.02	19.80	19.15
	Upper 95% Limit			
	COLPER	24.35	24.34	26.57
	Tot Percent	22.11	17.81	4.30
	SE Tot Percent	1.07	0.94	0.50
	Lower 95% Limit			
	TOTPER	20.02	15.98	3.40
	Upper 95% Limit			
	TOTPER	24.35	19.79	5.42

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, currently taking birth control.

BMICAT		currently taking birth control		
		Total	No	Yes
Obese	Sample Size	977	864	113
	Weighted Size	**********	**********	1507077.34
	SE Weighted	704405.28	650718.52	172066.85
	Row Percent	100.00	87.36	12.64
	SE Row Percent	0.00	1.32	1.32
	Lower 95% Limit			
	ROWPER	.	84.47	10.22
	Upper 95% Limit			
	ROWPER	.	89.78	15.53
	Col Percent	26.69	28.78	17.76
	SE Col Percent	1.17	1.34	1.95
	Lower 95% Limit			
	COLPER	24.39	26.15	14.18
	Upper 95% Limit			
	COLPER	29.12	31.56	22.03
	Tot Percent	26.69	23.32	3.37
	SE Tot Percent	1.17	1.12	0.36
	Lower 95% Limit			
	TOTPER	24.39	21.13	2.71
	Upper 95% Limit			
	TOTPER	29.12	25.66	4.19

Variance Estimation Method: Taylor Series (WR)

For Subpopulation: SUBPOP = 1
by: VITDCAT, currently taking birth control.

VITDCAT		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3719	3153	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1668749.70	1543278.33	539935.80
	Row Percent	100.00	81.02	18.98
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit ROWPER	.	78.63	16.81
	Upper 95% Limit ROWPER	.	83.19	21.37
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	81.02	18.98
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit TOTPER	.	78.63	16.81
	Upper 95% Limit TOTPER	.	83.19	21.37

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: VITDCAT, currently taking birth control.

VITDCAT		currently taking birth control		
		Total	No	Yes
No	Sample Size	1701	1308	393
	Weighted Size	**********	**********	6920032.10
	SE Weighted	1411285.23	1286862.30	516304.35
	Row Percent	100.00	74.49	25.51
	SE Row Percent	0.00	1.82	1.82
	Lower 95% Limit ROWPER	.	70.67	22.03
	Upper 95% Limit ROWPER	.	77.97	29.33
	Col Percent	60.23	55.38	80.92
	SE Col Percent	1.67	1.93	2.00
	Lower 95% Limit COLPER	56.83	51.47	76.57
	Upper 95% Limit COLPER	63.53	59.22	84.63
	Tot Percent	60.23	44.86	15.36
	SE Tot Percent	1.67	1.77	1.12
	Lower 95% Limit TOTPER	56.83	41.34	13.25
	Upper 95% Limit TOTPER	63.53	48.44	17.75

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: VITDCAT, currently taking birth control.

VITDCAT		currently taking birth control		
		Total	No	Yes
Yes	Sample Size	2018	1845	173
	Weighted Size	**********	**********	1631552.08
	SE Weighted	853398.80	789715.79	169808.10
	Row Percent	100.00	90.89	9.11
	SE Row Percent	0.00	0.84	0.84
	Lower 95% Limit ROWPER	.	89.05	7.55
	Upper 95% Limit ROWPER	.	92.45	10.95
	Col Percent	39.77	44.62	19.08
	SE Col Percent	1.67	1.93	2.00
	Lower 95% Limit COLPER	36.47	40.78	15.37
	Upper 95% Limit COLPER	43.17	48.53	23.43
	Tot Percent	39.77	36.15	3.62
	SE Tot Percent	1.67	1.57	0.36
	Lower 95% Limit TOTPER	36.47	33.05	2.97
	Upper 95% Limit TOTPER	43.17	39.37	4.42

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, currently taking birth control.

dietary supplements taken		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3717	3151	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1667712.35	1542745.38	539935.80
	Row Percent	100.00	81.01	18.99
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit ROWPER	.	78.62	16.81
	Upper 95% Limit ROWPER	.	83.19	21.38
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			

	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	81.01	18.99
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit			
	TOTPER	.	78.62	16.81
	Upper 95% Limit			
	TOTPER	.	83.19	21.38

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, currently taking birth control.

dietary supplements taken		currently taking birth control		
		Total	No	Yes
Yes	Sample Size	1224	979	245
	Weighted Size	**********	**********	4497192.33
	SE Weighted	795069.21	756781.00	406054.02
	Row Percent	100.00	77.33	22.67
	SE Row Percent	0.00	1.93	1.93
	Lower 95% Limit			
	ROWPER	.	73.21	19.02
	Upper 95% Limit			
	ROWPER	.	80.98	26.79
	Col Percent	44.06	42.06	52.59
	SE Col Percent	1.04	1.11	2.94
	Lower 95% Limit			
	COLPER	41.97	39.83	46.67
	Upper 95% Limit			
	COLPER	46.17	44.32	58.44
	Tot Percent	44.06	34.07	9.99
	SE Tot Percent	1.04	1.08	0.92
	Lower 95% Limit			
	TOTPER	41.97	31.93	8.29
	Upper 95% Limit			
	TOTPER	46.17	36.28	11.99

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, currently taking birth control.

dietary supplements taken		currently taking birth control		
		Total	No	Yes
No	Sample Size	2493	2172	321

	Weighted Size	**********	**********	4054391.85
	SE Weighted	1120592.64	991218.87	330760.01
	Row Percent	100.00	83.91	16.09
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit			
	ROWPER	.	81.51	13.96
	Upper 95% Limit			
	ROWPER	.	86.04	18.49
	Col Percent	55.94	57.94	47.41
	SE Col Percent	1.04	1.11	2.94
	Lower 95% Limit			
	COLPER	53.83	55.68	41.56
	Upper 95% Limit			
	COLPER	58.03	60.17	53.33
	Tot Percent	55.94	46.94	9.00
	SE Tot Percent	1.04	1.03	0.67
	Lower 95% Limit			
	TOTPER	53.83	44.86	7.75
	Upper 95% Limit			
	TOTPER	58.03	49.03	10.44

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period, currently taking birth control.

Six month time period		currently taking birth control		
		Total	No	Yes
Total	Sample Size	3719	3153	566
	Weighted Size	**********	**********	8551584.18
	SE Weighted	1668749.70	1543278.33	539935.80
	Row Percent	100.00	81.02	18.98
	SE Row Percent	0.00	1.13	1.13
	Lower 95% Limit			
	ROWPER	.	78.63	16.81
	Upper 95% Limit			
	ROWPER	.	83.19	21.37
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	81.02	18.98
	SE Tot Percent	0.00	1.13	1.13
	Lower 95% Limit			
	TOTPER	.	78.63	16.81
	Upper 95% Limit			
	TOTPER	.	83.19	21.37

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1

by: Six month time period, currently taking birth control.

Six month time period		currently taking birth control		
		Total	No	Yes
November 1 through April 30	Sample Size	1900	1613	287
	Weighted Size	**********	**********	3875970.90
	SE Weighted	1933171.52	1589164.93	432855.85
	Row Percent	100.00	80.02	19.98
	SE Row Percent	0.00	1.23	1.23
	Lower 95% Limit ROWPER	.	77.43	17.61
	Upper 95% Limit ROWPER	.	82.39	22.57
	Col Percent	43.07	42.54	45.32
	SE Col Percent	4.09	4.14	4.87
	Lower 95% Limit COLPER	35.09	34.48	35.81
	Upper 95% Limit COLPER	51.42	51.01	55.19
	Tot Percent	43.07	34.46	8.60
	SE Tot Percent	4.09	3.34	0.96
	Lower 95% Limit TOTPER	35.09	28.09	6.86
	Upper 95% Limit TOTPER	51.42	41.45	10.74

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period, currently taking birth control.

Six month time period		currently taking birth control		
		Total	No	Yes
May 1 through October 31	Sample Size	1819	1540	279
	Weighted Size	**********	**********	4675613.28
	SE Weighted	2127499.81	1823306.03	562261.55
	Row Percent	100.00	81.77	18.23
	SE Row Percent	0.00	1.70	1.70
	Lower 95% Limit ROWPER	.	78.10	15.05
	Upper 95% Limit ROWPER	.	84.95	21.90
	Col Percent	56.93	57.46	54.68
	SE Col Percent	4.09	4.14	4.87
	Lower 95% Limit COLPER	48.58	48.99	44.81
	Upper 95% Limit COLPER	64.91	65.52	64.19
	Tot Percent	56.93	46.55	10.38
	SE Tot Percent	4.09	3.49	1.22
	Lower 95% Limit TOTPER	48.58	39.64	8.17
	Upper 95% Limit TOTPER	64.91	53.60	13.10

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Release 10.0.1

DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of observations read : 11026 Weighted count :122922227
Observations in subpopulation : 4260 Weighted count : 51444676
Denominator degrees of freedom : 45

Date: 04-11-2012 SUDAAN
Page: 1
Time: 17:11:32
Table: 1

Frequencies and Values for CLASS Variables
by: AGE.

AGE	Frequency	Value
Ordered Position: 1	1844	15-19
Ordered Position: 2	969	20-29
Ordered Position: 3	917	30-39
Ordered Position: 4	530	40-44

Date: 04-11-2012 SUDAAN
Page: 2
Time: 17:11:32
Table: 1

Frequencies and Values for CLASS Variables
by: RACE.

RACE	Frequency	Value
Ordered Position: 1	1590	NH-White
Ordered Position: 2	1152	NH-Black
Ordered		

```
  Position:
  3                  1326    Mexican American or Other Hispanic
Ordered
  Position:
  4                   192                            Other Race
---------------------------------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: INCOME.

--------------------------------------
INCOME          Frequency        Value
--------------------------------------
Ordered
  Position:
  1                  1072         Poor
Ordered
  Position:
  2                  1024    Near Poor
Ordered
  Position:
  3                  1929     Not Poor
--------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: BMICAT.

----------------------------------------
BMICAT          Frequency          Value
----------------------------------------
Ordered
  Position:
  1                   318    Underweight
Ordered
  Position:
  2                  1840         Normal
Ordered
  Position:
  3                   958     Overweight
Ordered
  Position:
  4                  1115          Obese
----------------------------------------
```



```
Frequencies and Values for CLASS Variables
by: VITDCAT.

---------------------------------
VITDCAT         Frequency    Value
---------------------------------
```

Ordered Position:		
1	1879	No
Ordered Position:		
2	2381	Yes

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken	Frequency	Value
Ordered Position:		
1	1379	Yes
Ordered Position:		
2	2876	No

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position:		
1	3153	No
Ordered Position:		
2	566	Yes

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period	Frequency	Value
Ordered		

Position:
1 2187 November 1 through April 30
Ordered
Position:
2 2073 May 1 through October 31

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, VITDCAT.

AGE		VITDCAT		
		Total	No	Yes
Total	Sample Size	4260	1879	2381
	Weighted Size	**********	**********	**********
	SE Weighted	1815672.78	1518950.69	969967.40
	Row Percent	100.00	58.11	41.89
	SE Row Percent	0.00	1.64	1.64
	Lower 95% Limit			
	ROWPER	.	54.78	38.63
	Upper 95% Limit			
	ROWPER	.	61.37	45.22
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	58.11	41.89
	SE Tot Percent	0.00	1.64	1.64
	Lower 95% Limit			
	TOTPER	.	54.78	38.63
	Upper 95% Limit			
	TOTPER	.	61.37	45.22

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, VITDCAT.

AGE		VITDCAT		
		Total	No	Yes
15-19	Sample Size	1844	724	1120
	Weighted Size	9024854.93	5172937.95	3851916.97
	SE Weighted	417950.69	345882.80	226380.93
	Row Percent	100.00	57.32	42.68
	SE Row Percent	0.00	2.15	2.15
	Lower 95% Limit			
	ROWPER	.	52.94	38.41

	Upper 95% Limit ROWPER	.	61.59	47.06
	Col Percent	17.54	17.30	17.88
	SE Col Percent	0.54	0.85	0.74
	Lower 95% Limit COLPER	16.47	15.66	16.43
	Upper 95% Limit COLPER	18.67	19.08	19.41
	Tot Percent	17.54	10.06	7.49
	SE Tot Percent	0.54	0.55	0.39
	Lower 95% Limit TOTPER	16.47	9.00	6.74
	Upper 95% Limit TOTPER	18.67	11.21	8.31

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, VITDCAT.

AGE		VITDCAT Total	No	Yes
20-29	Sample Size	969	464	505
	Weighted Size	**********	9167747.84	6976126.79
	SE Weighted	725489.62	671181.65	433032.00
	Row Percent	100.00	56.79	43.21
	SE Row Percent	0.00	2.57	2.57
	Lower 95% Limit ROWPER	.	51.56	38.13
	Upper 95% Limit ROWPER	.	61.87	48.44
	Col Percent	31.38	30.67	32.37
	SE Col Percent	1.01	1.48	1.32
	Lower 95% Limit COLPER	29.38	27.77	29.78
	Upper 95% Limit COLPER	33.45	33.73	35.08
	Tot Percent	31.38	17.82	13.56
	SE Tot Percent	1.01	1.09	0.82
	Lower 95% Limit TOTPER	29.38	15.72	11.99
	Upper 95% Limit TOTPER	33.45	20.13	15.30

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, VITDCAT.

AGE	VITDCAT Total	No	Yes

30-39	Sample Size	917	460	457
	Weighted Size	**********	**********	6764189.90
	SE Weighted	903527.73	714472.09	434635.34
	Row Percent	100.00	60.40	39.60
	SE Row Percent	0.00	2.04	2.04
	Lower 95% Limit			
	ROWPER	.	56.23	35.58
	Upper 95% Limit			
	ROWPER	.	64.42	43.77
	Col Percent	33.20	34.51	31.39
	SE Col Percent	1.23	1.67	1.40
	Lower 95% Limit			
	COLPER	30.78	31.23	28.64
	Upper 95% Limit			
	COLPER	35.72	37.94	34.28
	Tot Percent	33.20	20.05	13.15
	SE Tot Percent	1.23	0.99	0.84
	Lower 95% Limit			
	TOTPER	30.78	18.13	11.55
	Upper 95% Limit			
	TOTPER	35.72	22.13	14.93

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: AGE, VITDCAT.

AGE		VITDCAT		
		Total	No	Yes
40-44	Sample Size	530	231	299
	Weighted Size	9194695.65	5237774.57	3956921.08
	SE Weighted	547813.34	424166.83	315428.08
	Row Percent	100.00	56.97	43.03
	SE Row Percent	0.00	2.68	2.68
	Lower 95% Limit			
	ROWPER	.	51.51	37.75
	Upper 95% Limit			
	ROWPER	.	62.25	48.49
	Col Percent	17.87	17.52	18.36
	SE Col Percent	0.82	1.11	1.24
	Lower 95% Limit			
	COLPER	16.27	15.40	16.00
	Upper 95% Limit			
	COLPER	19.59	19.87	20.99
	Tot Percent	17.87	10.18	7.69
	SE Tot Percent	0.82	0.74	0.53
	Lower 95% Limit			
	TOTPER	16.27	8.79	6.68
	Upper 95% Limit			
	TOTPER	19.59	11.76	8.84

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, VITDCAT.

RACE		VITDCAT		
		Total	No	Yes
Total	Sample Size	4260	1879	2381
	Weighted Size	**********	**********	**********
	SE Weighted	1815672.78	1518950.69	969967.40
	Row Percent	100.00	58.11	41.89
	SE Row Percent	0.00	1.64	1.64
	Lower 95% Limit			
	ROWPER	.	54.78	38.63
	Upper 95% Limit			
	ROWPER	.	61.37	45.22
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	58.11	41.89
	SE Tot Percent	0.00	1.64	1.64
	Lower 95% Limit			
	TOTPER	.	54.78	38.63
	Upper 95% Limit			
	TOTPER	.	61.37	45.22

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, VITDCAT.

RACE		VITDCAT		
		Total	No	Yes
NH-White	Sample Size	1590	1164	426
	Weighted Size	**********	**********	8791407.91
	SE Weighted	1949458.64	1468595.43	787559.44
	Row Percent	100.00	73.49	26.51
	SE Row Percent	0.00	1.62	1.62
	Lower 95% Limit			
	ROWPER	.	70.11	23.39
	Upper 95% Limit			
	ROWPER	.	76.61	29.89
	Col Percent	64.46	81.52	40.80
	SE Col Percent	1.98	1.55	2.61
	Lower 95% Limit			
	COLPER	60.38	78.20	35.67
	Upper 95% Limit			
	COLPER	68.35	84.44	46.14
	Tot Percent	64.46	47.37	17.09
	SE Tot Percent	1.98	1.74	1.19
	Lower 95% Limit			
	TOTPER	60.38	43.88	14.82
	Upper 95% Limit			

	TOTPER	68.35	50.89	19.63

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, VITDCAT.

RACE		VITDCAT		
		Total	No	Yes
NH-Black	Sample Size	1152	161	991
	Weighted Size	6929741.94	1060430.56	5869311.39
	SE Weighted	596134.60	138955.02	526216.35
	Row Percent	100.00	15.30	84.70
	SE Row Percent	0.00	1.62	1.62
	Lower 95% Limit			
	ROWPER	.	12.31	81.13
	Upper 95% Limit			
	ROWPER	.	18.87	87.69
	Col Percent	13.47	3.55	27.24
	SE Col Percent	1.29	0.52	2.22
	Lower 95% Limit			
	COLPER	11.07	2.63	23.00
	Upper 95% Limit			
	COLPER	16.30	4.77	31.93
	Tot Percent	13.47	2.06	11.41
	SE Tot Percent	1.29	0.29	1.12
	Lower 95% Limit			
	TOTPER	11.07	1.55	9.33
	Upper 95% Limit			
	TOTPER	16.30	2.74	13.88

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, VITDCAT.

RACE		VITDCAT		
		Total	No	Yes
Mexican American or Other Hispanic	Sample Size	1326	500	826
	Weighted Size	8126818.30	3429368.48	4697449.82
	SE Weighted	698123.99	342937.79	459911.96
	Row Percent	100.00	42.20	57.80
	SE Row Percent	0.00	2.41	2.41
	Lower 95% Limit			
	ROWPER	.	37.43	52.89
	Upper 95% Limit			
	ROWPER	.	47.11	62.57
	Col Percent	15.80	11.47	21.80
	SE Col Percent	1.42	1.11	2.24

	Lower 95% Limit			
	COLPER	13.13	9.41	17.62
	Upper 95% Limit			
	COLPER	18.88	13.91	26.65
	Tot Percent	15.80	6.67	9.13
	SE Tot Percent	1.42	0.67	0.95
	Lower 95% Limit			
	TOTPER	13.13	5.44	7.38
	Upper 95% Limit			
	TOTPER	18.88	8.14	11.24

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: RACE, VITDCAT.

RACE		VITDCAT		
		Total	No	Yes
Other Race	Sample Size	192	54	138
	Weighted Size	3225373.53	1034387.90	2190985.63
	SE Weighted	373052.17	193896.68	300058.36
	Row Percent	100.00	32.07	67.93
	SE Row Percent	0.00	4.81	4.81
	Lower 95% Limit			
	ROWPER	.	23.23	57.58
	Upper 95% Limit			
	ROWPER	.	42.42	76.77
	Col Percent	6.27	3.46	10.17
	SE Col Percent	0.73	0.64	1.30
	Lower 95% Limit			
	COLPER	4.95	2.37	7.84
	Upper 95% Limit			
	COLPER	7.90	5.02	13.09
	Tot Percent	6.27	2.01	4.26
	SE Tot Percent	0.73	0.37	0.59
	Lower 95% Limit			
	TOTPER	4.95	1.38	3.22
	Upper 95% Limit			
	TOTPER	7.90	2.92	5.62

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, VITDCAT.

INCOME		VITDCAT		
		Total	No	Yes
Total	Sample Size	4025	1794	2231
	Weighted Size	**********	**********	**********

	SE Weighted	1773500.68	1491023.23	930725.72
	Row Percent	100.00	58.65	41.35
	SE Row Percent	0.00	1.67	1.67
	Lower 95% Limit			
	ROWPER	.	55.26	38.04
	Upper 95% Limit			
	ROWPER	.	61.96	44.74
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	58.65	41.35
	SE Tot Percent	0.00	1.67	1.67
	Lower 95% Limit			
	TOTPER	.	55.26	38.04
	Upper 95% Limit			
	TOTPER	.	61.96	44.74

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, VITDCAT.

INCOME		VITDCAT		
		Total	No	Yes
Poor	Sample Size	1072	360	712
	Weighted Size	9072254.06	4265387.06	4806867.00
	SE Weighted	560533.10	432606.83	374432.90
	Row Percent	100.00	47.02	52.98
	SE Row Percent	0.00	3.25	3.25
	Lower 95% Limit			
	ROWPER	.	40.56	46.43
	Upper 95% Limit			
	ROWPER	.	53.57	59.44
	Col Percent	18.54	14.86	23.76
	SE Col Percent	1.00	1.27	1.39
	Lower 95% Limit			
	COLPER	16.60	12.48	21.08
	Upper 95% Limit			
	COLPER	20.65	17.60	26.66
	Tot Percent	18.54	8.72	9.82
	SE Tot Percent	1.00	0.80	0.76
	Lower 95% Limit			
	TOTPER	16.60	7.24	8.39
	Upper 95% Limit			
	TOTPER	20.65	10.47	11.47

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, VITDCAT.

INCOME		VITDCAT		
		Total	No	Yes
Near Poor	Sample Size	1024	394	630
	Weighted Size	**********	5247721.64	5433862.43
	SE Weighted	586455.77	456817.40	356681.31
	Row Percent	100.00	49.13	50.87
	SE Row Percent	0.00	2.69	2.69
	Lower 95% Limit			
	ROWPER	.	43.74	45.46
	Upper 95% Limit			
	ROWPER	.	54.54	56.26
	Col Percent	21.83	18.29	26.85
	SE Col Percent	0.84	1.08	1.39
	Lower 95% Limit			
	COLPER	20.19	16.21	24.14
	Upper 95% Limit			
	COLPER	23.56	20.56	29.75
	Tot Percent	21.83	10.72	11.10
	SE Tot Percent	0.84	0.74	0.70
	Lower 95% Limit			
	TOTPER	20.19	9.32	9.77
	Upper 95% Limit			
	TOTPER	23.56	12.31	12.60

Table: 3

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: INCOME, VITDCAT.

INCOME		VITDCAT		
		Total	No	Yes
Not Poor	Sample Size	1929	1040	889
	Weighted Size	**********	**********	9993538.32
	SE Weighted	1207018.09	1015543.35	559969.72
	Row Percent	100.00	65.75	34.25
	SE Row Percent	0.00	1.65	1.65
	Lower 95% Limit			
	ROWPER	.	62.36	31.01
	Upper 95% Limit			
	ROWPER	.	68.99	37.64
	Col Percent	59.63	66.85	49.39
	SE Col Percent	1.12	1.56	1.57
	Lower 95% Limit			
	COLPER	57.36	63.63	46.23
	Upper 95% Limit			
	COLPER	61.86	69.92	52.56
	Tot Percent	59.63	39.21	20.42
	SE Tot Percent	1.12	1.33	0.99
	Lower 95% Limit			
	TOTPER	57.36	36.56	18.51
	Upper 95% Limit			
	TOTPER	61.86	41.92	22.48

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, VITDCAT.

BMICAT		VITDCAT		
		Total	No	Yes
Total	Sample Size	4231	1867	2364
	Weighted Size	**********	**********	**********
	SE Weighted	1825704.07	1523914.82	966440.11
	Row Percent	100.00	58.12	41.88
	SE Row Percent	0.00	1.65	1.65
	Lower 95% Limit ROWPER	.	54.78	38.60
	Upper 95% Limit ROWPER	.	61.40	45.22
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	58.12	41.88
	SE Tot Percent	0.00	1.65	1.65
	Lower 95% Limit TOTPER	.	54.78	38.60
	Upper 95% Limit TOTPER	.	61.40	45.22

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, VITDCAT.

BMICAT		VITDCAT		
		Total	No	Yes
Underweight	Sample Size	318	131	187
	Weighted Size	3480458.80	1923808.89	1556649.91
	SE Weighted	311474.89	213113.01	207898.39
	Row Percent	100.00	55.27	44.73
	SE Row Percent	0.00	4.09	4.09
	Lower 95% Limit ROWPER	.	46.98	36.71
	Upper 95% Limit ROWPER	.	63.29	53.02
	Col Percent	6.82	6.49	7.29
	SE Col Percent	0.56	0.63	0.95
	Lower 95% Limit COLPER	5.78	5.34	5.60
	Upper 95% Limit COLPER	8.04	7.87	9.44

	Tot Percent	6.82	3.77	3.05
	SE Tot Percent	0.56	0.38	0.41
	Lower 95% Limit TOTPER	5.78	3.08	2.33
	Upper 95% Limit TOTPER	8.04	4.61	3.99

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, VITDCAT.

BMICAT		VITDCAT Total	VITDCAT No	VITDCAT Yes
Normal	Sample Size	1840	1007	833
	Weighted Size	**********	**********	6947773.64
	SE Weighted	1029745.43	899952.87	482898.87
	Row Percent	100.00	69.31	30.69
	SE Row Percent	0.00	1.90	1.90
	Lower 95% Limit ROWPER	.	65.36	27.00
	Upper 95% Limit ROWPER	.	73.00	34.64
	Col Percent	44.39	52.93	32.53
	SE Col Percent	1.21	1.91	1.54
	Lower 95% Limit COLPER	41.96	49.07	29.51
	Upper 95% Limit COLPER	46.83	56.75	35.70
	Tot Percent	44.39	30.76	13.62
	SE Tot Percent	1.21	1.28	0.87
	Lower 95% Limit TOTPER	41.96	28.25	11.97
	Upper 95% Limit TOTPER	46.83	33.40	15.46

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, VITDCAT.

BMICAT		VITDCAT Total	VITDCAT No	VITDCAT Yes
Overweight	Sample Size	958	406	552
	Weighted Size	**********	6366509.56	5001977.48
	SE Weighted	603504.16	472850.51	326845.03
	Row Percent	100.00	56.00	44.00
	SE Row Percent	0.00	2.30	2.30
	Lower 95% Limit			

	ROWPER	.	51.33	39.43
	Upper 95% Limit			
	ROWPER	.	60.57	48.67
	Col Percent	22.29	21.47	23.42
	SE Col Percent	0.93	1.14	1.18
	Lower 95% Limit			
	COLPER	20.47	19.27	21.13
	Upper 95% Limit			
	COLPER	24.21	23.86	25.88
	Tot Percent	22.29	12.48	9.81
	SE Tot Percent	0.93	0.75	0.64
	Lower 95% Limit			
	TOTPER	20.47	11.05	8.59
	Upper 95% Limit			
	TOTPER	24.21	14.07	11.17

Table: 4

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: BMICAT, VITDCAT.

BMICAT		VITDCAT		
		Total	No	Yes
Obese	Sample Size	1115	323	792
	Weighted Size	**********	5665471.13	7852794.86
	SE Weighted	736467.49	563348.77	526794.94
	Row Percent	100.00	41.91	58.09
	SE Row Percent	0.00	3.04	3.04
	Lower 95% Limit			
	ROWPER	.	35.94	51.88
	Upper 95% Limit			
	ROWPER	.	48.12	64.06
	Col Percent	26.50	19.11	36.77
	SE Col Percent	1.06	1.43	1.85
	Lower 95% Limit			
	COLPER	24.43	16.39	33.13
	Upper 95% Limit			
	COLPER	28.69	22.16	40.56
	Tot Percent	26.50	11.11	15.40
	SE Tot Percent	1.06	0.96	0.96
	Lower 95% Limit			
	TOTPER	24.43	9.31	13.56
	Upper 95% Limit			
	TOTPER	28.69	13.19	17.42

Table: 5

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, VITDCAT.

dietary		VITDCAT		

supplements taken		Total	No	Yes
Total	Sample Size	4255	1876	2379
	Weighted Size	**********	**********	**********
	SE Weighted	1804929.06	1506709.66	970906.65
	Row Percent	100.00	58.08	41.92
	SE Row Percent	0.00	1.64	1.64
	Lower 95% Limit ROWPER	.	54.76	38.66
	Upper 95% Limit ROWPER	.	61.34	45.24
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit COLPER	.	.	.
	Tot Percent	100.00	58.08	41.92
	SE Tot Percent	0.00	1.64	1.64
	Lower 95% Limit TOTPER	.	54.76	38.66
	Upper 95% Limit TOTPER	.	61.34	45.24

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, VITDCAT.

dietary supplements taken		VITDCAT Total	No	Yes
Yes	Sample Size	1379	811	568
	Weighted Size	**********	**********	7130606.45
	SE Weighted	864422.31	800052.42	440771.29
	Row Percent	100.00	67.86	32.14
	SE Row Percent	0.00	1.88	1.88
	Lower 95% Limit ROWPER	.	63.96	28.47
	Upper 95% Limit ROWPER	.	71.53	36.04
	Col Percent	43.19	50.47	33.12
	SE Col Percent	1.04	1.63	1.34
	Lower 95% Limit COLPER	41.11	47.18	30.47
	Upper 95% Limit COLPER	45.30	53.75	35.88
	Tot Percent	43.19	29.31	13.88
	SE Tot Percent	1.04	1.17	0.82
	Lower 95% Limit TOTPER	41.11	27.02	12.30
	Upper 95% Limit TOTPER	45.30	31.71	15.63

Table: 5

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: dietary supplements taken, VITDCAT.

dietary supplements taken		VITDCAT Total	VITDCAT No	VITDCAT Yes
No	Sample Size	2876	1065	1811
	Weighted Size	**********	**********	**********
	SE Weighted	1236199.93	982867.63	700745.10
	Row Percent	100.00	50.65	49.35
	SE Row Percent	0.00	2.01	2.01
	Lower 95% Limit ROWPER	.	46.60	45.32
	Upper 95% Limit ROWPER	.	54.68	53.40
	Col Percent	56.81	49.53	66.88
	SE Col Percent	1.04	1.63	1.34
	Lower 95% Limit COLPER	54.70	46.25	64.12
	Upper 95% Limit COLPER	58.89	52.82	69.53
	Tot Percent	56.81	28.77	28.04
	SE Tot Percent	1.04	1.33	1.17
	Lower 95% Limit TOTPER	54.70	26.16	25.73
	Upper 95% Limit TOTPER	58.89	31.52	30.46

Table: 6

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: currently taking birth control, VITDCAT.

currently taking birth control		VITDCAT Total	VITDCAT No	VITDCAT Yes
Total	Sample Size	3719	1701	2018
	Weighted Size	**********	**********	**********
	SE Weighted	1668749.70	1411285.23	853398.80
	Row Percent	100.00	60.23	39.77
	SE Row Percent	0.00	1.67	1.67
	Lower 95% Limit ROWPER	.	56.83	36.47
	Upper 95% Limit ROWPER	.	63.53	43.17
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit COLPER	.	.	.
	Upper 95% Limit			

	COLPER	.	.	.
	Tot Percent	100.00	60.23	39.77
	SE Tot Percent	0.00	1.67	1.67
	Lower 95% Limit			
	TOTPER	.	56.83	36.47
	Upper 95% Limit			
	TOTPER	.	63.53	43.17

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: currently taking birth control, VITDCAT.

currently taking birth control		VITDCAT		
		Total	No	Yes
No	Sample Size	3153	1308	1845
	Weighted Size	**********	**********	**********
	SE Weighted	1543278.33	1286862.30	789715.79
	Row Percent	100.00	55.38	44.62
	SE Row Percent	0.00	1.93	1.93
	Lower 95% Limit			
	ROWPER	.	51.47	40.78
	Upper 95% Limit			
	ROWPER	.	59.22	48.53
	Col Percent	81.02	74.49	90.89
	SE Col Percent	1.13	1.82	0.84
	Lower 95% Limit			
	COLPER	78.63	70.67	89.05
	Upper 95% Limit			
	COLPER	83.19	77.97	92.45
	Tot Percent	81.02	44.86	36.15
	SE Tot Percent	1.13	1.77	1.57
	Lower 95% Limit			
	TOTPER	78.63	41.34	33.05
	Upper 95% Limit			
	TOTPER	83.19	48.44	39.37

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: currently taking birth control, VITDCAT.

currently taking birth control		VITDCAT		
		Total	No	Yes
Yes	Sample Size	566	393	173
	Weighted Size	8551584.18	6920032.10	1631552.08
	SE Weighted	539935.80	516304.35	169808.10

	Row Percent	100.00	80.92	19.08
	SE Row Percent	0.00	2.00	2.00
	Lower 95% Limit			
	ROWPER	.	76.57	15.37
	Upper 95% Limit			
	ROWPER	.	84.63	23.43
	Col Percent	18.98	25.51	9.11
	SE Col Percent	1.13	1.82	0.84
	Lower 95% Limit			
	COLPER	16.81	22.03	7.55
	Upper 95% Limit			
	COLPER	21.37	29.33	10.95
	Tot Percent	18.98	15.36	3.62
	SE Tot Percent	1.13	1.12	0.36
	Lower 95% Limit			
	TOTPER	16.81	13.25	2.97
	Upper 95% Limit			
	TOTPER	21.37	17.75	4.42

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period, VITDCAT.

Six month time period		VITDCAT		
		Total	No	Yes
Total	Sample Size	4260	1879	2381
	Weighted Size	**********	**********	**********
	SE Weighted	1815672.78	1518950.69	969967.40
	Row Percent	100.00	58.11	41.89
	SE Row Percent	0.00	1.64	1.64
	Lower 95% Limit			
	ROWPER	.	54.78	38.63
	Upper 95% Limit			
	ROWPER	.	61.37	45.22
	Col Percent	100.00	100.00	100.00
	SE Col Percent	0.00	0.00	0.00
	Lower 95% Limit			
	COLPER	.	.	.
	Upper 95% Limit			
	COLPER	.	.	.
	Tot Percent	100.00	58.11	41.89
	SE Tot Percent	0.00	1.64	1.64
	Lower 95% Limit			
	TOTPER	.	54.78	38.63
	Upper 95% Limit			
	TOTPER	.	61.37	45.22

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period, VITDCAT.

Six month time period		VITDCAT		
		Total	No	Yes
November 1 through April 30	Sample Size	2187	757	1430
	Weighted Size	**********	**********	**********
	SE Weighted	2187487.95	1068980.86	1328680.50
	Row Percent	100.00	47.49	52.51
	SE Row Percent	0.00	2.21	2.21
	Lower 95% Limit ROWPER	.	43.06	48.04
	Upper 95% Limit ROWPER	.	51.96	56.94
	Col Percent	43.46	35.52	54.48
	SE Col Percent	4.05	3.58	4.86
	Lower 95% Limit COLPER	35.56	28.67	44.65
	Upper 95% Limit COLPER	51.72	43.02	63.98
	Tot Percent	43.46	20.64	22.82
	SE Tot Percent	4.05	1.91	2.55
	Lower 95% Limit TOTPER	35.56	17.05	18.10
	Upper 95% Limit TOTPER	51.72	24.76	28.35

Variance Estimation Method: Taylor Series (WR)
For Subpopulation: SUBPOP = 1
by: Six month time period, VITDCAT.

Six month time period		VITDCAT		
		Total	No	Yes
May 1 through October 31	Sample Size	2073	1122	951
	Weighted Size	**********	**********	9808301.97
	SE Weighted	2368578.24	1626150.49	982289.93
	Row Percent	100.00	66.28	33.72
	SE Row Percent	0.00	1.81	1.81
	Lower 95% Limit ROWPER	.	62.54	30.18
	Upper 95% Limit ROWPER	.	69.82	37.46
	Col Percent	56.54	64.48	45.52
	SE Col Percent	4.05	3.58	4.86
	Lower 95% Limit COLPER	48.28	56.98	36.02
	Upper 95% Limit COLPER	64.44	71.33	55.35
	Tot Percent	56.54	37.47	19.07
	SE Tot Percent	4.05	2.70	1.84
	Lower 95% Limit TOTPER	48.28	32.21	15.63
	Upper 95% Limit TOTPER	64.44	43.04	23.06

S U D A A N
Software for the Statistical Analysis of Correlated Data
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Release 10.0.1

DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method,
Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1618
Number of non-zero responses : 1897

Independence parameters have converged in 7 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 3515 Weighted count: 42820467
Denominator degrees of freedom : 45

WARNING: DDF (45) < maximum number of independent parameters in the model (96)
Tests of hypothesis may be different for different choices of reference level

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 79 records
Minimum cluster size is 16 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1618 Population Count 25927941
1: Sample Count 1897 Population Count 16892526

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.284637

-2 * Normalized Log-Likelihood with Intercepts Only : 4715.14
-2 * Normalized Log-Likelihood Full Model : 3537.74
Approximate Chi-Square (-2 * Log-L Ratio) : 1177.40
Degrees of Freedom : 45

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Date: 04-11-2012 SUDAAN
Page: 1
Time: 17:11:33
Table: 1

Frequencies and Values for CLASS Variables
by: AGE.

AGE	Frequency	Value
Ordered Position: 1	1844	15-19
Ordered Position: 2	969	20-29

```
Ordered
  Position:
  3                  917    30-39
Ordered
  Position:
  4                  530    40-44
----------------------------------
```


Frequencies and Values for CLASS Variables
by: RACE.

```
---------------------------------------------------------------
RACE            Frequency                              Value
---------------------------------------------------------------
Ordered
  Position:
  1                 1590                          NH-White
Ordered
  Position:
  2                 1152                          NH-Black
Ordered
  Position:
  3                 1326    Mexican American or Other Hispanic
Ordered
  Position:
  4                  192                       Other Race
---------------------------------------------------------------
```


Frequencies and Values for CLASS Variables
by: INCOME.

```
--------------------------------------
INCOME          Frequency        Value
--------------------------------------
Ordered
  Position:
  1                 1072         Poor
Ordered
  Position:
  2                 1024    Near Poor
Ordered
  Position:
  3                 1929     Not Poor
--------------------------------------
```


Frequencies and Values for CLASS Variables
by: BMICAT.

```
----------------------------------------
BMICAT          Frequency          Value
```

Ordered Position:		
1	318	Underweight
Ordered Position:		
2	1840	Normal
Ordered Position:		
3	958	Overweight
Ordered Position:		
4	1115	Obese

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken	Frequency	Value
Ordered Position:		
1	1379	Yes
Ordered Position:		
2	2876	No

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period	Frequency	Value
Ordered Position:		
1	2187	November 1 through April 30
Ordered Position:		
2	2073	May 1 through October 31

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position: 1	3153	No
Ordered Position: 2	566	Yes

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-1.4986	0.4366	-2.3779	-0.6193	-3.43	0.0013
AGE						
15-19	0.0724	0.4375	-0.8087	0.9535	0.17	0.8693
20-29	0.0000	0.0000	0.0000	0.0000	.	.
30-39	-0.1688	0.5071	-1.1902	0.8526	-0.33	0.7407
40-44	0.1866	0.5034	-0.8272	1.2005	0.37	0.7125
RACE						
NH-White	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black	3.0994	0.4421	2.2090	3.9898	7.01	0.0000
Mexican American or						
Other Hispanic	0.6072	0.3191	-0.0356	1.2500	1.90	0.0635
Other Race	2.4970	0.6777	1.1319	3.8620	3.68	0.0006
INCOME						
Poor	-0.3629	0.3845	-1.1373	0.4115	-0.94	0.3503
Near Poor	-0.1028	0.4060	-0.9204	0.7149	-0.25	0.8013
Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
BMICAT						
Underweight	-0.1892	0.5695	-1.3362	0.9578	-0.33	0.7413
Normal	0.0000	0.0000	0.0000	0.0000	.	.
Overweight	0.7543	0.3870	-0.0251	1.5338	1.95	0.0575
Obese	1.5083	0.5479	0.4049	2.6118	2.75	0.0085
dietary supplements taken						
Yes	-0.1423	0.3642	-0.8757	0.5912	-0.39	0.6979
No	0.0000	0.0000	0.0000	0.0000	.	.
Six month time period						
November 1 through April 30	0.8714	0.3227	0.2214	1.5215	2.70	0.0097
May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Time: 17:11:33
Table: 1

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
currently taking birth control						
No	0.0000	0.0000	0.0000	0.0000	.	.
Yes	-1.2286	0.4407	-2.1163	-0.3410	-2.79	0.0077
AGE, RACE						
15-19, NH-White	0.0000	0.0000	0.0000	0.0000	.	.
15-19, NH-Black	0.2572	0.3654	-0.4788	0.9933	0.70	0.4851
15-19, Mexican American or Other Hispanic	0.3839	0.2895	-0.1991	0.9670	1.33	0.1915
15-19, Other Race	-0.7255	0.7239	-2.1836	0.7326	-1.00	0.3216
20-29, NH-White	0.0000	0.0000	0.0000	0.0000	.	.
20-29, NH-Black	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Mexican American or Other Hispanic	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Other Race	0.0000	0.0000	0.0000	0.0000	.	.
30-39, NH-White	0.0000	0.0000	0.0000	0.0000	.	.
30-39, NH-Black	0.0334	0.3488	-0.6691	0.7359	0.10	0.9241
30-39, Mexican American or Other Hispanic	0.0532	0.3161	-0.5834	0.6898	0.17	0.8672
30-39, Other Race	-1.1525	0.6635	-2.4889	0.1840	-1.74	0.0893
40-44, NH-White	0.0000	0.0000	0.0000	0.0000	.	.
40-44, NH-Black	-1.0869	0.4849	-2.0635	-0.1104	-2.24	0.0300
40-44, Mexican American or Other Hispanic	-0.2169	0.4566	-1.1366	0.7028	-0.47	0.6371
40-44, Other Race	-1.5369	0.7732	-3.0943	0.0205	-1.99	0.0530
AGE, INCOME						
15-19, Poor	0.4292	0.3573	-0.2904	1.1488	1.20	0.2359

Time: 17:11:33
Table: 1

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
AGE, INCOME						
15-19, Near Poor	-0.0916	0.3498	-0.7962	0.6131	-0.26	0.7947
15-19, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Poor	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Near Poor	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
30-39, Poor	0.4376	0.4548	-0.4783	1.3535	0.96	0.3411
30-39, Near Poor	0.0198	0.3821	-0.7499	0.7895	0.05	0.9589
30-39, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
40-44, Poor	0.7882	0.4448	-0.1077	1.6842	1.77	0.0832
40-44, Near Poor	0.2234	0.4116	-0.6055	1.0524	0.54	0.5899
40-44, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
RACE, INCOME						
NH-White, Poor	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Near Poor	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, Poor	-0.5125	0.4403	-1.3994	0.3743	-1.16	0.2505
NH-Black, Near Poor	-0.9818	0.3910	-1.7693	-0.1944	-2.51	0.0157
NH-Black, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
Mexican American or Other Hispanic, Poor	-0.0572	0.3273	-0.7165	0.6021	-0.17	0.8621
Mexican American or Other Hispanic, Near Poor	-0.3151	0.3185	-0.9565	0.3263	-0.99	0.3278
Mexican American or Other Hispanic, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
Other Race, Poor	0.3680	0.4422	-0.5227	1.2587	0.83	0.4097
Other Race, Near Poor	-0.3987	0.7252	-1.8593	1.0620	-0.55	0.5852
Other Race, Not Poor	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
AGE, BMICAT						
15-19, Underweight	1.2653	0.4975	0.2633	2.2672	2.54	0.0145
15-19, Normal	0.0000	0.0000	0.0000	0.0000	.	.
15-19, Overweight	-0.0224	0.3605	-0.7484	0.7036	-0.06	0.9507
15-19, Obese	-0.2817	0.4548	-1.1977	0.6343	-0.62	0.5388
20-29, Underweight	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Normal	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Overweight	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Obese	0.0000	0.0000	0.0000	0.0000	.	.
30-39, Underweight	1.1483	0.6738	-0.2087	2.5054	1.70	0.0952
30-39, Normal	0.0000	0.0000	0.0000	0.0000	.	.
30-39, Overweight	-0.1519	0.3518	-0.8605	0.5567	-0.43	0.6679
30-39, Obese	-0.7288	0.4007	-1.5358	0.0782	-1.82	0.0756
40-44, Underweight	1.6248	0.8220	-0.0307	3.2804	1.98	0.0542
40-44, Normal	0.0000	0.0000	0.0000	0.0000	.	.
40-44, Overweight	0.2504	0.4333	-0.6222	1.1231	0.58	0.5661
40-44, Obese	-0.1072	0.4569	-1.0275	0.8130	-0.23	0.8155
RACE, BMICAT						

NH-White, Underweight	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Normal	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Overweight	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Obese	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, Underweight	1.3261	0.7664	-0.2175	2.8697	1.73	0.0904
NH-Black, Normal	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, Overweight	-0.0608	0.4425	-0.9520	0.8304	-0.14	0.8913
NH-Black, Obese	0.2798	0.4603	-0.6474	1.2070	0.61	0.5464
Mexican American or Other Hispanic, Underweight	0.3336	0.4329	-0.5383	1.2055	0.77	0.4450

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
RACE, BMICAT						
Mexican American or Other Hispanic, Normal	0.0000	0.0000	0.0000	0.0000	.	.
Mexican American or Other Hispanic, Overweight	0.0963	0.2621	-0.4315	0.6241	0.37	0.7150
Mexican American or Other Hispanic, Obese	0.4948	0.3437	-0.1974	1.1870	1.44	0.1568
Other Race, Underweight	-0.2477	0.8907	-2.0417	1.5463	-0.28	0.7822
Other Race, Normal	0.0000	0.0000	0.0000	0.0000	.	.
Other Race, Overweight	-0.7431	0.6508	-2.0540	0.5677	-1.14	0.2596
Other Race, Obese	-0.9608	0.7636	-2.4988	0.5772	-1.26	0.2148
INCOME, BMICAT						
Poor, Underweight	-0.7225	0.5973	-1.9256	0.4806	-1.21	0.2328
Poor, Normal	0.0000	0.0000	0.0000	0.0000	.	.
Poor, Overweight	-0.2300	0.4099	-1.0556	0.5955	-0.56	0.5774
Poor, Obese	-0.1864	0.4543	-1.1014	0.7286	-0.41	0.6835
Near Poor, Underweight	0.2896	0.5524	-0.8230	1.4021	0.52	0.6027
Near Poor, Normal	0.0000	0.0000	0.0000	0.0000	.	.
Near Poor, Overweight	0.1716	0.2876	-0.4077	0.7508	0.60	0.5537
Near Poor, Obese	0.1343	0.4453	-0.7625	1.0312	0.30	0.7643
Not Poor, Underweight	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, Normal	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, Overweight	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, Obese	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
AGE, dietary supplements taken						
15-19, Yes	0.0739	0.3017	-0.5339	0.6816	0.24	0.8077
15-19, No	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Yes	0.0000	0.0000	0.0000	0.0000	.	.
20-29, No	0.0000	0.0000	0.0000	0.0000	.	.
30-39, Yes	-0.0503	0.3621	-0.7797	0.6791	-0.14	0.8901
30-39, No	0.0000	0.0000	0.0000	0.0000	.	.
40-44, Yes	-0.4205	0.3953	-1.2167	0.3757	-1.06	0.2931
40-44, No	0.0000	0.0000	0.0000	0.0000	.	.
RACE, dietary supplements taken						
NH-White, Yes	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, No	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, Yes	-0.7131	0.3655	-1.4492	0.0230	-1.95	0.0573
NH-Black, No	0.0000	0.0000	0.0000	0.0000	.	.
Mexican American or Other Hispanic, Yes	-0.1385	0.2814	-0.7053	0.4282	-0.49	0.6249
Mexican American or Other Hispanic, No	0.0000	0.0000	0.0000	0.0000	.	.
Other Race, Yes	0.7589	0.4058	-0.0584	1.5762	1.87	0.0680
Other Race, No	0.0000	0.0000	0.0000	0.0000	.	.
INCOME, dietary supplements taken						
Poor, Yes	0.5674	0.2779	0.0078	1.1271	2.04	0.0470
Poor, No	0.0000	0.0000	0.0000	0.0000	.	.
Near Poor, Yes	0.2789	0.2956	-0.3166	0.8743	0.94	0.3506
Near Poor, No	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, Yes	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, No	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
BMICAT, dietary supplements taken						
Underweight, Yes	-1.1956	0.5478	-2.2990	-0.0922	-2.18	0.0343

Underweight, No	0.0000	0.0000	0.0000	0.0000	.	.
Normal, Yes	0.0000	0.0000	0.0000	0.0000	.	.
Normal, No	0.0000	0.0000	0.0000	0.0000	.	.
Overweight, Yes	-0.2632	0.3904	-1.0495	0.5231	-0.67	0.5036
Overweight, No	0.0000	0.0000	0.0000	0.0000	.	.
Obese, Yes	-0.3030	0.2485	-0.8034	0.1975	-1.22	0.2291
Obese, No	0.0000	0.0000	0.0000	0.0000	.	.
AGE, Six month time period						
15-19, November 1 through April 30	-0.2745	0.3245	-0.9281	0.3790	-0.85	0.4020
15-19, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
20-29, November 1 through April 30	0.0000	0.0000	0.0000	0.0000	.	.
20-29, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
30-39, November 1 through April 30	0.0671	0.3532	-0.6442	0.7784	0.19	0.8502
30-39, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
40-44, November 1 through April 30	-0.5599	0.3708	-1.3068	0.1870	-1.51	0.1381
40-44, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
RACE, Six month time period						
NH-White, November 1 through April 30	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, November 1 through April 30	0.5540	0.3166	-0.0837	1.1917	1.75	0.0870
NH-Black, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Mexican American or Other Hispanic, November 1 through April 30	0.2269	0.2675	-0.3118	0.7657	0.85	0.4007
Mexican American or Other Hispanic, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Other Race, November 1 through April 30	0.6166	0.4442	-0.2781	1.5114	1.39	0.1720
Other Race, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
INCOME, Six month time period						

Poor, November 1 through April 30	-0.1184	0.3093	-0.7413	0.5045	-0.38	0.7037
Poor, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Near Poor, November 1 through April 30	0.2862	0.3268	-0.3721	0.9445	0.88	0.3859
Near Poor, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
INCOME, Six month time period						
Not Poor, November 1 through April 30	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
BMICAT, Six month time period						
Underweight, November 1 through April 30	-0.5371	0.5141	-1.5725	0.4984	-1.04	0.3017
Underweight, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Normal, November 1 through April 30	0.0000	0.0000	0.0000	0.0000	.	.
Normal, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Overweight, November 1 through April 30	-0.0951	0.3089	-0.7171	0.5270	-0.31	0.7597
Overweight, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
Obese, November 1 through April 30	0.1039	0.3444	-0.5898	0.7976	0.30	0.7643
Obese, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
dietary supplements taken, Six month time period						
Yes, November 1 through April 30	-0.1577	0.2616	-0.6845	0.3691	-0.60	0.5495
Yes, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
dietary supplements taken, Six month time period						
No, November 1 through April 30	0.0000	0.0000	0.0000	0.0000	.	.
No, May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.
AGE, currently taking birth control						
15-19, No	0.0000	0.0000	0.0000	0.0000	.	.
15-19, Yes	-0.0240	0.4441	-0.9184	0.8704	-0.05	0.9571
20-29, No	0.0000	0.0000	0.0000	0.0000	.	.
20-29, Yes	0.0000	0.0000	0.0000	0.0000	.	.
30-39, No	0.0000	0.0000	0.0000	0.0000	.	.
30-39, Yes	0.4963	0.4544	-0.4188	1.4115	1.09	0.2805
40-44, No	0.0000	0.0000	0.0000	0.0000	.	.
40-44, Yes	0.1456	0.6741	-1.2121	1.5034	0.22	0.8299
RACE, currently taking birth control						
NH-White, No	0.0000	0.0000	0.0000	0.0000	.	.
NH-White, Yes	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, No	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black, Yes	-0.1662	0.4320	-1.0364	0.7039	-0.38	0.7022
Mexican American or Other Hispanic, No	0.0000	0.0000	0.0000	0.0000	.	.
Mexican American or Other Hispanic, Yes	0.3866	0.3837	-0.3862	1.1595	1.01	0.3191
Other Race, No	0.0000	0.0000	0.0000	0.0000	.	.
Other Race, Yes	-0.7415	0.6575	-2.0659	0.5828	-1.13	0.2654

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
INCOME, currently taking birth control						
Poor, No	0.0000	0.0000	0.0000	0.0000	.	.
Poor, Yes	0.5465	0.4520	-0.3638	1.4568	1.21	0.2329
Near Poor, No	0.0000	0.0000	0.0000	0.0000	.	.

Near Poor, Yes	0.2501	0.4415	-0.6392	1.1393	0.57	0.5739
Not Poor, No	0.0000	0.0000	0.0000	0.0000	.	.
Not Poor, Yes	0.0000	0.0000	0.0000	0.0000	.	.
BMICAT, currently taking birth control						
Underweight, No	0.0000	0.0000	0.0000	0.0000	.	.
Underweight, Yes	0.2290	0.4767	-0.7312	1.1892	0.48	0.6333
Normal, No	0.0000	0.0000	0.0000	0.0000	.	.
Normal, Yes	0.0000	0.0000	0.0000	0.0000	.	.
Overweight, No	0.0000	0.0000	0.0000	0.0000	.	.
Overweight, Yes	0.0715	0.3526	-0.6387	0.7818	0.20	0.8402
Obese, No	0.0000	0.0000	0.0000	0.0000	.	.
Obese, Yes	-0.5653	0.5119	-1.5963	0.4656	-1.10	0.2753
dietary supplements taken, currently taking birth control						
Yes, No	0.0000	0.0000	0.0000	0.0000	.	.
Yes, Yes	-0.1537	0.3349	-0.8283	0.5208	-0.46	0.6484
No, No	0.0000	0.0000	0.0000	0.0000	.	.
No, Yes	0.0000	0.0000	0.0000	0.0000	.	.
Six month time period, currently taking birth control November 1 through April 30, No	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Six month time period, currently taking birth control November 1 through April 30, Yes	-0.0467	0.3734	-0.7987	0.7053	-0.13	0.9010
May 1 through October 31, No	0.0000	0.0000	0.0000	0.0000	.	.
May 1 through October 31, Yes	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT

For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	45	45.69	0.0000
MODEL MINUS INTERCEPT	45	96.41	0.0000
INTERCEPT	.	.	.
AGE	.	.	.
RACE	.	.	.
INCOME	.	.	.
BMICAT	.	.	.
SUPPTAKE	.	.	.
RIDEXMON	.	.	.
BTHCTRL	.	.	.
AGE * RACE	9	1.21	0.3143
AGE * INCOME	6	0.80	0.5735
RACE * INCOME	6	1.16	0.3422
AGE * BMICAT	9	3.62	0.0018
RACE * BMICAT	9	0.95	0.4929
INCOME * BMICAT	6	0.54	0.7740
AGE * SUPPTAKE	3	0.52	0.6722
RACE * SUPPTAKE	3	2.52	0.0702
INCOME * SUPPTAKE	2	2.09	0.1360
BMICAT * SUPPTAKE	3	2.02	0.1244
AGE * RIDEXMON	3	2.54	0.0682
RACE * RIDEXMON	3	1.85	0.1523
INCOME * RIDEXMON	2	0.84	0.4381
BMICAT * RIDEXMON	3	0.45	0.7170
SUPPTAKE * RIDEXMON	1	0.36	0.5495
AGE * BTHCTRL	3	0.48	0.6957
RACE * BTHCTRL	3	1.42	0.2506
INCOME * BTHCTRL	2	0.81	0.4518
BMICAT * BTHCTRL	3	0.62	0.6062
SUPPTAKE * BTHCTRL	1	0.21	0.6484
RIDEXMON * BTHCTRL	1	0.02	0.9010

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.22	0.09	0.54
AGE			
15-19	1.08	0.45	2.59
20-29	1.00	1.00	1.00
30-39	0.84	0.30	2.35
40-44	1.21	0.44	3.32
RACE			
NH-White	1.00	1.00	1.00
NH-Black	22.19	9.11	54.05

Mexican American or Other Hispanic	1.84	0.97	3.49
Other Race	12.15	3.10	47.56
INCOME			
Poor	0.70	0.32	1.51
Near Poor	0.90	0.40	2.04
Not Poor	1.00	1.00	1.00
BMICAT			
Underweight	0.83	0.26	2.61
Normal	1.00	1.00	1.00
Overweight	2.13	0.98	4.64
Obese	4.52	1.50	13.62
dietary supplements taken			
Yes	0.87	0.42	1.81
No	1.00	1.00	1.00
Six month time period			
November 1 through April 30	2.39	1.25	4.58
May 1 through October 31	1.00	1.00	1.00
currently taking birth control			
No	1.00	1.00	1.00
Yes	0.29	0.12	0.71
AGE, RACE			
15-19, NH-White	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
AGE, RACE			
15-19, NH-Black	1.29	0.62	2.70
15-19, Mexican American or Other Hispanic	1.47	0.82	2.63
15-19, Other Race	0.48	0.11	2.08
20-29, NH-White	1.00	1.00	1.00
20-29, NH-Black	1.00	1.00	1.00
20-29, Mexican American or Other Hispanic	1.00	1.00	1.00
20-29, Other Race	1.00	1.00	1.00
30-39, NH-White	1.00	1.00	1.00
30-39, NH-Black	1.03	0.51	2.09
30-39, Mexican American or Other Hispanic	1.05	0.56	1.99
30-39, Other Race	0.32	0.08	1.20
40-44, NH-White	1.00	1.00	1.00
40-44, NH-Black	0.34	0.13	0.90
40-44, Mexican American or Other Hispanic	0.81	0.32	2.02
40-44, Other Race	0.22	0.05	1.02
AGE, INCOME			
15-19, Poor	1.54	0.75	3.15
15-19, Near Poor	0.91	0.45	1.85
15-19, Not Poor	1.00	1.00	1.00
20-29, Poor	1.00	1.00	1.00
20-29, Near Poor	1.00	1.00	1.00

20-29, Not Poor	1.00	1.00	1.00
30-39, Poor	1.55	0.62	3.87
30-39, Near Poor	1.02	0.47	2.20
30-39, Not Poor	1.00	1.00	1.00
40-44, Poor	2.20	0.90	5.39
40-44, Near Poor	1.25	0.55	2.86

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
AGE, INCOME			
40-44, Not Poor	1.00	1.00	1.00
RACE, INCOME			
NH-White, Poor	1.00	1.00	1.00
NH-White, Near Poor	1.00	1.00	1.00
NH-White, Not Poor	1.00	1.00	1.00
NH-Black, Poor	0.60	0.25	1.45
NH-Black, Near Poor	0.37	0.17	0.82
NH-Black, Not Poor	1.00	1.00	1.00
Mexican American or Other Hispanic, Poor	0.94	0.49	1.83
Mexican American or Other Hispanic, Near Poor	0.73	0.38	1.39
Mexican American or Other Hispanic, Not Poor	1.00	1.00	1.00
Other Race, Poor	1.44	0.59	3.52
Other Race, Near Poor	0.67	0.16	2.89
Other Race, Not Poor	1.00	1.00	1.00
AGE, BMICAT			
15-19, Underweight	3.54	1.30	9.65
15-19, Normal	1.00	1.00	1.00
15-19, Overweight	0.98	0.47	2.02
15-19, Obese	0.75	0.30	1.89
20-29, Underweight	1.00	1.00	1.00
20-29, Normal	1.00	1.00	1.00
20-29, Overweight	1.00	1.00	1.00
20-29, Obese	1.00	1.00	1.00
30-39, Underweight	3.15	0.81	12.25
30-39, Normal	1.00	1.00	1.00
30-39, Overweight	0.86	0.42	1.74
30-39, Obese	0.48	0.22	1.08
40-44, Underweight	5.08	0.97	26.59

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)

Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
AGE, BMICAT			
40-44, Normal	1.00	1.00	1.00
40-44, Overweight	1.28	0.54	3.07
40-44, Obese	0.90	0.36	2.25
RACE, BMICAT			
NH-White, Underweight	1.00	1.00	1.00
NH-White, Normal	1.00	1.00	1.00
NH-White, Overweight	1.00	1.00	1.00
NH-White, Obese	1.00	1.00	1.00
NH-Black, Underweight	3.77	0.80	17.63
NH-Black, Normal	1.00	1.00	1.00
NH-Black, Overweight	0.94	0.39	2.29
NH-Black, Obese	1.32	0.52	3.34
Mexican American or Other Hispanic, Underweight	1.40	0.58	3.34
Mexican American or Other Hispanic, Normal	1.00	1.00	1.00
Mexican American or Other Hispanic, Overweight	1.10	0.65	1.87
Mexican American or Other Hispanic, Obese	1.64	0.82	3.28
Other Race, Underweight	0.78	0.13	4.69
Other Race, Normal	1.00	1.00	1.00
Other Race, Overweight	0.48	0.13	1.76
Other Race, Obese	0.38	0.08	1.78
INCOME, BMICAT			
Poor, Underweight	0.49	0.15	1.62
Poor, Normal	1.00	1.00	1.00
Poor, Overweight	0.79	0.35	1.81
Poor, Obese	0.83	0.33	2.07
Near Poor, Underweight	1.34	0.44	4.06
Near Poor, Normal	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
INCOME, BMICAT			
Near Poor, Overweight	1.19	0.67	2.12
Near Poor, Obese	1.14	0.47	2.80
Not Poor, Underweight	1.00	1.00	1.00
Not Poor, Normal	1.00	1.00	1.00
Not Poor, Overweight	1.00	1.00	1.00

Not Poor, Obese	1.00	1.00	1.00
AGE, dietary supplements taken			
15-19, Yes	1.08	0.59	1.98
15-19, No	1.00	1.00	1.00
20-29, Yes	1.00	1.00	1.00
20-29, No	1.00	1.00	1.00
30-39, Yes	0.95	0.46	1.97
30-39, No	1.00	1.00	1.00
40-44, Yes	0.66	0.30	1.46
40-44, No	1.00	1.00	1.00
RACE, dietary supplements taken			
NH-White, Yes	1.00	1.00	1.00
NH-White, No	1.00	1.00	1.00
NH-Black, Yes	0.49	0.23	1.02
NH-Black, No	1.00	1.00	1.00
Mexican American or Other Hispanic, Yes	0.87	0.49	1.53
Mexican American or Other Hispanic, No	1.00	1.00	1.00
Other Race, Yes	2.14	0.94	4.84
Other Race, No	1.00	1.00	1.00
INCOME, dietary supplements taken			
Poor, Yes	1.76	1.01	3.09
Poor, No	1.00	1.00	1.00
Near Poor, Yes	1.32	0.73	2.40
Near Poor, No	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
INCOME, dietary supplements taken			
Not Poor, Yes	1.00	1.00	1.00
Not Poor, No	1.00	1.00	1.00
BMICAT, dietary supplements taken			
Underweight, Yes	0.30	0.10	0.91
Underweight, No	1.00	1.00	1.00
Normal, Yes	1.00	1.00	1.00
Normal, No	1.00	1.00	1.00
Overweight, Yes	0.77	0.35	1.69
Overweight, No	1.00	1.00	1.00
Obese, Yes	0.74	0.45	1.22
Obese, No	1.00	1.00	1.00
AGE, Six month time period			
15-19, November 1 through April 30	0.76	0.40	1.46
15-19, May 1 through October 31	1.00	1.00	1.00
20-29, November 1 through April 30	1.00	1.00	1.00
20-29, May 1 through October 31	1.00	1.00	1.00
30-39, November 1 through April 30	1.07	0.53	2.18
30-39, May 1 through October 31	1.00	1.00	1.00
40-44, November 1 through April			

30	0.57	0.27	1.21
40-44, May 1 through October 31	1.00	1.00	1.00
RACE, Six month time period			
NH-White, November 1 through April 30	1.00	1.00	1.00
NH-White, May 1 through October 31	1.00	1.00	1.00
NH-Black, November 1 through April 30	1.74	0.92	3.29

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
RACE, Six month time period			
NH-Black, May 1 through October 31	1.00	1.00	1.00
Mexican American or Other Hispanic, November 1 through April 30	1.25	0.73	2.15
Mexican American or Other Hispanic, May 1 through October 31	1.00	1.00	1.00
Other Race, November 1 through April 30	1.85	0.76	4.53
Other Race, May 1 through October 31	1.00	1.00	1.00
INCOME, Six month time period			
Poor, November 1 through April 30	0.89	0.48	1.66
Poor, May 1 through October 31	1.00	1.00	1.00
Near Poor, November 1 through April 30	1.33	0.69	2.57
Near Poor, May 1 through October 31	1.00	1.00	1.00
Not Poor, November 1 through April 30	1.00	1.00	1.00
Not Poor, May 1 through October 31	1.00	1.00	1.00
BMICAT, Six month time period			
Underweight, November 1 through April 30	0.58	0.21	1.65
Underweight, May 1 through October 31	1.00	1.00	1.00
Normal, November 1 through April 30	1.00	1.00	1.00
Normal, May 1 through October 31	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
BMICAT, Six month time period			
Overweight, November 1 through April 30	0.91	0.49	1.69
Overweight, May 1 through October 31	1.00	1.00	1.00
Obese, November 1 through April 30	1.11	0.55	2.22
Obese, May 1 through October 31	1.00	1.00	1.00
dietary supplements taken, Six month time period			
Yes, November 1 through April 30	0.85	0.50	1.45
Yes, May 1 through October 31	1.00	1.00	1.00
No, November 1 through April 30	1.00	1.00	1.00
No, May 1 through October 31	1.00	1.00	1.00
AGE, currently taking birth control			
15-19, No	1.00	1.00	1.00
15-19, Yes	0.98	0.40	2.39
20-29, No	1.00	1.00	1.00
20-29, Yes	1.00	1.00	1.00
30-39, No	1.00	1.00	1.00
30-39, Yes	1.64	0.66	4.10
40-44, No	1.00	1.00	1.00
40-44, Yes	1.16	0.30	4.50
RACE, currently taking birth control			
NH-White, No	1.00	1.00	1.00
NH-White, Yes	1.00	1.00	1.00
NH-Black, No	1.00	1.00	1.00
NH-Black, Yes	0.85	0.35	2.02
Mexican American or Other Hispanic, No	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
RACE, currently taking birth control			
Mexican American or Other Hispanic, Yes	1.47	0.68	3.19

Other Race, No	1.00	1.00	1.00
Other Race, Yes	0.48	0.13	1.79
INCOME, currently taking birth control			
Poor, No	1.00	1.00	1.00
Poor, Yes	1.73	0.70	4.29
Near Poor, No	1.00	1.00	1.00
Near Poor, Yes	1.28	0.53	3.12
Not Poor, No	1.00	1.00	1.00
Not Poor, Yes	1.00	1.00	1.00
BMICAT, currently taking birth control			
Underweight, No	1.00	1.00	1.00
Underweight, Yes	1.26	0.48	3.28
Normal, No	1.00	1.00	1.00
Normal, Yes	1.00	1.00	1.00
Overweight, No	1.00	1.00	1.00
Overweight, Yes	1.07	0.53	2.19
Obese, No	1.00	1.00	1.00
Obese, Yes	0.57	0.20	1.59
dietary supplements taken, currently taking birth control			
Yes, No	1.00	1.00	1.00
Yes, Yes	0.86	0.44	1.68
No, No	1.00	1.00	1.00
No, Yes	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Six month time period, currently taking birth control			
November 1 through April 30, No	1.00	1.00	1.00
November 1 through April 30, Yes	0.95	0.45	2.02
May 1 through October 31, No	1.00	1.00	1.00
May 1 through October 31, Yes	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
AGE				
15-19	0.4267	0.0234	18.2569	0.0000
20-29	0.4159	0.0291	14.3046	0.0000
30-39	0.3738	0.0220	17.0211	0.0000
40-44	0.3938	0.0273	14.4221	0.0000
RACE				
NH-White	0.2815	0.0183	15.3753	0.0000
NH-Black	0.7758	0.0212	36.6708	0.0000
Mexican American or Other Hispanic	0.4499	0.0244	18.4394	0.0000
Other Race	0.6224	0.0389	16.0040	0.0000
INCOME				
Poor	0.4170	0.0333	12.5355	0.0000
Near Poor	0.4199	0.0287	14.6213	0.0000
Not Poor	0.3937	0.0176	22.4044	0.0000
BMICAT				
Underweight	0.3537	0.0390	9.0626	0.0000
Normal	0.3169	0.0201	15.7419	0.0000
Overweight	0.4154	0.0227	18.2767	0.0000
Obese	0.5076	0.0297	17.0989	0.0000
dietary supplements taken				
Yes	0.3571	0.0212	16.8649	0.0000
No	0.4266	0.0191	22.3809	0.0000
Six month time period				
November 1 through April 30	0.4725	0.0217	21.7952	0.0000
May 1 through October 31	0.3332	0.0156	21.4076	0.0000
currently taking birth control				
No	0.4258	0.0197	21.6592	0.0000
Yes	0.2544	0.0230	11.0812	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
AGE				
15-19 vs. 20-29	1.03	0.07	0.90	1.17
30-39 vs. 20-29	0.90	0.06	0.78	1.03
40-44 vs. 20-29	0.95	0.08	0.80	1.13
RACE				
NH-Black vs. NH-White	2.76	0.17	2.43	3.13
Mexican American or Other Hispanic vs. NH-White	1.60	0.12	1.38	1.85
Other Race vs. NH-White	2.21	0.19	1.86	2.63
INCOME				
Poor vs. Not Poor	1.06	0.08	0.90	1.24
Near Poor vs. Not Poor	1.07	0.07	0.93	1.22
BMICAT				
Underweight vs. Normal	1.12	0.12	0.90	1.39
Overweight vs. Normal	1.31	0.09	1.15	1.50
Obese vs. Normal	1.60	0.12	1.38	1.86

```
dietary supplements taken
  Yes vs. No                              0.84    0.04    0.75    0.93
Six month time period
  November 1 through April 30 vs. May
  1 through October 31                    1.42    0.08    1.27    1.58
currently taking birth control
  Yes vs. No                              0.60    0.05    0.50    0.71
------------------------------------------------------------------------
                                       The SAS System      17:10 Wednesday, April 11,
2012 128


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                                       Release 10.0.1


DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method,
Assuming a
With Replacement (WR) Design
    Sample Weight: MEC6YR
    Stratification Variables(s): SDMVSTRA
    Primary Sampling Unit: SDMVPSU


Number of zero responses     :  1618
Number of non-zero responses :  1897

Independence parameters have converged in 6 iterations

Number of observations read       :  11026    Weighted count:122922227
Observations in subpopulation     :   4260    Weighted count: 51444676
Observations used in the analysis :   3515    Weighted count: 42820467
Denominator degrees of freedom    :     45


Maximum number of estimable parameters for the model is 15

File NH.NHANES1 contains   90 Clusters
  90 clusters were used to fit the model
Maximum cluster size is  79 records
Minimum cluster size is  16 records


Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0:  Sample Count     1618    Population Count  25927941
1:  Sample Count     1897    Population Count  16892526

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.258417

-2 * Normalized Log-Likelihood with Intercepts Only :  4715.14
-2 * Normalized Log-Likelihood Full Model          :  3664.27
Approximate Chi-Square (-2 * Log-L Ratio)          :  1050.88
Degrees of Freedom                                 :       14

Note: The approximate Chi-Square is not adjusted for clustering.
      Refer to hypothesis test table for adjusted test.



Date: 04-11-2012                            SUDAAN
Page:  1
Time: 17:11:52
Table: 1

Frequencies and Values for CLASS Variables
by: AGE.
```

```
---------------------------------
AGE             Frequency    Value
---------------------------------
Ordered
  Position:
  1                  1844    15-19
Ordered
  Position:
  2                   969    20-29
Ordered
  Position:
  3                   917    30-39
Ordered
  Position:
  4                   530    40-44
---------------------------------
```


Frequencies and Values for CLASS Variables
by: RACE.

```
---------------------------------------------------------------
RACE            Frequency                                Value
---------------------------------------------------------------
Ordered
  Position:
  1                  1590                           NH-White
Ordered
  Position:
  2                  1152                           NH-Black
Ordered
  Position:
  3                  1326    Mexican American or Other Hispanic
Ordered
  Position:
  4                   192                         Other Race
---------------------------------------------------------------
```


Frequencies and Values for CLASS Variables
by: INCOME.

```
--------------------------------------
INCOME          Frequency        Value
--------------------------------------
Ordered
  Position:
  1                  1072         Poor
Ordered
  Position:
  2                  1024    Near Poor
Ordered
  Position:
  3                  1929     Not Poor
--------------------------------------
```

Frequencies and Values for CLASS Variables
by: BMICAT.

BMICAT Ordered Position:	Frequency	Value
1	318	Underweight
2	1840	Normal
3	958	Overweight
4	1115	Obese

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken Ordered Position:	Frequency	Value
1	1379	Yes
2	2876	No

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period Ordered Position:	Frequency	Value
1	2187	November 1 through April 30
2	2073	May 1 through October 31

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position: 1	3153	No
Ordered Position: 2	566	Yes

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-1.3551	0.1773	-1.7122	-0.9979	-7.64	0.0000
AGE						
15-19	0.0545	0.1522	-0.2520	0.3610	0.36	0.7220
20-29	0.0000	0.0000	0.0000	0.0000	.	.
30-39	-0.2442	0.1575	-0.5614	0.0731	-1.55	0.1281
40-44	-0.1194	0.1995	-0.5212	0.2824	-0.60	0.5525
RACE						
NH-White	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black	2.5315	0.1383	2.2530	2.8100	18.31	0.0000
Mexican American or						
Other Hispanic	0.8513	0.1332	0.5830	1.1196	6.39	0.0000
Other Race	1.8044	0.2188	1.3638	2.2450	8.25	0.0000
INCOME						
Poor	0.0432	0.1605	-0.2800	0.3664	0.27	0.7890
Near Poor	0.1780	0.1609	-0.1462	0.5021	1.11	0.2747
Not Poor	0.0000	0.0000	0.0000	0.0000	.	.
BMICAT						
Underweight	0.1157	0.2016	-0.2903	0.5217	0.57	0.5688
Normal	0.0000	0.0000	0.0000	0.0000	.	.
Overweight	0.4855	0.1371	0.2094	0.7616	3.54	0.0009
Obese	1.0504	0.1776	0.6927	1.4080	5.92	0.0000
dietary supplements taken						
Yes	-0.4317	0.1196	-0.6726	-0.1907	-3.61	0.0008
No	0.0000	0.0000	0.0000	0.0000	.	.
Six month time period						

November 1 through April 30	0.7904	0.1324	0.5238	1.0571	5.97	0.0000
May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
currently taking birth control						
No	0.0000	0.0000	0.0000	0.0000	.	.
Yes	-1.0708	0.1661	-1.4053	-0.7362	-6.45	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	15	57.89	0.0000
MODEL MINUS INTERCEPT	14	60.33	0.0000
INTERCEPT	.	.	.
AGE	3	2.08	0.1159
RACE	3	126.59	0.0000
INCOME	2	0.62	0.5435
BMICAT	3	11.81	0.0000
SUPPTAKE	1	13.02	0.0008
RIDEXMON	1	35.65	0.0000
BTHCTRL	1	41.55	0.0000

Time: 17:11:52
Table: 1

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.26	0.18	0.37
AGE			
15-19	1.06	0.78	1.43
20-29	1.00	1.00	1.00
30-39	0.78	0.57	1.08
40-44	0.89	0.59	1.33
RACE			
NH-White	1.00	1.00	1.00
NH-Black	12.57	9.52	16.61
Mexican American or Other			
Hispanic	2.34	1.79	3.06
Other Race	6.08	3.91	9.44
INCOME			
Poor	1.04	0.76	1.44
Near Poor	1.19	0.86	1.65
Not Poor	1.00	1.00	1.00
BMICAT			
Underweight	1.12	0.75	1.68
Normal	1.00	1.00	1.00
Overweight	1.62	1.23	2.14
Obese	2.86	2.00	4.09
dietary supplements taken			
Yes	0.65	0.51	0.83
No	1.00	1.00	1.00
Six month time period			
November 1 through April 30	2.20	1.69	2.88
May 1 through October 31	1.00	1.00	1.00
currently taking birth control			
No	1.00	1.00	1.00
Yes	0.34	0.25	0.48

Time: 17:11:52
Table: 1

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
AGE				
15-19	0.4202	0.0226	18.5930	0.0000
20-29	0.4106	0.0276	14.8630	0.0000
30-39	0.3686	0.0211	17.4685	0.0000
40-44	0.3898	0.0259	15.0590	0.0000

RACE				
NH-White	0.2826	0.0193	14.6212	0.0000
NH-Black	0.7858	0.0208	37.7422	0.0000
Mexican American or Other Hispanic	0.4548	0.0242	18.8181	0.0000
Other Race	0.6576	0.0386	17.0318	0.0000
INCOME				
Poor	0.3938	0.0289	13.6189	0.0000
Near Poor	0.4175	0.0281	14.8830	0.0000
Not Poor	0.3863	0.0184	20.9916	0.0000
BMICAT				
Underweight	0.3434	0.0339	10.1172	0.0000
Normal	0.3242	0.0203	15.9799	0.0000
Overweight	0.4085	0.0230	17.7466	0.0000
Obese	0.5156	0.0304	16.9745	0.0000
dietary supplements taken				
Yes	0.3522	0.0219	16.0887	0.0000
No	0.4277	0.0187	22.8731	0.0000
Six month time period				
November 1 through April 30	0.4761	0.0228	20.9056	0.0000
May 1 through October 31	0.3339	0.0158	21.1750	0.0000
currently taking birth control				
No	0.4259	0.0194	21.9833	0.0000
Yes	0.2506	0.0205	12.2276	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
AGE				
15-19 vs. 20-29	1.02	0.07	0.90	1.17
30-39 vs. 20-29	0.90	0.06	0.78	1.03
40-44 vs. 20-29	0.95	0.08	0.80	1.13
RACE				
NH-Black vs. NH-White	2.78	0.18	2.44	3.17
Mexican American or Other Hispanic vs. NH-White	1.61	0.12	1.38	1.88
Other Race vs. NH-White	2.33	0.22	1.93	2.80
INCOME				
Poor vs. Not Poor	1.02	0.07	0.88	1.18
Near Poor vs. Not Poor	1.08	0.08	0.94	1.24
BMICAT				
Underweight vs. Normal	1.06	0.11	0.87	1.30
Overweight vs. Normal	1.26	0.08	1.10	1.44
Obese vs. Normal	1.59	0.13	1.36	1.86
dietary supplements taken				
Yes vs. No	0.82	0.05	0.73	0.92
Six month time period				
November 1 through April 30 vs. May 1 through October 31	1.43	0.08	1.27	1.60
currently taking birth control				
Yes vs. No	0.59	0.05	0.50	0.70

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method,
Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1879
Number of non-zero responses : 2381

Independence parameters have converged in 4 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4260 Weighted count: 51444676
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 4

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 89 records
Minimum cluster size is 22 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1879 Population Count 29895521
1: Sample Count 2381 Population Count 21549155

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.001084

-2 * Normalized Log-Likelihood with Intercepts Only : 5792.99
-2 * Normalized Log-Likelihood Full Model : 5788.36
Approximate Chi-Square (-2 * Log-L Ratio) : 4.62
Degrees of Freedom : 3

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: AGE.

AGE	Frequency	Value
Ordered Position: 1	1844	15-19
Ordered Position: 2	969	20-29
Ordered Position: 3	917	30-39
Ordered Position: 4	530	40-44

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.2732	0.1047	-0.4840	-0.0624	-2.61	0.0123
AGE						
15-19	-0.0217	0.1109	-0.2450	0.2016	-0.20	0.8459
20-29	0.0000	0.0000	0.0000	0.0000	.	.
30-39	-0.1490	0.1074	-0.3652	0.0673	-1.39	0.1722
40-44	-0.0072	0.1258	-0.2606	0.2461	-0.06	0.9544

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	4	7.36	0.0001
MODEL MINUS INTERCEPT	3	0.95	0.4224
INTERCEPT	.	.	.
AGE	3	0.95	0.4224

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.76	0.62	0.94
AGE			
15-19	0.98	0.78	1.22
20-29	1.00	1.00	1.00
30-39	0.86	0.69	1.07
40-44	0.99	0.77	1.28

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
AGE				
15-19	0.4268	0.0215	19.8380	0.0000
20-29	0.4321	0.0257	16.8213	0.0000
30-39	0.3960	0.0204	19.4468	0.0000
40-44	0.4303	0.0268	16.0824	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1

	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
AGE				
15-19 vs. 20-29	0.99	0.06	0.87	1.12
30-39 vs. 20-29	0.92	0.06	0.81	1.04
40-44 vs. 20-29	1.00	0.07	0.86	1.15

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1879
Number of non-zero responses : 2381

Independence parameters have converged in 6 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4260 Weighted count: 51444676
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 4

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 89 records
Minimum cluster size is 22 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1879 Population Count 29895521
1: Sample Count 2381 Population Count 21549155

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.185482

-2 * Normalized Log-Likelihood with Intercepts Only : 5792.99
-2 * Normalized Log-Likelihood Full Model : 4919.01
Approximate Chi-Square (-2 * Log-L Ratio) : 873.98
Degrees of Freedom : 3

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: RACE.

RACE	Frequency	Value
Ordered Position: 1	1590	NH-White
Ordered Position: 2	1152	NH-Black
Ordered Position: 3	1326	Mexican American or Other Hispanic
Ordered Position: 4	192	Other Race

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-1.0196	0.0829	-1.1867	-0.8526	-12.29	0.0000
RACE						
NH-White	0.0000	0.0000	0.0000	0.0000	.	.
NH-Black	2.7307	0.1273	2.4742	2.9871	21.45	0.0000
Mexican American or Other Hispanic	1.3343	0.1187	1.0953	1.5733	11.24	0.0000
Other Race	1.7702	0.2289	1.3092	2.2311	7.73	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	4	127.47	0.0000
MODEL MINUS INTERCEPT	3	168.58	0.0000
INTERCEPT	.	.	.
RACE	3	168.58	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.36	0.31	0.43
RACE			
NH-White	1.00	1.00	1.00
NH-Black	15.34	11.87	19.83
Mexican American or Other Hispanic	3.80	2.99	4.82
Other Race	5.87	3.70	9.31

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
RACE				
NH-White	0.2651	0.0162	16.4051	0.0000
NH-Black	0.8470	0.0162	52.1490	0.0000
Mexican American or Other Hispanic	0.5780	0.0241	23.9847	0.0000
Other Race	0.6793	0.0481	14.1148	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
RACE				
NH-Black vs. NH-White	3.19	0.19	2.84	3.59
Mexican American or Other Hispanic vs. NH-White	2.18	0.15	1.90	2.50
Other Race vs. NH-White	2.56	0.23	2.14	3.07

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1794
Number of non-zero responses : 2231

Independence parameters have converged in 5 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4025 Weighted count: 48932713
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 3

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 88 records
Minimum cluster size is 20 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1794 Population Count 28698445
1: Sample Count 2231 Population Count 20234268

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.030379

-2 * Normalized Log-Likelihood with Intercepts Only : 5458.80
-2 * Normalized Log-Likelihood Full Model : 5334.63
Approximate Chi-Square (-2 * Log-L Ratio) : 124.17
Degrees of Freedom : 2

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: INCOME.

INCOME	Frequency	Value
Ordered Position: 1	1072	Poor
Ordered Position: 2	1024	Near Poor
Ordered Position: 3	1929	Not Poor

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.6522	0.0732	-0.7996	-0.5048	-8.91	0.0000
INCOME						
Poor	0.7717	0.1279	0.5141	1.0293	6.03	0.0000
Near Poor	0.6871	0.1094	0.4667	0.9074	6.28	0.0000
Not Poor	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	3	33.25	0.0000
MODEL MINUS INTERCEPT	2	27.87	0.0000
INTERCEPT	.	.	.
INCOME	2	27.87	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.52	0.45	0.60
INCOME			
Poor	2.16	1.67	2.80
Near Poor	1.99	1.59	2.48
Not Poor	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
INCOME				
Poor	0.5298	0.0325	16.3150	0.0000
Near Poor	0.5087	0.0269	18.8948	0.0000
Not Poor	0.3425	0.0165	20.7787	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1

	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
INCOME				
Poor vs. Not Poor	1.55	0.10	1.36	1.76
Near Poor vs. Not Poor	1.49	0.09	1.32	1.67

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1867
Number of non-zero responses : 2364

Independence parameters have converged in 5 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4231 Weighted count: 51006951
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 4

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 89 records
Minimum cluster size is 22 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1867 Population Count 29647755
1: Sample Count 2364 Population Count 21359196

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.051042

-2 * Normalized Log-Likelihood with Intercepts Only : 5753.19
-2 * Normalized Log-Likelihood Full Model : 5531.53
Approximate Chi-Square (-2 * Log-L Ratio) : 221.67
Degrees of Freedom : 3

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: BMICAT.

BMICAT	Frequency	Value
Ordered Position: 1	318	Underweight
Ordered Position: 2	1840	Normal
Ordered Position: 3	958	Overweight
Ordered Position: 4	1115	Obese

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.8147	0.0892	-0.9944	-0.6350	-9.13	0.0000
BMICAT						
Underweight	0.6030	0.1717	0.2572	0.9487	3.51	0.0010
Normal	0.0000	0.0000	0.0000	0.0000	.	.
Overweight	0.5735	0.1030	0.3660	0.7810	5.57	0.0000
Obese	1.1412	0.1453	0.8486	1.4338	7.85	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	4	24.55	0.0000
MODEL MINUS INTERCEPT	3	21.99	0.0000
INTERCEPT	.	.	.
BMICAT	3	21.99	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.44	0.37	0.53
BMICAT			
Underweight	1.83	1.29	2.58
Normal	1.00	1.00	1.00
Overweight	1.77	1.44	2.18
Obese	3.13	2.34	4.19

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
BMICAT				
Underweight	0.4473	0.0409	10.9473	0.0000
Normal	0.3069	0.0190	16.1694	0.0000
Overweight	0.4400	0.0230	19.1174	0.0000
Obese	0.5809	0.0304	19.1239	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1

	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
BMICAT				
Underweight vs. Normal	1.46	0.15	1.19	1.78
Overweight vs. Normal	1.43	0.09	1.26	1.63
Obese vs. Normal	1.89	0.14	1.62	2.21

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1876
Number of non-zero responses : 2379

Independence parameters have converged in 5 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4255 Weighted count: 51365833
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 2

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 89 records
Minimum cluster size is 22 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1876 Population Count 29834388
1: Sample Count 2379 Population Count 21531445

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.029761

-2 * Normalized Log-Likelihood with Intercepts Only : 5787.02
-2 * Normalized Log-Likelihood Full Model : 5658.46
Approximate Chi-Square (-2 * Log-L Ratio) : 128.56
Degrees of Freedom : 1

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: dietary supplements taken.

dietary supplements taken	Frequency	Value
Ordered Position: 1	1379	Yes
Ordered Position: 2	2876	No

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.0258	0.0804	-0.1877	0.1360	-0.32	0.7494
dietary supplements taken						
Yes	-0.7216	0.0933	-0.9096	-0.5336	-7.73	0.0000
No	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	2	42.43	0.0000
MODEL MINUS INTERCEPT	1	59.76	0.0000
INTERCEPT	.	.	.
SUPPTAKE	1	59.76	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.97	0.83	1.15
dietary supplements taken			
Yes	0.49	0.40	0.59
No	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
dietary supplements taken				
Yes	0.3214	0.0188	17.0656	0.0000
No	0.4935	0.0201	24.5716	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
dietary supplements taken				
Yes vs. No	0.65	0.04	0.58	0.73

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1879
Number of non-zero responses : 2381

Independence parameters have converged in 5 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 4260 Weighted count: 51444676
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 2

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 89 records
Minimum cluster size is 22 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1879 Population Count 29895521
1: Sample Count 2381 Population Count 21549155

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.035056

-2 * Normalized Log-Likelihood with Intercepts Only : 5792.99
-2 * Normalized Log-Likelihood Full Model : 5640.97
Approximate Chi-Square (-2 * Log-L Ratio) : 152.02
Degrees of Freedom : 1

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: Six month time period.

Six month time period	Frequency	Value
Ordered Position: 1	2187	November 1 through April 30
Ordered Position: 2	2073	May 1 through October 31

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.6757	0.0810	-0.8389	-0.5125	-8.34	0.0000
Six month time period						
November 1 through April 30	0.7762	0.1194	0.5358	1.0166	6.50	0.0000
May 1 through October 31	0.0000	0.0000	0.0000	0.0000	.	.

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	2	35.56	0.0000
MODEL MINUS INTERCEPT	1	42.29	0.0000
INTERCEPT	.	.	.
RIDEXMON	1	42.29	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.51	0.43	0.60
Six month time period			
November 1 through April 30	2.17	1.71	2.76
May 1 through October 31	1.00	1.00	1.00

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
Six month time period				
November 1 through April 30	0.5251	0.0221	23.7122	0.0000
May 1 through October 31	0.3372	0.0181	18.6240	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
Six month time period				
November 1 through April 30 vs. May 1 through October 31	1.56	0.11	1.36	1.79

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DESIGN SUMMARY: Variances will be computed using the Taylor Linearization Method, Assuming a
With Replacement (WR) Design
Sample Weight: MEC6YR
Stratification Variables(s): SDMVSTRA
Primary Sampling Unit: SDMVPSU

Number of zero responses : 1701
Number of non-zero responses : 2018

Independence parameters have converged in 6 iterations

Number of observations read : 11026 Weighted count:122922227
Observations in subpopulation : 4260 Weighted count: 51444676
Observations used in the analysis : 3719 Weighted count: 45048142
Denominator degrees of freedom : 45

Maximum number of estimable parameters for the model is 2

File NH.NHANES1 contains 90 Clusters
90 clusters were used to fit the model
Maximum cluster size is 79 records
Minimum cluster size is 18 records

Sample and Population Counts for Response Variable VITDCAT
Based on observations used in the analysis
0: Sample Count 1701 Population Count 27130748
1: Sample Count 2018 Population Count 17917394

R-Square for dependent variable VITDCAT (Cox & Snell, 1989): 0.044375

-2 * Normalized Log-Likelihood with Intercepts Only : 4998.96
-2 * Normalized Log-Likelihood Full Model : 4830.16
Approximate Chi-Square (-2 * Log-L Ratio) : 168.80
Degrees of Freedom : 1

Note: The approximate Chi-Square is not adjusted for clustering.
Refer to hypothesis test table for adjusted test.

Frequencies and Values for CLASS Variables
by: currently taking birth control.

currently taking birth control	Frequency	Value
Ordered Position: 1	3153	No
Ordered Position: 2	566	Yes

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects	Beta Coeff.	SE Beta	Lower 95% Limit Beta	Upper 95% Limit Beta	T-Test B=0	P-value T-Test B=0
Intercept	-0.2159	0.0781	-0.3732	-0.0587	-2.77	0.0082
currently taking birth control						
No	0.0000	0.0000	0.0000	0.0000	.	.
Yes	-1.2290	0.1422	-1.5153	-0.9426	-8.64	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Contrast.

Contrast	Degrees of Freedom	Wald F	P-value Wald F
OVERALL MODEL	2	63.23	0.0000
MODEL MINUS INTERCEPT	1	74.73	0.0000
INTERCEPT	.	.	.
BTHCTRL	1	74.73	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Independent Variables and Effects.

Independent Variables and Effects

	Odds Ratio	Lower 95% Limit OR	Upper 95% Limit OR
Intercept	0.81	0.69	0.94
currently taking birth control			
No	1.00	1.00	1.00
Yes	0.29	0.22	0.39

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal #1.

Predicted Marginal #1	PREDMARG	SE	T:Marg=0	P-value
currently taking birth control				
No	0.4462	0.0193	23.1294	0.0000
Yes	0.1908	0.0200	9.5507	0.0000

Variance Estimation Method: Taylor Series (WR)
SE Method: Robust (Binder, 1983)
Working Correlations: Independent
Link Function: Logit
Response variable VITDCAT: VITDCAT
For Subpopulation: SUBPOP = 1
by: Predicted Marginal Risk Ratio #1.

Predicted Marginal Risk Ratio #1	Risk Ratio	SE	Lower 95% Limit	Upper 95% Limit
currently taking birth control				
Yes vs. No	0.43	0.05	0.34	0.53