Published in final edited form as:

J Am Geriatr Soc. 2010 December ; 58(12): 2375–2380. doi:10.1111/j.1532-5415.2010.03180.x.

Alcohol Use Trajectories in Two Cohorts of U.S. Women Ages 50 to 65 at Baseline

Janet Kay Bobo, PhD¹, April A. Greek, PhD¹, Daniel H. Klepinger, PhD¹, and Jerald R. Herting, PhD²

¹ Battelle Memorial Institute, Centers for Public Health Research and Evaluation, Seattle, Washington

² University of Washington, Seattle, Washington

Abstract

OBJECTIVES—To examine drinking trajectories followed by two cohorts of older women during 8–10 years of follow-up.

DESIGN—Longitudinal analyses of two nationally-representative cohorts using semi-parametric group-based models weighted and adjusted for baseline age.

PARTICIPANTS—One cohort included 5,231 women in the Health and Retirement Study (HRS) ages 50–65 in 1996; the other included 1,658 National Longitudinal Survey (NLS) women ages 50–65 in 1995.

MEASUREMENTS—Both cohorts reported any recent drinking and their average number of drinks per drinking day using similar, but not identical questions. HRS women provided biannual data from 1996 – 2006. NLS women provided biannual data from 1995 – 2003.

RESULTS—All trajectory models yielded similar results. Among HRS women, four trajectory groups were observed in the model based on drinks per day: *Increasing Drinkers* (4.9% of cohort), *Infrequent and Nondrinkers* (61.8%), *Consistent Drinkers* (25.9%) and *Decreasing Drinkers* (7.4%). Corresponding NLS values from the drinks per day model were 8.8%, 61.4%, 21.2%, and 8.6%, respectively. In 2006, the average number of drinks per day among HRS women in *Increasing Drinkers* and *Consistent Drinkers* trajectories was 1.31 and 1.59, respectively. In 2003, these values for NLS women were 0.99 and 1.38, respectively.

CONCLUSION—Most women do not markedly change their drinking behavior after age 50, but some increase their alcohol use substantially, while others continue to exceed current recommendations. These findings underscore the importance of periodically asking older women about their drinking to assess, advise, and assist those who may be at risk for developing alcohol-related problems.

Keywords

alcohol; older adults; women; trajectory

Corresponding author: Janet Kay Bobo, PhD, Battelle – CPHRE, 1100 Dexter Ave. N., Suite 400, Seattle, WA 98109., Phone: (206) 528-3141, fax: (206) 528-3550., boboj@battelle.org.

Author Contributions: Janet Kay Bobo, April A. Greek, Daniel H. Klepinger, and Jerald R. Herting contributed to the design of the study, analysis of the data, and preparation of this report.

Conflict of Interest: This work was fully supported by a grant from the National Institute on Alcohol Abuse and Alcoholism (R21-AA016534) to Janet Bobo. None of the authors have any financial or personal conflict of interests.

INTRODUCTION

Cross-sectional^{1,2} and longitudinal studies^{3–5} have found that some older women modify their prior drinking patterns, but little is known about the natural history of those who start drinking more in their 50's and 60's and those who drink less or cease drinking completely. More information is needed on the percentages of women likely to follow alcohol use trajectories characterized by increasing or decreasing consumption. More data are also needed on how extensively drinking changes among older women, both for those at risk of developing alcohol-related problems and for those likely to lose any potentially protective effects of moderate drinking on cardiovascular health^{6,7} and cognitive function.⁸ As “baby boomers” transition into old age, the effects of alcohol on morbidity and mortality warrant more attention to these issues.⁹

Most studies of changes in drinking behavior rely on variable-centered analyses of longitudinal data, which evaluate changes in manifest and latent variables among groups of individuals over time. In contrast, person-centered methods, including growth mixture models, semi-parametric group-based models, and latent class analysis, describe *intra-individual* changes across multiple assessments.¹⁰ Person-centered analyses have been used to examine a variety of concerns including alcohol use during pregnancy,¹¹ variations in drinking patterns among college freshmen,¹² and development of heavy drinking and alcohol-related problems from ages 18–37.¹³

The semi-parametric group-based modeling approach described by Nagin and colleagues assumes that a given sample consists of two or more distinct developmental trajectories that can be described with a mix of probability distributions.¹⁴ Graphical illustrations of the trajectories are visually appealing and may yield useful insights. However, the ability to generalize findings to the broader population is often limited, because the observed groups may be artifacts of the sample used to generate the model, rather than a true representation of heterogeneity in the underlying population.¹⁵ We approached the need for more data on alcohol use among older women and the generalizability issue by designing a study with a robust replication component. We used two independent, randomly-sampled, nationally-representative cohorts of older women to sequentially derive similarly constructed semi-parametric group-based models of their drinking trajectories over concurrent 8–10 year intervals. In this brief report, we summarize our initial findings from the analyses of each cohort including the types of drinking trajectories (e.g.: increasing, decreasing) generated by the models, the percentages of women associated with each trajectory, and the drinking behaviors reported biannually by women in the trajectory groups.

METHODS

Samples

Study data were obtained from the Health and Retirement Study (HRS) and the National Longitudinal Survey (NLS) cohorts. HRS files are managed by the University of Michigan, Survey Research Center (see: <http://hrsonline.isr.umich.edu/>). NLS files belong to the Department of Labor (<http://www.bls.gov/nls/home.htm>).

The HRS began in 1991 with a Congressional appropriation to the National Institute on Aging.¹⁶ Birth cohort members were selected via national area probability samples of U.S. households with over-sampling of Blacks, Hispanics, and residents of Florida.¹⁶ Birth-cohort eligible spouses and co-resident partners of cohort members were also enrolled and assigned sampling weights. Follow-up interviews were conducted biannually by telephone. Proxy respondents were permitted if the cohort member was unable to complete an interview.

We used HRS data from the 1931–1941 and 1942–1947 birth cohorts. Members of the older cohort were first interviewed in 1992, but we set 1996 as our baseline year, because all interviews from 1996 forward used the core alcohol items described below. Younger cohort members were first interviewed in 1998. Study-eligible women, including female partners of male cohort members, were ages 50–65 in 1996 with baseline alcohol data from 1996 or 1998, at least two additional alcohol interviews during our study interval (1996–2006), and no proxy alcohol data during that time frame. We identified 6,200 age-eligible women; 5,231 (84.4%) also met our criteria for sufficient alcohol history data and were included in our analyses.

For a comparison sample of women who were also randomly selected from U.S. households with over-sampling of Blacks (but not Hispanics or Floridians), we used NLS data from the Mature and Young Women Surveys. The NLS Mature Women cohort was initiated in 1967 with a sample of women ages 30–44 at enrollment.¹⁷ The NLS Young Women cohort began in 1968 with a sample of women ages 14–24.¹⁸ Attrition analyses after the 1995 interviews found that both samples still broadly represented age-comparable women in the U.S.^{17,18}

The Mature and Young Women cohorts were combined in 1995 and biannually interviewed by telephone using the alcohol items described below until follow-up terminated in 2003. Proxies were used when a woman was too mentally or physically limited, but we excluded women with any proxy alcohol data during our study interval. NLS women were included in our analyses if they were 50–65 in 1995 and had personally completed at least three alcohol assessments, including a baseline interview in 1995. The NLS files included 1,917 age-eligible women; 1,658 (86.5%) met our criteria for sufficient alcohol history data.

Our analyses of drinking trajectories among male HRS cohort members are not presented here, because comparable NLS data on men are not available.

Measures

Alcohol use questions in the HRS and NLS cohorts were similar, but not identical. From 1996–2006, HRS women were asked the following sequence of questions: [1] “*Do you ever drink any alcoholic beverages such as beer, wine, or liquor?*” [2] “*In the last three months, on average, how many days per week have you had any alcohol to drink?*” [3] “*In the last three months, on the days you drink, about how many drinks do you have?*” And [4], “*In the last three months, on how many days have you had four or more drinks on one occasion?*” HRS women who answered the first question affirmatively were coded as “recent drinkers”, even if their subsequent responses suggested infrequent drinking. Most women also completed a one-time assessment for problem drinking using the CAGE questionnaire,¹⁹ but our findings from those analyses will be reported separately.

From 1995–2003, NLS women were asked: [1] “*Since [date of last interview] have you consumed any alcoholic beverages such as wine, beer or liquor?*” [2] “*Have you had any alcoholic beverages during the last 30 days?*” [3] “*Thinking back to the last day you had a drink, about how many drinks did you have that day?*” And, [4] “*On the days that you drink, about how many drinks do you have on average?*” NLS women were not screened for problem drinking. To parallel the HRS analyses, NLS women who answered the first question affirmatively were also coded as “recent drinkers”. In both cohorts, the drinks per day responses were collapsed to four levels (0, 1, 2, and 3+ drinks) and log transformed to limit skew.

Statistical Analysis

A 4-step analysis strategy was implemented using SAS, version 11 (SAS Institute, Inc., Gary, NC). First, we examined the demographic characteristics of each cohort at baseline

(e.g.: age, race, ethnicity, education) to identify factors that could confound subsequent cross-cohort comparisons. For HRS women enrolled in 1998, age in 1996 was imputed from age at in 1998.

Next, we derived trajectory models for HRS women using Proc Traj, a SAS macro developed by Jones and colleagues.²⁰ Separate models were developed for each of four alcohol indicators (recent drinking, number of drinks per drinking day, number of drinking days per week, and number of drinks per week). Multiple models were derived, because quantity and frequency measures may capture unique aspects of drinking among older adults.^{1,21} All models included quadratic terms and base-year sampling weights, and adjusted for age in 1996. “Don’t know” and “refused to answer” codes were treated as missing values. Proc Traj accommodates missing data as long as at least two observations are available for each individual.²⁰

Several criteria were used to identify the “best” model for each indicator. Bayesian Information Criterion (BIC) values, which increase as model fit improves, were used to compare models with “n” and “n-1” trajectories.^{20,22} Following convention, we interpreted $2 \times \Delta \text{BIC}$ values of 6–10 as strong evidence and values greater than 10 as very strong evidence against the null (n-1) model.^{14,20} Like others,^{23,24} we required a minimum mean posterior probability of group assignment in all groups ≥ 0.70 . Finally, all groups had to contain at least 2% of the cohort.

Posterior probability refers to the likelihood that an individual belongs to a specified trajectory group given her observed data. To illustrate, women who report two drinks per day on six consecutive interviews will have low (near zero) posterior probabilities of having followed an infrequent/nondrinker trajectory and high posterior probabilities (near 1.0) of having followed a stable drinking trajectory. High group mean posterior probabilities characterize models with relatively distinct groups.

After we developed all HRS models, we repeated the above analyses in the NLS cohort by constructing new models based on the recent drinking and drinks per day indicators. Again, BIC values and mean posterior probabilities were used to select the best-fitting models.

Finally, like others,^{23,25} we used analysis of variance testing to compare the alcohol use behaviors reported during each biannual interview across the drinking groups identified by the models. Proc Traj assigns individuals to the trajectory associated with their highest posterior probability. Using probabilistic group assignments for subsequent comparisons is appropriate when classification is highly certain, because errors in inference are likely to be small.¹⁴

RESULTS

The cohorts were comparable on all of the parameters needed to interpret our parallel trajectory analyses (Table 1). Mean baseline age was 57.5 among HRS and 58.3 years among NLS women; 72.0% and 72.4%, respectively, were classified as white versus black, Hispanic, or “other”. About 93.6% of HRS and 91.6% of NLS women completed at least 4 interviews with 86.7% and 89.2% completing the final interview in our study interval. Similarly, 92.4% of HRS and 94.5% of NLS women were known or presumed alive in 2006 and 2003, respectively.

The six independently constructed group-based models, including four from HRS indicators (recent drinking, drinks per day, drinking days per week, and drinks per week) and two from NLS indicators (recent drinking and drinks per day), yielded similar results. All best-fitting models had four trajectories. Because the correspondence in question phrasing across the

cohorts was closest for the drinks per day indicators, findings for those models are detailed below.

After examining the baseline value and shape of each trajectory in the HRS drinks per day model, we labeled the groups as *Infrequent & Nondrinkers* (61.8% of the cohort), *Increasing Drinkers* (4.9%), *Consistent Drinkers* (25.9%), and *Decreasing Drinkers* (7.4%). Mean posterior probabilities were ≥ 0.95 in all groups (Table 2).

Findings for NLS women were similar. Again, a 4-trajectory model best met our selection criteria. The NLS model assigned 61.4% of the cohort to the *Infrequent & Nondrinkers* group, 8.8% to the *Increasing Drinkers*, 21.2% to the *Consistent Drinkers*, and 8.6% to the *Decreasing Drinkers* group. Mean posterior probabilities ranged from 0.87 in the *Increasing Drinkers* group to 0.99 in the *Infrequent & Nondrinkers* group (Table 2).

In both cohorts, the numbers of women assigned to the trajectory groups were sufficient to support analysis of variance comparisons of reported drinking behaviors by interview year (Table 3). Across all years in both cohorts, the four groups differed significantly ($p < .0001$) on the percentages that reported recent drinking and the numbers of drinks per day.

In contrast to the very stable drinks per day averages (range: 0.01 – 0.03) reported by 3,233 HRS women in the *Infrequent & Nondrinkers* trajectory and the relatively stable averages (1.59 – 1.78 drinks) reported by 1,355 HRS women in the *Consistent Drinkers* group, we observed a monotonic decrease in numbers of drinks per day among 385 HRS women in *Decreasing Drinkers* trajectory (from 1.74 drinks in 1996 to 0.07 drinks in 2006).

A monotonic increase in number of drinks per day characterized the *Increasing Drinkers* with values ranging from 0.18 to 1.31 in the HRS cohort and 0.27 to 0.99 in the NLS cohort. The low baseline values are consistent with the finding that 50.8% of HRS and 33.6% of NLS women in this trajectory were nondrinkers at their first interview. About 14.3% of HRS and 12.3% of NLS *Increasing Drinkers* reported more than 1 drink per day at their final interview.

Responses to the HRS item on binge drinking (number of days with ≥ 4 drinks per occasion) were consistent with the above findings. Although the overall value across the cohort declined from 5.5% in 1996 to 3.9% in 2006, prevalence climbed among the *Increasing Drinkers* group from 0.8% in 1996 to 7.8% in 2006.

DISCUSSION

The findings reported here were derived from semi-parametric group-based models developed sequentially for two comparable cohorts of randomly sampled women ages 50–65 in 1995–96. All models including sampling weights, adjusted for baseline age, and were restricted to women with at least three alcohol assessments during our study interval. Findings were consistent across HRS models for recent drinking, drinks per drinking day, drinking days per week, and drinks per week and NLS models for recent drinking and drinks per day.

Nevertheless, several study limitations should be noted. The alcohol questions included in the HRS and NLS interviews were similar, but not identical, and others have shown that minor wording changes can alter findings.²⁶ Missing data due to mortality or other causes may also have biased our results. Among HRS women known or presumed alive at the final interview, 94.4% of all possible interviews were completed. The corresponding value for NLS women is 94.9%. Finally, as always, analyses based on self-report data are subject to inaccuracies.

Our first major finding was that alcohol use among older HRS and NLS women is well-described by a 4-trajectory model. The trajectories include women who [1] increase drinking after age 50; [2] decrease drinking during these years; [3] drink consistently throughout; or [4] regularly report nondrinking. Trajectory graphs (not shown) further underscored the consistency in findings across the cohorts. Because the NLS results largely replicated our HRS results, we believe these findings can be cautiously generalized to comparable women in the U.S.

Second, results suggest the majority of older women maintain a stable drinking pattern as they transition into their senior years. About 87.7% of HRS women were either stable drinkers (25.9%) or infrequent/nondrinkers (61.8%); 82.6% of NLS women were stable (21.2%) or infrequent/nondrinkers (61.4%). The Atherosclerosis Risk in Communities study of women ages 45–64 at enrollment similarly found that 81% of baseline drinkers and 88% of baseline nondrinkers reported no change in drinking status over 6 years of follow-up.³

Our findings are consistent with the general consensus that alcohol use declines with age⁵ for two reasons. We found that 7.4% of HRS women and 8.6% of NLS women substantially decreased their numbers of drinks per day; and even women in the *Consistent Drinkers* trajectory showed a modest decline in the average number of drinks per day. HRS *Consistent Drinkers* reduced their average from 1.78 to 1.59 drinks per day, while comparable NLS women dropped from 1.62 to 0.99 drinks.

The proportions of women associated with the *Infrequent & Nondrinkers* and *Decreasing Drinkers* groups suggest more than half of all older women in the U.S. are unlikely to receive any health benefits from moderate alcohol use. Although the benefits of moderate drinking for older women are well-established,^{6,7} the clinical implications are uncertain, because many older adults use medications that interact adversely with alcohol and some chronic diseases may be exacerbated by drinking. As others have noted, questions remain about safe drinking levels for older adults.²⁷

The most important results reported here pertain to the *Increasing Drinkers* trajectory. About 4.9% of the HRS and 8.8% of the NLS cohort reported notable increases in the number of drinks per day. The Wisconsin Longitudinal Study also found that many women who were nondrinkers at age 53 were moderate or, in a few instances, heavy drinkers by age 64.⁵

Interpreting findings for the *Increasing Drinkers* in our study is complicated by several factors. On the one hand, the initial averages in each cohort were low, and the absolute increase in the amount of alcohol consumed was about one additional drink per day. On the other hand, we saw no evidence in either cohort that the quantities consumed were leveling off, and binge drinking (4+ drinks per occasion) was reported by 7.8% of these women in 2006. Our analyses of risk factors associated with the increasing and decreasing alcohol use trajectories and the health consequences of those drinking patterns will be reported elsewhere.

Current recommendations for low risk drinking among people 65 and older suggest no more than 7 drinks per week and 2 drinks on any one occasion.²⁸ Mean ages in the HRS and NLS cohorts at our final assessments were 67.3 and 66.1 years, respectively. In supplemental HRS analyses, we combined the quantity and frequency data and found that 14.3% of *Increasing Drinkers* and 31.2% of *Consistent Drinkers* reported more than 7 drinks per week in their 2006 interview (data not shown). The percentage of NLS women who exceeded the weekly guideline cannot be determined, because information on drinking days per week was not collected.

The above findings have two implications for clinical practice. First, many women have a stable pattern of consistent drinking that may become more problematic by age 65. Second, some infrequent drinkers may begin to steadily increase both the quantity and frequency of their alcohol intake after age 50 and eventually reach levels of “at-risk” drinking. The National Institute on Alcohol Abuse and Alcoholism²⁹ and others³⁰ have underscored the importance of asking all older women about their drinking and then assessing, advising, and assisting those who report any evidence of problem drinking.

Finally, we note that study findings underscore the importance of obtaining detailed drinking history data on all studies that consider alcohol use as a potential risk factor. Asking older women only about recent alcohol use may misclassify those associated with increasing or decreasing drinking trajectories.

Acknowledgments

Research funding provided by a grant from the National Institute on Alcohol Abuse and Alcoholism to Dr. Janet Bobo (R21-AA016534).

Sponsor’s Role: The National Institute on Alcohol Abuse and Alcoholism sponsored the work reported here, but had no role in the design, methodology, subject recruitment, data collection, or analyses completed for this paper.

References

1. Breslow RA, Smothers B. Drinking patterns of older Americans: National Health Interview Surveys, 1997–2001. *J Stud Alcohol*. 2004; 65:232–240. [PubMed: 15151355]
2. Moore AA, Hays RD, Greendale GA, et al. Drinking habits among older persons: Findings from the NHANES I Epidemiologic Followup Study (1982–84). *National Health and Nutrition Examination Survey. J Am Geriatr Soc*. 1999; 47:412–416. [PubMed: 10203115]
3. Eigenbrodt ML, Mosley TH Jr, Hutchinson RG, et al. Alcohol consumption with age: A cross-sectional and longitudinal study of the Atherosclerosis Risk in Communities (ARIC) study, 1987–1995. *Am J Epidemiol*. 2001; 153:1102–1111. [PubMed: 11390330]
4. Schutte K, Brennan PL, Moos RH. Predicting the development of late-life late-onset drinking problems: A 7-year prospective study. *Alcohol Clin Exp Res*. 1998; 22:1349–1358. [PubMed: 9756052]
5. Molander R, Yonker J, Krahn D. Age-related changes in drinking patterns from mid- to older age: Results from the Wisconsin Longitudinal Study. *Alcohol Clin Exp Res*. 2010; 34:1182–1192. [PubMed: 20477774]
6. Doll R. The benefits of alcohol in moderation. *Drug Alcohol Rev*. 1998; 17:353–363. [PubMed: 16203503]
7. Gunzerath L, Faden V, Zakhari S, et al. National Institute on Alcohol Abuse and Alcoholism Report on moderate drinking. *Alcohol Clin Exp Res*. 2004; 28:829–847. [PubMed: 15201626]
8. Stott D, Falconer A, Kerr G, et al. Does low to moderate alcohol intake protect against cognitive decline in older adults? *J Am Geriatr Soc*. 2008; 56:2217–2224. [PubMed: 19093921]
9. Moore A, Endo J, Carter M. Is there a relationship between excessive drinking and functional impairment in older persons? *J Am Geriatr Soc*. 2003; 51:44–49. [PubMed: 12534844]
10. Bates M. Integrating person-centered and variable-centered approaches in the study of developmental courses and transitions in alcohol use: Introduction to the special section. *Alcohol Clin Exp Res*. 2000; 24:878–881. [PubMed: 10888078]
11. Bobo JK, Klepinger D, Dong F. Identifying social drinkers likely to consume alcohol during pregnancy: Findings from a cohort investigation. *Psychol Rep*. 2007; 101:857–870. [PubMed: 18232442]
12. Greenbaum P, Del Boca FK, Darkes J, et al. Variation in the drinking trajectories of freshman college students. *J Consult Clin Psychol*. 2006; 73:229–238. [PubMed: 15796630]
13. Muthen B, Muthen L. The development of heavy drinking and alcohol-related problems from ages 18 to 37 in a U.S. national sample. *J Stud Alcohol*. 2000; 61:290–300. [PubMed: 10757140]

14. Nagin DS. Analyzing developmental trajectories: A semiparametric, group-based approach. *Psychol Methods*. 1999; 4:139–157.
15. Nagin DS, Tremblay ER. What has been learned from group-based trajectory modeling? Examples from physical aggression and other problem behaviors. *Ann Am Acad Pol Soc Sci*. 2005; 602:82–117.
16. Heeringa, S.; Connor, J. University of Michigan, Institute for Social Research; 1995 [Accessed April 7, 2010]. Technical description of the Health and Retirement Survey Sample Design: Public use version. Available at: <http://hrsonline.isr.umich.edu/sitedocs/userg/HRSSAMP.pdf>
17. Center for Human Resource Branch - Ohio State University. National longitudinal surveys - Mature Women User's Guide. Bureau of Labor Statistics, US Department of Labor; 2001 [Accessed on April 7, 2010]. Available at: <http://www.bls.gov/nls/mwguide/2001/nlsmwg0.pdf>
18. Center for Human Resource Branch - Ohio State University. National Longitudinal Surveys - Young Women User's Guide - 2001. Bureau of Labor Statistics, US Department of Labor; 2001 [Accessed on April 7, 2010]. Available at: <http://www.bls.gov/nls/ywguide/2001/nlsyw0.pdf>
19. Fiellin D, Reid M, O'Connor P. Screening for alcohol problems in primary care: A systematic review. *Arch Intern Med*. 2000; 160:1977–1989. [PubMed: 10888972]
20. Jones BL, Nagin DS, Roeder K. A SAS procedure based on mixture models for estimating developmental trajectories. *Sociol Methods Res*. 2001; 29:374–393.
21. Breslow RA, Graubard BI. Prospective study of alcohol consumption in the United States: quantity, frequency, and cause-specific mortality. *Alcohol Clin Exp Res*. 2008; 32:513–521. [PubMed: 18215212]
22. Nagin, D. Group-based modeling of development. Harvard University Press; Longdon: 2005.
23. Clark D, Jones B, Wood D, et al. Substance use disorder trajectory classes: Diachronic integration of onset age, severity, and course. *Addict Behav*. 2006; 31:995–1009. [PubMed: 16675151]
24. Costello D, Dierker L, Jones B, et al. Trajectories of smoking from adolescence to early adulthood and their psychosocial risk factors. *Health Psychol*. 2008; 27:811–818. [PubMed: 19025277]
25. Conklin C, Perkins KA, Sheidow A, et al. The return to smoking: 1-year relapse trajectories among female smokers. *Nicotine Tob Res*. 2005; 7:533–540. [PubMed: 16085524]
26. Harford TC. The effects of order of questions on reported alcohol consumption. *Addiction*. 1994; 89:421–424. [PubMed: 8025495]
27. Lang I, Guralnik J, Wallace RB, et al. What level of alcohol consumption is hazardous for older people? Functioning and mortality in U.S. and English national cohorts. *J Am Geriatr Soc*. 2007; 55:49–57. [PubMed: 17233685]
28. American Geriatrics Society. Clinical guidelines for alcohol use disorders in older adults. 2003 [Accessed: April 7, 2010]. Available at: <http://www.americangeriatrics.org/products/positionpapers/alcohol.shtml>
29. National Institute of Alcohol abuse. Helping patients who drink too much: A clinician's guide, Updated 2005 Edition. US DHHS, NIH, NIAAA; 2005 [Accessed: April 7, 2010]. NIH 07-3769. Available at: <http://pubs.niaaa.nih.gov/publications/practitioner/CliniciansGuide2005/guide.pdf>
30. Bobo, JK. Smoking, alcohol use, and cessation techniques. In: Leppert, PC.; Howard, FM., editors. *Primary Care for Women*. New York: Lippincott-Raven Publishers; 1997. p. 35–48.

Table 1

Demographic status at baseline, vital status at end of follow-up, and number of interviews completed among study-eligible women in the Health And Retirement Study (HRS) and National Longitudinal Survey (NLS) Cohorts.

	HRS cohort [N = 5,231]	NLS cohort [N = 1,658]
Demographic status at baseline		
Mean age ($\pm$ SD)	57.5 (4.2)	58.3 (5.3)
Age (% in group)		
50 – 54 years	27.3	30.5
55 – 60	43.9	26.2
61 – 65	28.8	43.3
Race/ethnicity		
% Black	17.4	23.8
% Hispanic	1.9	2.7
% Other	8.7	1.1
% White	72.0	72.4
Mean years of education ($\pm$ SD)	12.2 (3.0)	12.5 (2.8)
% coupled or partnered (HRS) or married (NLS)	69.2	62.2
Vital status at time of final interview		
% known or presumed alive	92.4	94.5
% known or presumed deceased	6.2	4.5
% unknown	1.4	1.0
Interviews completed during study interval		
Mean number of interviews completed (range)	5.5 (3–6)	4.5 (3–5)
% with 4 or more observations	93.6	91.6
% completing final study interview	86.7	89.2

* For HRS cohort members enrolled in 1998, age in 1996 was imputed from 1998 data.

Table 2

Percent of cohort in trajectory group and mean posterior probabilities by group among study-eligible women in the Health and Retirement Study (HRS) and National Longitudinal Survey (NLS) Cohorts.*

	HRS cohort		NLS cohort	
	% of cohort	Mean posterior probabilities	% of cohort	Mean posterior probabilities
Trajectory group				
Infrequent & nondrinkers	61.8	0.98	61.4	0.99
Increasing drinkers	4.9	0.95	8.8	0.87
Consistent drinkers	25.9	0.97	21.2	0.95
Decreasing drinkers	7.4	0.95	8.6	0.88

* Both trajectory models based on number of drinks per drinking day. Models used weighted data and adjusted for age at baseline.

Table 3

Alcohol use reported by year and drinking trajectory among study-eligible women in the Health and Retirement Study (HRS) and National Longitudinal Survey (NLS) cohorts.[†]

	Infrequent & Nondrinkers	Increasing Drinkers	Consistent Drinkers	Decreasing Drinkers
HRS COHORT				
# in group	3,233	258	1,355	385
% of cohort in group	61.8	4.9	25.9	7.4
# alcohol interviews (Mean) [*]	5.5	5.7	5.6	5.6
Drinks per drinking day (Mean)				
1996 [*]	0.03	0.18	1.78	1.74
1998 [*]	0.01	0.28	1.75	1.42
2000 [*]	0.01	0.38	1.68	0.81
2002 [*]	0.02	0.72	1.66	0.51
2004 [*]	0.01	1.14	1.77	0.23
2006 [*]	0.02	1.31	1.59	0.07
Recent drinking (% yes)				
1996 [*]	18.9	44.4	98.9	98.2
1998 [*]	17.0	48.2	98.7	89.9
2000 [*]	15.4	55.2	98.0	70.1
2002 [*]	15.1	66.9	98.0	56.4
2004 [*]	13.4	89.9	98.6	41.2
2006 [*]	16.7	97.2	97.7	36.2
NLS COHORT				
# in group	1,017	146	352	143
% of cohort in group	61.4	8.8	21.2	8.6
# alcohol interviews (Mean)	4.7	4.7	4.7	4.6
Drinks per drinking day (Mean)				
1995 [*]	0.01	0.27	1.62	1.43
1997 [*]	0.06	0.58	1.56	0.90
1999 [*]	0.02	0.81	1.42	0.62
2001 [*]	0.04	0.86	1.38	0.36
2003 [*]	0.03	0.99	1.38	0.11
Recent drinking status (% yes)				
1995 [*]	22.0	66.4	99.1	98.6
1997 [*]	20.7	79.9	99.1	83.3
1999 [*]	17.5	88.1	97.3	75.0
2001 [*]	15.7	92.4	97.8	72.6
2003 [*]	15.8	96.1	98.4	54.1

[†] Trajectory models based on responses to the question on number of drinks per drinking day.

* $p < .0001$ in analysis of variance (ANOVA) model.