



**Marin County  
Department of Health & Human Services  
Division of Aging**

**MALNUTRITION AMONG MARIN'S ELDERLY:  
A Nutritional Risk Assessment  
of Low-Income Older Adults  
in Marin County**

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# **Nutritional Risk Assessment of Low-Income Older Adults in Marin County**

## **Executive Summary**

The Marin County Department of Health & Human Services, Division of Aging conducted a survey of the nutritional health of a sample of low-income older adults served by the Brown Bag Program. The Brown Bag Program is a State funded public program that provides supplemental groceries to participants twice monthly and is locally administered by the Marin Community Food Bank under contract to the Division of Aging. The purpose of the study is to determine the degree to which low-income older adults are at risk of malnutrition.

Our survey revealed that 64% of survey respondents were at high nutritional risk, twice the rate of other Division of Aging programs. Over a quarter ate fewer than two meals a day. Two thirds were not eating the recommended amount of fruits and vegetables. 80% eat alone most of the time. A quarter were not always able to afford to buy food. The nutritional status of older adults is influenced by various physiological, socio-economic and psychological changes that accompany aging. Problems with dental health, loss of appetite and interactions between medications and nutrients are some of the challenges that cause older adults to be at nutritional risk. Low-income older adults are at particularly high risk of malnutrition.

Nutritional interventions have shown to be beneficial in managing a range of chronic conditions that can affect up to 85% of the older population. Our survey may be representative of participants in the Brown Bag Program, but it is impossible to say whether the results can be generalized to the entire Marin County low-income older adult population. It is clear that more needs to be done to assess and educate the low-income older population on the importance of good nutritional health as well as resources in the community that can help with nutritional health needs.

The Division of Aging gratefully acknowledges the work of student intern Dharna Obermaier in conducting this study.

## Participants

Survey respondents were low-income older adults who reside in Marin County, California. 45 individuals were randomly selected from 404 elderly Brown Bag Program participants. Older adults aged 60 years or older with incomes at or below 125% of the California SSP for the blind rate (a monthly income of less than \$964 for an individual in 2001/02) are eligible to participate in the Brown Bag Program. The youngest survey participant was 62, the oldest 90 years of age. The average age was 76. 38% of participants were male, 62% were female. Participants were more ethnically diverse than the general older population. 71% of participants were White, 18% African-American, 9% Asian/Pacific Islander and 2% Hispanic. The Brown Bag Program is a State funded public program that provides supplemental groceries to participants twice monthly and is locally administered by the Marin Community Food Bank under contract to the Marin County Department of Health & Human Services, Division of Aging.

## Instrument

A questionnaire consisting of 11 questions, regarding eating habits, trouble biting or chewing food and other nutritional risk factors such as use of three or more medications per day, was used (for a complete list of questions see Appendix A). Each question has a point score. Scores are compiled and high nutritional risk is determined if the total score is over a certain number. The questionnaire was designed as a self-assessment tool to make older adults aware of nutritional health risks. The self-assessment checklist was created by the Nutrition Screening Initiative, a collaborative project of the American Academy of Family Physicians, the American Dietetic Association, and the National Council on Aging.

## Procedure

The interviewer randomly selected and telephoned respondents from a list of Brown Bag Program participants, provided by the Marin Community Food Bank. 45 phone interviews were conducted during the fall of 2001. The interviewer sent informational nutrition fact sheets (*“Food and Nutrition Resources”*, *“Foods & Medicines That Do Not*

*Mix*”, “*Maintaining a Healthy Weight*” and “*Adventures of the Solo Diner*”) to survey participants who were at high nutritional risk.

## Results

The overall scores ranged from 0 to 15. A score of 0 to 2 represents good nutritional health. A score of 3 to 5 represents moderate nutritional risk. A score of 6 or higher indicates high nutritional risk. The highest possible score is 21. A higher score indicates the presence of more nutritional risk factors.

- 64.4 % of participants had scores of 6 or higher, reflecting high nutritional risk. Low income may indeed be a contributing factor to nutritional health. Across other Division of Aging programs that screen for nutritional risk, the percent at high risk during fiscal year 2000/01 (July 1, 2000 to June 30, 2001) was 31%. This increases to 43% of those who were at or below the Federal Poverty Level (lower than the income level for the Brown Bag Program). 44% of participants in the home delivered meals program were at high nutritional risk during FY 00/01.
- 28.9 % of participants had scores ranging from 3-5, reflecting moderate nutritional risk.
- 6.7 % of participants had scores ranging from 0-2, reflecting good nutritional health.

The following results reflect responses made to individual questions.

- 62.2 % reported having made changes in lifelong eating habits because of health problems.
- 28.9 % reported eating fewer than 2 complete meals a day.
- 68.9 % reported eating fewer than 5 servings (1/2 cup each) of fruit or vegetables every day.
- 46.7 % reported eating fewer than 2 servings of dairy products (such as milk, yogurt, cheese) or tofu every day.
- 24.4 % reported having problems (biting, chewing, swallowing) that make it difficult to eat.
- 28.9 % reported at times not having enough money to buy the food they need.

- 80 % reported eating most meals alone.
- 64.4 % reported taking 3 or more prescribed or over-the-counter medications each day.
- 20 % reported having lost or gained 10 pounds in the last 6 months without trying.
- 28.9 % reported at times not being physically able to shop for food, cook or eat on their own.
- 2.2 % reported having 3 or more drinks of beer, wine or liquor almost every day.

## Conclusion

The nutritional status of older adults is influenced by various physiological, socio-economic and psychological changes that accompany aging. Problems with dental health, loss of appetite and interactions between medications and nutrients are some of the challenges that cause older adults to be at nutritional risk. Low-income older adults are at particularly high risk of malnutrition.

Researchers who conducted a study assessing nutritional risk in older adults living in Colorado, have found that:

Many of the chronic medical conditions commonly seen in the elderly (e.g. osteoporosis, osteoarthritis, diabetes, gastrointestinal conditions, and dementia) have nutritional causes as well as nutritional consequences, such as restricted diet and/or activity, and nutrient deficiencies resulting from use of therapeutic drugs. Problems related to oral health, mental health, medication use, food choices, economic situation, and functional status can all contribute to an increased prevalence of malnutrition and reduced functional capacity in the elderly. Declining health due to undetected or untreated poor nutritional status may increase health care costs of the elderly despite the relative ease of treatment and prevention of malnutrition. Low-income and minority populations are believed to be at particularly high risk

(Marshall et al., Journal of the American Dietetic Association, Mar 1999).

Nutritional interventions have shown to be beneficial in managing a variety of chronic conditions that may affect up to 85% of the older population. Nutritional health assessments and appropriate interventions need to be incorporated into primary health care. Low-income older adults need to be informed about the availability of nutritional

support services, such as the nutrition program at Marin Senior Coordinating Council, the Marin Community Food Bank's emergency food pantries program and the food stamp program.

The present study is representative of older adults who are participating in the Brown Bag Program. However, the results cannot be generalized to the entire low-income older adult population or the older adult population as a whole.