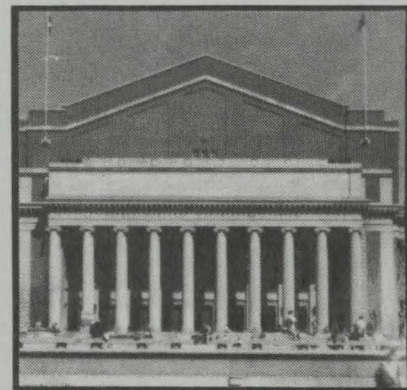


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Research on Aging

University of Minnesota

1986-1990



All-University Council on Aging
Center for Urban and Regional Affairs
University of Minnesota

Research on Aging

University of Minnesota

1986 - 1990

Compiled by the
All-University Council on Aging Research Committee
University of Minnesota

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Research Committee, University of Minnesota.

A publication of the Center for Urban and Regional
Affairs, 330 Humphrey Center, 301 19th Avenue
South, Minneapolis, MN 55455.

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1989

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All-University Council on Aging University of Minnesota

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Introduction

This publication is an attempt to identify research with age-related themes conducted between 1986 and 1990 by current faculty at the University of Minnesota. In 1985 a similar inventory was accomplished for 1980 through 1985 and the publication that was a culmination of the survey listed over 130 projects representing the diverse fields of the University.

This inventory is a sequel to the earlier publication. In this publication 137 research projects are identified. New to the publication is a separate section that describes doctoral dissertations with an age-related focus that were obtained during a portion of the 1986-1990 time frame. A limited number of works-in-progress by current doctoral students are also included in this section, which may or may not mature into eventual doctoral dissertations.

Any inventory of this type is limited by the willingness of the faculty to respond. Some of the most productive may not assign this task their highest priority. We are most grateful to the participants. Requests were tendered through a variety of broadly disseminated media at the University of Minnesota campuses. We sought input from many units and deans. The 500 or so faculty in the Assembly of the All-University Council on Aging were personally contacted. The work of former faculty had to be excluded even though this meant the loss of a considerable body of work. As in any effort to pull together the variety of work across a large institution, there are likely to be omissions for which we apologize.

The body of the inventory is organized in alphabetical order by department into two sections:

- descriptions of faculty research projects including title, principal investigator, abstract, citation of key publications, and information on funding source, dates, etc., and
- descriptions of doctoral student research or dissertations including title, author, abstract, faculty advisor, etc.

All project descriptions are listed sequentially by PROJECT NUMBER. The projects are grouped together by host organizational unit or department, and within that unit, alphabetically by principal investigator. The inventory concludes with two indices, one for key terms, and the other for investigators. The projects have been indexed with 256 subject key terms to aid in locating research on specific topics. The investigator index includes co-principal or additional investigators of projects as well as the principal investigators.

A word about the All-University Council on Aging (AUCA). AUCA is a large and broadly representative organization of the University faculty and graduate students interested in aging and geriatrics. Established in 1975, its 32-member Policy Committee is appointed by the Vice Presidents of Academic Affairs, Health Sciences, and Agriculture, Forestry and Home Economics. The University's Graduate Minor Program in Gerontology is maintained through the All-University Council on Aging. AUCA coordinates and facilitates gerontology among the

faculty, including those at the coordinate campuses at Crookston, Duluth, Morris and Waseca.

AUCA has initiated the Visiting Scholars in Gerontology Program; confers seed grants to faculty and students for pilot studies in aging; counsels students into educational programs; sponsors courses, conferences, and generally promotes scholarship and research on aging. The research inventory is one project of this concern. AUCA's support is provided primarily by the Center for Urban and Regional Affairs (CURA) and by the University of Minnesota Graduate School.

The Research Committee is especially appreciative of the able assistance of Monica Colberg, Program Coordinator for AUCA. Monica carried the burden of collecting, collating and editing the material and helping manage the project to completion. Monica was assisted by Margaret R. Wolfe, Research Fellow in the Center for Urban and Regional Affairs (CURA). She provided data management, computer programming, and an unlimited reserve of fortitude to get the job done. In addition, we are grateful for the support of many people including Thomas Scott, Shirley Bennett, Judith Weir, Louise Duncan, and Chris McKee. The inventory could not have been published without encouragement from CURA.

Several of the doctoral dissertation abstracts were obtained from *Dissertation Abstracts International*. The dissertation titles and abstracts obtained through that source are published with permission of University Microfilms International, publishers of *Dissertation Abstracts International* (copyright © 1987, 1988 and 1989 by University Microfilms International), and may not be reproduced without their prior permission. Copies of the dissertations may be obtained by addressing your request to: University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106, or by telephoning (toll-free) 1-800-521-3042.

Research Committee
All-University Council on Aging
University of Minnesota

Project Number 001

Richard G. Hoffman

“Initial Screening for Memory and Cognitive Changes in the Elderly”

Comprehensive assessment of the memory and intellectual abilities of the elderly is not always possible or practical due to time constraints such as fatigue and reduced motivation, yet such evaluation is essential to assess longitudinal changes in memory and intellectual functioning and to document initial stages of cognitive decline. The current study supports the use of a newly constructed brief screening battery consisting of the Randt Memory Test and the Four-Subtest WAIS-R in collecting baseline data on memory and intellectual functioning in healthy, middle-aged to elderly individuals. The present study also examined the accuracy of six methods of estimating full-scale IQs from abbreviated versions of the WAIS-R in a middle-aged to elderly nonpsychiatric sample of 28 healthy males. Although all six methods were found to yield scores that were correlated highly with full scale scores, the method of Reynolds, et al. (1983) resulted in short-form IQ estimates that were significantly different statistically from full-scale IQ scores. Although most of the six short-form methods appear to be useful screening measures for cognitive functioning and longitudinal changes in intellectual functions in the elderly, their use for classification purposes is not supported in the present study.

Key Terms: Assessment, Cognition, Intellectual function, Memory

Location of Research: University of Minnesota, Duluth

Dates: 07/01/85 - 06/30/86

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Related Research Publications:

Hoffman, R.G., and Nelson, K.S. (1988). “Cross-Validation of Six Short Forms of the WAIS-R in a Healthy Geriatric Sample.” *Journal of Clinical Psychology*, 44 (6), 952-957.

Project Number 002

William F. Bird and Barbara J. Smith

“Oral Health Status in Elderly Day Care Participants and Nursing Home Residents”

This study compared the oral health status of older adults from three adult day care sites with that of residents of nursing homes who were enrolled in a capitation program in seven counties in Minnesota. Examiners performed clinical examinations and collected data from available patient medical records. The mean age for the group of nursing home residents was 75.2 years ($n = 38$), and 76.6 ($n = 67$) for adult day care participants. The nursing home group had 3.09 decayed coronal tooth surfaces, and 0.65 decayed root surfaces. Of the nursing home residents, 39.5% were edentulous, and 2.6% needed prosthetic replacements. The nursing home residents used an average of 4.6 medications, had an average of 3.6 major medical diagnoses, and had gone a mean of 17.3 months since the last dental visit. The adult day care population had a mean 2.93 decayed coronal surfaces, and 1.38 decayed root surfaces. Among adult day care attendees, 29.9% used an average of 3.1 medications, had 2.6 major medical diagnoses, and had gone a mean of 44.5 months since the last dental visit. The adult day care population is seen by dentists less frequently than nursing home residents, and have significantly more decayed root surfaces ($p < 0.001$). Only 12.5% of nursing home residents expressed dissatisfaction with their prostheses compared to 18.0% for the day care group. The examiner rated 21.0% of prostheses worn by nursing home residents as inadequate compared to 33.0% of prostheses worn by adult day care attendees.

Key Terms: Day care, Nursing home residents, Oral health

Dates: 02/01/87 - 07/31/87

Funding Source: Division of Health Ecology, School of Dentistry, University of Minnesota, and Amherst Wilder Foundation

Number of Graduates Working with Project: 2

Related Research Publications:

Bird, W.F., and Smith, B.J. (1988). “Oral Health Status: Elderly Day Health vs. Nursing Homes.” *Journal of Dental Research*, 67, Abstract 513.

Project Number 003

John Ofstehage and Michael J. Loupe

“The Influence of Dental-Facial Appearance on Stereotyping Attitudes of Older Adults”

The objective of this study was to determine whether the social attractiveness of an elderly adult would be influenced by his or her dental-facial appearance. Black and white photographs of an attractive older male and older female and an unattractive older male and older female were obtained and modified so that for each face four different photographic versions were available (16 total). In each version the subject's face is standardized except that a different dental-facial arrangement is demonstrated. These arrangements are normal incisors, missing lateral incisors, crowded incisors and edentulous. A group of 74 elderly adults were surveyed. Each was shown 4 of the 16 photographs (one dental variation of each background facial attractiveness type) and asked to rate the represented elderly adult regarding their social attractiveness. The Rosencranz and McNeVins Aging Semantic Differential Scale was used as a means of measuring the valances of stereotyping attitudes and determining the content and dimensions of such attitudes. The effects and interactions of different dental arrangements, sex of the photographed older adult and sex of judge were analyzed. It was found that the background facial attractiveness had a stronger influence on stereotyping attitudes than did dental appearance. It was also found that dental appearance played a role in stereotyping attitudes. Missing lateral incisors and edentulous were judged in the majority of cases as less attractive than normal incisors or crowded incisors.

Key Terms: Dental-facial appearance, Social attractiveness

Dates: 06/15/88 - 06/15/89

Funding Source: University of Minnesota School of Dentistry and Veterans Administration Medical Center, Minneapolis, Minnesota

Project Number 004

Robert H. Ophaug and Carol Drinkard

“Effects of Aging on the Composition of Saliva and Dental Plaque”

An increase in the mineral content of dental plaque is clearly associated with a resistance to dental caries. There is reason to believe that several constituents of saliva, such as fluoride, urea, calcium, phosphate, and bicarbonate, are important determinants of the cariogenic potential of dental plaque, and that the salivary and/or plaque concentrations of these constituents vary with age. A broad spectrum of constituents of plaque and saliva collected from women in two different age groups, 20-30 and 50-70 years of age, will be measured simultaneously to generate a database to further define the process involved in the demineralization and remineralization of enamel and the etiology of dental caries.

Key Terms: Age differences, Dental caries, Mineral, Oral Health, Plaque, Saliva

Dates: 07/01/88 - Ongoing

Funding Source: Health Resources and Services Administration, U.S. Department of Health and Human Services

Project Number 005

**Stephen K. Shuman, Michael J. Loupe, Gestur B. Davidson, and
Leslie V. Martens**

“The Effect of Patient Age on Practice Productivity in Minnesota Private Dental Practices”

Despite the dental profession's concern with a growing older population, little information is available on the potential economic impact of treating increased numbers of elderly patients on private dental practices. To examine the effect of patient age on productivity in Minnesota private dental practices, data compiled in the Minnesota Dental Practice Analysis System from 1980 to 1984 was analyzed (12,541 patient visits to 31 practices). A multivariate production function model incorporating established predictors of practice output along with the proportions of patient visits by age group was used to assess the impact of visits by patients in two older age groups (61-69, 70 and over) compared to those age 1 to 60. Productivity was measured via standardized indices of practice output reflecting both the time and monetary values of services rendered. Multiple linear regression was used to determine if the proportion of visits by older patients were significant predictors of practice output. It was found that increases in the proportions of visits by patients age 70 and over were associated with increases in the number of dentist minutes required to perform one time unit of work, as well as an increase in dentist minutes per visit. However, no significant differences in monetary measures of practice output were evident between older and younger patients. Increases in the proportion of older patients may lead to fewer dental services performed within a given time without associated alteration in monetary productivity.

Key Terms: Age differences, Dental practice, Practice productivity

Dates: 07/01/88 - 06/30/89

Funding Source: Division of Health Ecology, School of Dentistry, University of Minnesota, and Minnesota Dental Association

Number of Graduates Working with Project: 1

Related Research Publications:

Shuman, S.K., Loupe, M.J., and Mortens, L.V. (1989). “The Effect of Patient Age on Practice Productivity in Minnesota Private Dental Practices.” *The Gerontologist* 29 (October), 106A. Special Program Issue, Abstract 94.

Project Number 006

Evelyn M. Franklin

“Aging in Place of Rural Elderly: Impact of Housing Environment on Well-Being”

Most older Americans choose to remain in place as they age. Given the increasing longevity and the growing numbers of the older population, this desire to continue to live in the home that has been occupied for many years points to the importance of understanding how well the living environment for millions of older Americans is meeting their needs. The purpose of this study is to determine what physical changes rural older persons make to their homes and what changes in the use of space they make as they age in place and how these changes influence their housing satisfaction. The influence of housing satisfaction on the overall well-being of the households studied is also analyzed.

Data from a north-central regional study of six contiguous states (Illinois, Iowa, Minnesota, Missouri, Nebraska and Wisconsin) conducted in 1985 were analyzed. The sample was made up of persons 55 years or older living in rural households located in open country, small towns or cities under 20,000. Path analysis was used to determine what influence the socio-economic and demographic characteristics of the households, the characteristics of the dwellings, changes made to the physical dwelling, and changes in the use of space within the dwelling had upon the housing satisfaction and well-being of the older persons in the study. Similar analysis was performed to determine the impact of housing satisfaction on the well-being of rural older persons in the north-central region.

Results indicate that households who are aging in place make relatively few changes in their physical environment and when changes are made they are most apt to be major remodeling. The number of changes made were similar between the age groups 55 to 64 and 65 to 74, however few changes were made by those in the group 75 and older. Factors significantly influencing housing satisfaction included socio-economic status, age of the head of household and the number of stories in the dwelling. The variables that significantly affected well-being were the presence of a handicapped person in the household, the number of stories in the dwelling, the health of the head of household, changes made to the inside appearance of the dwelling and housing satisfaction.

Key Terms: Aging-in-place, Housing, Rural, Well-being

Dates: 09/01/88 - 08/31/89

Funding Source: Agricultural Experiment Station, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 007

Earl W. Morris and Evelyn M. Franklin

“The Role of Government Housing Programs in Prolonging the Independent Living of Elderly Individuals”

The study will obtain and analyze data from the Survey of Income and Program Participation of the U.S. Bureau of the Census (1987). The analysis will be a logistic analysis of the effect of the receipt of various forms of federal assistance on the dichotomous/independent living variable with resource and health constraints controlled.

Key Terms: Housing programs, Independent living

Dates: 07/01/89 - 06/30/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 008

Deborah J. Anderson

“Analysis of Policy Issues in the Delivery of Community Based Services to Older Persons with Mental Retardation/Developmental Disabilities”

This is expected to be a five-year consortium (a Regional Research and Training Center on Aging and Developmental Disabilities), which includes nine projects, seven sites and six states, including Ohio, Indiana, Illinois, Wisconsin, Kentucky and Minnesota. Minnesota's emphasis is on policy research. Year one has involved secondary data analysis of the National Nursing Home Survey of 1985 and the Center for Residential and Community Services' (CRCS) 10% sample of facilities owned, operated or licensed by developmental disabilities agencies in which one or more persons 63 years of age or older resided (collected in 1985-86). Purposes included determining the factors which were most influential in residential placements, including assessing the relationship between resident's demographic characteristics, health indicators, behavioral indicators, services received, and residential placements. Other issues included investigation of psychotropic and other drug use and its correlates among those persons living in facilities licensed by developmental disabilities agencies. Year two will be a follow-up (longitudinal study) of persons surveyed in 1985-86 by the CRCS. Year three will involve a cooperative effort with the Illinois site, which is investigating fiscal policy for this age group, to look at programs in selected "exemplary" states. Years four and five will involve a cooperative effort by all sites, based on the findings from years one to three.

Key Terms: Mental retardation, Policy, Service delivery, Psychotropic drugs, Residential placement

Dates: 07/01/88 - 06/30/93

Funding Source: National Institute on Disability and Rehabilitation Research

Number of Graduates Working with Project: 3

Related Research Publications:

Anderson, D.J. (in press). "Older Persons with Mental Retardation: Policy Issues and Trends." *Australian and New Zealand Journal of Developmental Disabilities*.

Lakin, K.C., Hill, B.K., and Anderson, D.J. (in press). "Persons with Mental Retardation in Nursing Homes in 1977 and 1985: A Comparison of Findings from the 1977 and 1985 National Nursing Surveys." *Mental Retardation*.

Project Number 009

Deborah J. Anderson

“Study of the Needs of Elderly Citizens with Mental Retardation or Related Conditions”

The study consisted of the analysis of the Department of Health's Quality Assurance and Review (QAR) information for 1986. QAR data are routinely gathered on all persons residing in residential facilities for persons with mental retardation and in nursing homes.

Surveys were conducted of 41 persons with mental retardation residing in residential facilities or in small community settings. Detailed information was gathered on such issues as community integration, day program participation, social and leisure activities, and caregiver training. Recommendations of a working group convened to discuss the findings are included in the report.

Key Terms: Mental retardation, Needs assessment

Dates: 09/10/87 - 04/01/88

Funding Source: State of Minnesota, Department of Health Services

Number of Graduates Working with Project: 1

Related Research Publications:

Anderson, D.J. (1988). “Study of the Needs of Elderly Citizens with Mental Retardation or Related Conditions.” Submitted to the Minnesota Legislature in March 1988 by Sandra Gardebring, Commissioner, Department of Human Services, as required in Minnesota Laws of 1987, Chapter 403, Article 1, Section 163.

Project Number 010

Robert Bruininks

“National Study of Residential and Support Services for Elderly Developmentally Disabled Persons”

Key Terms: Mental retardation, Residential services

Dates: 07/01/85 - 04/30/87

Funding Source: Administration on Developmental Disabilities and Administration on Aging, Office of Human Development Services

Number of Graduates Working with Project: 1

Related Research Publications:

Anderson, D.J. (1989). “Healthy and Institutionalized: Health Care Issues Among Older Persons with Mental Retardation.” *Journal of Applied Gerontology*, 8 (2).

Anderson, D.J., Lakin, K.C., Bruininks, R.H., and Hill, B.K. (1987). *A National Study of Residential and Support Services for Elderly Persons with Mental Retardation*. Minneapolis: University of Minnesota, Department of Educational Psychology.

Lakin, K.C., Anderson, D.J., Hill, B.K., and Chen, T. (in press). “Social Integration of Older Persons with Mental Retardation in Residential Facilities.” *American Journal of Mental Retardation*.

Project Number 011

Robert Bruininks and K. Charlie Lakin

“Longitudinal Quantitative and Case Study Analyses of Different Residential Services”

The project was funded by the Health Care Financing Administration (HCFA) to examine policy-related trends and projections in the use of various Medicaid-funded care services for persons with mental retardation and to identify factors influencing these trends nationally and in the various states. This examination was based on three sets of research activities: 1) analyses of several extant, longitudinal data bases on residential services for persons with mental retardation; 2) a survey of all state mental retardation/developmental disabilities (MR/DD) agencies regarding current and projected residential services policy and program utilization; and 3) in-depth case studies of ten individual states covering a broad range of issues related to residential and related services for their citizens with mental retardation and related conditions.

Key Terms: Medicaid, Mental retardation, Residential services

Dates: 06/15/87 - 05/31/89

Funding Source: Health Care Financing Administration (HCFA)

Number of Graduates Working with Project: 3

Related Research Publications:

Hill, B.K., Bruininks, R.H., Menke, J.M., White, C.C., and Wright, E.A. (1989). *Medicaid Services for Persons with Mental Retardation and Related Conditions*. Minneapolis: University of Minnesota, Center for Residential and Community Services.

Lakin, K.C., Hill, B.K., and Anderson, D.J. (in press). “Persons with Mental Retardation in Nursing Homes in 1977 and 1985: A Comparison of Findings from the 1977 and 1985 National Nursing Home Surveys.” *Mental Retardation*.

White, C.C., Lakin, K.C., Hill, B.K., Bruininks, R.H., and Menke, J.M. (in press). “Trends in Residential Services for Persons with Mental Retardation: Changes by Size, Operation and State from 1977 to 1987.” *Adult Residential Care Journal*.

Project Number 012

Chad Boulton

“NIA Academic Award: Predictors of Functional Ability”

The proposed sequence of three research projects will evaluate several possible determinants and consequences of the collective functional ability of future U.S. elderly populations. Longitudinal health and functional data from a representative sample of U.S. elders in the NIA-NCHS Longitudinal Study of Aging ($N = 7541$) will be used to: 1) assess the potencies of hypothesized predictors of cumulative functional ability by constructing gender-specific mathematical models of four-year probabilities of transition (between levels of functional ability) and the following covariates: age, morbidity, physical impairment, activity level and health beliefs; 2) assess the relation between functional ability and subsequent mortality by constructing race- and gender-specific mathematical models of six-year mortality and the following covariates: age and functional ability.

The results of 1) and 2) will then be used to simulate the number of functionally dependent U.S. elders that can be anticipated during the years 1994-2044 under a range of assumptions about future prevalences of four risk factors for functional dependency and death: morbidity, physical impairment, inactivity, and health beliefs. The results of these studies will assist in targeting for modification the most potent predictors of functional ability in the elderly. The simulations will also guide the development of effective policies and plans for the care of the dependent elderly of the future.

Key Terms: Function, Gender, Population simulation, Prediction

Dates: 07/01/90 - 06/30/95

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 1

Related Research Publications:

Boulton, C.E. (in press). “The Effect of Life Style on Subsequent Well-Being during Old Age: A Research Frontier for Family Medicine.” *Family Practice Research Journal*.

Project Number 013

Joseph M. Keenan

“Minnesota Early Post Stroke Home Care Program”

A protocol was developed as part of an intervention employed in the early rehabilitation of stroke patients in their homes, post hospitalization. It is designed for use by the family or lay caregiver, thus not requiring extensive training for mastery.

The protocol makes use of basic supportive nursing care and therapies to achieve the following: nutritional support, prevention of contractures, presentation of skin integrity, bowel and bladder management and support for optimal emotional adjustment.

During both a pre-discharge session and a subsequent home visit, the nurse-researcher assesses the patient's physical and mental status, patient's and family's knowledge and understanding of deficits, and their ability to perform the simple therapeutic and maintenance procedures contained in the protocol. The nurse further instructs the patient and family in these procedures. A second post-discharge home visit is made to perform final physical and mental status assessments of the patient and ascertain the caregiver's perception of burden.

The intervention is designed to prevent complications and preserve functional potential in the patient by providing continuing assessment, teaching and support to the patient and family during a crucial period following hospitalization.

Key Terms: Assessment, Family caregiver, Home care, Informal care, Post-acute care, Stroke

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 014

Daniel F. Detzner

“Natural History of Family Caregiving for Alzheimer’s Patients”

This project addresses questions about the nature, quality, and meaning of caregiving for a family member with Alzheimer’s disease. Annual videotaped interviews with an initial sample of 50 families involved in caregiving over a five-year period provide a unique archive of family interaction data. Secondary analysis of videotapes from Boss’s National Institute on Aging grant using a case study approach reveals the natural evolution of family caregiving through the stages of the disease course. We hope to broaden the theoretical discourse on long-term care by framing home care/institutionalization decisions within the context of the larger family system.

This study builds on emerging research on public policy and service delivery issues confronting an aging society. Additional knowledge about the nature and meaning of family caregiving for frail elderly; long-term care decision-making; and the social supports needed by different family caregiving types at various stages of the Alzheimer’s disease course will assist those involved in policy-making and those responsible for interventions to consider the caregiving situation as a dynamic family issue.

Key Terms: Alzheimer’s disease, Disease progression, Family caregiver, Family stress, Home care, Long-term care, Policy, Service delivery

Dates: 07/01/88 - 06/30/92

Funding Source: Waller Research Fund; Agricultural Experimental Station, University of Minnesota

Number of Graduates Working with Project: 2

Number of Undergraduates Working with Project: 1

Project Number 015

Daniel F. Detzner

“Southeast Asian Refugee Families with Elders”

This project is designed to answer questions about the normative development and intergenerational and gender role problems confronting Southeast Asian refugee families. The centerpiece of the investigation are family histories of 40 elderly refugees (age 55 and over) living in the Twin Cities metropolitan area of Minnesota. The interviews will be conducted with Vietnamese, Cambodian, Hmong, and Laotian refugees (ten from each group). The interviews will reveal the changes, stresses, and the differential adaptation strategies occurring within the family systems of this unique group of new migrants. A second set of semi-structured interviews seeks middle generation (age 18-55) refugee perspectives on family issues. A third set of interviews with key informants working with and for Southeast Asian refugees will provide a third perspective on issues confronting refugee families.

This project has implications for policy makers and service providers who are seeking solutions to the multiple problems confronting the largest group of legal refugees seeking asylum in the United States during the past 15 years. Theoretically the study seeks to test the validity of life history methods and the utility of family systems and development theory as construct for cross-cultural research with refugee populations.

Key Terms: Family, Gender, Intergenerational, Refugee, Southeast Asian

Dates: 07/01/88 - 06/30/91

Funding Source: Agricultural Experiment Station and Graduate School, University of Minnesota

Number of Graduates Working with Project: 3

Number of Undergraduates Working with Project: 8

Project Number 016

Daniel F. Detzner and Marlene Stum

“The Oak Ridge Manor Fire: Individual, Family and Community Responses”

This case study focuses on elderly, family, and community recovery from the loss by fire of a low-income senior housing facility for 109 residents in Hastings, Minnesota. Hill's ABCX family stress model serves as the guiding framework to explore the impact of the event and characteristics of the elderly residents; resources (formal and informal, social, financial, and health); and perceptions of the event and resources (displacement decision-making, adequacy of assistance, meaning of possessions) on housing; and on economic and emotional recovery. The elderly residents, their family members, and community persons who responded to the crisis will be surveyed and/or interviewed to gather data. Policymakers and persons in social services, family life education, and housing will benefit from a better understanding of displacement recovery and independent living decision making of the frail elderly.

Key Terms: Crisis, Family stress, Housing, Low income, Independent living

Dates: 01/01/89 - 05/31/90

Funding Source: Agricultural Experiment Station, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 017

Marlene Stum

“Aging-in-Place: A Situational Analysis”

This study examined dimensions of quality which influence responses to the phenomenon of aging-in-place in subsidized housing for the independent elderly. On-site managers (160) in Wisconsin responded to a written survey exploring responses to aging-in-place residents. Palmore's Facts on Aging Quiz was used to evaluate managers' aging knowledge and to identify misconceptions about aging. Results suggest a lack of policies and procedures about independent living; a need for training of managers in critical skill areas and in aging; liability concerns; and limited services for the elderly in rural areas. Implications for elderly consumers include concerns about safety and a lack of information and choice when selecting independent living facilities. Insight into the characteristics of managers, knowledge needed for the position, training content, and delivery methods are gained.

Key Terms: Aging-in-place, Housing, Independent living, Quality of care

Dates: 09/01/88 - 06/01/89

Funding Source: Agricultural Experiment Station, University of Minnesota

Related Research Publications:

Stum, M. (1989). “Aging-in-Place. Are Responses in the Best Interest of Elderly Consumers?” *American Council on Consumer Interest Conference Proceedings*.

Project Number 018

Marlene Stum

“Long-Term Care: A Risk Protection Perspective”

A risk management conceptual framework is developed as a tool for understanding long-term care as a potential health risk that can impact a family's financial security. The risks of long-term care are identified, the potential financial impact reviewed, and current options available for reducing the financial risk presented. Implications of the framework for educating the elderly, families, policymakers and others are discussed.

Key Terms: Financial security, Long-term care, Risk protection

Dates: 09/01/88 - 08/01/89

Funding Source: Agricultural Experiment Station, University of Minnesota

Related Research Publications:

Stum, M. (1989). “Financing Long-Term Care: A Risk Management Perceptive.” *AHEA Pre-Conference: Families in Transition. Proceedings*.

Project Number 019

Marlene Stum

“Low Income Elderly and HMOs: Enrollment Decisions, Satisfaction, and Understanding”

Low income elderly enrollees ($N = 472$) in a Wisconsin HMO subsidy project were surveyed as a case study of HMO enrollment decisions, satisfaction, and understanding. Decisions to enroll were influenced by financial incentives provided by the HMO and the financial subsidy. An overwhelming majority (86.4%) were satisfied with their HMO coverage, especially the lack of paperwork. Over two-thirds appeared to understand the major differences in HMO and fee-for-service health care. Improvement is needed in helping consumers understand HMOs' relationship to the Medicare system and other supplements.

Key Terms: Fee-for-service, HMOs, Low income, Medicare, Pre-paid health care

Dates: 09/01/89 - 08/31/90

Funding Source: Agricultural Experiment Station, University of Minnesota

Related Research Publications:

Stum, M. (1989). “Low Income Elderly and HMOs: Enrollment, Satisfaction, and Understanding.” *American Council on Consumer Interest Conference Proceedings*.

Stum, M. (in press). “Elderly Consumers in the Health Care Marketplace.” *Advancing the Consumer Interest*.

Project Number 020

Marlene Stum

“Quality of Care: Family Roles and Perceptions”

The purpose of this qualitative pilot study is to explore the dynamic interactions of families and nursing homes as a means to further understand quality of life and care of institutionalized elderly. Personal interviews with family members representing 30 residents will be conducted to gain an understanding of how family members perceive their roles, expectations, and interactions in relation to quality of life and care. The Minnesota Contextual Content Analysis computer program will be utilized to identify and contrast context and meanings in this exploratory inquiry of families and quality of nursing home care. Such an analysis will provide the basis for further research and the development of hypotheses and frameworks for understanding the dynamics of interactions of family and quality of life in an institutional care setting.

Key Terms: Content analysis, Family role, Nursing home, Quality of care

Dates: 09/01/88 - 06/01/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs; Agricultural Experiment Station, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 021

Shirley Zimmerman

“Norms For Governing Intergenerational Distribution of Resources”

What should be the normative bases for the distribution of resources between older and younger generations? This was the question asked of 689 family professionals in 23 states via a mail survey consisting of 41 attitudinal items. States were selected on the basis of the political cultures they represented; participants were randomly selected within states. Included were 50 family professionals from Minnesota; a randomly selected group of Minnesota professionals identified with the field of the aging also was selected for comparison purposes with the group of Minnesota family professionals. Data were analyzed via factor analysis and multiple regression analysis. Need was the primary distributive norm identified for both children and the elderly; investment was identified as a distributive norm for the allocation of resources for the education of children, but not for the allocation of more resources for long-term care needs of the elderly and day care for children. The fact that they thought that government shares with families responsibility for meeting the needs of both the elderly and children was unrelated to their strong positive expressions of family solidarity. Respondents' political preference and states' political culture were the variables that mattered most in terms of attitudes. Sex and marital status had only selective influence. Not showing any influence were income, educational attainment level, family size, presence of parents and/or step-parents and in-laws, quality of family relationships, or family health status. For the two Minnesota groups, what mattered most in terms of respondents' attitudes was their political preference, not their identification with the field of aging.

Key Terms: Distribution of resources, Intergenerational, Justice, Norms

Dates: 07/01/88 - 09/05/89

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs; Agricultural Experiment Station, University of Minnesota

Number of Graduates Working with Project: 2

Related Research Publications:

Zimmerman, S.L. (in press). "Attitudes About Intergenerational Distributive Justice: Implications for Family Policy." *International Journal of Sociology and Social Policy, Special Issue on Family Policy*.

Project Number 022

Elaine Asp and Mary Darling

“Home-Delivered Meals”

Meals provided by a home-delivered meal program with the same supplier were evaluated for five consecutive days in each of six years. The evaluations compared meals to federal guidelines for meal pattern, serving size, temperature of food, and quality. Meal pattern and serving size guidelines were not always met. The nutrient content of the meals contributed 50 to 60 percent of many of the nutrients for some of the 27 participants. Recall of nutrition-related vocabulary was poor.

Key Terms: Home delivered meals, Food quality, Food safety, Nutrient Content

Dates: 02/01/78 - 01/01/87

Funding Source: Southeast Minneapolis Home Delivered Meals Program

Number of Graduates Working with Project: 3

Number of Undergraduates Working with Project: 3

Related Research Publications:

Asp, E.H. (1988). “Home Delivered Meals: Food Quality, Nutrient Content and Characteristics of Recipients.” *Journal of the American Dietetic Association*, 88 (Jan), 55-59.

Project Number 023

Robert E. Yahnke and Richard M. Eastman

“Aging in Literature: A Reader’s Guide”

“Aging in Literature: A Reader’s Guide” is planned for library readers’ advisors, for gerontology centers wishing to include a humanities segment, and for teachers of literature. It will comprise about 150 critical commentaries on novels, stories, poems, plays, and literary nonfiction which illuminate the aging process. Commentaries will average 300 words, a much larger scale than provided by most annotated bibliographies. Topical indices will be included.

Key Terms: Bibliography, Literature

Dates: 03/01/88 - 02/28/90

Funding Source: American Library Association

Related Research Publications:

Yahnke, Robert E. (1988). *The Great Circle of Life: A Resource Guide to Films on Aging*. Owing Mills, MD: National Health Publishing.

Project Number 024

Robert E. Yahnke and Andrea Nevins

“Audiovisuals: Brief Bibliography”

This bibliography provides more than 20 annotations of educational films and videos on topics related to gerontological education. The bibliography is intended to provide an introduction to pertinent audiovisuals for academics and health care professionals who are new to the study of gerontology. It is one of a series of “Brief Bibliographies” sponsored by the Association for Gerontology in Higher Education (AGHE).

Key Terms: Audiovisual, Bibliography, Film, Videotape

Dates: 01/01/89 - 04/01/89

Funding Source: Association for Gerontology in Higher Education

Related Research Publications:

Yahnke, R.E., and Eastman, R.M. (1989). “Literature: Brief Bibliography.” Washington, D.C.: Association for Gerontology in Higher Education.

Project Number 025

Karen Chia-Yu Liu and Sandra K. Allaire

“Study of Feasibility of an Intergenerational Care Center in Southern Minnesota”

The study included written surveys and site visits to senior centers, nursing homes and intergenerational centers in rural southern Minnesota. Results of the study revealed some of the potential benefits and difficulties of establishing intergenerational day care centers in rural areas. The study also served to enhance University of Minnesota, Waseca's Services for the Rural Elderly and Child Care programs' intergenerational emphasis and offerings.

Key Terms: Day care, Intergenerational, Rural, Senior centers

Location of Research: University of Minnesota Technical College at Waseca, Waseca, Minnesota

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 026

Celia Hales-Mabry

“Library and Information Service to the Older Adult: An Interdisciplinary Approach”

This project will explore how to optimize library and information service to the older adult: first, by analyzing survey research that studied how informational needs should be met; and second, by analyzing psychological, sociological, economic, and biological conditions of the aged that influence such service.

Key Terms: Library services

Dates: 06/01/90 - 08/31/90

Project Number 027

Dennis A. Ahlburg and James W. Vaupel

“Projections of the U.S. Population under Alternative Fertility, Mortality and Migration Assumptions”

The hypothesis of this study is that the U.S. Bureau of the Census projections of the United States population are too conservative. The impact on population size and age distribution of alternative possible assumptions about fertility, mortality, and migration are investigated. Under these realistic assumptions the United States population could be 50 to 200 million larger in 2080 than projected by the Bureau of the Census and if significant progress continues to be made against mortality the percentage of the population over 85 years could be three times that projected by the Bureau. The dramatic increases in dependency ratios and possibly in dependency costs of these alternative projections are staggering.

Key Terms: Demographic trends, Mortality rates, Population simulation, Prediction

Dates: 07/01/88 - 06/30/91

Funding Source: Alfred P. Sloan Foundation

Number of Graduates Working with Project: 1

Project Number 028

Chad Boulton and James W. Vaupel

“Dependency Implications of Future Demographic Trends”

This project will explore the implications of future demographic trends for the sizes of future dependent elderly populations. Probabilities of transition between four functional levels will be determined for the U.S. population over 69 years of age. Based on three sets of assumptions about future changes in these transition probabilities, the sizes of resulting dependent elderly populations will be simulated five to 50 years later. Data will derive from the Longitudinal Study of Aging, a six-year National Center for Health Statistics prospective cohort study ($N = 5151$) of functional transitions among the U.S. elderly. Cox regression and maximum likelihood estimation techniques will be used to determine transition probabilities. Dependent population size simulations will be conducted via dynamic compartment model programming. The transition probabilities and population size simulations produced by the project will enhance scientific vision and planning for future dependent elderly populations.

Key Terms: Demographic trends, Population simulation, Prediction

Dates: 07/01/88 - 06/30/91

Funding Source: Alfred P. Sloan Foundation

Number of Graduates Working with Project: 1

Related Research Publications:

Boulton C.E. (in press). “The Effect of Life Style on Subsequent Well-Being During Old Age: A Research Frontier for Family Medicine.” *Family Practice Research Journal*.

Project Number 029

Nancy N. Eustis and Lucy Rose Fischer

“The Quality of Relationships Between Home Care Clients and Workers”

This pilot study explores the nature and quality of relationships between home care clients and their workers, and the extent to which clients manage their own care. Fifty-four physically disabled adults and their paid home care workers were interviewed in summer 1988. Follow-up data were collected by questionnaire or phone eight months later.

Data analysis focuses on client-worker relationships and client care management by comparing clients under 65 vs. those 65 and over; urban vs. rural home care clients and workers; and agency-employed vs. workers hired directly.

Key Terms: Client/worker relationships, Home care, Home care providers, Rural

Dates: 07/01/89 - 06/30/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 2

Related Research Publications:

Fischer, L.R., and Eustis, N.N. (1989). “Relationships Between Home Care Workers and Their Clients in Rural Minnesota.” Unpublished report to the Blandin Foundation.

Project Number 030

Dianne G. Goodwin and James W. Vaupel

“Trends in the Segregation of Elderly by County in Minnesota”

How evenly is the elderly population of Minnesota mixed with the younger population? How has the evenness changed from 1930 to 1980 and how is it projected to change to 2010? These questions are investigated at two levels of resolution: on a county by county basis and by separating out cities over 25,000 people. Analyses were conducted by using a summary statistic known as the havehalf. In addition, the counties and cities making up the extremes in the data sets were examined.

Generally, less segregation was found than anticipated. Segregation has increased from 1930 to 1980 for the distribution of those aged 65 and over living among those under 65 and is projected to decrease again to the year 2010. The trend has also shown an increase in the concentration of elderly living among those under 20.

Future research directions might include an analysis of 1990 Census data. For an analyst interested in local segregation, finer divisions, such as census tracts, could be examined. An examination of the national trend would prove most fruitful. Are the elderly concentrated in the southern states such as Florida, for example, and what are the policy implications of age segregation at the state level? In addition to extending the data sets, investigating the data assumptions and/or changing the resolution of the analysis, a cartographer could enhance this investigation with a map illustrating, in three colors or varying dot densities, the differences in elderly concentrations among the counties of Minnesota.

Key Terms: Age segregation, Demographic trends, Population concentration

Dates: 07/01/86 - 06/30/87

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Related Research Publications:

Goodwin, D.G., and Vaupel, J.W. (1985). *Concentration Curves and Have-Statistics for the Ecological Analysis of Diversity: Parts I, II, III*. Working Papers 1985: 72, 90, 91. Laxenburg, Austria: International Institute for Applied Systems Analysis.

Project Number 031

James W. Vaupel

“Oldest-Old Mortality: Demographic Models and Analyses”

How long will we live? The major biomedical uncertainty in forecasting life expectancy in the middle term from, say, twenty to eighty years from now arises from an unsettled controversy concerning: 1) whether genetic factors limit human life expectancy to perhaps 85 years or so; or 2) whether progress can be made in reducing mortality rates at all ages, including advanced ages, such that life expectancy can increase to a century or more.

The central aim of this program project is to address this controversy by compiling and analyzing reliable data, by refining and developing appropriate statistical methods for this substantive research, and by systematically structuring the controversy and integrating the research results.

The data sets to be assembled, meticulously verified, published and archived in four projects pertain to: 1) Sweden and the United States; 2) Danish twins; 3) one million Mediterranean fruit flies raised under stringently controlled conditions; and 4) 50,000 *Drosophila* in ten inbred lines. These data sets have been carefully chosen to supply the information on mortality rates over age and time and within and across genotypes that is needed to address the life-expectancy controversy.

The data sets will be analyzed in the four projects by using lifetable methods and by using parametric survival models estimated by maximum likelihood methods. The analysis will focus on whether there is a genetically-determined senescent component of the force of mortality at older ages that cannot be reduced by environmental changes or medical advances. It is the hypothesized existence of senescent mortality that is thought to limit human life expectancy. Some related research on oldest-old mortality is also proposed in the four projects, including research on male/female differentials and on the impact of debilitation vs. mortality selection.

Key Terms: Danish, Genetic factors, Demographic trends, Mortality rates, Norwegian

Dates: 12/01/89 - 11/30/93

Funding Source: National Institutes of Health/National Institute on Aging

Project Number 032

Dennis A. Ahlburg

“Participation In and Returns To Retraining of Older Displaced Workers”

Workers were surveyed at the time of the closing of their manufacturing plant and 3 months later. At the time of the plant closing, 50% of workers expected wages to fall. Older workers were more pessimistic than young workers. Only 20% of workers took retraining and almost all were 30-39 years of age. Only 10% of those over 50 elected to take retraining. Sixty percent of workers 30 or under found jobs within 3 months while only 25% of those 50 and over and 9% of those 60 and over were reemployed. Thirty percent of those 50 and over retired. Before the layoff average pay was \$12 per hour. For those who found employment, 45% of those 40 and over were earning less than \$5 per hour compared to 11% for those 30 or younger. It seems that older workers are less likely to take retraining after layoff and are less likely to find reemployment. Those who do find another job are more likely than younger workers to receive low wages.

Key Terms: Displaced workers, Job retraining

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 033

James J. O'Leary and Helen M. Hallgren

"Mechanisms of Depressed Immune Function in Aging Man"

The focus of this project is on determining the molecular and cellular alterations that lead to decreased in vitro proliferation of T-cells from older subjects to mitogenic lectins and antibodies. Most of this decrease is due to diminished induction of synthesis of gene products required for entry into the cell cycle during the prereplicative interval, but early cytoplasmic activators of these genes are not altered in older subjects. The hypothesis is that decreased expression of nitrogen activated gene products is due to a specific defect in events at the nuclear level required for expression of newly synthesized gene products. We will: 1) determine by Northern Blot analysis that reduced abundance of mRNA for mitogen activated gene products is responsible for diminished synthesis of these proteins in old T-cells; 2) determine the mechanisms responsible for reduced mRNA induction by investigating transcriptional activation of specific genes, mRNA half-life and mRNA processing mechanisms; and 3) determine the effect of aging on transport of proteins required for DNA replication.

Key Terms: Immune function, mRNA synthesis, Protein synthesis, T-cell

Dates: 04/01/89 - 03/31/92

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 2

Related Research Publications:

Faassen, A., O'Leary, J., Rodysill, K., Bergh, N., and Hallgren, K.H. (in press). "Diminished Heat-Shock Protein Synthesis Following Mitogen Stimulation of Lymphocytes from Aged Donors." *Experimental Cell Research*.

Hallgren, H., Bergh, N., Rodysill, K., and O'Leary, J. (1988). "Lymphocyte Proliferative Response to PHA and Anti-CD3/Ti Monoclonal Antibodies, T-Cell Surface Marker Expression, and Serum II-2 Receptor Levels as Biomarkers of Age and Health." *Mechanisms of Aging and Development*, 43, 175.

O'Leary, J., Bergh, N., Rodysill, K., Fox, R., and Hallgren, H. (1988). "Expression of the Human T-Cell Antigen Receptor Complex in Advanced Age." *Mechanisms of Aging and Development*, 45, 239.

O'Leary, J., Lustyik, G. and Hallgren, H.M. (in press). "Diminished Human T-Cell Responsiveness In Vitro as a Consequence of In Vivo Cellular Aging." *Proceedings of the Weiner Symposium for Experimental Gerontology*.

Project Number 034

Arthur G. Johnson

“Adjuvant Action of a Non-toxic Monophosphoryl Lipid A”

Key Terms: AIDS, Adjuvant, Immune, Lipid A

Location of Research: Duluth School of Medicine, University of Minnesota, Duluth

Dates: 09/01/88 - 08/31/89

Funding Source: National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health

Related Research Publications:

Tomai, M.A. et al. (1987). “Adjuvant Properties of a Non-Toxic Monophosphoryl Lipid A in Hyporesponsive and Aging Mice.” *Journal of Biological Response Modifiers*, 6, 99-107.

Project Number 035

Arthur G. Johnson

“Immune Responses of Aging Virgin versus Aging Breeder Mice”

Key Terms: Adjuvant, Immunodeficient hormones, T-cell

Location of Research: Duluth School of Medicine, University of Minnesota, Duluth

Dates: 08/01/88 - 07/31/89

Number of Graduates Working with Project: 3

Number of Undergraduates Working with Project: 1

Related Research Publications:

Tomai, M.A., and Johnson, A.G. (in press). “T-Cell and Interferon Involvement in the Adjuvant Action of a Detoxified Endotoxin.” *Journal of Biological Response Modifiers*.

Project Number 036

Robert B. Breitenbucher

“The Effect of Nutritional Deficiency on Immune Function in Elderly Nursing Home Patients”

Thirteen elderly nursing home residents (mean age 79.5 years) considered to be malnourished were evaluated for nutritional status and for various in vitro cellular immune functions. The participants were underweight (less than 90 percent of ideal body weight), and many were functionally impaired. Individuals on medications or with illnesses known to be immunosuppressive were excluded from the study, although one subject had non-insulin dependent diabetes mellitus. Nine healthy volunteers, mean age 33.7 years (range 24-42) served as controls. The 13 subjects had anthropometric measurements consistent with nutritional deficiency, but only four had laboratory values fulfilling the criteria of nutritional deficiency used in this study. The anthropometric measurements did not predict either protein deficiency or immune impairment. Low serum transferrin levels in the elderly did not correlate with T-cell dysfunction or impaired NK-cell cytotoxicity. The clinical relevance of an abnormal result at one point in time for nutritional status and immune function remains unclear.

Key Terms: Immune function, Nursing home residents, Nutritional deficiency, T-cell

Location of Research: Hennepin County Medical Center and Extended Care Nursing Home Program of Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 07/01/85 - 06/30/86

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Related Research Publications:

Tsukayama, D., Breitenbucher, R., Steinberg, S., Allen, J., Nelson, R., Gekker, G., Keane, W., and Peterson, P. (1986). “Polymorphonuclear Leukocyte, T-Lymphocyte, and Natural Killer Cell Activities in Elderly Nursing Home Residents.” *European Journal of Clinical Microbiology*, 5, 468-472.

Project Number 037

George C. Haidet

“Effects of Aging and Exercise On Cardiovascular Function”

The overall aim of this research is to further investigate age-related alterations in the cardiovascular and skeletal muscle systems. Specific questions addressed include: 1) Do functional alterations occur in the myocardium with advanced age? 2) Do significant changes occur in the peripheral circulation during the aging process? 3) Do age-related changes occur in the metabolic potential of skeletal muscle? 4) Do alterations in the adrenergic and sympathoadrenal systems during aging affect vascular tone and compliance? 5) How does aging affect the cardiovascular responses to static exercise?

This work is expected to show that age-related changes in cardiac function, as well as changes in peripheral vascular and skeletal muscle structure and function, each contribute to the reduction in functional capacity that occurs with advanced age.

Key Terms: Adrenergic function, Cardiovascular, Hemodynamics, Regional blood flow, Skeletal muscle

Location of Research: Variety Club Research Center, Minneapolis, Minnesota

Dates: 07/01/84 - 06/30/91

Funding Source: National Heart, Lung, and Blood Institute; National Institutes of Health

Related Research Publications:

Haidet, G.C. (1986). “Aging and the Heart.” *Houston Heart Bulletin*, 6(1), 1-9.

Haidet, G.C. (in press). “Dynamic Exercise in Senescent Beagles: Oxygen Consumption and Hemodynamic Responses.” *American Journal of Physiology*, 257: Heart and Circulatory Physiology, 26.

Parsons, D.B. and Haidet, G.C. (in press). “Age-Related Histochemical, Biochemical, and Morphometric Changes in Skeletal Muscle of Beagles.” *Circulation*.

Pawelczyk, R.A., Haidet, G.C., Sinclair, R.J., Kutsy, P., and Raven, P.B. (1989). “Adrenergic Receptor Function of Senescent Beagle Brachial Arteries.” *Medicine and Science in Sports and Exercise*, 21, 556.

Project Number 038

John Mach, Jr.

“Serum Anticholinergic Activity in Patients with Delirium”

Key Terms: Anticholinergic, Delirium

Location of Research: Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 01/01/89 - 12/31/89

Funding Source: Minnesota Medical Foundation

Project Number 039

Edward R. Ratner and Judith Garrard

“Prediction of Outcomes of Nursing Home Care: Issues in Model Development”

There is increasing interest in the outcomes of nursing home care, given concerns about the quality and cost of that care. The purpose of this study was to develop the methodology needed to produce models which can predict the outcomes of nursing home care. Two outcomes were examined, hospitalizations and discharges to the community within one year, for a cohort of new admissions to 32 nursing homes ($N = 137$). For each outcome, an optimal definition of “dependency” for each activity of daily living was chosen, and appropriate sets of activities were combined into a functional score. A functional score using dependence in transferring and walking, and incontinence was highly predictive for hospitalization within one year of nursing home admission. A functional score including dependence in morning care (dressing or grooming), eating, mobility, and incontinence was similarly predictive of discharge to the community. Each of the variables contributed significantly to the models ($p < 0.05$). This process and these models for outcomes of nursing home care, which vary definitions of dependence between the different outcomes examined, can be used to help choose and target interventions to improve nursing home care. They also may be helpful in the development of case-mix systems for quality assurance and program evaluation in nursing homes.

Key Terms: Discharge, Hospitalization, Nursing home, Prediction

Location of Research: St. Paul Ramsey Medical Center, St. Paul, Minnesota

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 040

Ashley Haase

“Activation of Genes in the Aging Brain and in Scrapie”

Key Terms: Dementia, Scrapie

Dates: 12/01/86 - 11/30/91

Funding Source: National Institute of Neurological and Communicative Disorders and Stroke (NINCDS), National Institutes of Health

Project Number 041

Diane Damerow

“The Multi-Purpose Senior Citizen’s Center Model As Applied to Rural Southern Minnesota”

The purpose of this paper was to investigate the relationship between the services provided at rural senior citizen centers/clubs in Freeborn County, Minnesota, and the services recommended in the Multipurpose Senior Citizen Center model in six major service categories: recreation, health and nutrition, education, counseling, information and referral/community resources, and community and volunteer services.

Part I studied what services were being provided at the centers/clubs. Data were collected from senior-service providers and presidents of the rural centers/clubs via personal interviews and questionnaires. It was hypothesized that the services provided at the rural senior centers/clubs did not match the services implied by the Multipurpose Senior Citizen Center model.

Part II studied what services were desired by members at their senior centers/clubs; data were collected via a needs assessment survey. It was hypothesized that services desired by members of rural centers/clubs did not match the services recommended by the Multipurpose Senior Citizen Center model.

Both hypotheses were accepted.

Key Terms: Needs assessment, Rural, Senior centers, Service delivery

Location of Research: Freeborn County, Minnesota

Dates: 06/01/88 - 12/31/88

Project Number 042

Judith Gustafson

“Issues and Needs of Elderly in Renville County”

The Minnesota Extension Service, through the Renville County Extension Service, conducted a survey of adults aged 65 and older ($N = 30$) to ascertain their interests concerning educational opportunities and volunteer activities. The survey results were summarized with results from two other Minnesota counties (Meeker and Kandiyohi). See “Educational Interests, Attitudes and Volunteer Experiences of Older Adults (in Three Counties of Minnesota),” Project No. 43.

Key Terms: Educational needs, Needs assessment, Volunteer experience

Dates: 09/01/88 - 03/01/89

Project Number 043

Susan S. Meyers

**“Educational Interests, Attitudes and Volunteer Experiences of Older Adults
(in Three Counties of Minnesota)”**

A sample of 108 adults aged 65 and older were surveyed by volunteers in three Minnesota counties (Meeker, Kandiyohi and Renville) for the Minnesota Extension Service. The study was designed to pilot test questions regarding education and learning among older adults. Most respondents were married (53%) or widowed (38%) with a significantly smaller number who have never married (6.5%) or were divorced (3%). The sample consisted of 22% males and 78% females.

Findings reveal that the majority (85%) reported that they did not require assistance in daily tasks. On educational activities, 48% of the total sample reported some limitations in their ability to be involved and cited specific limitations, for example, transportation, distance to the activity, illness of spouse, or lack of money or time or interest. Educational backgrounds were varied with approximately 25% having attended college, a trade school, or graduated from college. High school graduates totalled 27% of the sample, and an additional 2% had obtained a GED.

Approximately 47% of the respondents reported some volunteer activity. Overwhelmingly, church was the most frequently cited organization for volunteer activity, followed by senior citizen organizations, civic clubs, human service organizations, hospitals/schools, and Extension homestudy/4-H.

Key Terms: Educational needs, Needs assessment, Volunteer experience

Dates: 09/01/88 - 03/01/89

Project Number 044

Brenda Ebbitt and James A. Mortimer

“An Adapted Work Program for Persons With Mild to Moderate Dementia”

Individuals in the early stages of Alzheimer's disease frequently lack appropriate activities and community services. Day care programs are often inappropriate or unacceptable to mildly impaired persons. A one-year pilot research study is being conducted to investigate the feasibility and therapeutic effects of a supervised work program for outpatients with mild to moderate Alzheimer's disease. Paid work experiences adapted to the participants' current level of functioning are provided in a sheltered workshop setting three half-days a week. Twelve patients and 12 control subjects (matched for age and stage of dementia) are currently enrolled in the study. Individuals selected for participation have mild to moderate cognitive impairment consistent with Global Deterioration Scale stages 3, 4, and early 5. Participants and controls are evaluated at entry and regular intervals to assess depression, self-esteem, and cognitive and functional status. Caregivers complete evaluations of patient behavior and mood, as well as self-rated depression and burden. Appropriate work tasks and work behavior will also be studied.

Key Terms: Alzheimer's disease, Dementia, Sheltered workshop, Work program

Location of Research: Geriatric Research, Education and Clinical Center, Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 01/01/89 - 12/31/89

Funding Source: Alzheimer's Disease and Related Disorders Association (ADRDA)

Number of Graduates Working with Project: 1

Related Research Publications:

Burns, T.A., and Buell, J. (in press). "The Effectiveness of Work Programming with an Alzheimer's Population." *Occupational Therapy*.

Ebbitt, B.J., Burns, J.A., and Christensen, R. (1989). "Work Therapy: Intervention for Community-Based Alzheimer's Patients." *American Journal of Alzheimer's Care and Related Disorders and Research*, 4, 7-15.

Project Number 045

David Knopman and Thomas Mackenzie

“A Trial of Suloctidil in Patients with Dementia”

Key Terms: Alzheimer's disease, Dementia, Drugs, Suloctidil

Dates: 02/15/85 - 02/15/86

Funding Source: Oxford Research International Corporation

Project Number 046

James A. Mortimer

"Clinicopathological Study of Parkinson's Disease"

One hundred and fifty patients with idiopathic Parkinson's disease as well as smaller numbers of patients with Alzheimer's disease and normal elderly are being followed prospectively to characterize the course of intellectual, motor and affective impairments before death. Brains of patients dying during the study are obtained for detailed histological investigations to determine the correlates of specific types of impairment. Clinicopathological studies conducted to date demonstrate that: 1) dementia occurring in Parkinson's disease is not due to co-existing Alzheimer's disease; 2) areas of the brain associated with learning (e.g., the hippocampus) are unaffected in Parkinson's disease, despite learning difficulties in the same patients; 3) Parkinson patients show profound cell loss and damage in sub-cortical nuclei, with milder cell loss in the cerebral cortex; and 4) the nature of the memory disorder in Parkinson's disease is very different from that which occurs in both Alzheimer's disease and normal aging.

Key Terms: Alzheimer's disease, Cognition, Memory, Parkinson's disease, Pathology

Location of Research: Geriatric Research, Education and Clinical Center (GRECC), Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 10/01/88 - 09/30/90

Funding Source: Veterans Administration Merit Review

Related Research Publications:

Chui, H.C., Mortimer, J.A., Slager, U., Zarow, C., Bondareff, W., and Webster, D.D. (1986). "Pathological Correlates of Dementia in Parkinson's Disease." *Archives of Neurology*, 43, 991-995.

Mortimer, J.A. (1988). "The Dementia of Parkinson's Disease." *Clinics in Geriatric Medicine*, 4, 785-797.

Mortimer, J.A. (1988). "Human Motor Behavior and Aging." *Annals of the New York Academy of Sciences*, 515, 54-66.

Mortimer, J.A., Jun, S.P., Kuskowski, M.A., and Webster, D.D. (1987). "Subtypes of Parkinson's Disease Defined by Intellectual Impairment." *Journal of Neural Transmission*, 24, 101-104.

Mortimer, J.A., Warrior, A.S., Kuskowski, M.A., Jun, S.P., and Webster, D.D. (1989). "Verbal Memory Disorder in Parkinson's Disease." *Journal of Clinical and Experimental Neuropsychology*, 11, 96-97.

Mortimer, J.A. et al. (1989). "Prospective Clinicopathologic Study of Parkinson's Disease." *Neurology*, 39 (Supplement 1), 220.

Project Number 047

James A. Mortimer

“Consortium for Establishing an Alzheimer’s Disease Registry”

This is a 20-center cooperative study initially funded by the National Institute on Aging in 1986, to develop optimal instruments and methods for the diagnosis of Alzheimer’s disease and to follow the progression of the disease over time. The 20 centers participating in the program represent the leading institutes working in the area of Alzheimer’s disease in the United States. Analysis of data obtained thus far on 500 patients and 300 controls demonstrate very high test-retest reliability of the measures being used to diagnose and evaluate Alzheimer patients. In addition to clinical and neuropsychological evaluations, new protocols for radiological and neuropathological assessment are being tested.

Key Terms: Alzheimer’s disease, Assessment, CERAD, Diagnosis, Disease progression, Neuropsychology

Location of Research: Geriatric Research, Education and Clinical Center (GRECC), Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 09/01/86 - 08/31/94

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 1

Related Research Publications:

Morris, J.A., LaBarge, E., and Mortimer, J.A. (1988). “CERAD Clinical and Neuropsychological Assessment of Alzheimer’s Disease—A Preliminary Report of Standardized Procedures and Reliability.” *Neurology*, 38 (Supplement 1), 287.

Morris, J.C., Mortimer, J.A. et al. (in press). “The Consortium to Establish a Registry for Alzheimer’s Disease (CERAD) Part I: Clinical and Neuropsychological Assessment of Alzheimer’s Disease.” *Neurology*.

Mortimer, J.A. (in press). “Lessons from the National Institute on Aging’s Alzheimer’s Disease Patient Registries in Planning Registries for Dementing Disorders.” *Alzheimer Disease and Associated Disorders*.

Radebaugh, T.S., Khachaturian, Z.S., and Mortimer, J.A., eds. (in press). “Methods and Problems in the Development of Large Area Registries for Dementing Diseases.” *Alzheimer Disease and Associated Disorders. Special Issue*.

Project Number 048

James A. Mortimer

“Longitudinal Study of Dementing Illness”

This five-year longitudinal study of 80 patients with clinically-diagnosed Alzheimer's disease has as its principal objectives identification of clinical subtypes of the disease and characterization of predictors of progression. Recent findings include: 1) demonstration that the rate of progression of mental impairment in Parkinson's and Alzheimer's disease differs by a factor of 4; 2) the finding that Alzheimer patients are much less depressed than Parkinson patients, comparably disabled; 3) the finding that caregiver-reported depression in Alzheimer patients is unreliable and reflects more the affective status of the caregiver rather than that of the patient; 4) the demonstration that some, but not all, behavioral problems increase with progression of the disease and that age of the patient is a predictor of the constellation of behavioral problems that occur.

Key Terms: Alzheimer's disease, Behavior, Depression, Disease progression, Parkinson's disease

Location of Research: Geriatric Research, Education and Clinical Center (GRECC), Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 04/01/85 - 03/31/90

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 1

Related Research Publications:

Mortimer, J.A., Ebbitt, B., Boss, P., Duffy, L., and Zarit, S. (1988). “Behavioral Problems in Alzheimer's Disease.” *Gerontologist*, 28, 16A.

Pirozzolo, F.J., Nolan, B.H., Kuskowski, M., Mortimer, J.A., and Maletta, G.J. (1988). “Latency and Accuracy of Word Recognition in Dementia of the Alzheimer Type.” *Alzheimer Disease and Associated Disorders*, 2, 337-341.

Project Number 049

Sue K. Donaldson

“Research Center for Long-Term Care of the Elderly”

The Research Center for Long-Term Care of the Elderly is designed to optimize health with an emphasis on autonomy and independent function within the context of various caregiving systems. The Research Center supports a core administrative structure as well as small interdisciplinary pilot study units directed by researchers in the School of Nursing. A major component of the core administrative structure is the establishment of a data management and analysis core. Pilot study units are conducted with the common specific aim of acquiring the data necessary for justifying extramural grant proposals related to long-term care of the elderly. These units address issues central to long-term care of the elderly such as alcoholism, physical/behavioral factors related to falling, hospital discharge planning, and formal versus informal caregiving.

Key Terms: Discharge planning, Family caregiver, Informal care, Long-term care

Dates: 10/01/89 - 09/30/92

Funding Source: National Center for Nursing Research (NCHR), National Institutes of Health

Project Number 050

Bernadine Feldman

“Evaluation Study: Block Nurse Program Replication”

Key Terms: Block Nurses, Home care, Nurses

Location of Research: St. Paul, Minnesota; Atwater, Minnesota

Dates: 01/01/88 - 12/31/90

Funding Source: Kellogg Foundation

Number of Graduates Working with Project: 2

Project Number 051

Muriel B. Ryden

“Aggressive Behavior in Cognitively Impaired Nursing Home Residents ”

Empirical data about the nature, frequency of occurrence, and context of aggressive behavior in cognitively impaired nursing home residents is needed as a basis for developing effective strategies to prevent and manage behavioral problems. Lanza's theoretical model of aggression was used to study aggressive behavior in a sample of 124 residents on units for the cognitively impaired in four nursing homes (two non-profit and two proprietary). Written consent of families/guardians resulted in an 80% response rate. Aggressive behavior was measured using the Ryden Aggressive Scale Form 2 (RAS2), which has three sub-scales: Physical, Verbal, and Sexual Aggression. Cognitive impairment was measured with the Short Portable Mental Status Questionnaire. After training in the use of the RAS2, caregivers on each shift documented the presence or absence of each aggressive behavior on the scale for a seven-day period. In addition, they recorded location, time, events immediately preceding, and response to the behavior. Some form of aggression was reported in 66%, physical in 51%, verbal in 48%, and sexual in 4%. Hitting, hostile language, cursing, pushing, and slapping were most frequently reported. Men had higher RAS scores than women on all scales (n.s.). ANOVA showed no significant difference in mean aggression scores among facilities nor among neuropsychiatric diagnostic groups. Mental status scores showed 79% to be severely impaired. Neither degree of cognitive impairment nor extent of physical dependency was associated with aggression. Psychotropic drugs were administered to 68.5%, with t tests showing residents receiving such drugs had significantly higher mean RAS scores than those not receiving such drugs. The majority of incidents of aggression involved response to touch or invasion of personal space. Less than 2% had no apparent stimulus. The highest incidence occurred during 7-3 shift. The findings have implications for prevention and/or reduction in aggressive behavior by the manner in which hands-on personal care is given.

Key Terms: Aggression, Cognitively impaired, Nursing home residents, Psychotropic drugs

Dates: 07/01/86 - 12/31/87

Funding Source: Alzheimer's Disease and Related Disorders Association (ADRDA)

Number of Graduates Working with Project: 1

Number of Undergraduates Working with Project: 6

Related Research Publications:

Ryden, M.B. (1989). "Aggressive Behavior in Persons With Dementia Who Live in the Community." *Alzheimer Disease and Associated Disorders*, 2 (4), 342-355.

Project Number 052

Muriel B. Ryden

“Nursing Intervention to Prevent/Reduce Aggressive Behavior in Cognitively Impaired Nursing Home Residents”

Key Terms: Aggression, Cognitively impaired, Nursing home residents

Dates: 07/01/89 - 06/30/90

Funding Source: Alzheimer's Disease and Related Disorders Association (ADRDA)

Number of Undergraduates Working with Project: 1

Project Number 053

Mariah Snyder

“Predictability of Post-Hospitalization Self-Care Management”

Shortened hospitalizations resulting from DRG legislation have raised questions regarding many patients' abilities to care for themselves at home following dismissal. This study explored the extent to which a 37 item assessment guide on self-care abilities developed by the investigators for use by staff nurses would predict post-hospitalization use of health care services. After receiving instructions, nine staff nurses on three units at a large midwestern medical center used the assessment guide to determine the self-care abilities of 47 patients. The most frequent medical diagnoses were musculoskeletal conditions (34%), cardiac conditions (27.7%), and cancer (8.5%), while the most frequent nursing diagnoses were knowledge deficit (21.3%), comfort problems (19.1%), and mobility problems (17%). Cognitive deficits were found in 50% of the subjects. Telephone interviews to determine use of health care services were done one, two, and three months following dismissal. Multiple regression analyses revealed that sensory-perceptual deficits contributed a significant amount to predicting making clinic visits. However, no other findings were significant. A comparison was made between 11 subjects being dismissed to nursing homes and the 47 subjects dismissed home. Subjects dismissed to nursing homes had more deficits in the motor area (50%) than those going home (10%). Revisions in the assessment guide and in the methods used for obtaining followup data are being made. Additional testing of the assessment guide will be carried out.

Key Terms: Assessment guide, Discharge planning, Hospitalization, Post-acute care, Self-care

Location of Research: Minneapolis Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 2

Number of Undergraduates Working with Project: 6

Project Number 054

Ruth Lindquist and Cynthia Gross

“A Noninvasive Scale for Assessing Early Stages of Dehydration”

See “Prospective Determination of Non-Invasive Clinical Correlates of Dehydration in Hospitalized Elderly,” Project No. 55.

Key Terms: Assessment, Dehydration, Diagnosis

Location of Research: St. Paul Ramsey Medical Center, St. Paul, Minnesota

Dates: 01/01/88 - 12/31/89

Funding Source: Retirement Research Foundation

Number of Graduates Working with Project: 4

Number of Undergraduates Working with Project: 1

Project Number 055

Ruth Lindquist and Cynthia Gross

“Prospective Determination of Non-Invasive Clinical Correlates of Dehydration in Hospitalized Elderly”

Decreased thirst and diminished renal function contribute to dehydration in the elderly, as do risk factors such as chronic disease and medications. Dehydration is a leading cause of emergency room visits and a common admission diagnosis for the elderly. Numerous signs and symptoms have been identified as indicators of dehydration, yet the reliability and validity of these indicators has never been systematically evaluated for elderly populations. The purpose of this research was to document the reliability and validity of the clinical assessment of putative signs and symptoms of dehydration in an elderly sample. Indicators of dehydration identified in literature or used in practice were studied. Trained research nurse clinicians conducted exams on 20 subjects, 65 years and older. Two independent exams were performed consecutively to assess inter-observer agreement. Percent agreement, kappa statistics and correlation coefficients were used to estimate the levels of agreement between observers. Results on individual signs ranged from good (skin turgor on sternum, $\kappa = .64, p < .01$) to poor (tongue dryness, $\kappa = .02, n.s.$). In general, global indicators such as observed confusion showed greater reliability (Kendall's $\tau = .86, p < .001$). Subjective reports of feelings of thirst and dryness were notably unreliable. Time passage between exams, hydrating interventions and patient positioning were factors found to impact reliability.

For validity assessment, an independent rating of the patients' dehydration status was made by retrospective chart review, using traditional criteria including laboratory values, history and physical findings. The validity of the clinical signs and symptoms in the study of dehydration assessment (first exam only) were evaluated by comparison to: 1) the independent traditional clinician's rating; and 2) patient age. Only confusion was related to age alone. However, only five patients were mildly ($n = 3$) or moderately ($n = 2$) dehydrated, and many of the cardinal signs of dehydration failed to significantly correlate with the clinician's "gold standard" dehydration rating. While these findings do not indicate an age-confounding effect, the lack of severely dehydrated and the small sample size prevented a more complete evaluation of validity.

As part of the expanded study, funded by the Retirement Research Foundation, the more reliable indicators will be further evaluated for validity in hospitalized, dehydrated elderly, as part of the protocol to develop a noninvasive clinical scale to assess dehydration in the elderly.

Key Terms: Assessment, Dehydration, Diagnosis

Location of Research: University of Minnesota Hospital and Clinics Emergency Room, Minneapolis, Minnesota

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 2

Project Number 056

Frank M. Lassman

“Cross-Sectional and Longitudinal Studies of Tinnitus”

Two tinnitus hypotheses are addressed through cross-sectional and longitudinal designs utilizing patients who complain of tinnitus and/or hearing loss. Tinnitus is viewed first as a symptom of disease not normally associated with the aging auditory system. Its presence demands that other possible diseases of the auditory nervous system (for example, noise-induced hearing loss) be explored.

The second hypothesis views tinnitus as a subjective experience requiring an intact segment mesial as the source of the tinnitus. Potentially, relief from tinnitus should result from the loss of hair cells and neurons with age.

The demographics of tinnitus will be described as these issues are addressed.

Key Terms: Hearing loss, Tinnitus

Dates: 01/01/89 - Ongoing

Funding Source: Departments of Otolaryngology, Communication Disorders, and Physical Medicine and Rehabilitation, University of Minnesota

Project Number 057

Susan Cooper

“Effective Utilization of Computerized Medication Profiles in a Hospital-Based Geriatric Clinic”

A pilot program was evaluated in which pharmacy generated computerized medication profiles were prominently included in patients' medical records at each visit to a geriatric clinic. The impact of the profiles on prescribing behaviors and perceived benefits to the physicians was examined.

Key Terms: Drug audit, Medication profile, Pharmacy services

Location of Research: Wilder Senior Clinic and St. Paul-Ramsey/Wilder Pharmacy, St. Paul, Minnesota

Dates: 10/01/86 - 10/01/87

Funding Source: American Society of Hospital Pharmacists

Project Number 058

Susan Cooper and John Degelau

“Evaluation of Amantadine Prophylaxis Programs for Elderly Nursing Home Residents”

The aim of this study is to contribute to the determination of the optimal method for the administration of amantadine prophylaxis of Influenza A infections in elderly nursing home residents.

Key Terms: Amantadine, Influenza, Nursing home residents

Location of Research: Ramsey Nursing Home Services Program, St. Paul, Minnesota

Dates: 12/01/88 - Ongoing

Funding Source: Ramsey Foundation

Project Number 059

Susan Cooper

“Patterns of Medication Use Among Elderly Nursing Home Residents”

Medication use data obtained from quality assurance records of new admissions to Minnesota nursing homes are being examined in an attempt to determine which if any usage patterns predate admission and which patterns appear to develop following placement. Reported utilization is being examined in conjunction with reported measures of function and demographic indicators. Specific focus is directed at psychotropic utilization.

Key Terms: Drug usage patterns, Nursing home residents, Psychotropic drugs

Dates: 01/01/88 - Ongoing

Related Research Publications:

Somani, S., and Cooper, S. (1989). “Appropriateness of Serum Drug Concentration Monitoring in the Nursing Home.” *The Consultant Pharmacist*, 4 (2), 89-93.

Project Number 060

David Guay, Cheryl Hirata, and Daniel Stein

“Pharmacokinetic Assessment of Intravenous/Intramuscular Cefepime”

Key Terms: Cefepime, Drugs, Pharmacokinetics, Urinary tract infection

Location of Research: Hennepin County Medical Center and Extended Care Nursing Home Program of Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 12/19/88 - 11/30/89

Funding Source: Bristol-Myers Company

Number of Graduates Working with Project: 1 postdoctoral fellow

Project Number 061

David Guay, Cheryl Hirata, and Daniel Stein

“Comparative Study of Cefepime 500 mg BID Versus Ceftazidime 500 mg BID in Treatment of Elderly Nursing Home Patients with Urinary Tract Infections”

Key Terms: Cefepime, Ceftazidime, Drugs, Urinary tract infection

Location of Research: Hennepin County Medical Center and Extended Care Nursing Program of Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 10/18/88 - 05/03/89

Funding Source: Bristol-Myers Company

Number of Graduates Working with Project: 1 postdoctoral fellow

Project Number 062

David Guay, Daniel Stein, and Cheryl Hirata

“Comparison of Safety and Efficacy of Lomefloxacin and Norfloxacin in Treatment of Complicated Urinary Tract Infection in Elderly Nursing Home Residents”

Key Terms: Drugs, Lomefloxacin, Norfloxacin, Urinary tract infection

Location of Research: Hennepin County Medical Center and Extended Care Nursing Home Program of Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 09/01/88 - 05/31/89

Funding Source: C.D. Searle and Company

Number of Graduates Working with Project: 1 postdoctoral fellow

Project Number 063

Mary E. O'Connell

“Clinical Accuracy of Estimated Creatinine Clearances for Drug Dosing in Elderly Patients”

See “Evaluation of Shorter Urine Collection Periods for Creatinine Measurements in Stable Hospitalized Elderly Patients,” Project No. 66.

Key Terms: Creatinine, Drugs, Renal function

Location of Research: Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 04/01/89 - 12/31/89

Funding Source: Upjohn Pharmaceuticals

Number of Undergraduates Working with Project: 1

Project Number 064

Mary E. O'Connell

“Comparison of a Bayesian Program to Least Squares to Estimate Theophylline Pharmacokinetic Parameters in Elderly Patients”

Because significant variability for theophylline disposition exists in the elderly, the USC-Pack Bayesian programs were evaluated for their clinical usefulness. Thirty-seven elderly patients with a 3-point post theophylline loading dose kinetic study were identified. Some patients had CHF (11), cirrhosis (2), smokers (16), and received drugs known to alter theophylline kinetics (6). Kinetic parameters were derived from one compartmental linear least squares regression and with the USC Bayesian program using 1 to 3 theophylline concentrations with population parameters for adults, smokers, or patients with CHF.

Least squares regression clearance did not differ among age groups (65-74, 75-84, 85 and over), smokers or CHF status. Patients with CHF had a smaller least squares calculated elimination rate than those without CHF ($p < .05$). Of the Bayesian clearance analyses the methods utilizing only 1 serum concentration points were significantly different from the least squares calculated clearance. The method using only the 1st point was significantly different from all other Bayesian and least squares methods.

The most precise Bayesian method for predicting the least squares calculated volume was the method using the 1st serum point and the 1st and 3rd serum points. For clearance predictions the most precise Bayesian methods were 2 and 3 point methods. The bias (me) tended to over-predict for clearances and underpredict for most volumes.

Key Terms: Bayesian method, Drugs, Pharmacokinetics, Theophylline

Location of Research: Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 01/01/89 - 12/31/89

Number of Graduates Working with Project: 1

Project Number 065

Mary E. O'Connell

**"The Effect of Aging in Response to Pulmonary Beta Agonist Drugs
Pharmacokinetics-Pharmacodynamic Comodeling"**

The purpose of this study is to develop a pharmacokinetic-pharmacodynamic comodel which can characterize the initial and long-term effect and development of tolerance of beta agonist drugs in young and elderly asthmatic patients and to determine if aging alters efficacy, tolerance, or the concentration-response relationship. The initial response to inhaled albuterol, a beta agonist drug, and placebo will be compared in ten young asthmatics (20-35 years old) and ten elderly asthmatics (65 years and over). The long term response and the development of tolerance will then be evaluated at the beginning and end of four months of inhaled albuterol therapy. The reversal of tolerance will be evaluated for two weeks post drug discontinuation. Study days will consist of six hours of pulmonary testing or 48 hours of pulmonary testing and serum drug concentration monitoring. Various pharmacokinetic and pharmacodynamic models will be evaluated to determine the best combined model to explain the data. If response is diminished, either larger doses will need to be used, as long as side effects do not result, or different drug classes employed to treat these diseases. The comodel should be a useful tool for future studies evaluating other significant questions relevant to treating pulmonary diseases and the impact of aging. Future projects include the effect of other pulmonary drugs and drug holidays on reversing tolerance, efficacy of various routes of drug administration, and the influence of disease severity on response.

Key Terms: Beta agonist, Drugs, Pharmacokinetics, Pharmacodynamic, Pulmonary

Location of Research: Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 10/1/89 - 09/31/90

Funding Source: American Society of Hospital Pharmacists Geriatric Fellowship Award

Number of Graduates Working with Project: 1

Project Number 066

Mary E. O'Connell

**"The Predictability of the Chiou and USC Bayesian Program to Predict
Theophylline Concentrations"**

See "Comparison of a Bayesian Program to Least Squares to Estimate Theophylline Pharmacokinetic Parameters in Elderly Patients," Project No. 64.

Key Terms: Bayesian method, Drugs, Pharmacokinetics, Theophylline

Location of Research: Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 01/01/89 - 02/28/90

Number of Undergraduates Working with Project: 1

Project Number 067

Mary E. O'Connell, R. Gustilo, D. Tsukayama, and M. Belzer

“Enoxaparin versus Heparin for Clot Prevention in Middle Age and Elderly Patients Undergoing Hip Replacement Surgery”

Enoxaparin, a low molecular weight heparin, will produce equal efficacy and less toxicity than heparin for the prevention of clot formation in patients undergoing elective hip replacement surgery. Enoxaparin is thought to have greater activity on anti-factor-Xa than on anti-factor IIa. As a result, the patient should experience greater antithrombotic activity without the same degree of anticoagulation seen with heparin. In previous studies conducted in general surgery, similar efficacy and toxicity to heparin was observed. Similar results were seen in urological surgery patients. Various doses have been evaluated in orthopedic patients. Forty to 60 mg daily had less bleeding than 30 mg bid. Forty mg qd versus 20 mg bid were equally efficacious and well tolerated. Compared to heparin in orthopedic patients, enoxaparin had a smaller incidence of clot formation and adverse reactions. In elderly patients undergoing femor surgery, 40 mg qd or 20 mg bid were equally effective and tolerated. This study will compare 40 mg qd enoxaparin, 30 mg bid enoxaparin and 5000 units q8 heparin in patients undergoing elective hip replacement surgery. The patients will undergo an extensive workup prior to enrollment into the study including bilateral ultrasound of the lower extremities. They will be randomly assigned to one of the treatment groups, will be examined daily and undergo laboratory analysis daily. At the middle and end of drug treatment, bilateral ultrasound of the low extremities will be repeated. At the conclusion of the study, the patients will also undergo a bilateral venography. Within two weeks after the study drug has been discontinued, the patient will return to the clinic for a physical evaluation and complete blood and urine analysis.

Key Terms: Clot prevention, Drugs, Enoxaparin, Heparin, Hip replacement

Location of Research: Metropolitan-Mt. Sinai Medical Center, Minneapolis, Minnesota

Dates: 09/01/89 - 02/28/90

Funding Source: Rhone Poulenc Pharmaceuticals

Number of Graduates Working with Project: 1

Project Number 068

David Guay and Phillip Peterson**“Pharmacokinetic Assessment of Ciprofloxacin”**

The pharmacokinetics of oral ciprofloxacin were evaluated in 20 elderly patients with serious respiratory tract or musculoskeletal infections after single and multiple dose regimens of 750 mg of drug every 12 hours. The single dose phase evaluations were performed on day 1 of therapy ($n = 20$) while the multiple dose phase evaluations were performed at the end of therapy ($n = 11$). Serum and urine ciprofloxacin concentrations were determined using high-performance liquid chromatography. Peak serum concentration (C_{max}), terminal elimination half-life ($t_{1/2\beta}$), apparent total body clearance (CL/f) and apparent volume of distribution (Vd/f) were 6.58 ± 2.88 mg/l, 4.99 ± 1.79 h, 6.69 ± 3.73 ml/kg/min, and 2.87 ± 1.86 l/kg, respectively, during the single dose phase. Only the Vd/f increased significantly during the multiple dose phase (4.40 ± 3.32 vs. 2.71 ± 1.53 l/kg, $p = 0.047$). Although C_{max} increased and CL/f decreased markedly after multiple doses (8.83 ± 2.79 vs. 6.65 ± 2.28 mg/l, $p = 0.057$ and 5.61 ± 2.53 vs. 6.53 ± 3.03 ml/kg/min, $p = 0.074$, respectively), these changes were not statistically significant. The results of this study are consistent with those previously derived from single dose studies in healthy and mildly-ill elderly subjects, but are markedly different from previous observations in young adult volunteers. Thus, acute illness does not significantly alter the pharmacokinetics of ciprofloxacin in the elderly suggesting that dosage adjustments based on the presence of acute illness do not appear warranted. However, it is recommended that elderly patients receive modest doses of ciprofloxacin administered at intervals of no less than 12 hours in order to maintain therapeutic efficacy while reducing drug accumulation with its potential risk of augmenting drug toxicity.

Key Terms: Ciprofloxacin, Drugs, Pharmacokinetics, Respiratory infection

Location of Research: Hennepin County Medical Center and Extended Care Nursing Home Program of Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 08/01/85 - 07/31/87

Funding Source: Miles Pharmaceuticals, Inc.

Related Research Publications:

Guay, D.R.P., Awni, W.M., Peterson, P.K., Obaid, S., Stein, D., Breitenbucher, R., and Matzke, G.R. (1988). "Single and Multiple Dose Pharmacokinetics of Oral Ciprofloxacin in Elderly Patients." *International Journal of Pharmacology, Therapy and Toxicology*, 26 (6), 279-284.

Guay, D.R.P., Awni, W.M., Peterson, P.K., Obaid, S., Stein, D., Breitenbucher, R., and Matzke, G.R. (1987). "Pharmacokinetics of Ciprofloxacin in Acutely Ill and Convalescent Elderly Patients." *The American Journal of Medicine*, 82, Supplement 4A (April 27), 124-129.

Project Number 069

David Guay and Phillip Peterson

“Prospective, Controlled, Non-Blind Parallel Randomized Study Comparing Efficacy, Safety and Pharmacokinetics of Ciprofloxacin (Intravenous/Oral) Versus Certrioxone (Intravenous/Intramuscular) in Treatment of Elderly Nursing Home Patients with Acute Lower Respiratory Tract Infections”

Key Terms: Certrioxone, Ciprofloxacin, Drugs, Respiratory infection

Location of Research: Hennepin County Medical Center and Extended Care Nursing Home Program of the Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 12/14/87 - 12/31/89

Funding Source: Miles Pharmaceuticals, Inc.

Number of Graduates Working with Project: 1 postdoctoral fellow

Project Number 070

Mary E. O’Connell, Patrick Irvine, and S. Bannick-Mohrland

“Evaluation of Shorter Urine Collection Periods for Creatinine Measurements in Stable Hospitalized Elderly Patients”

Aging is associated with decreased renal function. Decreased renal function alters the doses of medications. To determine the correct drug doses for patients with decreased renal function, knowledge of a patient’s renal function is necessary. Since renal function is seldom measured, estimated creatinine clearance is calculated to reflect the patient’s underlying kidney function. Due to decreased muscle mass and glomerular filtration rate, estimated creatinine clearances may not accurately reflect the renal function; however, the estimate may still correctly classify the patient’s renal function into the appropriate renal drug dosing category. The purpose of this study is to verify the accuracy of estimated creatinine clearance equations for drug dosing considerations. Seventy-five hospitalized elderly patients will have a 24-hour measured creatinine clearance determined via an in-dwelling catheter. Three serum creatinines will be obtained over 3-5 days. Anthropometric measurements will be conducted to determine better ways to estimate lean body weight. The true measurement of renal function will be compared to the values derived from various equations to estimate creatinine clearance and the clinical accuracy of these equations determined. The relationship between creatinine clearance and anthropometric measurements will also be evaluated.

Key Terms: Creatinine, Drugs, Renal function

Location of Research: Hennepin County Medical Center, Minneapolis, Minnesota

Dates: 04/01/89 - 12/31/89

Funding Source: Upjohn Pharmaceuticals

Number of Undergraduates Working with Project: 1

Project Number 071

Caroline R. Weiss

“A Culinary Project to Facilitate Reminiscence in a Long-Term Care Facility”

Students were assigned to 14 individual residents to facilitate food-related reminiscence. The six-week program included preparation of personal culinary reminiscence books, oversized recipes, creative culinary projects, a test kitchen and culminating celebration. Students collected data to ascertain differences between working with cognitively impaired and unimpaired residents.

Key Terms: Nursing home, Reminiscence, Therapeutic recreation

Location of Research: Maranatha Care Center, Brooklyn Center, Minnesota

Dates: 02/01/89 - 08/31/89

Number of Graduates Working with Project: 2

Number of Undergraduates Working with Project: 12

Project Number 072

Caroline R. Weiss

“Evaluation of an Age-Integrated Therapeutic Recreation Hydro-Cal-Aerobics Program in a Community Education Setting”

Queried were 88 female participants (90.7%) of a community-based age-integrated water exercise program designed to enhance comfort and social interaction. Affective measures, such as motivation to enroll and to continue, as well as viewing the membership as a support group, elicited few differences by age. Members endorsed having adults of all ages in classes and there was little indication that subgroups of different ages formed spontaneously.

Key Terms: Age differences, Age integration, Exercise, Motivation, Social support, Women

Location of Research: Hopkins/Minnetonka Community Education Center, Hopkins, Minnesota

Dates: 05/01/85 - 08/01/86

Related Research Publications:

Weiss, C., and Jamieson, N. (1987). “Affective Aspects of an Age-integrated Water Exercise Program.” *The Gerontologist*, 27 (4), 430-433.

Weiss, C., and Jamieson, N. (1988). “Hidden Disabilities: A New Enterprise for Therapeutic Recreation.” *Therapeutic Recreation Journal*, 22 (4), 9-17.

Weiss, C., and Jamieson, N. (1989). “Women, Subjective Depression, and Water Exercise.” *Health Care for Women International*, 10, 75-88.

Project Number 073

Caroline R. Weiss

“An Experimental Study of a Training Program to Enhance Family Members’ Ability to Facilitate Reminiscing with Older Disoriented Relatives in a Long-Term Care Facility”

The purpose of this study was to ascertain the impact of a training program to enable family members to enhance interaction and facilitate reminiscing with their disoriented relatives in a long-term care facility. This entailed the preparation of a curriculum and training manual. Recreation students completed a 10-hour seminar on dementia, memory, reminiscence, family and adult learners. Twelve family members of confused nursing home residents were randomly assigned to an experimental and control group. Later the control group was also added to the experiment. Students conducted one ensemble and two individual training sessions with relatives. Pre- and post-tests of knowledge, skill and satisfaction were administered. Two-tailed ordinary t-tests indicated mostly significant differences in a positive direction between the experimental and control group for knowledge, skill, and satisfaction. Two-tailed paired t-tests for both experimental groups were also mostly significant in a positive direction for all three areas. The results strongly suggest that the training program was perceived by the family members as helpful to them. Student evaluations of these experiences in the project were also highly positive.

Key Terms: Dementia, Family, Nursing home residents, Reminiscence

Location of Research: Maranatha Care Center, Brooklyn Center, Minnesota

Dates: 07/01/87 - 06/30/88

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 6

Number of Undergraduates Working with Project: 7

Related Research Publications:

Weiss, C. (1988). “Manual: Training Relatives to Facilitate Reminiscing with Confused Elderly Residents.” Unpublished manuscript.

Weiss, C., narrator. (1988). *Reminiscence: A Family Affair*. Videotape. Minneapolis: University of Minnesota.

Weiss, C. (1989). “An Experimental Study of a Training Program to Enhance Family Members’ Ability to Facilitate Reminiscing with Older Disoriented Relatives in a Long-term Care Facility. [Summary].” *Proceedings of the Sixth Annual Therapeutic Recreation Research Colloquium*, 6, 32-35.

Weiss, C., and Thurn, J. (1989). “Effects of a Training Program to Enhance Family Members Ability to Facilitate Reminiscing with Older Disoriented Relatives in a Long-term Care Facility.” Manuscript submitted for publication.

Project Number 074

Caroline R. Weiss

“A Mapping Project to Facilitate Reminiscence of Older Disoriented Residents of a Long-term Care Facility”

Compounding the multiple losses of mild to moderately disoriented nursing home residents may be the loss of a sense of connection to the important places of their lives. This may inhibit reminiscence and, in turn, life review. The use of a map for finding one's place was explored with fifteen residents experiencing some disorientation. Volunteers worked with residents on a series of map-related projects designed to encourage reminiscence. Residents' responses to the projects and volunteers, elicitation of reminiscing, identification of facilitative behavior, achievement of care plan goals and production of projects are discussed. The findings were generally positive, indicating that the program might be beneficial to residents of other long-term care facilities. Recommendations for improving the program have been offered.

Key Terms: Dementia, Long-term care, Maps, Reminiscence

Location of Research: Maranatha Care Center, Brooklyn Center, Minnesota

Dates: 10/01/85 - 06/01/86

Number of Graduates Working with Project: 1

Number of Undergraduates Working with Project: 10

Related Research Publications:

Weiss, C., and Thurn, J. (1987). "Mapping: A Mind-raising Experience." *Proceedings of the Eighth Annual Meeting of the North American Cartography Society.*

Weiss, C., and Thurn, J. (1987). "Mapping: A Mind-Raising Experience [Summary]." *Proceedings of the Annual Convention of the American Library Association.*

Weiss, C., and Thurn, J. (1987). "A Mapping Project to Facilitate Reminiscence in a Long-term Care Facility." *Therapeutic Recreation Journal*, 20 (2), 46-53.

Project Number 075

Caroline R. Weiss

“Training Family Council Members to Relate and Reminisce with Elderly Disoriented Residents in Long-Term Care Facilities”

The purpose of this study was to replicate an earlier study to ascertain the impact of a training program to enable family members to enhance interaction and facilitate reminiscing with their disoriented relatives in a long-term care facility. The present study included family council members from four long-term care facilities. In general, the same positive between groups differences and pre- and post-tests differences were obtained as had been found in the original study. Additionally, the replicated study included two experimental groups—one receiving the usual live orientation from the students, the other, a videotaped performance. There were few significant differences resulting from these treatments, suggesting that the taped orientation might be a viable substitute.

Key Terms: Dementia, Family, Nursing home residents, Reminiscence

Dates: 07/01/88 - 05/31/89

Funding Source: School of Physical Education and Recreation, University of Minnesota

Number of Graduates Working with Project: 9

Number of Undergraduates Working with Project: 6

Project Number 076

Louis R. Amundsen

“Physical Performance Assessment Model: Lower Extremity Strength of Post-Poliomyelitis Patients”

The goal of this project was to initiate the standardization of a physical performance assessment system for the functionally impaired elderly. The immediate purpose of this project was to test the reliability of selected physical assessments of patients demonstrating late effects of polio. Twenty ambulatory subjects (ten males and ten females) between the ages of 50 and 64 from a clinic for polio survivors volunteered for the study. Each patient was screened to eliminate significant medical problems other than the late effects of polio. The ability to step up onto and off of a 4, 8, 12, and 16 inch platform was used to rate functional lower extremity strength. In addition, subjects were tested for isometric strength (peak torque, fatigued index, and rate of rise of torque) of knee extensor muscles and ankle plantar and dorsi-flexor muscles. A recently patented system (SIMS) developed by the Rehabilitation Engineering Center of the University of Minnesota was used for strength testing. All isometric muscle strength tests were repeated after two weeks and data were analyzed for test retest reliability. Peak torque was highly reliable for all muscle groups (intraclass correlation coefficients for peak torque ranged from 0.89 to 0.97). Even though the fatigue index and the rate of rise of torque appeared to be sensitive indices of impaired performance, these phenomena were not consistent from session to session. Subjects with low scores on the functional strength test (platform stepping) demonstrated weakness on the isometric strength tests. This combination of functional strength testing followed by computer controlled isometric strength testing when indicated was demonstrated to be feasible and practical for testing polio survivors. Further development of functional strength tests is likely to yield an optimal screening test for elderly subjects at the early stage of developing functional impairment.

Key Terms: Assessment, Muscle strength, Poliomyelitis

Dates: 07/01/88 - 06/30/89

Funding Source: All University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Related Research Publications:

Amundsen L., DeVahl J., and Ellingham, C. (1989). “Evaluation of a Group Exercise Program for the Elderly.” *Physical Therapy*, 69 (June).

Project Number 077

Thomas Mackenzie

“Depression in Alzheimer’s Disease ”

Family raters diagnosed depression in Alzheimer relatives four times as often as the patients themselves. The rates were 50% and 13% respectively. This finding points to the difficulty of using patient and family data interchangeably.

Key Terms: Alzheimer’s disease, Depression

Location of Research: University of Minnesota Hospital

Dates: 09/01/87 - 03/31/88

Related Research Publications:

Mackenzie, T.B., Robiner, W.N., and Knopman, D.S. (1989). “Depression in Alzheimer’s Disease: Comparison of Patient and Family Data.” *American Journal of Psychiatry*, (Sept).

Project Number 078

Gabe J. Maletta

“Clinical Research Center for Management of Dementia”

The purpose of the program project is to study three areas related to effective management of dementia: 1) the courses and pathogenesis of dementing illness in the elderly; 2) methods for evaluating both short- and long-term effects of pharmacologic interventions; and 3) the impact of dementia on families and on family structures. Patients are followed longitudinally with clinical, psychological, and physiological interventions. An autopsy program allows for detailed quantitative pathological studies.

Key Terms: Alzheimer’s disease, Behavior, Dementia, Family, Pathology

Location of Research: Veterans Administration Medical Center, Minneapolis, Minnesota

Dates: 04/01/86 - 03/31/91

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 4

Number of Undergraduates Working with Project: 2

Project Number 079

Katherine Benson

“Cross-Cultural Analysis of Autobiographical Memories of the Elderly in Three Populations: Rural and Urban Minnesotans, Japanese and Japanese-Americans, and Native Americans of the Standing Rock Sioux Reservation”

Three experiments will be conducted of autobiographical memories in adults aged 60 and over. The purpose is to examine the effect of cultural stereotypes of the aged on the “reminiscence phenomenon,” which is the tendency for older adults to recall a disproportionately large number of autobiographical memories from their youth. Does the negative stereotyping of the aged in U.S. culture contribute to the tendency to reminisce about one’s youth? Study 1 will compare 60 urban and 60 rural white older Minnesotans to see if the more traditional rural setting mitigates the preference for memories of youth. Study 2 will compare the urban Minnesotans from Study 1 to 60 Japanese and 60 Japanese-American urban, older adults because Japanese culture has neutral views of the value of the aged, although there is a heightened cultural awareness of the significance of aging and “seasons,” generally speaking. Study 3 will compare 60 Native American rural, older adults to the rural Minnesotans from Study 1 to see if the highly valued status of the aged in Native American culture will mitigate even further the tendency to recall autobiographical memories of youth. In addition, the types of events recalled for all of the older adults in the three studies will be examined for cultural differences in emphasis, e.g., community events vs. memories of everyday life vs. “marker” events like births and marriages, etc. Solely urban samples of Japanese and solely rural samples of Native Americans have been selected arbitrarily because of the ease of access to subjects by the undergraduates who are collaborating on the research.

Key Terms: Cross-cultural, Japanese, Native American, Reminiscence

Location of Research: University of Minnesota, Morris

Dates: 07/01/89 - 06/30/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 080

Thomas J. Bouchard, Jr.

“A Longitudinal Study of Adult Twins Reared Apart”

The study involves a comprehensive psychological and medical follow-up assessment of 24-to-75-year-old identical and fraternal twins, who were reared apart since early in life, reunited in adulthood, and studied by this research team over the last 9 years. The long-term objectives of the study are: 1) to evaluate the genetic and environmental factors that influence changes associated with age, and 2) to explore possible genotype-environment interactions in the determination of important psychological traits. The initial psychological assessment battery was designed to provide comprehensive measures of important psychological traits and environment constructs in seven major domains. Specific psychological traits were selected within each domain because their assessment in this sample would contribute to the resolution of major theoretical controversies, or because they were of intrinsic theoretical interest. Sufficient measures were selected within each domain to permit comprehensive sampling. Such a sample will allow us to contrast changes with age, both within and across domains. In addition, almost every psychological construct is assessed with more than one test in order to provide truly reliable measures. The major domains of measurement are: 1) intelligence; 2) special mental abilities and information processing skills; 3) personality; 4) leisure time activities, attitudes and opinions; 5) psychomotor skills; 6) psychophysiological responsiveness; and 7) job satisfaction, work history and vocational interests. In order to provide adequate environmental assessment, we selected and/or developed a comprehensive set of instruments based on previous theory and empirical successes.

Key Terms: Genetic factors, Personality, Psychological assessment, Twins

Location of Research: Department of Psychology, Elliott Hall

Dates: 12/31/87 - Ongoing

Funding Source: Seaver Foundation

Number of Graduates Working with Project: 2

Number of Undergraduates Working with Project: 2

Project Number 081

Jo-Ida C. Hansen

“An Investigation for Older Adults of the Effect of Leisure on Psychological Well-Being and the Relationship Between Vocational and Leisure Interest”

This research has grown out of the demonstrated importance of leisure in the life of the older adult and the relationship between leisure and vocational interests. For members of the aging population, the elements of these two domains become increasingly salient due to additional discretionary time following retirement. The purpose of this research project is twofold. First the relationship between vocational and leisure interests of older adults and vocational and leisure activities will be explored further. Second, the relationship between leisure and other life variables and the psychological well-being of older adults will be examined. In addition to increasing knowledge in these domains, this research has practical implications for assisting the older adult in identifying leisure interests and activities which may contribute to overall life satisfaction.

The study will involve the collection of leisure and vocational interest data, activity data, and variables related to life satisfaction and psychological well-being. Initially, subjects will include volunteer participants from the University of Minnesota Class of '39 and from the University of Minnesota Retirees' Association. Eventually, the goal is to expand data collection to a more heterogeneous sample of older adults. Survey research methodology emphasizing existing measures of dependent variables will be employed for data collection, and methods of multivariate analyses (e.g., multiple regression, ANOVA, multivariate profile analyses) will be used to identify predictor variables that contribute to life satisfaction and psychological well-being.

The significance of the study is reflected in two expected general outcomes. First, to fully understand the role leisure plays in psychological well-being, the construct of leisure must be explored in the context of other variables known to have an impact on mental health and life satisfaction. Thus, the influence of leisure interests and activities and other life variables (those that have appeared relevant in the literature) will be studied. Second, the relationship between leisure and vocational interests will be studied to begin to develop a theory of leisure interests, analogous to theories of vocational interests, and to empirically identify the structure of the world of leisure interests vis-a-vis the world of work for older adults.

Key Terms: Leisure interests, Life satisfaction, Mental health, Vocational interests, Well-being

Dates: 07/01/88 - 06/30/89

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 082

Matthew K. McGue and Betsy A. Hirsch

“Minnesota Twin Study of Adult Development”

A cross-sectional twin study of 500 pairs of same-sexed twins with equal numbers of monozygotic (MZ) and dizygotic (DZ) and equal numbers of male and female twins in three age groups; early adulthood (100 pairs aged 25 to 35 years), middle adulthood (100 pairs aged 40 to 55 years), and late adulthood (300 pairs aged 60 years and older) will be undertaken to determine: 1) the extent to which genetic and environmental factors contribute to the significant observed variability among the elderly; and 2) whether the importance of genetic factors decreases, and the importance of environmental factors increases, with age. Participants are identified from birth records maintained by the State of Minnesota and their current status determined using public records. Once contacted, twins will be asked to participate in a 6-hour in-home assessment of selected psychological, medical, and biological variables previously implicated in the normal aging process. The major dependent variables include cognitive functioning; personality and leisure-time interests; simple and choice reaction time; and physical markers of aging such as pulmonary functioning, fasting glucose, glucose tolerance, grip strength and blood pressure. In addition, blood will be drawn on 40% of the sample and levels of DNA damage and DNA repair capability evaluated including characterization of G-banded chromosomal breaks and rearrangements; baseline and mutagen induced sister chromatid exchange (SCE) rates; measures of DNA repair including UDS and O⁶ methyl-transferase; and point mutation rates at the HPRT and Glycophorin A loci. The in-home assessment also includes a detailed structured interview aimed at measuring those environmental/lifestyle factors hypothesized as relevant to the aging process including measures of diet, physical activity, intellectual activity, social activity, and environmental exposure to mutagens.

The continuation of the project will allow expansion upon several significant findings including an increase of stable chromosomal rearrangements with age; an increase in induced but not baseline SCE rates with age; significant heritability for many of the assessed measures; a preliminary observation that heritability declines with age; and significant within person and cross-twin correlations between lifestyle factors and psychological functioning. In particular, data from the project will be analyzed to identify cross-sectional age differences in DNA damage and repair capability; estimate the proportion of phenotypic variance due to genetic and environmental factors and determine whether these variance components vary with age; and identify the role played by specific environmental/lifestyle factors such as metagen exposure in the case of DNA damage and intellectual activity in the case of cognitive functioning.

Key Terms: Environmental factors, Genetic factors, Psychological assessment, Twins

Dates: 07/01/86 - 06/30/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota; National Institute of Aging

Project Number 083

Jeanne E. Bader

“Age-Related Assumptions and Expectations in Research Universities”

As of January 1, 1994, colleges and universities will be prohibited by federal law from retiring tenured faculty on the basis of chronological age alone. Therefore, personnel policies such as retirement plans and benefit packages, performance evaluation strategies, and professional development opportunities are being reexamined, generally on an institution-by-institution basis. Clearly, academic policies and procedures are likely to be affected by faculty and staff beliefs and expectations regarding the relative assets and liabilities of “youth” and “seniority.” This research is an attempt to identify those beliefs and to bring them forward for discussion.

Age-related expectations in research universities in states that have already uncapped their academic mandatory retirement policies will be compared to those in states that have not yet uncapped. Administrators and four faculty groups will be surveyed: recent emeriti, near retirement, recently tenured, and tenure track.

Key Terms: Faculty, Policy, Retirement age, Uncapping

Dates: 07/01/89 - 06/30/90

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota; Fund for the Improvement of Postsecondary Education

Number of Graduates Working with Project: 2

Related Research Publications:

Bader, Jeanne E. (1988). “‘Uncapping’ in Higher Education: A Primer.” *Educational Gerontology*, 14, 481-495.

Project Number 084

Robert L. Kane

“Evaluation of Quality of Care and Cost Effectiveness Issues in the Mountain States Geriatric Nurse Practitioner Demonstration Project”

The purpose of the project was to develop a quasi-experimental study to compare the effects of a nursing home paid geriatric nurse practitioner with matched homes without such services.

Key Terms: Cost effectiveness, Demonstration project, Geriatric nurse practitioners, Nurse practitioners, Nursing home residents, Quality of care

Dates: 03/01/83 - 06/30/89

Funding Source: Robert Wood Johnson Foundation

Project Number 085

Robert L. Kane

“Home Care Quality Studies”

This study will develop methods to assess the quality of home care. It includes a study of the perceptions of the importance of different elements among various constituencies including patients and their families, care providers, regulators, payors, and officials. These differences in perceptions will be used to compose an approach to defining and measuring quality. Other activities include an examination of the current and future supply of personnel (especially aides) and barriers to attracting and retaining them. Best case examples of innovative practice will also be collected.

Key Terms: Home care, Home care providers, Home health aides, Quality of care

Dates: 10/01/89 - 04/30/93

Funding Source: Health Care Financing Administration (HCFA)

Project Number 086

Robert L. Kane

“Minnesota Area Geriatric Education Center (MAGEC)”

The overall goal of the Minnesota Area Geriatric Education Center (MAGEC) is to promote and upgrade geriatric knowledge and clinical skills among health professionals throughout the Upper Midwest. MAGEC's primary method of achieving that goal is to work collaboratively and intensively throughout an entire year (and in some cases over the course of two years) with ten or more “faculty fellows” in dentistry, medicine, nursing, pharmacy, public health, and social work. One faculty fellow is writing the results of research on home-based care for disabled individuals of all ages. In addition, six mentors from the University of Minnesota faculty serve as MAGEC project faculty. Of these, three are particularly interested in home-based care, pursuing different approaches to the issues.

Key Terms: Education center, Home care, MAGEC

Dates: 10/01/88 - 09/31/91

Funding Source: Health Resources and Services Administration, U.S. Department of Health and Human Services, Bureau of Health Professions, HRSA

Project Number 087

Robert L. Kane

“Natural History of Post-Acute Care for Medicare Patients Potentially Needing Rehabilitation Services”

The purpose of this project is to determine which Medicare beneficiaries get what kinds of post-acute care and what differences in client function and family burden and cost are associated with the different types of care. The project involves a comprehensive collection on 2,500 Medicare patients and their families (in three cities) as well as chart abstractions and Medicare services data analysis. The analytic approach complements the aftercare study by using multivariate analyses to test the effects of different forms of care once the effects of the clients themselves can be accounted for. It involves tracking patient status over time (up to 12 months), developing measures suitable for both direct interview and telephone interviews, and validating self-report data by direct observation. Both the direct learning from this experience as well as the ability to manage a complex enterprise provide evidence of the ability to undertake the present study.

Key Terms: Cost, Family, Medicare, Post-acute care, Rehabilitation services

Dates: 12/01/86 - 03/31/91

Funding Source: Health Care Financing Administration (HCFA) and Assistant Secretary for Planning and Evaluation (ASPE), U.S. Department of Health and Human Services

Number of Graduates Working with Project: 6

Number of Undergraduates Working with Project: 3

Project Number 088

Robert L. Kane

“On Lok Replication Qualitative Analysis”

This study will examine the eight sites around the country currently chartered and supported to develop replications of the On Lok model of prepaid care to the frail elderly. Because the sites differ in sponsorship and history, it will be important to see the extent to which they can capture the On Lok approach, which places heavy emphasis on team care and use of resources to minimize the use of institutions.

Key Terms: Pre-paid health care

Dates: 10/01/89 - 03/31/91

Funding Source: Health Care Financing Administration (HCFA)

Number of Graduates Working with Project: 1

Project Number 089

Robert L. Kane and Judith Garrard

“Cost Effectiveness of Geriatric Nurse Practitioners in Nursing Homes”

This study of 10,000 nursing home patients in eight states looks at the effects of a geriatric nurse practitioner to the staff.

Key Terms: Cost effectiveness, Medicaid, Nurse practitioners, Nursing home, Quality of care

Dates: 05/01/87 - 02/28/89

Funding Source: Robert Wood Johnson Foundation

Number of Graduates Working with Project: 3

Project Number 090

Robert L. Kane and Judith Garrard

“Evaluation of Quality of Care and Cost Effectiveness Issues in the Massachusetts Geriatric Nurse Practitioner Demonstration Project”

The purpose of this project was to develop a quasi-experimental study to compare the effects of using geriatric nurse practitioners (GNPs) hired by physician groups to provide primary care to nursing home patients. The sample included 6,000 patients studied in Massachusetts nursing homes.

Key Terms: Cost effectiveness, Demonstration project, Geriatric nurse practitioners, Nurse practitioners, Nursing home residents, Quality of care

Dates: 03/01/86 - 09/31/89

Funding Source: Pew Charitable Trusts

Number of Graduates Working with Project: 4

Project Number 091

David A. Snowdon and Sharon K. Ostwald

“A Human Population Model of Aging and its Relationship to Diet”

Key Terms: Diet, Mortality rates

Location of Research: School Sisters of Notre Dame Motherhouse, Mankato, Minnesota

Dates: 06/01/86 - 06/01/88

Funding Source: Biomedical Research Support Grant Program, Division of Research Resources, National Institutes of Health

Number of Graduates Working with Project: 6

Related Research Publications:

Harriman, L., Snowdon, D.A., Messer, L.B., Ostwald, S.K., Lai, C.H., and Soberay, A. (in press). “Relationship of TMJ Disorders to Selected Oral and Systemic Conditions in an Elderly Population.” *Oral Surgery, Oral Medicine, Oral Pathology*.

Snowdon, D.A., Ostwald, and S.K., and Kane, R.L. (1988). “Education and Mental and Physical Function in Elderly Catholic Sisters.” *The Gerontologist*, 28, 224A.

Snowdon, D.A., Ostwald, S.K., and Kane, R.L. (in press). “Education, Survival, and Independence in Elderly Catholic Sisters, 1986-1988.” *American Journal of Epidemiology*.

Snowdon, D.A., Ostwald, S.K., Kane, R.L., and Keenan, Nora L. (in press). “Years of Life with Good and Poor Mental and Physical Function.” *Journal of Clinical Epidemiology*.

Project Number 092

George K. Gordon

“Analysis of the 1981 Survey of Minnesota Households Regarding Long-Term Care of the Aged”

A re-analysis of data from a 1981 survey of Minnesota households was done to examine the effects of the respondents' age and household size on opinions of family caregiving and nursing home care for the disabled elderly. The responses to eight of the survey items were examined by ten-year age cohorts and by the number of people resident in the respondents' households. All of the resulting distributions were subjected to chi square analysis. All of the derived probability estimates were significant. The results demonstrate a clear age cohort effect on opinions as well as a distinct difference between households of one or two persons as compared with households of three or more persons. These effects seem to be powerful determinants of opinion quite apart from other considerations such as family history or the existence and extent of family caregiver support networks and other resources. However, demographic data were gathered in gross categories which are not amenable to other than gross analysis of the data. The findings are intriguing, nevertheless, and suggest strategies for more refined inquiry.

Key Terms: Family caregiver, Long-term care, Nursing home.

Location of Research: Minnesota

Dates: 07/01/86 - 06/30/87

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 2

Related Research Publications:

Gordon, George K. (1985). “The Social Readjustment Value of Becoming a Nursing Home Resident.” *The Gerontologist*, 25 (4), 398-402.

Project Number 093

Sharon K. Ostwald and Mila A. Aroskar

“Burden of Caregiving: Real and Opportunity Costs”

Care provided by family members or friends, vis-a-vis professionals, is a form of burden shift and likely comes at the expense of the informal caregivers. The purpose of this study is to: 1) identify the emotional, real and opportunity costs; and 2) identify the rewards experienced by caregivers who provide daily care for chronically ill elderly people. A path model is used to explain how socioeconomic, patient condition, community support systems and caregiver variables affect caregiver burden and reward.

Key Terms: Burden and reward, Family caregiver, Cost, Informal care, Real and opportunity cost

Dates: 03/01/88 - 04/30/89

Funding Source: Sigma Theta Tau, Zeta Chapter

Number of Graduates Working with Project: 2

Project Number 094

Sharon K. Ostwald

“An Outcome Study of the Movement of Clients Between the Community and Nursing Homes the First Year After Pre-Admission Screening”

Pre-admission screening has the potential for coordinating the acute and long-term aspects of the current health care system and for enhancing quality of care at reasonable costs. This project proposes to study clients who have been judged eligible for long-term care services with particular attention to the transitions that occur between community and institutions (acute and long-term) over a one-year period of time. It is hoped that variables can be identified that will predict which clients are most likely to remain in the community, which will need nursing home care, and which will be most likely to be discharged from the nursing home back into the community. This type of information is not currently available, but is important in the targeting of services and development of interventions.

Key Terms: Home care, Nursing home placement, Pre-admission screening, Residential placement

Dates: 07/01/89 - 06/30/90

Funding Source: Center for Urban and Regional Affairs, Academic Affairs Interactive Research Grant, University of Minnesota

Number of Graduates Working with Project: 4

Project Number 095

Sharon K. Ostwald

“Predictors of Client Movement During the First Year After Pre-Admission Screening”

The state-mandated Nursing Home Pre-Admission Screening Program has grown rapidly since its inception in 1983. Currently, in Hennepin County, approximately 500 clients are assessed by public health nurses and social workers every month. The purpose of this study is to compare the initial assessments of approximately 600 clients and their caregivers who are referred to the program during a six-month period. The status of clients and caregivers will be determined throughout the following year. Multiple regression analysis will be used to identify variables from the initial assessment that may predict clients who can successfully remain in their homes and those who will require nursing home placement.

Key Terms: Assessment, Family caregiver, Informal care, Nursing home admission, Pre-admission screening, Admission predictors

Dates: 01/01/89 - 12/30/90

Funding Source: Biomedical Research Support Grant Program, Division of Research Resources, National Institutes of Health

Number of Graduates Working with Project: 4

Project Number 096

Sharon K. Ostwald and David A. Snowdon

“Relationship Between Functional Status and the Elderly Woman’s Ability to Live Independently”

Physical and mental correlates of independent living were determined in 128 Catholic sisters (nuns), 75 to 94 years old, who had similar social support systems and lifestyles. Stepwise discriminant analysis indicated that timed manual skills, age, and mental status, in order of importance, explained 62% of the variance in the sisters’ residential living site (i.e., living in community, retirement home, or nursing home).

The best correlate of independent living in this study was clearly timed manual skills. This easy-to-administer, performance-based test may be a useful adjunct to physical examinations and self-reported measures in helping clinicians determine the type of residential living site most appropriate to help elderly women maintain function at the highest level.

Key Terms: Function, Independent living, Residential placement, Women

Location of Research: School Sisters of Notre Dame Motherhouse, Mankato, Minnesota

Dates: 07/01/86 - 06/30/87

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 3

Related Research Publications:

Harriman, L., Snowdon, D.A., Messer, L.B., Ostwald, S.K., Lai, C.H., and Soberay, A. (in press). “Relationship of TMJ Disorders to Selected Oral and Systemic Conditions in an Elderly Population.” *Oral Surgery, Oral Medicine, Oral Pathology*.

Ostwald, S.K., Snowdon, D.A., Rysavy, D.M., and Kane, R.L. (1989). “The Relationship Between Scores on Objective Physical and Mental Tests and Ability of Elderly Women to Function in the Two Subsequent Years.” *The Gerontologist*, 29 (Special Issue), 238A.

Ostwald, S.K., Snowdon, D.A., Rysavy, D.M., Keenan, N.L., and Kane, R.L. (1989). “Manual Dexterity as a Correlate of Dependency in the Elderly.” *Journal of American Geriatrics Society*, 37, (10).

Snowdon, D.A., Ostwald, S.K., and Kane, R.L. (1988). “Education and Mental and Physical Function in Elderly Catholic Sisters.” *The Gerontologist*, 28, 224A.

Snowdon, D.A., Ostwald, S.K., and Kane, R.L. (in press). “Education, Survival, and Independence in Elderly Catholic Sisters, 1986-1988.” *American Journal of Epidemiology*.

Snowdon, D.A., Ostwald, S.K., Kane, R.L., and Keenan, Nora L. (in press). “Years of Life with Good and Poor Mental and Physical Function.” *Journal of Clinical Epidemiology*.

Project Number 097

Thomas Choi and Robert L. Kane

“Changing Physician Prescribing Behaviors for Older Persons”

This is a randomized trial done in cooperation with Park Nicollet Medical Center in Minneapolis, Minnesota, in which physicians are randomly assigned to one of three groups. The intense treatment group has its elderly patients with heavy medication use reviewed by a clinical pharmacist and treatment recommendations made. The middle treatment group's patient records are reviewed by a computer system. The third group serves as a control. There are two sets of reviews over a year's time. The goal is to reduce the rate of medication errors and potential misuse and thus reduce hospitalizations attributable to adverse medication use.

Key Terms: Drug audit, Medication profile, Pharmacy services

Dates: 10/01/86 - 11/31/89

Funding Source: John A. Hartford Foundation

Project Number 098

Winslow Engel, Martha Joy, and Xiaodong Kong

“Inappropriate Medication Use by Elderly Medicare Recipients”

The existing literature does not permit *direct* conclusions about the extent of inappropriate medication use by elderly Medicare beneficiaries. The determination of appropriateness is subjective and fraught with difficulty. Various operational definitions of appropriateness have been used but none of these are adequate in our view.

The existing literature suggests that inappropriate medication use may be common. This *in-direct* conclusion is based primarily on evidence that overuse of medication, adverse drug reactions, drug interactions and noncompliance are common in the elderly.

Future research should be aimed at: 1) developing improved criteria for judging the appropriateness of medication use, 2) applying these criteria to a population-based sample of elderly Medicare beneficiaries, 3) improving the state of knowledge about the effects of commonly-prescribed medication in the elderly, and 4) designing interventions to reduce inappropriate medication use by the elderly. These interventions should be selective, i.e., they should not reduce appropriate medication use.

Key Terms: Drug usage-Inappropriate, Medicare

Dates: 01/01/88 - 07/31/89

Project Number 099

Judith Garrard

“Impact of Medicare Policy on Use of Nursing Homes by the Elderly”

The purpose of this study is to examine the impact of the Catastrophic Act of 1988 passed by the 100th Congress. Its impact in Minnesota on admissions of the elderly to nursing homes, the length of stay, and discharges will be studied.

Key Terms: Medicare, Nursing home

Dates: 10/01/89 - 09/30/90

Funding Source: American Association of Retired Persons

Number of Graduates Working with Project: 2

Project Number 100

Judith Garrard and Edward R. Ratner

“Predicting Equations for Outcomes of Nursing Home Admissions”

The purpose of this study was to develop statistical models for the prediction of discharge to the community of elderly persons admitted to nursing homes throughout Minnesota. See “Prediction of Outcomes of Nursing Home Care: Issues in Model Development,” Project No. 39.

Key Terms: Discharge, Nursing home, Prediction

Dates: 07/01/87 - 06/30/88

Funding Source: Biomedical Research Support Grant (BRSG), National Institutes of Health

Number of Graduates Working with Project: 1

Project Number 101

Judith Garrard

“Psychoactive Drug Use Among Nursing Home Elderly”

The purpose of this project is to examine the extent of regular and prn (pro re nata, i.e., as needed) psychoactive drug use among nursing home elderly and to examine the possibility of appropriate and inappropriate use of such drugs in terms of characteristics of nursing home residents and nursing homes. This project will use existing, secondary-source data from two previous research studies based on retrospective review of nursing home records of individuals residing in nursing homes from 1980 to 1987.

Key Terms: Drug usage-Inappropriate, Nursing home residents, Psychoactive drugs

Dates: 10/01/89 - 03/31/90

Funding Source: Health Care Financing Administration (HCFA)

Project Number 102

Judith Garrard

“Special Emphasis Career Research Award in Behavioral Geriatrics Research”

To initiate and implement interdisciplinary research of the biomedical and behavioral factors associated with discharge of nursing home patients to the community.

Key Terms: Discharge planning, Long-term care, Nursing home

Dates: 12/01/88 - 11/30/91

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 2

Project Number 103

Rosalie A. Kane, Ira Moscovice, and Gestur Davidson

“Case Management Costs: Conceptual Models and Program Descriptions”

Costs of case management in long-term health care were studied based on a sample of 51 case management programs. Five cost models were identified including: the Broker Model, the Purchase Model (using public dollars), the Capitated Model, the Insurance Model, and the Fee-for-Service model.

The following within-models determinants of case management costs were identified: availability of informal care; mix of case management services; labor costs; geographic dispersion of service/market areas; local service environment; and organizational arrangements.

The study concluded that variation in program features and costs within and between models was enormous. Comparisons of costs within/between models and programs were hampered by lack of uniform data about case management costs. Virtually no information is available linking case management process to costs as well as information on client characteristics and cost of case management. Less than half of the programs could report the cost of case management as a fraction of the cost of the services managed.

Further research should explore incentives built into programs, for example, the way the program is reimbursed for case management, the way case managers are paid, and test reimbursement and payment mechanisms that maximize the effectiveness and efficiency of the case management.

Key Terms: Case management, Cost models, Long-term care

Dates: 01/01/89 - 07/01/89

Funding Source: Health Care Financing Administration (HCFA)

Project Number 104

Rosalie A. Kane and Arthur Caplan

“Consensus Conference on Personal Autonomy for Nursing Home Residents”

Building on data collected in a larger study, 18 vignettes were prepared that illustrated complex problems regarding personal autonomy for nursing home residents. An ethicist was commissioned to prepare a short paper on each vignette. The vignettes and case commentaries formed the basis for a working meeting that included researchers, ethicists who authored the case commentaries, and paractitioners and policy makers in long-term care.

Key Terms: Autonomy, Ethics, Long-term care, Nursing home residents, Policy

Dates: 09/01/88 - 08/31/89

Funding Source: Retirement Research Foundation

Number of Graduates Working with Project: 8

Project Number 105

Rosalie A. Kane

“Evaluation of Adult Foster Care in Oregon”

In Oregon, adult foster care settings serve large numbers of people who are similar in functioning to those in nursing homes; one-third of the group are supported by a Medicaid waiver program and the rest pay privately. Adult foster care was evaluated in the following ways: 1) through a mailed census to about 1,700 licensed foster care homes in the state which collected information about the homes themselves, the residents, and the last resident discharged; 2) through direct comparative interviews with foster care residents and 400 nursing home residents in four parts of the state; 3) interviews with a sample of 110 foster care providers; and 4) secondary analysis of change over time for Medicaid foster care residents compared to Medicaid nursing home residents, using the assessments done by case managers.

Key Terms: Foster care, Long-term care, Medicaid, Nursing home residents

Dates: 10/01/88 - 03/30/89

Funding Source: State of Oregon, Department of Human Resources, Senior Services Division, with additional support from the Administration of Aging and the Southmark Foundation

Number of Graduates Working with Project: 1

Project Number 106

Rosalie A. Kane

“Long-Term Care Decisions Resource Center”

The University of Minnesota was selected to establish a National Resource Center on Long-Term Care. The Center's mandate is to do technical assistance, training, short-term research and development, and information dissemination to benefit State Units on Aging as they work towards community long-term care programs. The topical foci of Minnesota's National Decisions Center on Long-Term Care include: assessment, case management, links between acute and long-term care, preferences of older people, and ethics in long-term care.

Among the projects undertaken by the Center are: 1) review and synthesis of assessment tools in long-term care as a sequel to Kane and Kane (1981) *Assessing the Elderly*; 2) preparation of a catalogue on ethical issues in long-term care; 3) studies of adult foster care in Oregon and case management in South Carolina; and 4) a new study on ethics in case management. The Center collaborates with the Center for Biomedical Ethics and the Humphrey Institute of Public Affairs at the University of Minnesota.

Key Terms: Assessment, Case management, Decisions center, Ethics, Foster care, Long-term care, Policy, Technical assistance

Dates: 10/01/88 - 09/30/91

Funding Source: Administration on Aging

Number of Graduates Working with Project: 4

Related Research Publications:

Kane, R.R., and Kane, R.L. (1981). *Assessing the Elderly: A Practical Guide to Measurement*. Lexington, Mass.: Lexington Books.

Project Number 107

Rosalie A. Kane and Laurel Illston

“Meshing Services and Housing: The Applicability of Oregon’s Adult Foster Care and Assisted Living Programs”

Building on an earlier evaluation of adult foster care prepared for the state of Oregon, further quantitative and qualitative studies of foster care were carried out, plus a detailed case study of assisted living in Oregon with the object of determining what conditions and circumstances favored the unusual development of these housing-based care options.

Key Terms: Assisted living, Foster care, Housing, Long-term care

Dates: 04/01/89 - 09/30/89

Funding Source: The John A. Hartford Foundation

Project Number 108

Rosalie A. Kane, Tom Christianson, and Michael Finch

“Patterns of Family Care”

This is a longitudinal study of patterns of family caregiving for 300 families in metropolitan Twin Cities, Pittsburgh, and Houston. Half of the families have had an elderly family member discharged from the hospital with a stroke and half with a hip fracture. Interviews will be conducted six weeks, six months, and one year after the triggering hospital discharge.

Key Terms: Family caregiver, Long-term care

Dates: 10/01/88 - 06/30/90

Funding Source: The Vira Heinz Endowment

Number of Graduates Working with Project: 10

Number of Undergraduates Working with Project: 2

Project Number 109

Rosalie A. Kane, Arthur Caplan, and Mila A. Aroskar

“Practical Autonomy in the Every Day Life of Nursing Home Residents”

In conjunction with Iris Freeman, Executive Director of the Minnesota Alliance for Health Care Consumers, several university departments collaborated to study personal autonomy in the nursing home environment. The study involved semi-structured interviews with nursing home residents representatively sampled from 45 representatively sampled nursing homes (25 in the Twin Cities metropolitan area and five each in New York, Little Rock, Sante Fe, and Los Angeles), and semi-structured interviews with a representative sample of nurses' aides working on all shifts in the same sample of nursing homes. The study also includes a retrospective analysis of the nursing home ombudsman records in the Twin Cities over a two-year period to examine the nature of autonomy-related inquiries and complaints.

Key Terms: Autonomy, Ethics, Nurses' aides, Nursing home residents

Dates: 07/01/87 - 10/31/88

Funding Source: The Retirement Research Foundation

Number of Graduates Working with Project: 6

Project Number 110

Nicole Lurie

“Assessing the Impact of Pre-Paid Health Care on Aged and Chronically Mentally Ill Medicaid Beneficiaries”

The State of Minnesota was chosen by the Health Care Financing Administration (HFCA) to be one of six demonstration projects to test the efficacy of providing pre-paid health care services to the Medicaid population. A random sample of 35 percent of all Medicaid beneficiaries participated in pre-paid health plans beginning in April 1986.

Prior to the demonstration project, baseline (pre-test) data were collected on a sample of aged and a sample of chronically mentally ill (CMI) Medicaid beneficiaries in Hennepin County, Minnesota.

The study employed a randomized pre-test/post-test experimental design to assess the effect of the transfer of care for non-institutionalized aged and chronically mentally ill Medicaid beneficiaries in Hennepin County, Minnesota from a fee-for-service system to pre-paid health plans. Health outcomes, social functioning, access to care, utilization, and cost of care were explored.

Key Terms: Demonstration project, Fee-for-service, HMOs, Medicaid, Mentally ill, Pre-paid health care

Dates: 07/01/86 - 06/30/87

Funding Source: Center for Urban and Regional Affairs and the Office of the Vice President for Academic Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 111

John A. Nyman, Roger Feldman, and Colleen Grogan

“Effectiveness of Medicare Carrier Volume and Intensity Controls”

This study analyzed the effectiveness pre- and post-payment review activities conducted by Medicare B carriers to ensure that Medicare payments are made only for medically necessary physicians' services. The three components of the study were: 1) a survey of 46 Medicare B carriers to determine approaches currently used to control volume and intensity; 2) visits by the research team to three carriers chosen because they appeared to be, on the basis of the survey, in the forefront of innovation and policy development with regard to review activities; and 3) an evaluation of the effectiveness of HCFA mandated prepayment screens on deterring the filing of medically unnecessary Medicare B claims, based on changes over time in the dollar volume of medically unnecessary claims resulting from the imposition of the screens.

Key Terms: Claims, Medicare, Payment screens, Physician Services

Dates: 01/01/88 - 07/31/89

Funding Source: Health Care Financing Administration (HCFA)

Project Number 112

Mark V. Pauly, John Eisenberg, and Roger Feldman

“Issues Related to the Volume and Intensity of Physician Services”

The volume and intensity of physician services are explored. Major emphasis is placed on an evaluation of seven methods that might be used to control volume and intensity, including a determination and analysis of the “most likely” effects of each method were it implemented. These determinations are based on an analysis of economic theory, empirical evidence, and behavioral theories of physician behavior.

Seven controls were examined including: clinical guidelines with professional education, utilization review, copayment, capitation, expenditure cap, collapsed coding, and service bundling. Because assumptions about the ways in which physicians make patient care decisions have a significant impact on predictions about the effects of these volume controls, the three prevailing theories of physician behavior, namely profit maximization, target income, and patient agency, are addressed.

Volume controls used by Medicare and commercial insurance carriers were explored through surveys done in collaboration with the Health Care Financing Administration, Bureau of Program Operations, and the Health Insurance Association of America. All Medicare carriers and 120 commercial carriers were surveyed regarding methods of paying physicians and use of specific volume controls. Perceptions of the effectiveness of these controls were assessed.

The impact of the Resource-Based Relative Value Scale (RBRVS) on the volume of physician services was studied. Based on economic and behavioral theory, the possible effects of the RBRVS were examined under various assumptions of physician behavior and design features. Analysis of these combinations of possibilities could facilitate knowledgeable decision making by policymakers.

Key Terms: Insurance, Medicare, Physician services, Relative Value Scale

Dates: 01/01/88 - 07/31/89

Funding Source: Health Care Financing Administration (HCFA)

Project Number 113

Mark V. Pauly, John Eisenberg, and James Highland

“Methods for Pricing the Technical Component of Diagnostic Tests”

This study investigated methods to evaluate charge levels for diagnostic tests. It examined three types of charges: 1) “global,” intending to cover the physician’s professional services and the technical component; 2) the physician’s professional services only; and 3) the technical component only. Two different ways of assessing the appropriateness of payment levels were investigated: 1) a comparison of current payment levels in large HMOs and PPOs with Medicare levels; and 2) the examination of the possibility of identifying levels which will yield a normal or market level of return on the capital the doctor has invested in the test equipment. The variability of current Medicare payment levels for a set of high volume or high interest diagnostic tests was explored. The final consideration was the desirability and feasibility of a volume-related payment system, one that would pay different prices to different doctors depending on the volume of total tests they run.

Analysis indicates that current prices for x-rays of all types (chest, orthopedic, GI), EKGs, and CT scans are probably appropriate. In contrast, under all of the scenarios examined, prices for ophthalmic biometry, echography (ultrasound) and peripheral vascular testing appear to be well out of line. Either current prices are inappropriate or the assumptions of this study are inappropriate. Further analysis is warranted. Finally, there is a strong suggestion, but not unequivocal evidence, of overpricing for spirometry (for specialists), and for Holter and real-time EKG monitoring.

Key Terms: Diagnostic tests, Medicare, Payment levels

Dates: 01/01/88 - 07/31/89

Funding Source: Health Care Financing Administration (HCFA)

Project Number 114

Debora Smith, Rosalie A. Kane, and Robert L. Kane

“Multiple Perspectives on Caring for Persons with AIDS in the Nursing Home Setting”

The purpose of this study was to examine issues in caring for persons with AIDS in nursing homes from the perspective of the resident, resident’s family members, and nursing home staff. The study was conducted in sixteen nursing homes, eight of which had indicated that they accept persons with AIDS and eight matched comparison nursing homes that made no such declaration. A representative sample of 100 residents, 100 family members, and 100 staff members were interviewed. In addition, the administrator, director of nurses, and director of social work from each of the sixteen homes were interviewed about issues in the care of AIDS patients, and four persons with AIDS were interviewed about their nursing home experiences.

Key Terms: AIDS, Nursing home

Dates: 07/01/88 - 12/01/89

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota; National Center for Health Services Research

Number of Graduates Working with Project: 1

Number of Undergraduates Working with Project: 2

Project Number 115

Debra Froberg

“A Process-Tracing Study of Discharge Decision Making”

This study aimed at understanding discharge decision making and designing decision aids to improve it.

Key Terms: Discharge planning

Dates: 01/01/88 - 12/30/90

Funding Source: National Institute on Aging

Number of Graduates Working with Project: 2

Related Research Publications:

Froberg, D.G., and Kane, R.L. (1989). “Methodology for Measuring Health-State Preferences—I: Measurement Strategies.” *Journal of Clinical Epidemiology*, 42 (4), 345-354.

Froberg, D.G., and Kane, R.L. (1989). “Methodology for Measuring Health-State Preferences—II: Scaling Methods.” *Journal of Clinical Epidemiology*, 42 (5), 459-471.

Froberg, D.G., and Kane, R.L. (1989). “Methodology for Measuring Health-State Preferences—III: Population and Context Effects.” *Journal of Clinical Epidemiology*, 42 (6), 585-592.

Froberg, D.G., and Kane, R.L. (1989). “Methodology for Measuring Health-State Preferences—IV: Progress and a Research Agenda.” *Journal of Clinical Epidemiology*, 42 (7), 675-685.

Project Number 116

Don McTavish

“Managed Contexts for Older People”

This continuing study examines organizational meanings from the perspective of older people and others in managed contexts. Thus far, the research has focused on interviews with older people, staff and management in a small but broad range of Minnesota residential settings: primarily nursing homes and some contrasting situations. Early attention has also been given to instrumentation using MCCA, a computer-based contextual content analysis program, on transcriptions of open-ended conversations by those in an organization concerning their context. Findings of the pilot phase suggest a broadly institutionalized agreement on the meaning of nursing homes across places of quite different size and ownership status; a guest-like quality of meanings expressed about their institutional setting; differences in the structure of distances between roles in terms of the similarity of meaning clusters; linkage of these differences and meanings expressed by older people; correlations between meanings expressed by managers (and others) and the reputation, size and ownership of these settings; and indications of a somewhat unique organizational culture expressed by people from the same organization. Future work is directed toward finding substantially different residential contexts for older people, examining causes and consequences of differences in the meaning a setting has for its members, and exploring possibilities for organizational innovation through simulation of organizational contexts.

Key Terms: Content analysis, Managed context, Organizational climate, Nursing home

Dates: 06/01/85 - Ongoing

Funding Source: Agricultural Experiment Station, University of Minnesota

Number of Graduates Working with Project: 2

Number of Undergraduates Working with Project: 2

Related Research Publications:

McTavish D.G., and Felt, D. (1984). “Managed Contexts for Older People: Nursing Homes.” *Sociology of Rural Life*, 7 (1), 1-2, 7.

McTavish D.G., and Felt, D. (1986). “The Nursing Home as Residents See It.” *Sociology of Rural Life*, 8 (2), 5-7.

McTavish D.G., and Felt, D. (1987). “Role Distances and Atmosphere in Nursing Homes.” *Sociology of Rural Life*, 9 (1), 3-4, 8.

Shenk, D., and McTavish, D.G. (1987). “Does Rural Background Affect Personal Identity and Outlook?: Life History Themes of Older Minnesota Women.” *Sociology of Rural Life*, 9 (3), 3-4, 7.

Project Number 117

Miriam R. Cohn

“An Exploratory Study of Ethical Responsibilities of Corporations Towards Retirees from Both Retiree and Corporate Perspectives”

Perceptions of the relationship of the retiree to the corporation were examined through 24 open-ended interviews in eight corporations in the Minnesota, Twin Cities area. Corporations selected employed 500 or more persons with large corporate structures, identified participation in the community, and sponsored retiree associations. Corporate participants were chosen by CEOs.

Retirees were two to five years into retirement, and were middle management personnel. One corporate officer and two retirees from each corporation were interviewed. In addition, in two corporations, four retirees of similar status and position but without close ties to management were interviewed.

The study identified four areas of investigation: 1) the relationship of the corporation and retiree regarding financial benefits/pensions, health care, personal services and community/responsibility; 2) whether these concerns fit with the corporation's perception of ethical responsibility for retirees and the retiree's perception that expectations were being fulfilled; 3) whether the retirees felt they had any control over the retirement package; and 4) the degree to which organized retirement groups within the corporate structure could impact corporate policy in areas identified in item 1.

Findings indicated that employees satisfied with their roles and contributions prior to retirement tended to remain satisfied in retirement even if the roles were different. They viewed relations to corporations as benign and did not feel particularly attached to the corporate structure but were also not critical of it. They were concerned with inflationary spiral as it affected pension benefits and health costs.

Data indicated that the most significant bridge between the corporation and its retirees existed in the utilization and expansion of volunteer opportunities, as expressed through retiree associations. Participants in retiree associations enjoyed the experience.

Corporate interviews illustrated a benevolent attitude towards retirees. Management viewed retirees as terminated employees. Retiree associations were viewed as representing good will with little evidence that they were identified as a vehicle of change in pension or health plans for retirees.

Further exploration could focus on what effect the changes in current tax structure will have upon the desire of the corporation to serve retirees. Might funding rather be spent on benefits to current employees targeted to their retired parents? As benefit packages shift from defined benefits to cafeteria selections, does this broaden the concept of autonomy within the corporation, with employees experiencing less loyalty to any one corporate structure?

Key Terms: Corporations, Financial benefits, Retiree associations, Retirement, Volunteer experience

Dates: 07/01/85 - 06/30/86

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Social Work

Project Number 118

Jean K. Quam

“Older Widows Study”

Widows were surveyed to understand the ways in which they “keep a spouse alive” as a way of providing support in their grieving process. Of particular interest is the finding that older widows may be expected to grieve differently than younger widows. In the second part of the study, helping professionals who work with elderly clients and individuals who may be experiencing grief and loss were surveyed as to their assessment and prognosis for three cases that described widows at different stages in the grieving process. An analysis is being conducted as to the effects of age on practitioners’ treatment of widows.

Key Terms: Age differences, Grieving, Loss, Widows, Women

Dates: 09/01/88 - Ongoing

Number of Graduates Working with Project: 1

Project Number 119

Jean K. Quam

“Rural Norwegian Older Women”

Thirty older women living in rural areas in Trondelag County in Norway were interviewed regarding their social support networks, their need for assistance as they age, and their ability to help others who rely on them for assistance. A comparison is being made to thirty older women who live in rural areas of Minnesota and thirty rural older women living in Denmark.

Key Terms: Danish, Norwegian, Rural, Social support, Women

Dates: 01/01/88 - Ongoing

Funding Source: Fulbright; Minnesota Area Geriatric Education Center (MAGEC), School of Public Health, University of Minnesota; Bureau of Health Professions

Number of Graduates Working with Project: 1

Project Number 120

Lucy Rose Fischer and Nancy N. Eustis

“Family Caregivers and Health Care Policies”

This study examines the impact of DRGs on family caregiving to elderly patients. The research entails a longitudinal case study of a Minneapolis suburban hospital, before and after the implementation of DRGs (1982 and 1986). Two differences were found between the two time periods: First the family and patients in 1987 were much more likely to express concern about problems in hospital admissions, discharge, and quality of care. Secondly, the elderly patients in 1986 appeared to be more likely to return home and receive home-care services. It is argued that DRGs, along with other trends in health care, have increased the importance of the “managerial family”—that is, families increasingly serve as mediators, supervisors, and planners in the in-hospital and post-hospital care of elderly patients.

Key Terms: Case Management, DRGs, Family caregiver, Informal care, Long-term care, Medicare, Policy

Dates: 07/01/85 - 06/30/86

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Related Research Publications:

* Fischer, L.R., and Eustis, N.N. (1988). “DRGs and Family Care for the Elderly: A Case Study.” *The Gerontologist*, 28 (3), 383-389.

Fischer, L.R., and Eustis, N.N. (in press). “Quicker and Sicker: How Changes in Medicare Affect the Elderly and Their Families.” *Journal of Geriatric Psychiatry*.

* Lucy Rose Fischer is now with the Wilder Research Center, Amherst H. Wilder Foundation.

Sociology

Project Number 121

Margaret Marini

“Age, Gender, and Careers”

This research is examining gender differences in labor market behavior and labor market processes that produce widening gender differences in earnings over the life course. It is considering the effects of both worker and job characteristics on earnings and seeking to identify the mechanisms by which workers and jobs are matched. In addition to workers' credentials, factors hypothesized to be important in this sorting process are workers' preferences, the use of social networks as a source of information and influence, access to information from other sources, and actions by employers. The research is based on data from two national longitudinal surveys of individuals: the National Longitudinal Surveys of Labor Market Experience and the Panel Study of Income Dynamics. Measures of occupational and industrial characteristics derived from other data sources are being merged with these micro-level data sets.

Key Terms: Careers, Earnings, Gender, Life course

Dates: 09/01/88 - 08/31/89

Funding Source: National Institute on Aging

Number of Undergraduates Working with Project: 12

Project Number 122

Don McTavish

“Confidence in Nursing Homes”

The Minnesota Center for Survey Research sponsored a question about confidence in nursing home institutions in their annual (1988) telephone survey of Minnesota adults. The analysis examines available social and geographic factors which are linked to confidence in nursing homes and compares these outcomes with prior studies of confidence in other U.S. institutions over several decades.

Key Terms: Confidence, Nursing home

Dates: 06/01/88 - 12/31/88

Funding Source: Minnesota Center for Survey Research, Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Project Number 123

Jeylan Mortimer, Michael Finch, and Timothy Dunnigan

“Work Experience and Adolescent Well-Being”

A study was initiated of the antecedents and consequences of part-time employment while in high school for adolescent well-being, mental health, and achievement. A cohort of 1,000 youth in the St. Paul public schools are being studied over a four-year period from grades 9 to 12. The dimensions of adolescent work to be studied include the temporal aspects of employment (hours spent working, the duration and continuity of work over time), work autonomy, the complexity and repetitiveness of job tasks, and the amount and quality of contact with adults and peers on the job. The following indicators of health and adjustment are being examined: the self-concept (including the academic self-concept, self-esteem, and efficacy); orientations to work; depressed mood; and school achievement. We will also examine the effects of employment on the adolescent's relationships with family members and peers, and on attitudes and behaviors in school. A supplementary study of Hmong acculturation to work is being carried out in conjunction with this research.

Key Terms: Achievement, Adolescence, Life course, Mental Health, Refugee, Southeast Asian, Well-being, Work experience

Location of Research: St. Paul, Minnesota

Dates: 12/01/87 - 11/30/91

Funding Source: National Institute of Mental Health

Number of Graduates Working with Project: 8

Number of Undergraduates Working with Project: 8

Related Research Publications:

Mortimer, J.T. (1988). “Work Experience and Psychological Change Throughout the Life Course.” In *Social Structures and Human Lives*, edited by M.W. Riley. Beverly Hills: Sage Publications.

Mortimer, J.T., and Borman, K. (1988). *Work Experience and Psychological Development Through the Life Span*. Boulder: Westview Press.

Mortimer, J.T. (in press). “Adolescence and Worth.” In S. S. Feldman and G.R. Elliott (Eds.), *At the Threshold: The Developing Adolescent*. Cambridge: Harvard University Press.

Project Number 124

William J. Craig

“Snowbirds”

Census data have provided much information about the permanent migration of the elderly, but little is known about seasonal migration. For northern states like Minnesota, most seasonal migration is during the coldest winter months, with the most popular destination being Arizona. Ten percent of the 1,500 households interviewed spend five or more weeks in a row out of Minnesota and one-fourth of those own a second home at their winter retreat. As many as 66,000 snowbirds leave Minnesota each year, spending \$110 million in another state. Snowbirds are younger, healthier, and wealthier than elderly who stay at home.

Key Terms: Seasonal migration

Dates: 07/01/88 - 12/01/89

Funding Source: Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1

Number of Undergraduates Working with Project: 10

Related Research Publications:

Craig, W.J. (in press). “Snowbirds Head South.” *CURA Reporter*.

Project Number 125

Carlton W. Parks, Jr.

“Dimensions of Thought in Adulthood as a Function of Age, Sex, Position, and Task Complexity”

Doctoral Dissertation

Advisor: Marion Perlmutter

This study examined the effects of age, sex, and context on the occurrence of problem-solving thoughts in consciousness across adulthood. Forty-two younger adult college students (ages 17-28) and 42 older adult college alumni and their spouses (ages 60-82) participated in a two-session study. In the first session subjects completed background information, self-ratings of health and activity, WAIS-R vocabulary subtest, and paper and pencil questionnaires related to daydreaming activity and current concerns in the external environment. In the second session subjects participated in four 10-minute thought-sampling conditions consisting of two puzzle and two relaxation conditions.

The questionnaire and thought-sampling sessions yielded age difference data. The mean number of current concerns was higher among younger adults than among older adults, while the current concern ratings associated with problem-solving skills were higher among older adults than among younger adults. The mean proportion of stimulus-dependent evaluative thoughts focusing on steps towards a goal and attention-control utterances were higher among older adults than among younger adults. The temporality dimension of consciousness produced only minimal age differences with the major finding being that the mean proportion of stimulus-independent thoughts focused on the distant past was higher among older adults than among younger adults. The temporal focus of stimulus-dependent thoughts produced no age differences. The mean age-related puzzle performance finding was that younger adults completed more easy and difficult puzzles than older adults. Surprisingly, the production of stimulus-dependent problem-solving thoughts was not positively related to puzzle performance.

The effect of sex on problem-solving thoughts in this study was minimal. Contextual influences proved to play a more significant role with the mean proportion of evaluative thoughts and attention-control utterances (stimulus-dependent thoughts) were higher during puzzle conditions than during relaxation conditions.

Being physically and mentally fit was found to be only minimally related to the production of evaluative thoughts focusing on aspects of the external environment.

Overall, these results support the efficacy of a multidimensional approach to imagery measurement. (Dissertation Abstracts)

Key Terms: Age differences, Cognition, Daydreaming, Gender, Problem-solving

Dates: 01/01/86 - 12/31/86

Related Research Publications:

Parks, C.W., Jr. (1986). “Dimensions of Thought in Adulthood as a Function of Age, Sex, Position, and Task Complexity (Cognitive, Daydreaming, Problem-Solving/Gerontology.” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 47/09B*, p. 3985. Publication No. AAC8700591.

Project Number 126

Diane L. Lemke

“Body Fat and Hot Flash Frequency in Postmenopausal Women”

Doctoral Dissertation

Advisor: Mark L. Davison

Fifty natural postmenopausal women volunteered for this study. The purposes of the study were to: 1) investigate the frequency of flashes; 2) determine the relationship between percentage body fat and hot flash frequency, and body weight on hot flash frequency; 3) determine certain anthropometric measures; and 4) compare estimates of body fat from underwater weighing and anthropometric measures. Data were collected from the following measures: underwater weighing for the determination of percent body fat, anthropometric measurements, and self-report of daily hot flashes for four weeks. Percentage body fat was estimated by underwater weighing, and Pollock's Sum of Three Skinfolts. Subjects were underwater-weighted six to eight times until three similar readings were obtained. Eight skinfolts, four diameters, and six circumference measurements were made. Pearson's correlation coefficient was used to demonstrate relationship between percentage fat and hot flash frequency. Descriptive statistics were used to express the measurements.

Results and conclusions are the following: 1) These postmenopausal women averaged three hot flashes per day, with the group aged 51 to 63 years experiencing about one fewer hot flash per day than the group aged 40 to 50 years. 2) There was low significant relationship ($p = 0.015$) between percentage body fat and hot flash frequency ($r = -0.31$), and a similar significant relationship ($p = 0.029$) between body weight and hot flash frequency ($r = -0.27$). High body fat is consistently related to low hot flash frequency, but low fat is not always associated with low or high hot flash frequency. 3) The anthropometric measurements of this sample compare similarly with the results of other studies in most instances. 4) Underwater weighing estimates of percent fat appear to be a better variable to use than Pollock's Sum of Skinfolts when measuring the association between percent fat and hot flashes. (Dissertation Abstracts)

Key Terms: Body fat, Hot flash, Postmenopausal

Dates: 01/01/87 - 06/30/88

Related Research Publications:

Lemke, D.L. (1988). “Body Fat and Hot Flash Frequency in Postmenopausal Women.” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 49/06B*, p. 2113. Publication No. AAC8815809.

Project Number 127

Marsha Davis Hearn

“Hostility, Coronary Heart Disease, and Total Mortality: A 33-Year Follow-up Study of University Students”

Doctoral Dissertation

Advisor: Jack C. Merwin

Hostility (HO) as measured by the Cook and Medley Hostility Scale on the Minnesota Multiphasic Personality Inventory (MMPI) has been suggested as a risk factor for coronary heart disease (CHD) and total mortality. This study tested the HO-CHD hypothesis in a sample of 1,399 men who entered the University of Minnesota in 1953 and, as part of freshman orientation, completed the MMPI. In addition to MMPI data, baseline health data were obtained for a subsample of the initial population ($n = 220$). Health status was ascertained for 94% through telephone interviews 33 years later. Cause of death was determined from death certificates. Diagnoses of CHD events were confirmed through a review of medical records.

The mean age at entry was 19 years. The mean age at follow-up was 52 years and at death, 40 years. Sixty-nine deaths were recorded: 13 attributable to CHD; 13 to cancer; 27 to accidents, suicides, or homicides; and 16 to other causes. Of the respondents who completed the telephone interview, 41 reported a history of myocardial infarction, angina pectoris, or coronary artery disease.

Scores on the HO scale ranged from 2 to 46, with a mean of 17 and a median of 16. Subjects were divided into quartiles based on HO scores and the subsequent incidence of CHD or total mortality was related to this classification. Higher HO scores did not predict CHD incidence, CHD morbidity, or total mortality. For those for whom baseline health data were obtained, HO was unrelated to survival in a Cox proportional hazards model after controlling for baseline CHD risk factors.

These findings do not support the hypothesis that hostility is related to CHD outcomes or all-cause mortality. Among the most plausible explanations for these results include: 1) hostility is not a risk factor in all populations, e.g., in all occupational groups, or 2) the Cook and Medley measure of HO at age 19 does not assess a stable psychological characteristic. Based on the evidence of studies to date, it appears that hostility, at least as measured by the Cook and Medley Hostility Scale, is not a powerful risk factor for CHD. (Dissertation Abstracts)

Key Terms: Coronary heart disease, Hostility, Personality

Dates: 01/01/87 - 12/31/87

Related Research Publications:

Hearn, M.D. (1987). “Hostility, Coronary Heart Disease, and Total Mortality: A 33-Year Followup Study of University Students.” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 49/04B*, p. 1113. Publication No. AAC8808475.

Project Number 128

Sheryl Ann Niebuhr

“An Evaluation of Home Respite Care for Family Caregivers”

Doctoral Dissertation

Advisor: Wesley W. Tennyson

This study determined the degree and correlates of distress among family caregivers and evaluated whether and for whom volunteer home respite services are effective in reducing strain. Participating in the study were primary family caregivers ($n = 47$) who shared their home with a close elderly family member needing intermediate or skilled nursing care. Members of the comparison group were recruited in a county in which respite was not available. Treatment consisted of 2 to 4 hours of weekly respite for 3 months. Data collection consisted of pre- and post-treatment questionnaires regarding bio-demographical characteristics, coping resources, perceived support adequacy, and dependent measures of burden, depression, and loneliness.

Correlational, t-test comparisons, and ANACOVA analyses were conducted. The results indicated that family caregivers in intensive caregiving roles experience mild burden. There was inadequate evidence of moderate to severe burden or depression. Those caregivers most distressed included spouses and those with low social support. Support adequacy appeared to be an especially important variable associated with distress ($p .000$). There was no evidence of a relationship between distress and either the duration and intensity of caregiving or the cognitive status of the care-recipient. There was also no evidence of benefit from 2 to 4 hours of weekly respite services after 3 months, possibly due to treatment limitation (e.g., amount, frequency, and duration of respite). Family, friends, and spiritual advisors were the most widely utilized coping resources.

Implications from the study include the following: 1) Caregivers who are spouses and/or have relatively low social support are most likely to experience significant distress and to be in need of supportive services. 2) A few hours (i.e., less than four) of weekly in-home respite care are likely to be inadequate to effect significant benefit to family caregivers, at least in the short-term. More hours of weekly respite and/or respite of a longer duration may be more likely to be beneficial. Critical factors in the effectiveness of respite care are likely to be the regularity, amount, frequency, and duration of such services. 3) “Time off” from caregiving may not be an effective service intervention unless caregivers are skillful in utilizing their respite time for self-care purposes. Caregiver education and support in effective coping skills and self-care may be important ancillary services to respite, especially at the time of initiation of such services. 4) Efforts to enhance the support capability of friends, family and lay/ordained clergy may significantly benefit caregivers and increase the probability that those in need will be linked by their informal support system to appropriate formal long-term care services.

Key Terms: Family caregiver, Family stress, Home care, Respite care

Related Research Publications:

Niebuhr, S.L. (1988). “An Evaluation of Home Respite Care for Family Caregivers.” Amherst H. Wilder Foundation, St. Paul, Minnesota.

Project Number 129

Jan Steven Greenberg

“Aging-Fathers’ and Aging-Mothers’ Perceptions of Relationships with Their Adult Children”

Doctoral Dissertation

Advisor: Pauline G. Boss

Gerontologists have laid to rest the myth that the aged are abandoned by their family members. However, there remain major gaps in our knowledge about relationships between healthy aging-fathers and aging-mothers and their sons and daughters. This is because most studies have sampled individuals or the aging-mother/adult-daughter dyad, have relied heavily on survey methods, and/or have focused on the frail elderly. The purpose of this study was threefold: 1) to obtain a more complete description of relationships between healthy aging-parents and their adult children; 2) to collect and to analyze the necessary data to construct an instrument measuring the “quality” of the aging-parent/adult-child relationship; and 3) to investigate four hypotheses generated from the literature: two hypotheses on how the aging-parent/adult-child relationship affects the parent’s stress level and emotional well-being, and two hypotheses relating the structure of the aging-parent/adult-child relationship to communication, intimacy, tension, and parental self-esteem.

Sixty-six aging-parents, consisting of thirty-one couples, three aging-mothers, and one aging-father, participated in the study. Sixty-two were randomly selected and four were chosen because of known problems between the aging-parents and an adult-child. Subjects completed a questionnaire and a telephone interview. Ninety-four percent agreed to an in-home interview. The Minnesota Contextual Content Analysis program, in conjunction with manual content-analysis, correlational and descriptive statistics were used to analyze the data.

Major findings included: 1) aging-parents talked about relationships with their adult-child along four dimensions: gender of the adult-child, physical/psychological presence, functional solidarity, and temporal orientation; 2) aging-parents reported experiencing considerable stress when their adult-children had problems; 3) two aging-parent/adult-child relationship structures, the noninvolved and dependent types, were characterized by poor communication and low levels of intimacy; and 4) there were important gender differences in how aging-parents related to their adult-children. Six dimensions defining the “quality” of the relationship were identified. Indicators of these dimensions and hypotheses to validate a measure of the “quality” of the aging-parent/adult-child relationship are provided. (Dissertation Abstracts)

Key Terms: Adult children, Content analysis, Family relationships, Parents

Dates: 01/01/86 - 12/31/87

Related Research Publications:

Greenberg, J.S. (1987). “Aging-Fathers’ and Aging-Mothers’ Perceptions of Relationships with Their Adult Children.” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 48/01A*, p.223. Publication No. AAC8710298.

Project Number 130

Denise Remus

“Cardiopulmonary Resuscitation in Long-Term Care: Nurses’ Decision Making”

Work-in-Progress

Advisor: Mariah Snyder

Key Terms: CPR, Long-term care, Nursing

Dates: 07/01/88 - 06/30/89

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Project Number 131

Mona Ibrahim Mourad

“Time-Dependent Factors in the Auditory Processing of the Elderly (Time-Compressed Speech, Auditory Brainstem Responses)”

Doctoral Dissertation

Advisor: Frank M. Lassman

Performance on selected tasks that appear to be time-dependent was measured in 50 healthy females aged 56-95. These included NU 6 word-lists time-compressed by 0%, 30%, 40%, 50%, and 60%, alternating sentences and the auditory fusion test. Auditory evoked brainstem responses (ABRs), pure-tone thresholds, loudness recruitment, and adaptation were also measured, and the relationships among the behavioral performances and between the behavioral performances and ABRs were examined.

Females were divided into four age groups: 56-65, 66-75, 76-85, and 86-95. Least-squares straight lines were fit to pure-tone thresholds and to discrimination scores of compressed speech. Analysis of variance indicated a significant increase in pure-tone thresholds and in the auditory fusion threshold (AFT) with age, and a significant decrease in discrimination scores, also with age. The association between pure-tone thresholds and discrimination scores of compressed speech was strong ($r = .87$ at 2000 Hz), but the association between AFT and pure-tone thresholds was less marked ($r = .44, .52, .41$ at 250, 1000, and 4000 Hz). AFT and discrimination scores of compressed speech were inversely related ($r = -.35, -.32, -.28$ for AFT at 250, 1000, and 4000 Hz). Poor intelligibility for alternating sentences was observed in 22% of the elderly aged (greater than 80), and was associated with poor discrimination scores and elevated AFT.

The Metz Test for loudness recruitment was positive in 60% of the sample. Tone decay was minimal. Latencies and amplitudes of auditory brainstem responses were compared among age-groups and between individual subjects versus the mean measures of a control group of young females 18-25 years, for two rates of repetition of clicks, 3 per second and 47.7 per second. Regression analysis showed that absolute latencies decreased with age, but interpeak latencies increased. Absolute amplitudes showed no systematic variation with age.

To study the relationships between behavioral performances and ABRs, ears were divided into four categories of ABR. The mean AFT and the proportions of distribution of three discrimination-score profiles for performance at 0% and 60% time-compression (also defined a posteriori) among these categories were compared. AFT and the intelligibility of compressed speech appear to be largely dependent on pure-tone sensitivity. The results are discussed in relation to peripheral hearing loss and central changes. Intelligibility of alternating speech appears to be associated with ABR deviations. This relationship was discussed in light of earlier concepts of binaural processing. (Dissertation Abstracts)

Key Terms: Auditory processing, Hearing loss

Dates: 01/01/86 - 12/31/86

Related Research Publications:

Mourad, M.I. (1986). “Time-Dependent Factors in the Auditory Processing of the Elderly (Time-Compressed Speech, Auditory Brainstem Responses).” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 47/09B*, p.3695. Publication No. AAC8700600.

Project Number 132

Marilyn Dina Hartman

“A Cognitive-Neuropsychological Study of Semantic Representation in Dementia of the Alzheimer Type”

Doctoral Dissertation

Advisor: Gloria R. Leon and Mary J. Nissen

The purpose of this study was to examine access and utilization of semantic information by patients with Dementia of the Alzheimer Type (DAT). Three experimental tasks as well as a battery of standardized neuropsychological tests were administered to 25 patients with DAT and 31 healthy older adults of equivalent age and educational achievement. The experimental tasks included: 1) a semantic priming task, in which naming latency for single target words was examined as a function of their semantic relationship to prime words (related, neutral, or unrelated); 2) a recognition memory task for three-word and six-word categorized lists, in which accuracy and reaction times were measured in a yes/no format; and 3) a semantic category verification task.

One of the main hypotheses was that DAT subjects would demonstrate intact semantic knowledge when that knowledge was simple and the task required only automatic activation of that information. It was also predicted that these patients would show intact awareness of the category relationships. These hypotheses were confirmed. Thus, on the semantic priming task, DAT subjects showed a significant amount of facilitation in reaction times for words preceded by highly related words in comparison to words preceded by the neutral cue BLANK. In addition, subjects were not impaired on the semantic category verification task.

It was also predicted that the ability of the DAT subjects to use semantic information would depend on the difficulty of the task. This hypothesis was not confirmed. It appeared instead that the specific nature of the task determined whether subjects used semantic knowledge strategically. In the semantic priming task, DAT subjects did not show interference effects. In contrast, on the recognition memory task, these subjects encoded, retained, and made use of category information. Overall lowered levels of performance by DAT subjects were attributed to impairments of attentional mechanisms, memory, and representation of detailed semantic knowledge. (Dissertation Abstracts)

Key Terms: Alzheimer's disease, Memory, Semantic representation

Dates: 01/01/87 - 12/31/87

Related Research Publications:

Hartman, M.D. (1987). "A Cognitive - Neuropsychological Study of Semantic Representation in Dementia of the Alzheimer Type." (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 48/09B*, p.2781. Publication No. AAC8726041.

Project Number 133

Donna Ashbridge

“Effect of Prepaid Health Care on Institutionalized Aged”

Doctoral Dissertation

Advisor: Theodor Litman

The purpose of this study was to evaluate the effects of the medical delivery system (i.e., fee-for-service versus prepaid health plans) on health status and utilization of ancillary services by elderly nursing home residents receiving Medical Assistance and to examine the administrative impact of the demonstration project on nursing homes and their staffs.

Data for the study came from the medical records of 800 nursing home residents and interviews with nursing home personnel. The medical records were reviewed and health status assessed for the period one month prior to the effective date of health plan coverage and again one year later (or the final month spent in the nursing home in the case of death or discharge). The numbers of ancillary services used during the period were also tabulated.

No statistically significant differences in health outcomes were found between residents receiving prepaid health care and those remaining in the traditional fee-for-service (FFS) Medical Assistance system. In the use of ancillary services, statistically significant differences were found in the number of physical and occupational therapy contacts provided to the two study groups. Prepaid health plan enrollees received fewer occupational and physical therapy treatment than FFS clients.

No other differences were found between the two groups in the number of contacts with primary physicians, speech pathologists, audiologists, dermatologists, podiatrists, or other specialists. There were no differences in the number of hospital admissions or length of stay.

Key Terms: Fee-for-service, HMOs, Medicaid, Nursing home

Dates: 01/27/87 - 05/31/88

Funding Source: Hennepin County

Project Number 134

Debbie Felt

“The Social Relations of Nursing Home Residents”

Doctoral Dissertation in Progress

Advisor: Roberta Simmons

Observational research on nursing home environments has consistently found that there is very little social interaction among residents. The question is why? Why do people with many apparent similarities (age, cohort, health, and oftentimes background, neighborhood, and religion) choose to “go it alone.” The research questions are: to what extent are nursing home residents isolated (or socially integrated), and does the degree of isolation/integration vary by nursing home environment? Data has been collected from all nursing homes in the Twin Cities, Minnesota. Of these, nine nursing homes were selected that vary systematically on resident turnover rate, staff turnover rate, and size. Ten residents from each nursing home are to be interviewed, all relatively healthy, long-term residents, and female. The interview schedule consists of five parts: background and activities; individual choices scale (freedom to make decisions); social support network questions; well-being scales (self esteem, depression, etc.); and scales that measure want for privacy and intimacy. A facilities and policy and procedures questionnaire will also be given to the administrator of the nursing home to get more detailed information about the nursing home context.

Key Terms: Isolation-integration, Nursing home environment, Nursing home residents, Social support

Dates: 01/01/88 - Ongoing

Project Number 135

Linda Marie Havir

“Rural-Urban Comparisons of Social Service Utilization by the Elderly (Minnesota)”

Doctoral Dissertation

Advisor: Don G. McTavish

This research examined the relationship between rural-urban place of residence and the use of social services among an older population. There were two major components to this study. First, a theoretically based definition of the rural-urban place of residence variable was developed. Second, the usefulness of a health services utilization model for explaining use of social services among an older population was tested.

The meaning of the rural-urban continuum and its implications for attitudes and behavior was of primary interest. A multidimensional conceptual definition (which used both quantitative and qualitative indicators) was used to develop a seven category rural-urban typology. The categories ranged from small, isolated agricultural communities to the St. Cloud, Minnesota urbanized area (population of 64,000).

The sample used was a random sample of 1,125 adults aged 60 years and older living in nine counties in east-central Minnesota. Telephone interviews included information on the use of and willingness to use nine different social services.

Although no simple linear relationships between degree of rurality and use of services were found, the older adults in some of the most rural areas used fewer services. The findings suggest that sociocultural and economic diversity among these very rural areas are related to the degree of social welfare residualism held and to the use of formal social services by older adults.

The Andersen and Newman health services utilization model explained 21 percent of the variance in the number of services used. The variables of age, sex, employment, marital status, and place of residence, along with needs such as income level, number of disabilities and need for transportation were the most important predictors of use of services.

The findings point out the complexity of the meaning and impact of the rural-urban environment. The findings of variability across rural areas in attitudes and behaviors are important for the planning and delivery of services. (Dissertation Abstracts)

Key Terms: Rural-urban, Service utilization

Dates: 06/01/86 - 05/30/88

Related Research Publications:

Havir, L.M. (1988). “Rural-Urban Comparisons of Social Service Utilization by the Elderly (Minnesota).” (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI* 49/06A, p.1578. Publication No. AAC8813044.

Project Number 136

Margaret Rose O'Conner

"The Independent Elderly: A Study of Self-Definition and Coping Strategies in Situational Contexts"

Doctoral Dissertation

Advisor: Don G. McTavish

The issue of independence and how it is maintained in old age has far-reaching implications both for policy makers and the elderly population, yet we have little research on this topic. In this study of the dynamics of independence in old age, a detailed examination of the daily lives of 25 elderly women who are living alone in circumstances that mandate institutionalization for many other elderly (i.e. low income, poor health, failed networks) are presented. These 'at risk' elderly were all clients of a social service agency and were referred by case managers who had known them over a period of time. In-depth, in-home interviews were conducted with these women that focused on use of resources, coping strategies and issues of self-definition. Interviews examined variation in the ways in which independence is maintained to determine those factors most critical to living independently and to further determine if those factors may be manipulated to promote greater independence. Case managers selected the sample based on the criteria that clients must be women over 65, living alone, and engaged in an apparent struggle to maintain their independence. They also were asked to refer clients they would classify as internally very independent or internally very dependent, since an essential concept was locus of control. The sample was limited to women since the frail elderly population is predominantly female. The final sample included 13 elderly women identified as independent, 8 dependent, and 4 'mixed.' The overall sample was very elderly (mean age 77.9, range 66 to 91 years). Prior to client interviews, in-depth interviews were conducted with case managers about their perceptions of old age and independence. Interviews demonstrate that case managers reflect the social stereotypes of old age in their assessment of and response to elderly clients. Interviews also document that in their opinion health is not the most important variable in predicting independent living for elderly clients. Findings from client interviews support the hypothesis that those who are high internals on locus of control will also have good coping strategies and managerial skills. Some support was also found for the hypothesis that high internals would use fewer services and be more satisfied with them. (Dissertation Abstracts)

Key Terms: Independent living, Locus of control

Dates: 01/01/87 - 12/31/87

Related Research Publications:

O'Connor, M.R. (1987). "The Independent Elderly: A Study of Self-Definition and Coping Strategies in Situational Contexts." (Ph.D. dissertation, University of Minnesota). Ann Arbor, Mich.: University Microfilms International, *DAI 48/01A*, p.197. Publication No. AAC8710310.

Project Number 137

Susan L. Schrader

“Images of Aging Through the Eyes of Youth”

Work-in-Progress

Advisor: Don G. McTavish

This study explores the theoretical issue of societal stereotypes and their pervasiveness throughout the life course. The purposes of the study are to: 1) understand orientations Minnesota youngsters have toward growing old, 2) draw some conclusions about the meaning growing old might have for that cohort, and 3) shed light on implications such youthful images might have for tomorrow's decision makers.

A stratified random sample of 257 verbatim essays (from a total of 2,685) written by Minnesota youth in grades 1 to 12 and submitted to the *Minneapolis Star Tribune* for the monthly feature “Mindworks” provide the data for this study. The essays for the February 1988 article were written in response to the questions, “What does it mean to grow old? What are the disadvantages? The advantages?”

Two methodologies were used in the initial review. The first, qualitative analysis, identified themes by handcoding keywords which repeatedly appeared in the data. These themes include sickness, body image, loneliness, death and dying, stories/life review, finances, competence, family, grandchildren, elder models, violence, mobility, friends, continuity, nursing homes, volunteerism, and retirement. The second, computer content analysis, used the Minnesota Contextual Content Analysis (MCCA) program. It provided a more reliable and valid analysis of emphases and a statistical comparison/integration with other demographic variables in the data set such as sex, age, grade, school, and zip code.

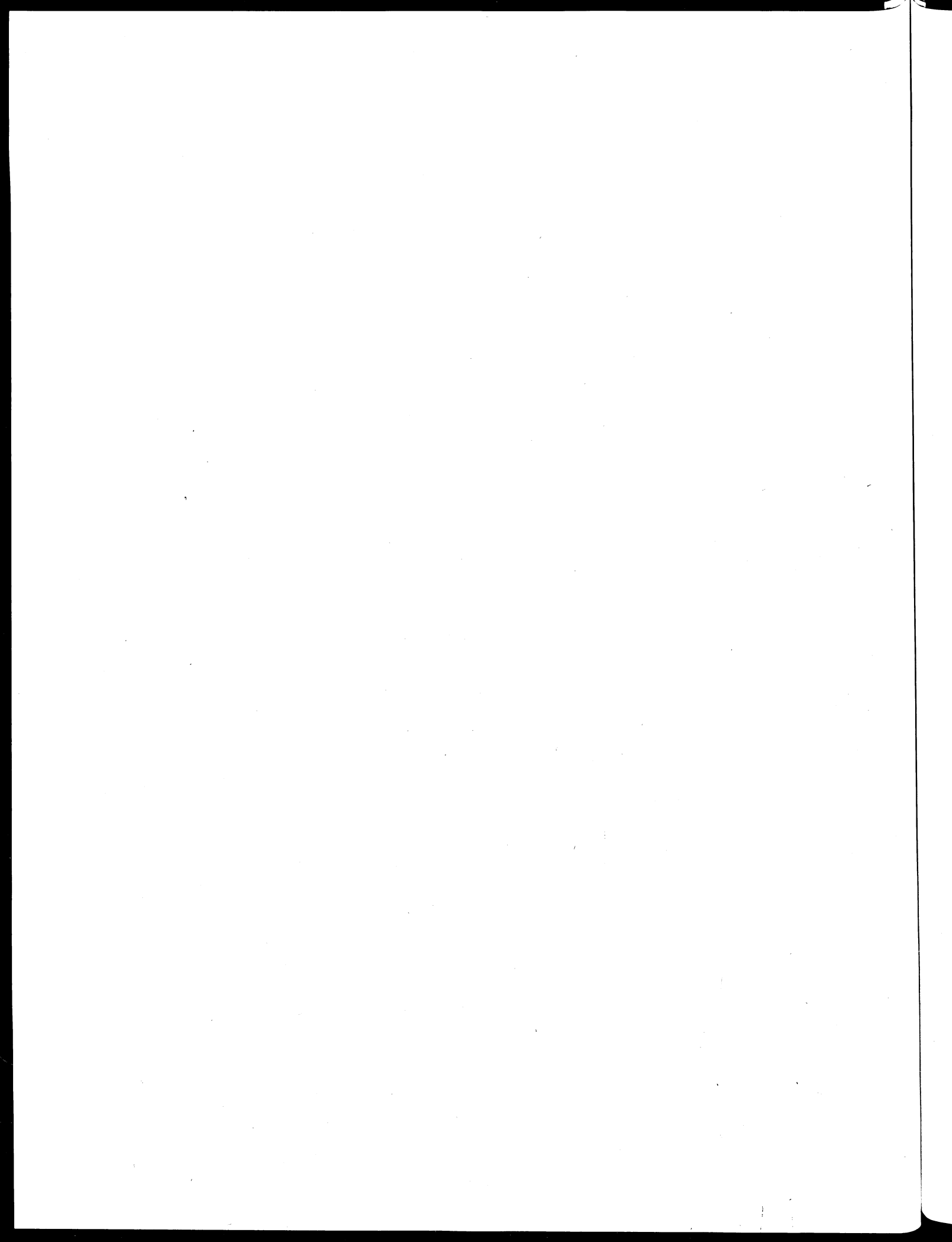
Initial findings tend to suggest that themes drawn from youths' essays: 1) vary among age groups (the influence of one's place in the life course), 2) vary in positive/negative imaging of aging (presence of societal stereotyping very early on), 3) are predominantly emotional and traditional in content, and 4) identify unique words in health/medical and relationship categories. Implications of the study include curriculum planning and consideration of the potential ramifications of youthful experiences (such as nursing home visitation) on images of aging.

Key Terms: Adolescence, Children, Content analysis, Life course, Stereotypes

Dates: 07/01/88 - 06/30/89

Funding Source: All-University Council on Aging/Center for Urban and Regional Affairs, University of Minnesota

Number of Graduates Working with Project: 1



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ADDENDUM

Project Number 138

Celia Wolk Gershenson and David Knopman

"Verbal Learning and Equivalence Classes in Aging and Alzheimer's Disease"

The focus of the research is change in language fluency in normal elderly and those with a diagnosis of probable Alzheimer's disease. The purpose of the study is to investigate language deficits that accompany the progression of Alzheimer's dementia. Memory, attention and learning deficits, including language, are the primary cognitive impairments exhibited by individuals with dementia. The research will provide valuable information on the acquisition of semantic associations in normal elderly. A laboratory method, conditional discrimination with a symbolic matching paradigm will be used to assess changes in the formation of verbal stimulus equivalence classes or arbitrary verbal associations in normal older adults and those with a diagnosis of probable Alzheimer's disease. The design of the research is a within-subject design. A small sample of individuals with a diagnosis of Alzheimer's dementia and age- and sex-matched normal adults will serve as subjects.

Key Terms: Alzheimer's disease, Cognition, Language deficit, Semantic association

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