



# SONDEREGGER RESEARCH CENTER

Interdisciplinary Research in Social and Administrative Pharmacy

## INTRODUCTION

The Sonderegger Research Center is a newly formed center in the University of Wisconsin's School of Pharmacy. Started with a generous grant from the Rennebohm Foundation, the Sonderegger Research Center (SRC) draws upon an interdisciplinary faculty of social, economic, and behavioral scientists to conduct basic research regarding the organization, delivery, financing, quality, outcomes and legal/policy aspects of pharmacy.

The field of pharmacy is confronted with a highly competitive environment undergoing major financial and structural changes. Policy makers and practitioners alike are making key decisions which will affect the quality and organization of pharmacy services for decades to come. One aim of the Sonderegger Research Center is to use its research program to help position the field of pharmacy for the next century. A core group of six pharmacy faculty collaborated with six clinical faculty affiliated with SRC to address the following areas of research: **1)** quality of care in relation to the organizational structure of sites delivering pharmacy services; **2)** economic analyses of pharmacy services and third-party reimbursement; **3)** market dynamics and the consumer decision-making regarding pharmaceutical goods and services; **4)** provider-patient communication and its impact on patient behavior and outcomes; **5)** legal aspects of pharmacy practice; **6)** the impact of federal and state regulations on pharmacy practice; **7)** factors affecting drug prescribing and use; and **8)** the potential and limitation of computers for educating pharmacists and consumers.

The Sonderegger Research Center values its interdisciplinary approach and collaborates on both educational and research activities with other universities and with other units on the Madison campus. To promote collaboration and coordination of University of Wisconsin Health Services researchers on the Madison campus, the Sonderegger Research Center joined with other research centers and individual researchers to form The University of Wisconsin Consortium of Health Services Research.

In addition to its research function, the Sonderegger Research Center provides education and training opportunities in social and administrative pharmacy issues. The Center conducts an ongoing interdisciplinary research seminar series for interested researchers, clinicians, faculty, and students. This seminar has identified a series of priority research issues for preparing the pharmacy field for the 21st Century. Speakers and policy makers are being invited to give presentations on these topics.

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As part of its educational agenda, SRC last year invited Dr. Sam Kidder, Chief of the Long-Term Care Branch, Health Care Finance Administration and this year's recipient of the APHA Hugo H. Schaefer Award, to offer a seminar to the research and practitioner community entitled "The New Proposed Skilled and Intermediate Care Facility Regulations: Their Development, Significance, and Future." A second invited speaker was Dr. Laila Lauso, Swedish sociologist, who offered a seminar on the organization of consumer advocacy groups for Swedish pharmacy services.

To promote the transfer and mandation of research findings into policy and practice, SRC is initiating a paper series this year.

## **RESEARCH PROJECTS**

Over the past two years, the Sonderegger Research Center's research agenda has grown considerably with the submission of several research proposals to federal government agencies including the National Institute on Aging (DHHS), the Office of Family Planning (DHHS), the Health Care Finance Administration, the National Institute on Mental Health, APOTEKSBOLAGET (Swedish Government's Corporation of Pharmacies) and also to the State of Wisconsin Bureau of Health Care Finance. In addition, SRC has funded four pilot projects from its own funds.

The following section briefly describes the research projects affiliated with the Sonderegger Research Center.

### **"Assessing the Economic Impact of Potential Changes in Third-Party Drug Product Reimbursement on Wisconsin Pharmacies," David Kreling, Ph.D., Principal Investigator, funded by Sonderegger Research Center.**

The most recent Medicaid rules leave the states much latitude in setting reimbursement for drug costs, with maximum caps set in aggregate for multi-source products. If prescription drug coverage under Medicare becomes a reality, there also will be an immediate need for accurate reimbursement formulas. This research analyzes how varying levels of reimbursement by third-party payers would affect community pharmacists economically. Specifically, the study is evaluating whether drug cost reimbursement based on Average Wholesale Price (AWP) less 10.5% or wholesaler cost plus 5.01% would yield amounts above or below what pharmacists pay for products. To do this, mock invoices were generated for 314 pharmacies by their wholesalers for a large market basket of products. In addition, the direct price paid to the wholesaler for products was collected from the same 314 pharmacies. Merging these two pieces of data, a "true" aggregate net price customarily paid by pharmacists for each item in the market basket could be projected.

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**“Assessment of Retail Pharmacy Image and Consumers' Evaluative Criteria in Use of Pharmacy Goods and Services,” Joseph Wiederholt, Ph.D., Principal Investigator, funded by Sonderegger Research Center.**

The goal of this research is to provide a better understanding of how client perception of pharmacies and prescription drugs influence client behavior toward pharmacy goods and services. Specifically, this research examines (from a consumer's perspective) the: **1)** critical dimensions of a pharmacy's image, **2)** critical dimensions of prescription drugs, **3)** moderating variables influencing consumer perspective (i.e., age, gender), and **4)** the relationships among these variables and consumer purchase and use of pharmacy goods and services. To examine these questions, a large sample of consumers will be surveyed using a repeated measures design. Survey instruments have been developed and tested in previous research by the principal investigator.

**“Consultant Pharmacy Study,” Jeanine Mount, Ph.D., Principal Investigator, funded by Graduate School and Sonderegger Research Center.**

The quality of medication and dispensing in nursing homes is a critical component of quality of care. This study focuses on 20 consultant pharmacists providing services to nursing homes. The role of the consultant pharmacist is examined in initiating change effectively when the pharmacist has a concern about a patient's medication. Specifically, the study examines the consultant pharmacist's role in reviewing prescriptions and communicating any medication concerns to other nursing home staff. The study codes who the pharmacist communicates with, the format of the communication, and the result of the communication. These variables are examined in relation to the organizational structure of the nursing home, the interprofessional relationships among staff associated with the nursing home, and resident care outcomes.

Three interviews were conducted with each consultant pharmacist, and data was collected from a variety of institutional records including: the consultant pharmacist's review of the "federal indicators"; nursing station inspection forms; medication problems identified by the provider pharmacy; minutes of Pharmacy and Therapeutics, Utilization Review and other facility committees (where accessible); and resident incident/accident reports.

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**“Demonstration and Evaluation of An Aid for Contraceptive Decision-Making,” Betty Chewning, Ph.D., Principal Investigator, funded by Office of Population Affairs, HHS.**

Patients' drug compliance is a critical issue in the pharmacy field. This federally funded project examines the impact of a computerized education program on subsequent compliance of family planning clinic patients. To assist individuals in selecting birth control, this research developed a computerized counseling aid, using input from national and local advisory committees.

As part of a new three-year federal study, impact of the computerized contraceptive decision aid will be evaluated in terms of the use and discontinuance of these oral contraceptives. The target audience for this research are women under age 19 who are making an initial visit to a Title X family planning clinic or a community pharmacy. A longitudinal study will be conducted with 1,000 clients in inner-city Chicago and Madison.

**“Environmental Dimensions of Consumer Choice For the Purpose of Prescription Drugs,” Ph.D. dissertation by Earlene Lipowski, major Professor Joseph B. Wiederholt, Ph.D., partially funded by the Sonderegger Research Center.**

The purpose of this study is to investigate the impact of the environment for a particular consumer purchase decision, the selection of a pharmacy for the purchase of a prescription drug. This work complements the "Assessment of Retail Pharmacy Image and Consumers' Evaluative Criteria in Use of Pharmacy Goods and Services" project.

**“Estimating the Costs of Inappropriate Psychotropic Medication Use Among Nursing Home Patients,” David Kreling, Ph.D., Principal Investigator, funded by Graduate School, UW-Madison.**

In the midst of efforts to control rising costs of health care, there is a need for studies which identify the costs of poor-quality health care. Results from an earlier research project indicate a pattern of inappropriate prescribing and use of psychotropic medications among patients institutionalized in nursing homes. The goal of this project is to estimate the corresponding drug therapy costs and investigate parameters related to those costs. To accomplish this goal, patient medication profiles will be used. For analysis purposes, cost information is used as the dependent variable to investigate the relationship of facility and patient characteristics that may influence those drug therapy costs. Both drug product costs and dispensing service costs are being examined.

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**“Evaluation of Wisconsin Pharmacy Examining Board Pilot Self-Inspection Project”, Joseph B. Wiederholt and Jon Schommer.**

Thomas McGregor, Pharmacy Examining Board member, serves as the Board's coordinator of the project. Goals of the project are:

1) Provide an effective vehicle for continuing education in the aspect of jurisprudence pertaining to pharmacy practice; 2) Provide an effective method of communication between the Pharmacy Examining Board and practicing pharmacists to identify areas needing interpretation and clarification; 3) Increase the Pharmacy Examining Board's visibility in its role as a consumer protection agency; 4) Provide practicing pharmacists with the opportunity to update practice procedures and the assurance that their procedures are in compliance with current regulations; and 5) provide a vehicle for the Pharmacy Examining Board to identify expectations of pharmacy to the profession in a positive environment.

**“For-Profit Ownership and Drug Use in Nursing Homes,” Bonnie Svarstad, Ph.D., Principal Investigator, funded by Wisconsin Alumni Research Foundation, UW-Madison.**

An earlier study showed that psychotropic drugs are often prescribed without an appropriate diagnosis in doses that are higher or lower than advised according to published standards, and for periods that are longer or shorter than recommended. The purpose of this study is to: 1) establish the validity and reliability of a unique methodology for evaluating the quality of psychopharmacologic prescribing in nursing homes, and 2) conduct a multivariate statistical analysis of the factors affecting the quality of psychotropic drug prescribing in nursing homes. The data set includes detailed medical and pharmacy record data as well as nurse assessments for approximately 2,000 elderly persons in 18 randomly selected Wisconsin nursing homes. Multiple regression techniques are being used to examine the relationship between quality of drug prescribing and selected independent variables, including type of nursing home ownership, resident payment status, sociodemographic factors and other characteristics of the facility and resident.

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**“The International Medication Compliance Project”, Betty Chewning, Ph.D., Bonnie Svarstad, Ph.D., and Larry E. Bob, R.Ph., Investigators, funded by APOTEKSBOLAGET-Swedish Government Corporation of Pharmacies.**

Consumers of prescription medications often make one or more drug errors including dosage errors, duration errors, and early discontinuation of prescribed medications. These errors have implications for health status as well as long-term health care costs. There is a need to better define specific classes of these errors in order to reduce their occurrence. There is also a need to identify factors that predict whether an individual is at risk for making drug errors after a prescription is filled.

This joint Swedish and American project will develop and evaluate an instrument to be used cross-nationally to measure patient drug errors. The instrument will also measure factors to identify whether an individual is at risk of noncompliance. In preparation for the instrument design, Swedish and American collaborators will identify classes of drug errors and risk factors for these errors such as complexity of regimen, nature of drug side effects for the medication prescribed, and physical handicaps of the consumer. Based on the cross-national research, the project will develop an instrument to be used by both Swedish and American teams.

**“A National Study of Pharmacy Schools' Experiential Program Coordinators and Preceptors”, Larry E. Boh and Joseph B. Wiederholt, Co-Principal Investigators, funded by the American Association of Colleges of Pharmacy.**

The objective of the study is to identify and categorize problems encountered by experiential program coordinators and preceptors in fulfilling their educational responsibilities. Specific experiential programs being studied are community externship, institutional externship, and clinical clerkship. The American Association of Colleges of Pharmacy will use the information to develop educational programs that will address the problems identified.

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**“Perceived Barriers to Appropriate Consultation by Pharmacists,” Robert Hammel, Ph.D., Principal Investigator.**

In 1976, the Wisconsin Pharmacy Examining Board adopted the Appropriate Consultation Rule which stipulates that pharmacists should provide appropriate consultation to patients upon dispensing prescribed medications in two types of settings: **1)** institutional settings when pharmacists dispense medications to patients at discharge or in outpatient clinics, and **2)** community pharmacy settings. However, after this rule was adopted, research has shown a consistently low level of pharmacist performance with respect to appropriate consultation. The goal of this study is to identify barriers which pharmacists perceive in their consultation role with patients. To accomplish this, a mail survey was developed and distributed to a random sample of 200 Wisconsin pharmacists. The survey measures the extent to which pharmacists believe there are barriers to their consultation role and what they perceive to be the most critical barriers.

**“Practice Economics in Community Pharmacies”, David Kreling, Ph.D., Principal Investigator, funded by Wisconsin independent community pharmacists.**

As third-party reimbursement of pharmacy practice becomes a greater influence on community pharmacies, there is a need to develop data bases to identify community pharmacy practice costs. Through funding by Wisconsin community pharmacists to the Sonderegger Research Center, Dave Kreling is developing a baseline data set on practice costs of community pharmacies in the State of Wisconsin. This research provides a foundation for examining the adequacy of the reimbursement formulae used by third party payers to community pharmacists.

**“Predicting Sleep Medication Use in Nursing Homes,” Bonnie Svarstad, Ph.D., Principal Investigator, funded by the National Institute on Aging, NIH.**

There have been serious concerns about psychotropic drug use in nursing homes, yet only limited research has examined this issue. The purpose of this study is to: **1)** describe the nature and extent of sleep medication use in randomly selected nursing home facilities, and **2)** determine the relationship between sleep medication use and various factors that might influence its use. These factors include: resident characteristics and demand for medication; nurse characteristics and attitudes; and a variety of institutional factors such as staffing ratios.

This study collected various types of data including: medical and pharmacy record data; survey of nurses (to determine their attitudes toward sleep problems and the use of drug versus non-drug methods of managing sleep); the administration of Resident Assessment and Social Activity Forms (to determine the frequency of behaviors and activities that may be associated with sleep patterns); administrator questionnaires (to assess the impact of staffing ratios and other organizational factors); and observation of nurse-resident interaction (to measure the nature and extent of resident demand for sleep medication). In addition, nurse-resident interaction was observed.

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## **ADMINISTRATIVE BOARD AND DIRECTOR OF SRC**

### **Dr. Robert Hammel**

Dr. Robert Hammel (William S. Apple - Bascom Professor) received his B.S. in pharmacy, M.B.A and Ph.D. degrees from the University of Wisconsin-Madison. He has 13 years part and full-time experience in pharmacy and was a teaching assistant in the UW-School of Business for two years before joining the pharmacy faculty in 1958. Dr. Hammel, an APS fellow, received the APS Research Achievement Award in Economics and Administrative Sciences, the Reed Peterson Award, Wisconsin Pharmacists Association Distinguished Service Award, and a citation from the Wisconsin Legislature in recognition of his professional achievements. His research interests include economic, legal, and professional aspects of pharmacy practice.

Like other economic facets, pharmacy manpower is subject to the law of supply and demand. In his research, Dr. Hammel has periodically obtained both graduate pharmacy intern and salaried pharmacists' wage and fringe benefit data. These series of data were compared to other economic and professional statistics to study relationships among them and to help forecast human resource needs in the profession. Additionally, since pharmacists' salaries represent the largest single component of the cost of dispensing, these data aid in projecting changes in the cost of dispensing between these periodic surveys of the total cost of dispensing a prescription.

Legislation and administrative rules strongly influence both economic and professional aspects of pharmacy practice. Pharmacists and other health practitioners' attitudes toward proposed changes and the reason(s) for these attitudes help support or oppose the proposals. Surveys were conducted to measure pharmacists' knowledge of and compliance with regulatory requirements.

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## **Dr. David H. Kreling**

Dr. David Kreling (Assistant Professor) received his B.S. degree (1978) in pharmacy from Ferris State College, M.S. degree (1981) in pharmacy administration from Purdue University and Ph.D. degree (1984) from the University of Texas at Austin. His general research areas include economic pharmacy and the marketing of pharmacy goods and services. Such a broad definition and overlap is understandable since the variables and facets related to drug use and the prescription marketplace are intertwined with pharmacy economics.

Central to Dr. Kreling's research efforts have been studies pertaining to costs, pricing, and reimbursement related to pharmacy practice. Current research projects include an investigation of drug and acquisition costs in pharmacies and the relationship between those costs and third-party reimbursement policies, a cost analysis of inappropriate psychotropic drug use among nursing home patients, and an examination of dispensing expenses in community pharmacies in Wisconsin. Other work has been oriented toward more tangential aspects of pharmacy economics that relate to consumer decision-making about drug products and services. Ultimately, decisions made by consumers, be they individuals, corporation benefit executives, governmental policy makers, or others, influence markets and thus economics. As changes have occurred in the overall medical care market, pharmacy has been affected. It is important to observe and try to understand why and how the economic aspects of pharmacy practice react and relate to market changes and stimuli so we may anticipate future effects.

### **Dr. August P. Lemberger**

August P. Lemberger is Professor of Pharmacy and Dean of the School of Pharmacy, University of Wisconsin-Madison. After receiving his B.S. (1948) and Ph.D. (1952) from the University of Wisconsin, he joined Merck and Company as a senior chemist in pharmaceutical research. In 1953, he returned to the University of Wisconsin as an instructor, moving up through the academic ranks to full professor in ten years. In 1969, he accepted appointment as professor of Pharmacy and Dean of the University of Illinois College of Pharmacy holding that post until returning to the University of Wisconsin-Madison in his present position in 1980.

Dr. Lemberger has been active in national professional and scientific organizations and held a number of elective offices. He has served on the Executive Committee of the American Association of Colleges of Pharmacy (1971-74), as Vice President (1976-77) and President (1982-84) of the Academy of Pharmaceutical Sciences, as President (1982-84) of the National Rho Chi Society, and as a member (1978-84) and Vice President (1980-84) of the American Council on Pharmaceutical Education. Dr. Lemberger is also a member of the American Association of Pharmaceutical Scientists, the American Association for the Advancement of Science and American Society of Hospital Pharmacists. At the present time, he serves as a member of the American Pharmaceutical Association Board of Trustees (1985-89), Treasurer of American Pharmaceutical Association, and just completed chairing the national commission jointly sponsored by the AACP and the AFPE to study graduate education in the pharmaceutical sciences (1986-88). Among his many honors are the Distinguished Service Award of the Wisconsin Pharmacists Association (1969), the Kiekhofer Memorial Teaching Award of the University of Wisconsin (1957), a citation of Merit from the University of Wisconsin (1977), the Meritorious Award of the Wayne State Pharmacy Alumni Association (1984), and the Rho Chi Lecture Award (1988). He is a Fellow of the American Foundation for Pharmaceutical Education, the Academy of Pharmaceutical Research and Science, and the American Association for Advancement of Science. He is author of more than 65 scientific and professional articles.

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## **Dr. Jeanine Kerl Mount**

Dr. Jeanine Kerl Mount (Assistant Professor) received her B.S. degree (1979) in pharmacy, and M.S. (1982) and Ph.D. (1985) degrees in sociology, all from Purdue University. As a registered pharmacist, she has practiced pharmacy in a variety of hospital and community settings. She is active in numerous professional organizations. Professor Mount joined the UW-Madison faculty in 1985.

Dr. Mount's current research interests focus on two general areas: **1)** the effects of organizational and professional characteristics on the process of health service delivery, and **2)** the social organization of pharmacy and the pharmacy profession in the United States.

Additionally, Dr. Mount is interested in examining the processes of service delivery in terms of how health and social service organizations and their professional staff members address the needs of their patients or clients. She has a particular interest in services for the aged population. An ongoing study examines how a community-based network of health and social service agencies interact to provide integrated services to the aged persons in one community. This research focuses on the structure of administrative and service-related interorganizational relationships and how this structure influences coordination of services. A current research project analyzes the role of the consultant pharmacist in long-term care. More specifically, it focuses on the nature and the effects of consultant pharmacists' interactions with other health professionals (e.g., physicians, nurses, social workers), nursing home residents and their families.

A multidisciplinary study of the organization and provision of services to the severely mentally ill has recently been funded by NIMH. Data collection is scheduled to run through Spring 1990 and will analyze patterns of mental health service provision in (approximately) ten rural Wisconsin counties.

In terms of the social organization of pharmacy, Dr. Mount is also interested in studying the organization and activities of professional and trade associations, the process of pharmaceutical policy making, development of leadership within the profession, and the overall process of professionalization within the pharmacy.

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## **Dr. Bonnie L. Svarstad**

Dr. Bonnie L. Svarstad (Professor) received her MA (1968) and Ph.D. (1974) degrees in sociology from the University of Wisconsin-Madison. Before joining the UW- Madison faculty in 1975, she worked as a medical sociologist at the Dr. Martin Luther King Jr. Health Center and Albert Einstein College of Medicine in New York City.

Dr. Svarstad served on the American Pharmaceutical Association's Task Force on Women in Pharmacy and the National Academy of Sciences-Institute of Medicine Committee to Evaluate Patient Package Inserts. She is currently on the National Advisory Council on Health Professions Education. She has a joint appointment in the UW Department of Sociology. Dr. Svarstad received the 1988 American Pharmaceutical Association Foundation Research Achievement Award in Economic, Social and Administrative Sciences. She was cited for the development of a widely accepted health communication model that helps explain the process of compliance (and noncompliance) of patients to medication regimens.

Dr. Svarstad's research interests focus on three areas: **1)** factors influencing drug utilization in long-term care settings; **2)** the effects of drug information and communication upon patient compliance with drug regimens; and **3)** factors influencing pharmacists' communication behaviors.

In the area of drug utilization, Dr. Svarstad has had an ongoing project to examine the factors affecting sleep medication use in nursing homes. The factors being examined include: the patient's physical and mental status, patient demand, staff attitudes, staffing ratios, and other situational factors. Dr. Svarstad and her colleagues are also studying the factors which influence the quality of antipsychotic drug use in nursing homes. A third project addressed the question of why women utilize more prescription and nonprescription drugs than men. It involved interviewing and auditing the medical and pharmacy records of over 1,000 Wisconsin adults and tested several hypotheses regarding the role of physical and psychological factors in the drug utilization of men versus women.

Dr. Svarstad has a longstanding research interest in the effects of drug information and communication. Based on previous studies, a new theory has been formulated about the linkage between professional-patient communication behaviors and identifying the factors which predict pharmacists' performance as the drug advisor. Dr. Svarstad is helping design and evaluate a compliance monitoring tool to measure the frequency and classes of drug errors committed by patients when given a prescription drug.

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## **Dr. Joseph B. Wiederholt**

Dr. Joseph B. Wiederholt (Professor) received his B.S. degree (1973) in pharmacy from Creighton University and M.S. (1980) and Ph.D. (1981) degrees in pharmacy administration from the University of Georgia-Athens. He is a licensed pharmacist in Wisconsin and Nebraska and has practiced in Nebraska, Texas, and Georgia. Before joining the UW-Madison faculty in 1981, he taught at Creighton University (1973-74) and at the United States Army's Academy of Health Sciences, Fort Sam Houston, Texas (1974-77) with an adjunct faculty appointment at Baylor University. In 1987, he received the Rufus A. Lyman Award. Research interests include investigation of pharmacy and pharmacists' image, the decision-making process for users of pharmaceutical goods and services, and the systematic analyses and economic evaluation of pharmacy services.

The practice of pharmacy is being challenged continuously to adapt to volatile and often turbulent changes in our health care system and its environment. Some factors which affect pharmacy practice in this changing environment are the image of pharmacy and pharmacists, types of consumers, the types of pharmaceutical goods and services, and the types of users. Dr. Wiederholt uses a systems approach to study how the image, the pharmaceutical goods and services, type of consumers, and the health care environment influence consumer decisions to select and continue using a particular pharmacy.

## **Dr. Betty Chewning**

Dr. Betty Chewning, Director of the Sonderegger Research Center, completed her Ph.D. in Educational Psychology and a post-doctoral program in Industrial Engineering at the University of Wisconsin-Madison. Dr. Chewning's research has focused on identifying client needs for health information and support. She has studied how computers can aid increased information dissemination to consumers. Through both teaching and research, Dr. Chewning is interested in promoting effective communication between clients and their health care providers. As part of this interest, she has studied and written about client needs and perspectives of health care.

Currently Dr. Chewning is the principal investigator on a three-year federal research grant funded through the Office of Population Affairs. This grant is evaluating the impact of computerized health education programs in clinic settings located in inner-city Chicago as well as more affluent communities. Client health decision-making as well as the computer's impact of behaviors is being studied.

Also, Dr. Chewning is an investigator on a Swedish funded research grant to develop a drug compliance assessment instrument to be used by pharmacists in Sweden and the United States. Dr. Chewning has been the director and principal investigator on several grants in the areas of health education, client adherence to regimens, and staff roles in health education. Her work in patient education resulted in a series of staff training manuals published and distributed nationally by the American Hospital Association. She has developed several health software programs for adolescents which have been distributed and used nationally.

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The following bibliography lists publications, research reports and papers by faculty associated with the Sonderegger Research Center which contain the Sonderegger Research Center byline. Copies of these papers can be obtained by writing the Sonderegger Research Center.

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Wittenberg, J.A., Wiederholt, J.B. and Hammel, R.W. (1987 Fall). Pharmacists' Opinions About Pharmaceutical Manufacturers: A Follow-Up Study in Wisconsin. Journal of Pharmaceutical Marketing and Management, 2(1), 131-146.

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## PRESENTATIONS AT NATIONAL MEETINGS

Chewning, B. (1988 July). The Pharmacists' Computer as a Patient Educator, presented at the Drug Information Association 24<sup>th</sup> Annual Meeting in Toronto, Canada.

Chewning, B. (1988 June). Antecedents and Sequelae of Adolescent Sexual Risk-Taking, special presentation to the Office of Population Affairs, HHS, and invited federal agency researchers, Washington D.C.

Chewning, B. and Van Koningsveld, R. (1988 November). Factors in Contraceptive Protection by Sexually Active Adolescents, presented at the American Public Health Association Meetings in Boston, MA.

Doucette, W. and Wiederholt, J.B. (1988 April). Patients' Perceptions about Legend Drug Products, presented at American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper section, Chicago IL.

Kreling, D.H. (1987 April). Pharmacists' Reasons for Using Average Wholesale Price in Prescription Pricing, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper section, Chicago IL.

Kreling, D.H. and Wiederholt, J.B. (1986 March). Selecting Health Insurance: The Importance of Prescription Drug Coverage and Pharmacy Factors in Decision Making, presented at the American Pharmaceutical Association annual meeting, Academy of Research Scientists, Economic, Social and Administrative Science paper section, San Francisco CA.

Leung, K.G. and Kreling, D.H. (1988 March). Popularity and Usefulness of Consumer Information Sources about OTC Ibuprofen, presented at American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper section, Atlanta, GA.

Lipowski, E.E. and Wiederholt, J.B. (1986 April). The Development of a Measure of Retail Pharmacy Image, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Sciences paper section, San Francisco CA.

Lobner, T. and Wiederholt, J.B. (1988 April). Criteria used in Recommending Pharmaceutical Services in Skilled Nursing Facilities, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Sciences paper section, Atlanta GA.

Martin, S.S. and Wiederholt, J.B. (1986 April). Pharmacist Involvement in Home Health Care Agencies, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Sciences paper section, San Francisco, CA.

Mount, J. (1989 April). Pharmacists' Attitudes Toward Prescribing Rights for Pharmacists: Cohort Effects on Support for Professional Role Expansion, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Scientists paper section, Anaheim, CA.

Robers, P. and Svarstad, B. (1987 April 1). An Examination of Flurazepam Ordering and Use in Selected Wisconsin Skilled Nursing Facilities, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper section, Chicago IL.

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Schommer, J.C. and Kreling, D.H. (1989 April). Costs of Inappropriate Psychotropic Drug Orders for Nursing Home Patients, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper session, Atlanta GA.

Svarstad, B.L. and Mount, J.K. (1989 April). Understanding Psychotropic Drug Use in Nursing Homes: Linking Theory and Method, presented at the American Public Health Association meetings in Anaheim CA.

Wiederholt, J.B. (1988 April). Consumer Research in the Prescription Purchase Process, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Science paper session, Atlanta, GA.

Wiederholt, J.B. (1986 April). Development of an Instrument to Measure Patient Motivation in Selecting a Pharmacy for Obtaining Prescription Drugs, presented at the American Pharmaceutical Association annual meeting, Academy of Pharmaceutical Research Scientists, Economic, Social and Administrative Sciences paper section, San Francisco, CA.