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ICPSR BULLETIN

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The Inter-university Consortium for Political and Social Research (ICPSR), located at the Institute for Social Research at the University of Michigan in Ann Arbor, is the world's largest repository of computer-readable social science data. For 40 years, the Consortium has served the social science community by acquiring, processing, and distributing data collections on a broad range of topics. Researchers at the Consortium's member institutions may obtain any of these data collections at no charge; researchers at nonmember institutions may also use the data, after paying an access fee. To find out more about ICPSR's holdings or about a specific data collection, visit the ICPSR Web site at www.icpsr.umich.edu.

The ICPSR Bulletin is published to inform interested scholars, including Official Representatives at the member campuses and ICPSR Council members, about topics and events relevant to ICPSR and its data collections. For subscription information, please contact the Editors.

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NACDA: REFLECTIONS FROM A RESIDENT SCIENTIST

Kenneth F. Ferraro
Purdue University

The role of resident scientist is an important one to the National Archive of Computerized Data on Aging (NACDA), but many people are uncertain about what it entails. This is, to some degree, expected. There are few positions like this in the world, and there is no other data archive on aging like NACDA. I was greatly helped in defining the role by the first two resident scientists, Richard Campbell and Fred Wolinsky. As I was concluding my four-year term as resident scientist, Jim McNally and Myron Gutmann asked me to describe the role for others and some of the activities in which I engaged. The main purpose of this essay is to help others better understand who the resident scientist is and what he or she does.

Who and What?

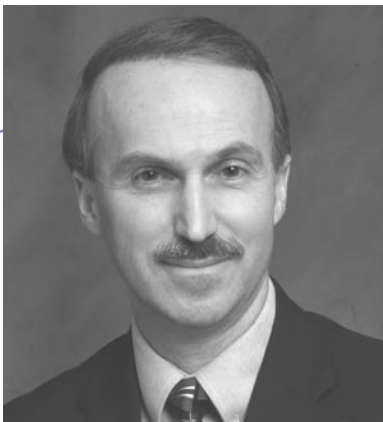
Before I describe the position of resident scientist, it may be helpful to provide some background of my research interests. In a general sense, one might wonder: what type of person would want to be a resident scientist?

My main intellectual interests over the past two decades have focused on understanding the antecedents and consequences of health inequality in adulthood. There are phenomenal health disparities in the United States that have been recognized and targeted for elimination by the Public Health Service. I study these health inequalities, especially as they pertain

to minority aging, with the hope that they will be reduced and ultimately eliminated in our society.

There are many ways to help this ameliorative process, but as a social scientist, I want to conduct scientifically sound research to document the extent of the disparities and the mechanisms that lead to them. Scientifically sound research can be done in many ways, but I was drawn years ago to the rich array of data available through NACDA and ICPSR. I have directed studies collecting new data at the local, state, and national level, but I have been continually attracted to the richness of the data available at NACDA, especially when one considers the external validity afforded by many large national samples. Over the years, the surveys I have used include, but are not limited to:

- *Survey of the Low-Income Aged and Disabled*
- *Longitudinal Retirement History Study*
- *The Myth and Reality of Aging*
- *Aging in the Eighties*
- *General Social Survey*
- *Longitudinal Study on Aging*
- *Americans' Changing Lives*
- *National Health and Nutrition Examination Survey I: Epidemiologic Follow-up Study*
- *National Health and Nutrition Examination Survey II: Mortality Follow-up*



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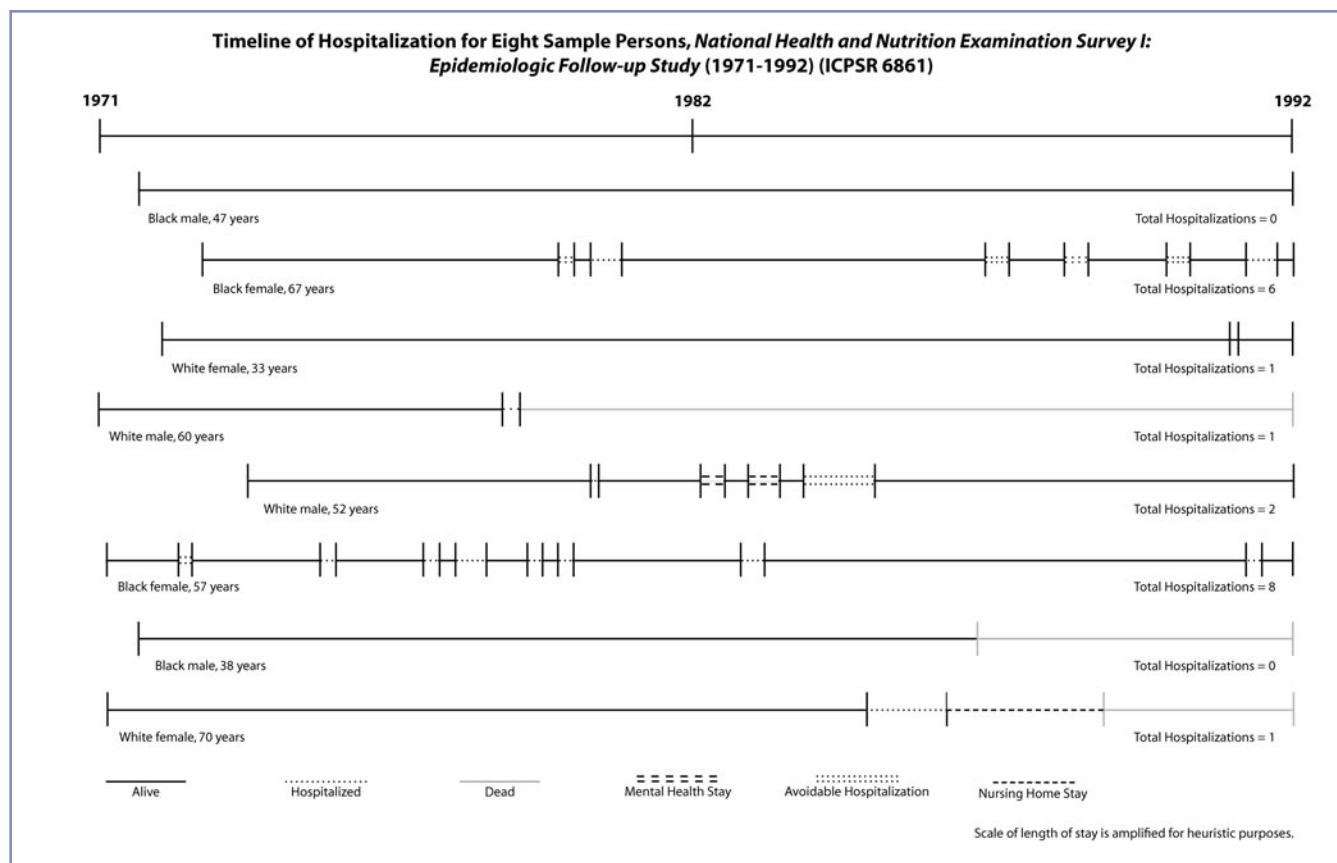
A few of the studies derived from these surveys were cross-sectional in nature. Most of the studies, however, were longitudinal—either repeated cross-sections (sometimes referred to as cohort analysis) or longitudinal panel studies. Almost all of what I have done over the past decade is based on longitudinal data.

One could say that I have been a “heavy user” of survey data accessed through NACDA. Out of the nearly 60 refereed journal articles that I have published, 45 of them make use of archival data. About one-half make use of longitudinal data. For instance, much of my research in the past 15 years has been based on the 20-year follow-up of the National Health and Nutrition Examination Survey I (NHANES I). For an investigator my age to be able to access 20-year follow-up data on nearly 7,000 adults who were interviewed and examined by medical personnel is a privilege that still amazes me. In short, I have profound appreciation for NACDA and the investigators who have archived their data. Archiving data is good for science and, in the long run, a much less expensive way to build research programs than to have many investigators collecting the same information, albeit in slightly different form.

Let me describe one current research project that makes use of the NHANES I and its follow-up, simply to provide an example of the richness of the data to which I refer. In addition to multiple re-interviews and mortality tracing, the National Center

for Health Statistics collected information on hospital stays over those twenty years. This entailed securing the permission of subjects to access the hospital records and then obtaining them for use. Thus, an investigator can see how many hospitalizations occurred over the 20 years, the precise dates of admission and discharge, and the reasons for the hospitalization (heart attack, pneumonia, etc.). We have arrayed these data to give a hospital history for each subject. I profile a few cases in the chart below.

As one can observe, an investigator can count the number of hospitalizations experienced, and also identify the time, type of institution, and outcome for each hospital episode (such as return to their home, mortality, or institutional transfer). Our immediate interest is in avoidable hospitalizations, those which are deemed unnecessary with appropriate medical care. For example, case two—a Black female, 67 years old at the baseline interview—had six hospitalizations, but four of them were avoidable. As noted earlier, my interests are in health inequality, and these data give me a special opportunity to observe it in the lives of Americans in large urban areas and remote rural locations. Think of the amount of time and the resources necessary to collect data such as this—and NHANES I is just one out of the nearly 5,350 study titles (comprised of nearly 100,000 unique files) in ICPSR holdings, almost 20% of which are NACDA related. If it is not clear, I think the first requirement for a resident scientist is enthusiasm for the archive and what it does.



NACDA does not just serve as a library to scientists from dozens of fields, although it is an incredibly secure archive. (It is so secure that principal investigators have turned to NACDA to retrieve their own data after it was lost or stored on outdated media.) NACDA plays an invaluable role in shaping research on aging by making surveys available and assisting users to make scientifically sound use of them. When Richard Rockwell interviewed me about becoming NACDA's third resident, he encouraged me to think about ways that NACDA can have an impact on the field. The resident scientist has a unique opportunity to do so, and I feel fortunate to have had the privilege to help investigators in several ways. What specifically does a resident scientist do? To simplify, I see three main activities for a resident scientist: *advocate, collaborate, and educate*.

Advocate

The advocacy role comes naturally if you believe that NACDA is an unparalleled organization to support scientific and policy research on archival data. Having worked with the highly skilled personnel at NACDA, I hold such a conviction. Nevertheless, others may not understand the work that NACDA does nor the value that it adds to the data archived. A resident scientist, therefore, helps interpret the work of the organization to others—users, other archives, professional associations, and networks of scientists around the world.

There are advocacy roles to play within the organization and ICPSR, more generally. Chief among these advocacy roles is working with the NACDA Council. A distinguished panel of researchers on aging serves as the scientific advisory board for the organization, and the resident scientist is the liaison between the Council and the administrative personnel. Even within the Council proceedings, there is room for the resident scientist to advocate for what he or she feels is needed to advance research on aging.

When I joined NACDA in 1998, there was no official policy regarding archiving data. Of course, there was an informal policy, but a formal one was clearly needed. It stands to reason that if we want to attract interest in archiving, people need to know what types of data are considered high priority. Also, there will always be a shortage of resources to enhance the data that are deposited. Thus, priorities needed to be established to identify those data that are considered essential to the scientific community. I consider it one of my most important contributions to NACDA to have drafted NACDA's Acquisitions and Processing Policy. I then worked with Jim McNally and the Council to revise and implement it. It is publicly available (www.icpsr.umich.edu/NACDA/apolicy.html), but let me mention a couple of the high-priority items. At the top of my list—a virtual tie—I advocated for more (a) longitudinal data and (b) data on minority aging. With regard to the first item, I think

some of the most important breakthroughs in social gerontology have come from longitudinal analyses, and the supply of such data is growing rapidly. Not only are there more two- and three-wave studies, but we are seeing more studies with five or more waves, and these studies open up another vista of analytic techniques to understand the aging process.

The second item, minority aging, stems in part from the fact that many of the early datasets on aging or epidemiology had limited numbers of minority respondents. Often, investigators simply did not have enough cases to actually test a relationship between ethnicity and an outcome. Unfortunately, sometimes investigators were not even aware that the absence of a significant relationship is due to a lack of statistical power (see Ferraro and Wilmoth, 2000, for a discussion of the problem). Many new national surveys have oversamples of minority respondents, and NACDA gives high priority to these types of data.

The resident scientist also advocates for the needs of the scientific community with principal investigators. As I described in a previous column in this publication, investigators who archive their data are heroes and heroines of our field. Let me encourage you to thank them for the use of their data. The resident scientist seeks ways to enhance relations with investigators, both those who have archived and those who have not yet archived.

To be clear, there is some work involved in archiving a dataset. Although the amount of work varies by how well managed the data files are, some investigators find that they need extra time or money to get the data in a form that is “archivable.” In a Council meeting a couple years ago, Richard Campbell suggested that we might want to consider a small grant program to help people archive. We then worked with the National Institute on Aging to include archiving in its R03 mechanism. We are delighted to say that this mechanism has worked wonderfully. NACDA is now adding datasets that were heretofore not available to the public, such as the Charleston Heart Study.

Collaborate

Another major activity of the resident scientist is collaboration. There are numerous proposals to write and the resident scientist needs to be a reviewer for many of them. He or she may also write portions of proposals.

NACDA also works with investigators who need information on the use of their data. One investigator was proposing another wave of a longitudinal dataset. Learning of this, I mentioned that we could provide usage data from the NACDA Web site. I helped make the connection, NACDA staff

delivered the usage data, and the project was funded for another wave. There are many ways that NACDA helps investigators, and the resident scientist often has a role to play in fostering such collaborations.

Finally, NACDA actively seeks minority scholars to work with the data, so the resident scientist helps with post-doctoral fellows, some of whom are in residence, on research projects. This also relates to the third activity: educate.

Educate

The resident scientist is an ambassador for the organization at a variety of professional meetings. We have had a strong presence at the Gerontological Society of America, frequently organizing pre-conference educational workshops. I organized one entitled "Selection Bias in Longitudinal Research on Aging: New Approaches for Using All of the Data" at the 1998 annual GSA meeting. There are other meetings in which NACDA participates, either routinely or occasionally, ranging from the American Psychological Association to the Population Association of America.

NACDA has worked for years with the ICPSR Summer Program to offer a summer workshop on aging research. It is the responsibility of the resident scientist to design the workshop. For 1999, I recruited the late Lee Lillard to teach a workshop on "Nonrandom Selection in Aging and Retirement Studies." The course was repeated in 2000, shortly before the untimely death of one of our most gifted scientists of aging and the life course. I miss Lee, but I know of at least 50 people who had the chance to observe his quiet confidence in handling what appeared to be even the most formidable attrition problems.

For 2000 and 2001, I organized and taught a workshop entitled "Research on Minority Aging and Health." Covering topics from statistical power to attrition, the workshop had a familiar goal: helping investigators conduct scientifically sound research that will help us redress the health inequality in American society. It should also be evident from the educational topics that I fostered during my term that I view attrition as a topic of concern for our times. Viewed from a different perspective, however, the "attrition problem" is actually a sign of scientific achievement—a natural outcome of our greater use of longitudinal panel data (Ferraro and Kelley-Moore, in press). On the educational front, I sought to bring to the forefront a discussion of ways to test for selection bias in longitudinal panel studies and correct for it when necessary. I believe Duane Alwin, our current resident scientist, is extending this consideration in the 2003 summer workshop.

NACDA in 2006?

As I completed my term as resident scientist, I felt very thankful for the experience. It was intellectually exciting and socially engaging. I also think NACDA is in good hands and headed for even better ways to serve the scientific community on aging. As I look ahead, it is my hope that I will see several things in existence in 2006.

First, it is my hope that the Data Documentation Initiative (DDI) will be fully operational by 2006. Over the past several years, a select international committee, known as the Data Documentation Initiative (DDI), has developed what is rapidly becoming an international standard for the content, presentation, and transport of "metadata" about datasets in the social and behavioral sciences. What is very exciting is that codebooks can be created in a uniform, highly-structured format that is easily and precisely searchable on the Internet. This would be a tremendous benefit to research on many fronts, but think of the possibilities for aging research. Select a topic or set of measures, and quickly and conveniently search across datasets. If we are serious about desiring more comparative analyses in the social sciences, DDI needs priority.

Second, I hope that NACDA will be further along in its work to "enhance" existing data. For health and aging researchers, the two most likely enhancements would be links to the National Death Index and links to ecological data. There are many excellent cross-sectional datasets on health in the archive. If those data can be linked to the National Death Index, then we can transform them into longitudinal datasets for studying mortality. I am continuing my efforts in this regard even after leaving NACDA. The other enhancement comes with great interest in multi-level modeling and the availability of ecological data. Although maintaining subject confidentiality is key, if existing survey data are geocoded, links to ecological data will open a new vista of scientific inquiry. I look for progress on both of these fronts.

Finally, I envision continued secure access to the premiere archive on aging in the years to come. NACDA and ICPSR have a strong record of secure access, and I am confident that this will be maintained.

• Works Cited

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ANNOUNCEMENTS

ICPSR Receives Third Renewal of NIJ Data Resources Program

The National Institute of Justice (NIJ), a component of the Office of Justice Programs and the research and development agency of the U.S. Department of Justice, recently awarded its Data Resources Program (DRP) contract to ICPSR for the third time since the initial award in 1992.

The DRP operates at ICPSR within the National Archive of Criminal Justice Data (NACJD), under the direction of Dr. Christopher Dunn. The DRP ensures the preservation and availability of research and evaluation data collected through NIJ-funded research. Data collected through NIJ-funded research are archived and made available to others in order to support new research, reproduce original findings, or test new hypotheses. Information about the DRP is available on the NIJ Web site at www.ojp.usdoj.gov/nij/dataprogram.htm.

Data holdings of the DRP have grown steadily over the decade that the program has been housed at ICPSR. From a total of 125 archived studies in 1992, the number has grown to nearly 450 in 2003. Over the life of the contracts, the DRP staff has released an average of 31 studies per year, but in more recent years the average has increased to about 40 studies per year. The change in distribution statistics has been even more dramatic. In the last quarter of 1992, 76 DRP datasets were disseminated (via magnetic tape), while 4,780 studies were accessed or downloaded (via the Web site) during the last quarter of 2002.

Professor James Lee Becomes Faculty Associate

The University of Michigan has appointed James Z. Lee to several positions beginning in Fall 2003. Professor Lee, formerly at the California Institute of Technology, will hold the positions of Professor of History and Sociology, Senior Research Scientist at the Population Studies Center in the Institute for Social Research, Director of the Center for Chinese Studies, and Faculty Associate at ICPSR.

Professor Lee received his Ph.D. from the University of Chicago. His research interests include the social and economic history of China as well as comparative historical and contemporary demography. Among his publications are *Life Under Pressure: Mortality and Living Standards in Europe and Asia 1700-1900*, MIT Press, 2003 (with Tommy Bengtsson and Cameron Campbell et al.); *One Quarter of Humanity: Malthusian Mythology and Chinese Realities, 1700-2000*, Harvard University Press, 1999 (with Wang Feng); and *Fate and Fortune in Rural China: Social Organization and Population Behavior in Liaoning, 1774-1873*, Cambridge University Press, 1997 (with Cameron Campbell).

E-mail Notification of Recent Updates & Additions

The ICPSR archival staff releases new collections and updates to our holdings on a regular basis. These releases are found on the Recent Updates & Additions page on our Web site. (The link can be found on the Data Access and Analysis page, www.icpsr.umich.edu/access). To provide users with up-to-the-minute information about newly released collections, ICPSR is introducing an electronic notification service, Recent-Updates-and-Additions. E-mail announcements will be sent approximately once a week, beginning in mid-April.

ICPSR Official Representatives will be signed up for this service automatically, and will be able to forward this information on to interested users on their campus or post it on their own Intranets. New Representatives will automatically be enrolled in the service. Any enrolled user may unsubscribe from and resubscribe to the service as they wish.

To subscribe to Recent-Updates-and-Additions, please visit our notification service Web page through the link at www.icpsr.umich.edu/access.

If you have any questions or comments, please contact the User Support staff at netmail@icpsr.umich.edu or 734-647-2200.

ICPSR 40th Anniversary Symposium and OR Meeting

The 27th Biennial Meeting of ICPSR Official Representatives (ORs) will take place October 9-12, 2003, at the University of Michigan in Ann Arbor. In honor of ICPSR's 40th anniversary, this year's meeting will include a special symposium, *Privacy in the Information Age*. Other highlights of the meeting will be sessions on the Data Documentation Initiative, integrating data analysis into the classroom, and innovations in Web-based data access. Workshops will explore the new ICPSR Web site, the ICPSR Bibliography of Data-Related Resources, and potential ICPSR data acquisitions, as well as other subjects of vital interest to social scientists and data archivists. For more information, please check the OR pages of the ICPSR Web site at www.icpsr.umich.edu/or-public.

New Publication Schedule

Beginning in Autumn 2003, the ICPSR *Bulletin* will be published twice a year, rather than quarterly. If there are *Bulletin* articles or announcements that you would like to see, please feel free to get in touch with the editors at editors@icpsr.umich.edu.

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