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Rural Mental Health Research Center

Improving the availability and quality of mental health care for rural, impoverished, minority individuals

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UNIVERSITY of VIRGINIA SCHOOL of NURSING

SOUTHEASTERN RURAL MENTAL HEALTH RESEARCH CENTER

FINAL PROGRESS REPORT

Funding July-1992-June, 2000

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Director, 1999-Present

Founding Director and Principal Investigator: Jeanne C. Fox, PhD,RN,FAAN,
1992-1999

INTRODUCTION

Originally funded in 1992 as a public-academic liaison (PAL) mental health service research center focused on the rural Southeast, SRMHRC has developed and maintains strong ties with the Virginia Department of Mental Health, rural community mental health centers, public health centers, social services agencies, and cultural institutions, as well as active consumer groups. Our program of research has documented the rural de facto mental health system and has identified high unmet need for mental health services among those in rural, poor, and African American Southeastern communities. The unmet needs and the barriers that must be overcome to provide care led us to change our focus to testing economically feasible ways of improving mental health care in the rural Southeast. SRMHRC brought together an interdisciplinary group of young and experienced investigators, as well as collaborators and consultants from a variety of academic areas, from public agencies and from consumer organizations to develop a cohesive body of knowledge to inform and improve rural mental health care. SRMHRC was successful in recruiting women and minorities as investigators and consultants.

In studying the needs of the rural Southeastern population, we found that the best approach uses both quantitative and qualitative approaches; and, accordingly, in the last five years of funding we recruited investigators to strengthen each area and we adapted and developed new methodologies. Because many impoverished individuals and African Americans live in the rural Southeast, we developed a working group to focus on their distinct cultural contexts and perspectives. This group was involved in informing measurement and interventions within our program of research.

Our research over the last five years of funding was framed by the Rural De Facto Mental Health Services Model (Fox, Merwin, & Blank 1995). This model characterizes the rural system as a loose and fragmented collection of overlapping but distinct services divided into (1) formal mental health providers (e.g. specialty mental health and addictive disorders, general medicine and nursing homes), (2) informal care providers (e.g. voluntary support network, including self-help groups, family, and friends), and (3) other human service professionals. Particular attention was devoted to understanding the optimal social distance required for effective linkage between formal and informal rural mental health service providers (Fox, Blank, Kane, & Hargrove, 1994). In this Balance Model, overly distant relationships may prevent informal providers from drawing on the expertise of formal providers; however, overly close relationships may repel consumers who perceive the informal providers as co-opted by the formal system. The focus of the last five years has been on fully developing this framework. In turn this framework shapes the next phase of our research by suggesting important problem areas, barriers to overcome, non-traditional settings in which individuals may seek care, and informal supports that are important to our populations.

Guided by these models, our work was organized around four goals:

(1) to describe the de facto system (formal and informal services) utilized by rural minority and impoverished high-risk individuals in need of mental health services;

(2) to examine how linkages between formal and informal providers affect problem identification, service utilization and outcomes;

(3) to examine availability, competence (including cultural competence), and effectiveness of providers in the southeastern U.S.; and

(4) to develop culturally competent mental health services research methods, instruments, and interpretation of findings.

To meet these goals, the Southeastern Rural Mental Health Research Center sought to increase our methodological capacity, to increase the number of investigators studying rural mental health care, and to enhance the capabilities of our interdisciplinary research team.

ADDITIONAL RESEARCHERS / CHANGES IN TOPICAL AND METHODOLOGICAL AREAS

The summary critique from the last review guided many improvements made within SRMHRC over the last five years of funding (1995-2000). Increased methodological capability, increased representation of disciplines, increased quality control procedures for proposal development, publications, data management, and statistical analyses are examples. Our capacity to study informal and cultural aspects of care were furthered through the recruitment of additional anthropologists. Our ability to study poverty, class, and ethnicity was

improved with the recruitment of sociologists. A major effort was the recruitment of additional researchers to study rural mental health. Of particular importance was increasing our cadre of clinician researchers with the goal of increasing our focus on clinical and systems intervention research. Dr. Jeanne Miranda, a professor at Georgetown University worked with SRMHRC through a contractual arrangement during the last two years of funding. She is a psychologist with extensive experience adapting empirically validated interventions for depression for poor, minority individuals. Larry Merkel, M.D., Ph.D. also assumed a leadership role as Director of Psychiatric Medicine. A former Robert Wood Johnson Clinical Scholar and Markel Fellow, he is a practicing geriatric psychiatrist with a doctorate in anthropology interested in studying suicide belief systems. Donna Chen, M.D., M.Ph. is a psychiatrist trained in public health, and ethical and legal issues. She has treated individuals with all types of mental illness in both community and primary care settings. She joined SRMHRC as a research fellow funded by an NIMH administrative supplement. Stephen Petterson,Ph.D. is a sociologist who specializes in social stratification, poverty, and organizational analysis. With seed money from the Center, he wrote a successful R01 grant proposal to study poverty and psychological distress that was funded. Bruce Dembling, Ph.D. came to SRMHRC following a NASMHPD Post-Doctoral Fellowship experience at Harvard University. He was responsible for developing a series of pilot studies related to the measurement of rural. He developed Geographical Information System capability for the center. Dr. Ivora Hinton, a developmental psychologist, joined SRMHRC and served as Data Manager and as Co-director of the cultural work group. She established a standardized approach to data management and analysis for the multiple projects for the center as well as establishing and maintaining our web page.

The addition of new investigators facilitated several new pilot studies to be initiated that had not been identified in the proposal and some of the original ones were not implemented due to changing priorities or other circumstances. We sought to respond to the changing needs of the delivery system, to facilitate implementation of the suggestions of the review, and to incorporate the talents of newly recruited investigators as we chose staff, recruited new faculty and developed new relationships with community partners. For example, welfare reform and managed care were emerging important policies with the potential to influence the mental health delivery system----so we developed a research program on welfare reform, poverty and mental health. We also developed relationships with regional social service agencies and with other universities to facilitate the implementation of this research program.

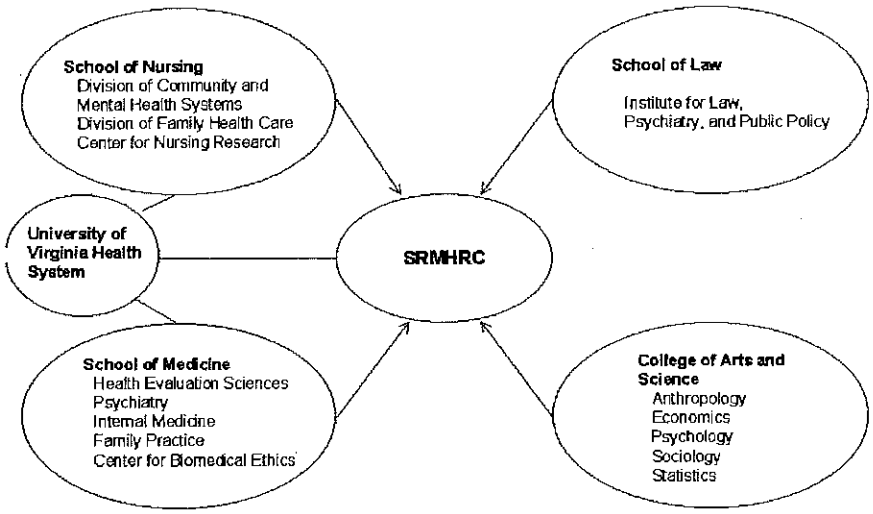
Methodological improvements in our measure of poverty was emphasized in our review. The potential for improving the relevance of all of our studies through better measures of rural and the incorporation of a capability of using Geographical Information System software was recognized. Studies were developed in these areas. Similarly tele-health/medicine capabilities were increasingly available and offered potential to improve access to mental health care. Therefore we developed a series of studies in this area. These studies were developed based on changing priorities at NIMH which encouraged a greater emphasis on conducting studies of clinical or system interventions which have direct applicability to the provision of care. For this reason we also recruited additional clinician/researchers to work with our center and recruited an experienced mental health services researcher to work with us through a consulting arrangement as a visiting professor to assist us in incorporating more clinical and systems interventions into our work. We also expanded our clinical focus to increase our focus on primary care. There were pilot studies planned at the time of grant submission which were not implemented due to these changing priorities or other circumstances.

INTERDISCIPLINARY RESEARCH TEAM WITH COMMUNITY COLLABORATORS

One of SRMHRC's strengths is its ability to develop relationships with faculty throughout the University of Virginia and provide the support, advice, and research assistance to allow faculty with strong disciplinary research skills to apply those skills to important rural mental health issues. SRMHRC's efforts have stimulated sustained interest among investigators not previously involved in mental health services research. For example, Steven Stern's NIMH R01, "Advanced Statistical Methods for Community Tenure," and Stephen Petterson's "Poverty and Psychological Distress" NIMH R01 are examples of SRMHRC successfully identifying investigators without prior mental health research and involving them in our focus areas. In addition, we maintained strong relationships with consumer and advocacy groups as well as rural community mental health centers, primary care clinics, and community organizations throughout the funding period. The resources and

leadership provided by SRMHRC both facilitated interdisciplinary collaborations and focused attention on rural mental health services research. Figure 1 identifies the relationships that were developed between SRMHRC and different areas of the University which facilitated involvement in SRMHRC research activities. The synergy and stimulation of research that was created within this interdisciplinary Center provided a solid foundation for major contributions in the field of rural mental health services research at this critical period of change in health care delivery.

Figure 1. Collaborative Links of SRMHRC Within the University of Virginia



Also a new collaboration with the Department of Health Evaluation Sciences (DHES) was developed since the proposal was funded. DHES was founded in 1995. DHES provides comprehensive and multidisciplinary scientific and analytical services to the Health System and the remainder of the University of Virginia community. It is devoted to the discovery and development of new approaches and research strategies for health and disease description, prognosis, clinical and genetic risk assessment, information transfer, biostatistical and epidemiological research, medical decision-making and medical practice delivery for individuals and populations. The Director of SRMHRC, Elizabeth Merwin has a Joint Appointment with HES. HES provided some statistical consultation to SRMHRC toward the end of the funding period. SRMHRC has also assisted and collaborated with faculty in HES in the development of mental health research proposals.

Minority Investigators

SRMHRC has a diverse group of investigators, including at least 10 self-identified minority investigators; 40% of investigators are women. Donna Chen MD,MPH received a minority Administrative Supplement to the SRMHRC project. She participated in all aspects of SRMHRC research contributing her strong clinical knowledge and public health background to the design of studies while increasing skills in conducting mental health services research. She developed relationships with University of Virginia faculty in mental health law and biomedical ethics to enhance SRMHRC research. Dr. Chen worked closely with Richard Bonnie (Director of the Institute for Law, Psychiatry, and Public Policy) and Jonathan Moreno (Director of the Center for Biomedical Ethics) to focus on issues pertinent to rural mental health services research. Dr. Chen's interests in ethics and psychiatry led to her current position as a NIH fellow in psychiatry and ethics. She contributed to an increase in center methods in adapting consumer oriented interventions in rural mental health. She also contributed to the center's work regarding cultural issues in mental health, specifically reducing disparities in mental health care for ethnic and racial minority populations.

Students

Special effort is made to recruit minority students as student workers for SRMHRC. Thirty-eight percent of prior RAs are minority students, and 71% are female. Efforts have been made to encourage doctoral students at the University of Virginia to conduct their dissertation research with SRMHRC affiliated faculty. There have been 8 dissertations which have been completed by students of SRMHRC faculty related to SRMHRC priorities. Two dissertations received partial financial support from SRMHRC. Their dissertation abstracts are in the Appendix to this report.

EXTERNAL RELATIONSHIPS OF CENTER: PUBLIC ACADEMIC LIASON (PAL) AND CENTER ASSOCIATES

SRMHRC developed strong PAL affiliations, both with public agencies and with consumer and advocacy groups and worked closely with many different public health care agencies. Particularly important was our relationship with the Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS). The Commissioner served on the National Advisory Board and the Department's Director of Research and Evaluation served on our Steering Committee. We co-sponsored two conferences with DMHMRSAS and conducted an evaluation of their outcomes performance system and a demonstration PACT program. We were also asked by the Inspector General of the State of Virginia to design and implement a study of patient outcomes following discharge from inpatient care. Many SRMHRC studies were conducted in rural community mental health centers, public health clinics, clubhouses, consumer-run drop-in centers, and with churches. In addition to conducting research in PAL sites, SRMHRC frequently conducted collaborative research and provides consultation to PAL investigators in the submission of their own research proposals.

Each goal of the center is presented followed by a description of work accomplished to meet the goal.

GOAL 1: DESCRIPTION OF THE DE FACTO SYSTEM

One accomplishment of SRMHRC was the "De Facto Project," which examined the prevalence of mental disorders in the rural South and help-seeking patterns. This project was expanded from the proposed design to incorporate a help-seeking intervention. We have also carried out a number of related projects that examined the consequences of policy changes—particularly, managed care and welfare reform—on mental health care in rural areas. Finally, we have studies that investigated the prevalence of mental disorders in rural primary care clinics and the public health impact of mental disorders.

The De Facto Project (Jeanne Fox, P.I. Funding: SRMHRC)

This multi-phase project investigated the prevalence of mental disorders, help-seeking behaviors, usage of mental health services, and barriers to care for impoverished rural Southern residents. A sample was selected from nine rural counties that resulted in nineteen census block groups that were 100% rural, where 15% or more of the residents were poor, and at least 10% were minorities. The completed sample had 646 respondents; 28% of the target sample was interviewed, and the consent rate of those contacted was 49%. Of the households approached, a large number were not occupied (36%), not approachable (7%), or refused to participate (30%). This low completion rate was not unexpected for the poor rural population being surveyed. The initial interview was conducted in the home. One month after they were surveyed, respondents were contacted by telephone; 87.6% of the original respondents completed this follow-up interview. Finally, eight months after the initial interview, an attempt was made to interview respondents a second time those who screened positive for mental disorders and a sub-sample of those who screened negative in the initial interview (n=143).

Prevalence of Depression and Anxiety (De Facto Project, 1)

The first phase of the de facto project obtained data on prevalence rates for the rural poor (Fox, Blank, Berman, Rovnyak, Burkett et al., 1999). All subjects were screened for eight disorders using the Composite International Diagnostic Interview (CIDI) Short Form. Substantial levels of disorder were found; 33% (209/642) of the sample screening positive for at least one mental illness. Most common was simple phobia (16.6%), followed by major depressive episode (13.6%). These results are comparable to those obtained from the National Comorbidity Survey and Epidemiologic Catchement Area program. Nine percent had both a depressive disorder and an anxiety disorder. Highest prevalence of mental disorders occurred in young adults. Only 30% of those who screened positive for depressive and/or anxiety disorders reported any lifetime use of mental health services. The low utilization of mental health services relative to the high use of primary care providers by those with disorders (83% in the past year) suggests that primary care would be an apt site for interventions.

Untreated Mental Disorders and Help Seeking (De Facto Project, 2)

The next step in the study assessed the impact of an educational intervention and the inclusion of a significant other on help-seeking (Fox, Blank, Berman, & Rovnyak, 1999). The 209 respondents who screened positive for a disorder were randomly assigned to one of three groups: (1) no intervention, (2) an educational intervention, or (3) the educational intervention with a significant other present. The intervention consisted of disclosure of the screening result; pamphlets focused on depression, anxiety, and alcoholism; a video on the respondent's disorder; information about local service providers; and encouragement to seek

help. One month later subjects were asked if they had sought help. Overall, only 6% of the individuals did. Although the educational intervention slightly improved the rate of help-seeking, there were no statistically significant differences between the intervention group (11%) and the control group (5%). The presence of a significant other during the intervention had a *negative* effect on help seeking. Also, out of 84 respondents who screened positive, received the intervention, and reported that they had discussed the interview with a friend or family member, only 11 were encouraged to seek treatment by them.

Barriers to Help Seeking for Mental Disorders (De Facto Project, 3)

The third phase examined barriers to seeking needed health and mental health care (Fox, Blank, Rovnyak, & Barnett, 1999). During the initial interview, subjects reported that the greatest barriers were cost of care (40%), lack of insurance (30%), inconvenient hours (18%), and unavailability of care (15%). Those who screened positive for mental disorders were more likely to cite such barriers than those who screened negative. When subjects who screened positive and received the intervention were subsequently asked why they did not seek help, 81% replied there was "no need." When asked whom they would consider consulting for help with a mental health problem, 82% said they would consider going to a physician and 71% indicated they would go to a friend or family member. However, when asked whom they actually consulted, many turned to informal providers—friends and family (14%) and ministers (5%)—as well as formal providers—physicians (4%), psychologists (6%), and nurses (4%). Non-whites were significantly more likely than whites to state they would seek out mental health care if available through their church (93% vs. 68%) or physician (93% vs. 68%).

Managed Care and Welfare Reform

Center researchers also examined the effects of policy decisions in managed care and welfare reform. To understand the consequences of managed care for rural areas, SRMHRC is collaborated with researchers from the University of North Carolina and Virginia Commonwealth University in a study of the effects of managed care in the Tidewater area of Virginia. A related study provides a context for the Tidewater project by investigating the "Obstacles to Rural Managed Care." Also, Shelton et al (1995) discusses managed care within the context of health care reform. Welfare policy changes which led to rapid decline in the number of recipients appears to have substantially lowered the number of eligible families that receive Medicaid, altering the relationship between the mental health system and impoverished populations. There is also concern that welfare recipients with mental illnesses face considerable difficulty finding work. We worked in a partnership with the Department of Social Services in Planning District 10 of Virginia to assess the impact of welfare reform for both rural and urban populations. Each of these projects is discussed below.

Obstacles to Rural Managed Mental Health Care. Elizabeth Merwin (Funding: SRMHRC)

This research described the penetration of managed care in rural areas (Merwin, Fox, Dembling, Blank, & Eorio, 1999, unpublished). Data from the Agency for Health Care Policy and Research and the Health Care Cost and Utilization Program were used to estimate private HMO and alternative reimbursement rates in community hospitals. The analysis used 6.5 million discharge records, weighted to represent 34.8 million discharges nationally in 1996. Rates of HMO reimbursed care were substantially higher in core metropolitan areas (18%) than in lesser metro and rural areas (5-7%). The most rural areas had HMO rates below 1%. Of all HMO reimbursed health care nationally, 3% was for primary mental health diagnoses. Further analyses show that of all mental health care in the U.S, 14.8% was reimbursed by HMOs. In core metropolitan areas, 15.1% was HMO, compared to only 0.2% in the most rural areas. Based on these small percentages of care paid for by HMOs in rural areas, we conclude that managed care had not really reached rural areas by 1996.

Prospective Study of Effects of Welfare Reform on Children and Families in Planning District 10. Ivora Hinton and Michael Blank. (Funding: Department of Social Services, Charlottesville, PAL*)

This study examined the impact of welfare reform on Temporary Aid to Needy Families (TANF) recipients in Planning District 10 of Virginia. This study showed that the likelihood of employment was lowest for recipients without childcare or adequate transportation. Also important were financial burdens, housing problems, criminal records, parenting problems, and learning disabilities. The second part of this study, currently underway, is conducted on welfare recipients in Planning District 10 who are presently or previously enrolled in the "Virginia Initiative for Employment Not Welfare Program" (VIEW) with the goal of providing richer data on the relationship between mental health and employability. Early results indicated

that major depression, dysthmia, general anxiety, and panic attacks are significantly related to cumulative stress. In turn, mental health status, along with educational attainment, barriers to welfare services, and attitudes toward low-paying jobs, were the best predicators of employment.

Rural Primary Care Settings

SRMHRC researchers conducted several studies to determine patterns of mental disorders in rural primary care (Hauenstein, 1999; Philbrick, Connelly, & Wofford, 1996). In one example, prevalence rates of mental disorders in two rural primary care clinics (n=350) are at least as high as those in urban primary care clinics (Philbrick, Connelly, & Wofford, 1996). Specifically, 34% met criteria for one or more of the disorders evaluated by the PRIME-MD and that 19% met criteria for specific disorders according to the criteria from the *DSM-III-R*. Mood disorders were the most common (22%), followed by anxiety disorder (12%) and somatoform disorders (11%). Mental disorders were associated with significantly lower function as measured but the eight MOS SF-36 scales and higher utilization of office services ($p<.001$). While the rural patients in this study represented a wide range of educational levels and socioeconomic groups, they found the PRIME-MD acceptable, and with few exceptions, were able to understand and answer the questions.

Public Health Impact of Mental Disorders

An examination of mortality patterns indicated the Southeast has higher than expected rates of non-injury deaths, accidents, homicides, and infant mortality (Dembling & Wheeler, 1998; Dembling, 1999 /http://Minerva.acc.virginia.edu/~srmhrc/). Another study examined deaths among 47,000 persons in a state mental health authority between 1985 and 1994 (Dembling, Chen, & Vachon, 1999). Overall, as compared with other state residents, former patients with serious mental illness died on average 8.8 years earlier than non-patients, died earlier from all causes of death, and had a disproportionately high frequency of external injuries, including accidents, homicides, suicides, and unexplained deaths. Suicide rates in Virginia are highest among males in poor, white, rural counties (Dembling & Merkel http://minerva.acc.virginia.edu/~srmhrc/). Another study documents the reluctance of persons who eventually commit suicide to seek help and the inability of family members to detect severe mental distress in this high risk population (Chen & Dembling, 1999).

Summary

Together these studies have furthered our understanding of the rural de facto system. They reveal high rates of mental disorders both in rural communities and in rural primary care settings comparable to those in urban areas. Center research also documents the reluctance of many rural residents, even those who were told they screened positive for mental disorders, to seek out mental health care. Moreover, they show that simple educational interventions, such as the one devised for the de facto project, are not particularly effective in increasing rates of help-seeking. This is of concern because of high rates of premature deaths from preventable causes and high suicide rates among persons with mental illnesses. On a more positive note, our results also suggest that primary care settings as well as churches may be apt settings for mental health interventions.

GOAL 2: LINKS BETWEEN FORMAL AND INFORMAL PROVIDERS

Informal health services are a major component of the de facto mental health system in the South. SRMHRC examined how linkages among formal and informal providers affect mental health problem identification, service use and outcomes. We investigated how churches interact with the mental health system and also examined consumer self-help efforts and the extent to which these are linked to formal mental health systems of care. We also examined the effect of links between informal and formal service providers on patient outcomes.

Mental Health Care and Churches in the South. Michael Blank (Funding: SRMHRC)

This study investigated the extent to which the church provided programs that supported the mental health of their congregations and their referral patterns to formal services (Blank, Mahmoud, Fox, & Guterbock, 2002). The sample consisted of 269 churches with Black and non-Black congregations in urban and rural areas in the Southeast. Church leaders provided information about the type of mental health services they offered and referrals made. A main finding was that urban churches provided more services and of a greater variety than did their rural counterparts. Black churches offered significantly more programs than non-black churches regardless of urban or rural location. Few linkages with formal provider systems were found between churches and formal health and mental health providers. This was especially true in predominantly

black and rural congregations. Using the same data, a second study investigated an association between religious beliefs and potential barriers to mental health services (Ferguson, Blank, Hinton and Dembling, 2000). This study found that white fundamentalist pastors perceived a greater conflict between a spiritual approach and use of professional therapy than did black pastors.

Consumer-Operated Programs. Michael Blank (funding: SRMHRC, PAL*)

One study tested the effectiveness of "Club Net"—a telephone service linking consumers with other consumers, and with their case managers (Agee, Blank, Fox, Burkett, & Pezzoli, 1997). The main finding was that the system failed because it was not sufficiently adapted for use by individuals with severe mental illness and because key stake-holders in the development of this intervention were insufficiently involved in its development. Of the 500 clubhouse members, three consumers were responsible for 85% of the total system usage. Case managers with the greatest initial interest had the greatest usage among clients. Many case managers expressed concern that the system was too impersonal or too difficult for the individuals it was to serve. A second study examined the role of a consumer-run drop-in center in the lives of those who used it. It served about 55 persons per day with an average number of 41 visits each per year. Thirty-seven percent of participants were in mental health treatment; the remainder received all their treatment at the drop-in center (Silverman, Blank, & Taylor, 1997). This study found that drop-in center participants were those who were dissatisfied with CMHC treatment and were disproportionately young, male, African American and those who lived independently.

Care Provision and Community Adjustment of Rural Consumers with Serious Mental Illness. Catherine Kane with Michael Blank and Paul Hundley (Western State Hospital) (Funding: SRMHRC, PAL*).

This study examined the effect of care providers' attitudes and support on the life quality of 40 consumers with severe and persistent mental illnesses living in the community. Semi-structured interviews were conducted with consumers, their case managers and a family member or an adult home provider. Important findings include a significant association between informal care providers' attitudes and consumer's well-being. The extent to which informal care providers helped consumers also was related to life satisfaction and stress. Consumers' life stress was directly related to informal care provider attitudes and lack of help from case managers. There were indirect effects on consumer life quality mediated by formal providers' links to informal care providers. Case manager's support of informal care providers was directly correlated with consumers' receipt of help from informal providers. Informal care provider attitudes were directly related to lack of help from formal care providers, which in turn affected consumer life stress and symptoms. The pattern of associations suggests that consumer adjustment is inversely associated with life stress, symptoms, and positively related to help from case managers, attitudes and support of informal providers, and the links between informal and formal providers.

Summary

Together this research begins to understand the complex interrelationships among consumers, informal providers and the formal mental health system. Results from the church and drop-in center studies show that informal systems of care often do not have working relationships with formal systems of care, and that there are either no incentives or disincentives to collaboration between these two systems of care. These studies suggest that consumers know what they need and want from formal health providers, when their care is of high quality, and how they need it delivered. These studies also reinforced the idea that consumers can mobilize and act in their own behalf to improve mental health care. Finally, Kane's research shows that where strong ties exist among the consumer and informal and formal care providers that the linkages can have strong effects on consumers' quality of life; consumer outcomes also can be mediated by the relationship between the informal and formal mental health care systems.

GOAL 3: EXAMINATION OF PROVIDERS IN THE SOUTHEAST

Several studies were conducted to examine the availability, competence, and effectiveness of mental health providers in the rural Southeast. These studies addressed rural residency of mental health providers, organizational characteristics that affect provider distribution, and demand characteristics that affect actual distribution, including patient migration, and service use patterns. An intervention study was also conducted.

The Impact of Mental Health Service Availability and Level of Services on Community Outcomes in Rural Areas. Elizabeth Merwin with Bruce Dembling (Funding: SRMHRC)

This study served as the basis for the centers' use of secondary data during the funding period. The investigators sought out data sets with potential usefulness to understanding outcomes of rural mental health. Initially extensive evaluation of the different measures of rural was undertaken. The investigators used the Area Resource File, Census Data etc with Geographic Information System software to increase our understanding of the effect of different measures of rural. We then examined the availability of different mental health resources---from providers to organizations using maps and resulted in the development of psychiatric health service areas as discussed below.

We also have evaluated the relationship of resources and outcomes. Outcomes examined include age-adjusted rates (ADR) for suicide, and geographic migration patterns of persons with SMI and for clients who had three or more admissions. A regression model for Virginia counties controlling for income found that ADRs for suicide were significantly higher in rural white counties that also had high rates of state hospital use and violent crime. These analyses are being used to support the development of a study on the cultural aspects of suicide. The study of migration showed that migration was higher for whites vs. African Americans, men vs. women and unmarried vs. married patients. Patient migration was generally from rural toward urban counties; however this flow was uncorrelated with trends in the general population. In-migration was more prevalent in counties with state hospitals. Persons living in more rural counties at Time 1 were more likely to have migrated by last admission.

Psychiatric Health Service Areas in the Southeast. Bruce Dembling and Elizabeth Merwin (Funding: SRMHRC)

This study defined Psychiatric Health Service Areas (PHSAs) in the southeastern United States, using a method that overcomes arbitrary aspects of political boundaries. A total of 422,765 hospital stays for a primary psychiatric disorder were extracted from 10 million Medicare discharges in 1991. Of the records extracted, 25% were from within 950 counties in the 13 southeastern states. The agglomerative cluster analysis average distance method was used to generate solutions for 50, 75 100, 125 and 150 clusters. 75 PHSAs seemed optimal for the southeastern U.S. Each PHSA had an average of 13 counties, a mean population of 783,241, and a mean land area of 6,040 square miles. This compares to 214 HSAs with an average of 5 counties, a mean population of 274,000, and mean land area of 2,117. Eleven percent of patients received care outside of the PHSA of their residence, which was comparable to 11.5% reported in the original HSA cluster method. Solutions greater than 75 clusters had high rates of area fragmentation and small single-county clusters.

Availability and Characteristics of Rural Specialty Mental Health Providers. Elizabeth Merwin with Jeanne Fox, Steven Stern and Charles Holzer (Funding: SRMHRC)

This on-going study examines the distribution of specialty mental health providers, and individual and organizational provider characteristics in rural areas. This study uses a stratified random sample of rural counties in the Southeast, stratified on type of rural area and type of individual provider to survey and develop a profile of individual providers in each county. Approximately 30 data sets purchased from state licensing boards for Ph.D. level psychologists, advanced practice psychiatric nurses, licensed clinical social workers, and professional counselors, and the AMA's data set of psychiatrists for 10 Southern states were collected (n=68,156), and have been unduplicated by individual and by discipline. A 10% sample was used to determine the extent of classification errors. More than 95% were determined to be accurate and 3% had inadequate data to evaluate, leaving a reasonable 2% error rate. Preliminary results show great variability in the availability of mental health professionals across counties. The most rural areas have half of the number of mental health professionals per capita than do core metro areas. The largest problem is the absence of specific types of mental health professional in rural communities. Many have no psychiatrists, psychologists or advanced practice psychiatric nurses; however, most have social workers. A survey based on the CMHS Core Human Resources Minimum data set, supplemented by other questions was planned but was not implemented due to the extensive amount of time the quantitative component of this project required. The pilot resulted in a complex computer program to unduplicate providers licensed in multiple sites and in multiple disciplines. Following

completion of the analyses based on 1996 data a more recent data set was obtained for one state, Virginia. With funding from the Virginia Primary Care Association the computer algorithms were applied to a 2000 data set and allowed the generation of accurate unduplicated numbers in reasonable amount of time. This study showed the differences in the availability of providers between 1996 and 2000 in Virginia. All types of providers (psychiatrists, psychologists, social workers, clinical nurse specialists, professional counselors) all increased in their over all numbers. However, the increases were primarily in the same areas of the state which were well served in 1996. Mental health shortages were common particularly in rural areas. The areas with mental health shortages were usually classified as medically underserved areas also. This finding challenges the accepted thought that primary care professionals are available to provide mental health care in areas which are underserved by mental health specialists.

Rural Program of Assertive Community Treatment Involving Consumers and Advanced Practice Nurses: (NPACT). Catherine F. Kane, with Michael Blank and Emily Hauenstein (Funding: SRMHRC, PAL*) This on-going study examines the effectiveness of adding Advanced Practice Nurses (APNs) and stabilized consumer providers to a standard PACT program. In all, 40 subjects receiving NPACT were compared to subjects receiving traditional PACT at another site. In a psychoeducational framework, APNs emphasized and consumer providers reinforced health promotion principles and activities in the course of care. APNs conducted assessments concerning health behaviors and physical symptoms. The new interventions focused on the physical risks in SMI populations that result in high rates of morbidity and mortality. It was hypothesized that consumer-providers would offer the social supports necessary to teach positive health behaviors, including early illness intervention, medication education, symptom management, and reduced substance abuse. Using semi-structured interviews, data was collected at baseline and at six-month intervals for 18 months. Results indicate that participants in NPACT have fewer physical symptoms in follow-up than participants in PACT, but are no different with regard to specific health behaviors.

Summary

There are several important outcomes from these studies. First, Merwin and her associates have developed methods applicable to both rural and urban populations for understanding the complex relationships among mental health provider availability, services use, and outcomes. Second, our studies confirm the lack of mental health professionals in rural areas seen in other staffing studies, but also document that the rural service areas in which these professionals practice are two to three times larger geographically and in total population than the urban areas. Our initial attempts at interventions show that special adaptations are necessary for addressing barriers specific to rural settings, but suggest that accepted interventions hold promise for improving the health of hard-to-reach rural populations.

GOAL 4: DEVELOPMENT OF RESEARCH METHODOLOGIES

Our progress in meeting this fourth goal includes assessment of psychometric properties of research instruments for use with African-American populations; selection of core instruments; addition of expertise in poverty and rural studies; assessment of reliability and validity of research instruments administered over tele-video technology; and strengthening the Center's capacity for quantitative and qualitative methodologies.

Assessment of Psychometric Properties of Instruments for Use with African-American Populations

Melvin Wilson, Director of the Cultural Context and Perspectives Committee, systematically reviewed selected instruments to document psychometric properties for use with African American populations. Instruments measuring observable attributes such as the Abnormal Involuntary Movement Scale (AIMS) are not likely to produce different results across groups. However, for instruments measuring more subjective attributes—such as psychotic behavior, stress, and perceived family burden—unmeasured cultural biases may influence results. This is troublesome because many of the measures are used in between-population research designs. This on-going work has to date examined 28 research instruments, considering three factors: (1) use of culturally diverse standardization samples; (2) exploration of group differences in performance in the samples; and (3) incorporation of information obtained from group differences into interpretations. Of the 28 examined,

eleven measures have standardization information, nine of these incorporated ethnic minorities in standardization samples, and only three explored differences in performance among different minority groups.

Selection of Core Instruments

Thomas Oltmanns and Melvin Wilson have recommended a core set of instruments for use in all SRMHRC studies. These core instruments will facilitate comparisons of findings across Center projects, and allow for the pooling of data from diverse studies for richer analyses of such issues as the validity of instruments for use with African Americans and rural individuals. A current listing of these core instruments is on our web site. These recommendations do not disoblige investigators from choosing the most appropriate instruments for each study. Nevertheless, investigators are asked to evaluate whether the core instruments can be used instead of alternative measures. Newly identified instruments are compared with those currently in the core set and considered for inclusion. Information about these instruments—such as their validity, reliability, appropriate utilization, and administration—are in the SRMHRC instrument file and available to all Center researchers.

Poverty & Mental Health

The Director of Poverty Studies, Stephen Petterson, provided direction for the measurement of poverty. In our research we adapt concepts of urban poverty to the experiences of the rural poor and incorporate more general measures of socioeconomic status (SES) and social class commonly used in the public health literature. The latter measures are typically composites of multiple indicators of success, particularly income and education (and, in some studies, occupation). One strength of education- or occupation-based measures is that they reflect an individual's more permanent position in the social order; by contrast, income-based concepts, including poverty measures, are more sensitive to the immediate circumstances facing individuals and are thus more variable across time. Two Center projects (other than the Welfare study already discussed) focused on poverty-related issues.

Building on SRMHRC center funded research, Stephen Petterson conducted a NIMH-funded study of the relationship between poverty and psychological distress. This study examined the relationship between psychological distress and various dimensions of poverty, such as its persistence, spatial concentration, and basis in long-term joblessness. The goals were: (1) to understand the consequences of the changing nature of poverty for the mental health of the poor; (2) to estimate models that examine how various dimensions of poverty are associated with psychological distress, focusing on indicators of depression; and (3) to use these models to examine the experiences of two important groups of poor persons: single mothers receiving public assistance and the rural poor. This project examined the usefulness of experimental measures of poverty, particularly those proposed by the National Research Council (Citro & Michael 1995), which are more sensitive to regional differences in cost of living and take into account in-kind benefits as well as work-related expenses. This project used several large representative data sets: The National Longitudinal Survey of Youth (NLSY), The National Survey of Families and Households (NSFH), and the National Maternal and Infant Health Survey (NMIHS).

Lisa Eorio, Ph.D., a sociologist, analyzed data from the Panel Study of Income Dynamics (PSID) conducted by the Institute for Social Research at the University of Michigan, supported by a NIMH Administrative Supplement to SRMHRC. Tlris project aimed to assess the structural perspective that placement in the social system impacts the potential for encountering environmental stressors that, in turn, influence the likelihood of experiencing depressive symptoms in later life. This study used data from the Panel Study of Income Dynamics (PSID), an ongoing national longitudinal survey that began in 1968 with nearly 5,000 families. The study sample consists of individuals 50 years of age and older in 1990 (n= 2,020). The basic family and individual data files, provided by the Panel Study of Income Dynamics (PSID) at the University of Michigan's Institute for Social Research (ISR), were merged with their 1990 supplemental data on health and mental health. Respondents were divided into four groups depending on their responses to items contained in the Rost two-item screener, their scores on the MOS five-item mental health index, and scores on the MOS three-item screener measuring limitations in usual role activities due to emotional problems. Using this criteria, 4.2% of the 2,150 respondents aged 50 and older were classified as severely depressed, 4.0% were moderately depressed, 4.7% were mildly depressed, and 87% of the sample were not depressed.

Refined Measures of Rurality

SRMHRC evaluated definitions of "rural" to reflect the varied social and geographic circumstances affecting non-urban populations (Dembling, Merwin, Chang, Li, & Mackey, 2001; Dembling & Wheeler 1998; Dembling, Measuring Rural: Applying the Rural-Urban Continuum, /http://Minerva.acc.virginia.edu/~srmhrc/). The relationship between place and person is complex, yet investigators typically rely on simple geographic classification schemes to characterize providers and consumers. The Center used multi-dimensional geographic classifications that incorporated existing definitions (such as those advanced by the Bureau of Census and the Department of Agriculture) appropriate to the particular study to which they are applied (Dembling, 1999). For example, if travel distance for care is an implied dimension of "rural," then travel mileage or time would be collected or computed for study subjects. Advanced geographic information software now used by SRMHRC and supported by the University of Virginia Geospatial Data Center allows spatial analysis of original data and access to archival public and private spatial data relevant to health services research. Some maps are available at: http://minerva.acc.virginia.edu/~srmhrc/.

Working Group on Cultural Contexts and Perspectives

Many of the issues regarding cultural responsiveness we face at SRMHRC focus on differences between African Americans and whites. The Working Group on Cultural Contexts and Perspectives, headed by Melvin Wilson, provided educational presentations, seminars, and workshops designed to increase investigators' knowledge of cultural context and perspectives and to increase their technical design skills, and it disseminates relevant research information to the general public. This working group included experts on racial identity and cultural issues and focused on cultural contexts and ethnic and rural viewpoints. As a policy, the Center expected that research questions, constructs, and measurements should be equally relevant to all cultural groups represented in a study. Research was developed and implemented with an awareness to and sensitivity to both similarities and differences of experiences within different cultural groups. This approach minimized cultural bias and maximized research utility for all groups. One project of this Working Group, discussed above, was a review of the psychometric properties of the measurement tools used by SRMHRC researchers for use with African Americans.

Assessing Reliability and Validity of Research Instruments Using Videoconferencing

Technology, including telemedicine was the focus of our attention as we sought interventions to improve rural mental health care. A background paper on the use of telemedicine was completed. Investigators obtained experience with tele-video technology, obtained this equipment for our use in our center and was connected to different sites in the Virginia mental health system. We conducted pilot work with the technology. Tele-video technology has the potential to increase our ability to do research and clinical assessments at a distance, which could greatly reduce research travel costs. However, in order to use tele-video technology appropriately in research, the administration of standard assessment instruments must be assessed for reliability and validity when administering this technology. To do this, studies use two raters at the proximal site and two at the distal site using different bandwidths. SRMHRC researchers conducted a study that established that the Brief Symptom Inventory (BSI) is reliable at all three bandwidths tested and the Abnormal Involuntary Movements Scale (AIMS), which relies on more subtle visual cues, is more reliable at higher bandwidths. In fact, the distal raters of the AIMS agreed more frequently than the proximal raters at the highest bandwidth, perhaps because the camera was able to get closer to the subjects than the live raters were comfortable doing (Blank, Hundley, Smith, & Graham, 1999).

EXTERNAL FUNDING

A goal of SRMHRC was to generate additional resources to support studies related to SRMHRC's scientific goals. SRMHRC sought to integrate the findings of all related studies to inform the improvement of the rural mental health delivery system. In addition to the studies funded through the Center grant, there have been 21 projects with active funding from 1995-2000; including three NIMH R01s, one R18, one R29, four contracts with state agencies as well as four University of Virginia research awards. In addition to academic grant

submissions, many of our projects submitted for external funding are conducted in collaboration with or in consultation to our PAL partners. Two pilot studies directly lead to two of the successful R01 applications.

PUBLICATIONS AND OTHER DISSEMINATION ACTIVITIES

SRMHRC faculty and staff have published approximately 200 manuscripts since 1992 , including manuscripts directly from SRMHRC studies and related publications based on other work by investigators. Our publication list is attached. The center edited a special edition of the Community Mental Health Journal in 1995. Although funding ended in 2000, SRMHRC investigators initiated and edited a special edition on Rural Mental Health in Archives in Psychiatric Nursing in February, 2003. Although articles were received from the general journal solicitation process as well as by invitation, all authors had been affiliated with SRMHRC at some point in time.

To disseminate our work to the wider mental health services audience, we have targeted publications to a wider range of journals, have developed SRMHRC Fact Sheets, and have upgraded our web-site. The School of Nursing committed funds to support this effort through the hiring of a full-time editor/writer to assist with dissemination activities during the last year of funding. SRMHRC has held several conferences including one on "Race, Culture and Mental Health Services and Family Well-Being." This conference resulted in a conference proceeding of original papers. We also have had a "Race, Poverty and Rurality" series and statistical seminars. The "Race, Poverty and Rurality" series has continued after the conclusion of funding. A copy of the conference proceedings are attached.

Fact sheets reporting SRMHRC research in user-friendly formats are available on our revised web site: http://minerva.acc.virginia.edu/~srmhrc/ . They are also attached in the Appendix.

A publication list is attached. Copies of all publications available through January 2001 were provided to the program officer in January 2001. Additional publications are attached.

ADDITIONAL ATTACHMENTS

An Inclusion Enrollment Report Table including a sex, race and ethnicity breakdown for human subjects enrolled in the primary data collection studies under protocol GHIC #5092 is included in the Appendix.

A Final Invention Statement Form is attached.

SRMHRC Web Page

http://minerva.acc.virginia.edu/~srmhrc/

Fact Sheets of SRMHRC Research

Web Page: http://minerva.acc.virginia.edu/~srmhrc/

Inclusion Enrollment Report Table

This report format should NOT be used for data collection from study participants.

Study Title: Rural Mental Health Research Center

Total Enrollment: 1314 **Protocol Number:** GHIC#5092

Grant Number: P50 MH49173

PART A. TOTAL ENROLLMENT REPORT: Number of Subjects Enrolled to Date (Cumulative) by Ethnicity and Race

Ethnic Category	Sex/Gender			
	Females	Males	Unknown or Not Reported	Total
Hispanic or Latino	1	2	0	3 **
Not Hispanic or Latino				
Unknown (Individuals not reporting ethnicity)	851	482	5	1,338
Ethnic Category: Total of All Subjects*	852	484	5	1,341 *
Racial Categories				
American Indian/Alaska Native	0	1	0	1
Asian	0	1	0	1
Native Hawaiian or Other Pacific Islander	0	0	0	0
Black or African American	261	148	0	380
White	581	330	0	890
More than one race	0	0	0	0
Unknown or not reported	0	0	5	5
Racial Categories: Total of All Subjects*	851	482	5	1,338 *

PART B. HISPANIC ENROLLMENT REPORT: Number of Hispanics or Latinos Enrolled to Date (Cumulative)

Racial Categories	Females	Males	Unknown or Not Reported	Total
American Indian or Alaska Native	0	0	0	0
Asian	0	0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0
Black or African American	0	0	0	0
White	0	0	0	0
More Than One Race	0	0	0	0
Unknown or not reported	1	2	0	3
Racial Categories: Total of Hispanics or Latinos**	1	2	0	3 **

* These totals must agree.
** These totals must agree.

SOUTHEASTERN RURAL MENTAL HEALTH RESEARCH CENTER

FACULTY & STAFF PUBLICATIONS[1]

1992 – 2003

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6. Berenbaum, H. & Oltmanns, T.F. (1992). Emotional experience and expression in schizophrenia and depression. Journal of Abnormal Psychology, 101, 37-44.

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1 Includes all publications, some of which were directly related to SRMHRC work and some resulting from other work. With multi-authored papers, at least one author is affiliated with SRMHRC.

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15. Blank, M. B., Teitrick, F., Brinkley, D. F., Smith, H. O., & Doheny, V. (1994). Racial matching and service utilization among seriously mentally ill persons in the rural South. Community Mental Health Journal, 30(3), 271- 281.

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TITLE: AN EFFECTIVENESS ANALYSIS OF THE COMPARATIVE IMPACT OF HOME-BASED VERSUS CLINIC-BASED SUPERVISION IN RURAL ELDERS EXPERIENCING DEPRESSIVE SYMPTOMATOLOGY

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Abstract: The value of the nurse case manager's role as a health educator, supportive advocate and coordinator of continuity in health care is widely accepted. Yet, the effectiveness of using this intensive form of client-professional relationship to achieve complex objectives, such as improving health status, and medication adherence while reducing health care utilization, has not been comprehensively explored and/or revealed in the literature. This project examined the comparative effectiveness, of (1) an in-home based comprehensive case management services provided by psychiatric nurse case managers versus (2) a clinic-based, medically managed program on rural elders' functional competence, adherence to prescribed medication regimes, responses to the impact/severity of health care problems (cognitive, affective and psychomotor) and utilization of health care services. More specifically, this study tested whether or not nurse case managers implementing direct services, in addition to the traditional case management services, in the home setting could positively influence health-related outcomes when compared with those receiving customary services provided by a community-based health clinic.

This study focused on a high risk, relatively unstudied group, consisting of community dwelling rural elders who were greater than 60 years of age and experiencing depressive symptomatology. The sample consisted of twenty-one pairs of subjects matched on the criteria of age grouping, gender, race, living situation, and percentage of financial responsibility for self-payment of medications. A quasi-experimental, pretest/post test design was used. Each group was exposed to one type of health care service (in-home or clinic-based programs). The difference between the two groups was tested using the statistical procedures of Mann Whitney U, t-test, and analysis of covariance.

The in-home case management intervention significantly improved subjects adherence to all prescribed medications; while, also reducing depressive symptomatology. Although improvements in group mean scores for other health-related outcomes were noted in the case managed subjects, these were not significant at the $p = .05$ level.

The study was conducted in two health care agencies in the Piedmont region of central Virginia. The Jefferson Area Rural Elder Health Outreach Program, a W. K. Kellogg Foundation funded demonstration project, which provided case management services to five counties in central Virginia, contributed subjects and data for the in-home group. The second site, the clinic setting, was a federally supported community health center (CHC) staffed by physicians. It provided Medicare and Medicaid mandated health care services to one Central Virginia county immediately adjacent to the counties covered by in-home program.

It was concluded that the influence of this incremental policy and the lack of stronger incentives influenced the inpatient utilization patterns.

Title: DETERMINANTS OF CONTINUITY OF CARE FOR PERSONS TRANSITIONING FROM STATE PSYCHIATRIC FACILITIES TO COMMUNITIES (DISCHARGED MENTAL PATIENTS)

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Degree: PH.D.
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Pages: 00157
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Advisor: Director: BARBARA MUNJAS
Source: DAI, 56, no. 06B, (1995): 3125

Abstract: When individuals with serious mental illness are discharged to the community, continuous and coordinated care are both desirable and necessary. A lack of continuity places the individual at risk for becoming lost to further services.

This study explores continuity of care for persons discharged from state psychiatric facilities in Virginia to communities. Continuity of care is defined as the successful initiation and maintenance of face-to-face contact by CSB staff with individuals to be discharged from state hospitals, and the subsequent provision of services post-discharge. This study identifies factors that influence continuity of care, examines the degree to which these factors play a role and the relationships between continuity of care and client characteristics.

Predictor variables include characteristics of the population-at-risk: predisposing factors (i.e., age, gender, race), enabling factors (i.e., living situation, catchment area change, and geographic location of the CSB) and need factors (i.e., length of stay, legal status, and primary diagnoses). Data sources include two large data bases, (1) survey of CSB staff on the outcome of individuals discharged to their area in FY 1992, and (2) demographic information from state mental health authority. Findings from the survey show that 83% of persons discharged had a record of the discharge at the CSB. In-hospital contact by CSB staff prior to discharge was lower (54%). Results show that individuals are more likely to receive continuity of care if they are discharged to a CSB in a rural area, have a diagnosis of schizophrenia, and do not have a primary diagnosis of substance abuse. The theoretical framework, based on the Community Support System principles and the notion of vulnerability, leads to important policy and practice implications. For example, the study suggests that new and different programs might be more effective for individuals with substance abuse diagnoses, especially in urban areas. Recommendations include a mandate for nursing provision of services, or oversight of services to assure continuity of care between service settings. Future research could improve upon the measurement of the variables, and examine consumer and provider perceptions of continuity of care as an outcome.

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Southeastern Rural Mental Health Research Center (SRMHRC)

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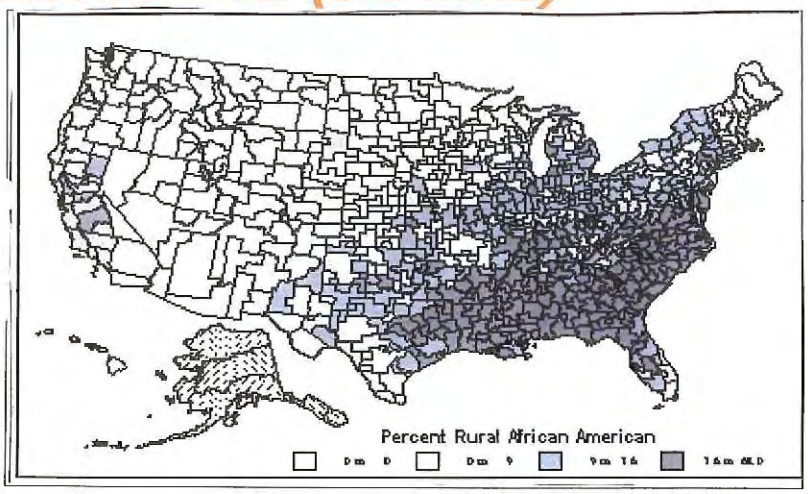

Improving the availability and quality of mental health care for rural, impoverished, minority individuals

"The SRMHRC's focus on rural African-American life in the South is important. Indeed, much attention has been directed at African Americans living in urban areas, whereas the problems of African-American families living in rural areas of the United States have often been overlooked. This is important since 35% of African Americans live in rural areas and 90% of African-American families that reside in rural areas, live in southern states. To develop intervention strategies and social policies, we must learn more about the family experiences of rural African Americans."

Source: Melvin Wilson, Ph.D. Professor of Psychology
Chair, Cultural Contexts and Perspectives Workgroup/SRMHRC
Race, Culture, Mental Health Services, and Family Well-being. Conference Proceedings

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Fact Sheets:

Agee, E., Blank, M. B., Fox, J. C., Burkett, B. M., & Pezzoli, J. (1997). **The introduction of computer-assisted telephone support in a community mental health setting.** Journal of Rural Community Psychology, E(1), 1. Southeastern Rural Mental Health Research Center, University of Virginia.	RTF	PDF
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Dembling B, Merkel L. **Suicide in Virginia 1979-96.** Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia.	RTF	PDF
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Farrell S, Blank M, Koch J, Munjas B, Clement D. Predicting Whether Patients Receive Continuity of Care After Discharge From State Hospitals: Policy Implications. Archives of Psychiatric Nursing, 13(6):279-285,1999).	RTF	PDF
Fox, J. C., Blank, M., Rovnyak, V.G., Barnett, R.Y. **Barriers to help seeking for mental disorders in a rural impoverished population.** Community Mental Health Journal, 37(5), 421-436.	RTF	PDF

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Holt, F., Merwin, E., & Stern, S. (2001) **The Lengths of Psychiatric Hospital Stays and Community Stays.** Virginia Economic Journal, Vol. 6. pp. 1-25.

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Kane, C. F., and Blank, M. **NPACT: Assertive Community Treatment with Nursing and Peer Support.** Working Paper. Southeastern Rural Mental Health Research Center.

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Kane, C., Thompson-Heisterman, A., Hinton, I., Burkett, B., Merwin, E., Chen, D. (2001) **Outcomes for Patients Discharged from State Psychiatric Inpatient Care, Final Report.** Office of the Inspector General. http://www.oig.state.va.us/

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Marcopulos, B. A., McLain, C. A. & Giuliano, A. J. (1997). **Cognitive impairment or inadequate norms? A study of healthy, rural, older adults with limited education.** The Clinical Neuropsychologist, 11(2), 111-131. Southeastern Rural Mental Health Research Center, University of Virginia.

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Merwin E., Li X., Cook B. & Chen D. **Accreditation, Not Necessarily a Safeguard of Quality.** Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia.

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Merwin, E., Hinton, I., & Dembling, B. (2002) **Shortages of Mental Health Professionals in Virginia.** Virginia Primary Care Association. http://www.vpca.com/

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Merwin, E. & Fox, J. C. (1999). **Datapoints: Trends in psychiatric nursing graduate education.** Psychiatric Services, 50(7), 905. Southeastern Rural Mental Health Research Center, University of Virginia.

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Morrissey, J., Stroup, T., Ellis, A., & Merwin, E. (2002) **Service Use and Health Status of Persons With Severe Mental Illness in Full-Risk and No-Risk Medicaid Programs.** Psychiatric Services, Vol. 53, No.3, pp. 293-298.

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Petterson, Stephen and Alison Burke Albers. 2001. "**Effects of Poverty and Maternal Depression on Early Child Development.**" Child Development, November/December, 72(6):1794-1814.

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Petterson, Stephen and Lisa Friel. 2001. "**Psychological Distress, Hopelessness, and Welfare Recipiency.**" Women and Health 32: 79-99.

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Silverman, S. H., Blank, M. B., & Taylor, L. C. (1997). **On our own: Preliminary findings from a consumer-run service model**. Psychiatric Rehabilitation Journal, 21(2), 151-159. Southeastern Rural Mental Health Research Center, University of Virginia.

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Stern, S., Merwin, E., Holt, F. (2001) **Survival Models of Community Tenure and Length of Hospital Stay for the Mentally Ill: A 10-year Perspective**. Health Services & Outcomes Research Methodology, Vol. 2, pp. 117-135.

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Maps:

Dembling, B. (1999) **Race, Geography, and Mortality**. Paper presented at the Race, Culture, Mental Health Services and Family Well-being Conference, Charlottesville, VA.

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Disability in US Counties, 1999

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Methods:

Culturally Responsible Design and Measurement

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Measuring Rural: Applying the Rural-Urban Continuum. Prepared by Bruce Dembling, Ph.D.

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Standardized Research Designs

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Recent Publications RTF | PDF

Agee, E., Blank, M. B., Fox, J. C., Burkett, B. M., & Pezzoli, J. (1997). The introduction of computer-assisted telephone support in a community mental health setting. *Journal of Rural Community Psychology*, E(1), 1. Southeastern Rural Mental Health Research Center, University of Virginia

Researchers worked with a clubhouse facility to implement a pilot project in which mental health consumers communicated with their case managers and other consumers using telephone technology. The telephone system had several components, allowing case managers to remind consumers of appointments and medicine, notify them of upcoming events, and leave them inspirational and informative messages. Consumers could post messages for case managers and other consumers, ask questions to be answered later, and obtain information. A discussion group was also available. Three consumers were responsible for 85% of the total system usage over the studied time period. Case managers with the greatest initial interest had the greatest usage among consumers. Many expressed concern that the system was too impersonal or too difficult for the mental health population it was designed to serve. The project was instructive in that it demonstrated that in future similar projects, case managers should be involved in designing the telecommunications system.

Blank, M. B., Hundley, P., Smith, H., & Graham, M. A. (1999). *Reliability and Validity of Psychiatric Assessments using Videoconferencing.* Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia

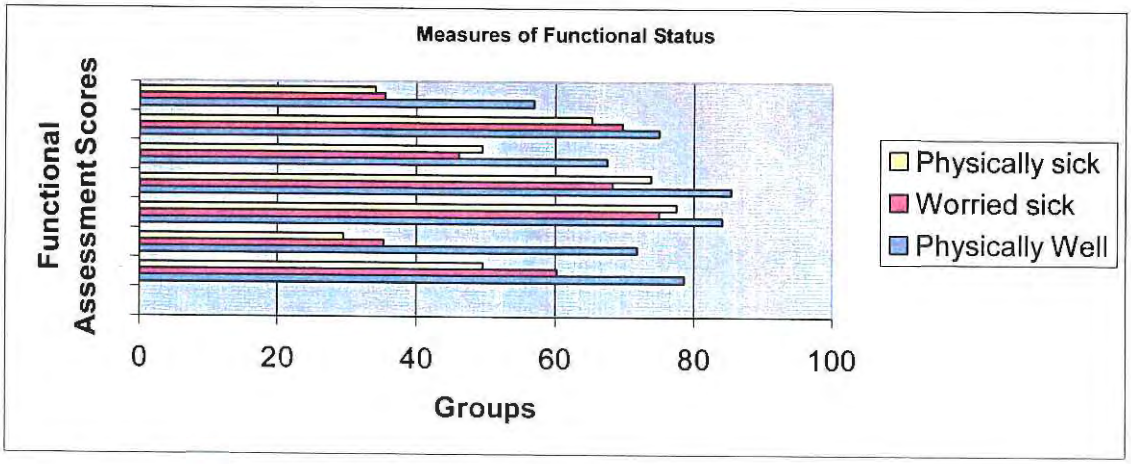
One promising linkage method seems to be through advanced communication techniques. Advances in communications technology have increased the possibilities for providing mental health care in rural areas where there is a shortage of formal providers on site. Researchers assessed the reliability of diagnoses made by a formal provider at a distal site viewing individuals with mental health problems over a two-way interactive televideo system. Patients were assessed by two raters at the proximal site and two at the distal site, based on the Brief Symptom Inventory (BSI) and the Abnormal Involuntary Movements Scale (AIMS). For the BSI, which is more verbally oriented, reliability of all four raters was almost perfect for all three bandwidths tested. For the AIMS, which relies on more subtle visual cues, distal raters were less reliable at lower bandwidths and more reliable at higher bandwidths. At the highest bandwidth tested, the AIMS assessment by the distal rater was actually more reliable than at the proximal site.

Connelly, Julie E., MD; Wofford, Amy B., MA; Philbrick, John T., MD. **Healthy patients who perceive poor health: Why are they worried sick?** *The American Journal of the Medical Sciences. 2000, 320(1), 36-42.*

Patients who complain of multiple symptomology and experience significant functional impairment in all health areas in the absence of any determinable physical illness have been named the "worried sick". A plausible explanation for the "worried sick" is mental illness, specifically mood, anxiety, and somatoform disorders, since it appears to be the *perception* of illness that predicts their use of health care resources, not actual physical pathology. The relationships between the "worried sick" and the existence of mental health disorders in these individuals was explored. Characteristics of patients who were physically well but perceived themselves to be sick, such as financial strain, and quality of social support systems were considered. A total of 348 primary care patients were studied.

The results of the investigation are as follows:

- Seventeen percent of the rural primary care patients studied perceived themselves to be in poor health, despite good physical health
- One out of every five or six primary care patients are "worried sick".
- These same patients were as functionally impaired as, and demonstrated health care resource utilization similar to, the truly sick. These physically healthy patients function similarly to patients with marked physical dysfunction.
- Although the prevalence of a psychiatric disorder, specifically mood and anxiety disorders, was higher in the "worried sick", only half had a psychiatric disorder as opposed to one third of those who had better health perceptions.
- The differences in social support and financial stress between the groups were not clinically significant.

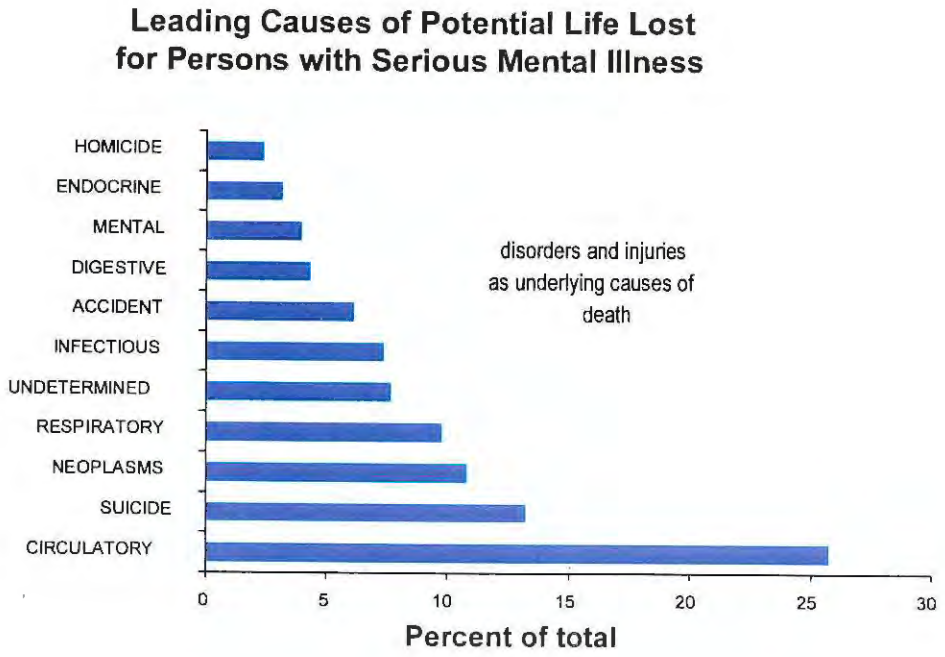


This study shows that although psychiatric disorders are part of the story, the cause of worry in the "worried sick" remains unclear. It is clear that strategies for patient identification need to be formulated in order to avoid unnecessary use of critical health care resources. Investigation needs to be directed at identifying the reasons these patients feel sick, and interventions need to be tested toward improving these patients' health perceptions.

Dembling, B. P., Chen, D. T., Vachon, L.. Life Expectancy and Causes of Death in a Population Treated for Serious Mental Illness. *Psychiatric Services, 50*(8):1036-1042.

Researchers and health professionals have long observed that psychiatric patients have reduced life expectancy. Studies of patient groups as well as household populations have confirmed the increased risk of death, especially that associated with schizophrenia, major depression, and substance abuse disorders, however samples in most studies are typically too small to assess specific causes of death. Consequently mortality data have not been systematically used to develop clinical practice guidelines that would reduce this risk. None of the previous studies examined multiple cause of death data, which have been available in all states only since 1989.

The study design is a cross-sectional survey of an administrative patient registry of nearly 50,000 persons from the Massachusetts Department of Mental Health (DMH) linked electronically to state death records between 1989 and 1994. Comparisons with the Massachusetts non-DMH population were made on cause of death and life expectancy. DMH cases were adjusted to account for differences in the age distributions of the two populations. The findings are intended to focus on specific health risks likely to be encountered by primary care and mental health professionals treating the most disabled populations.



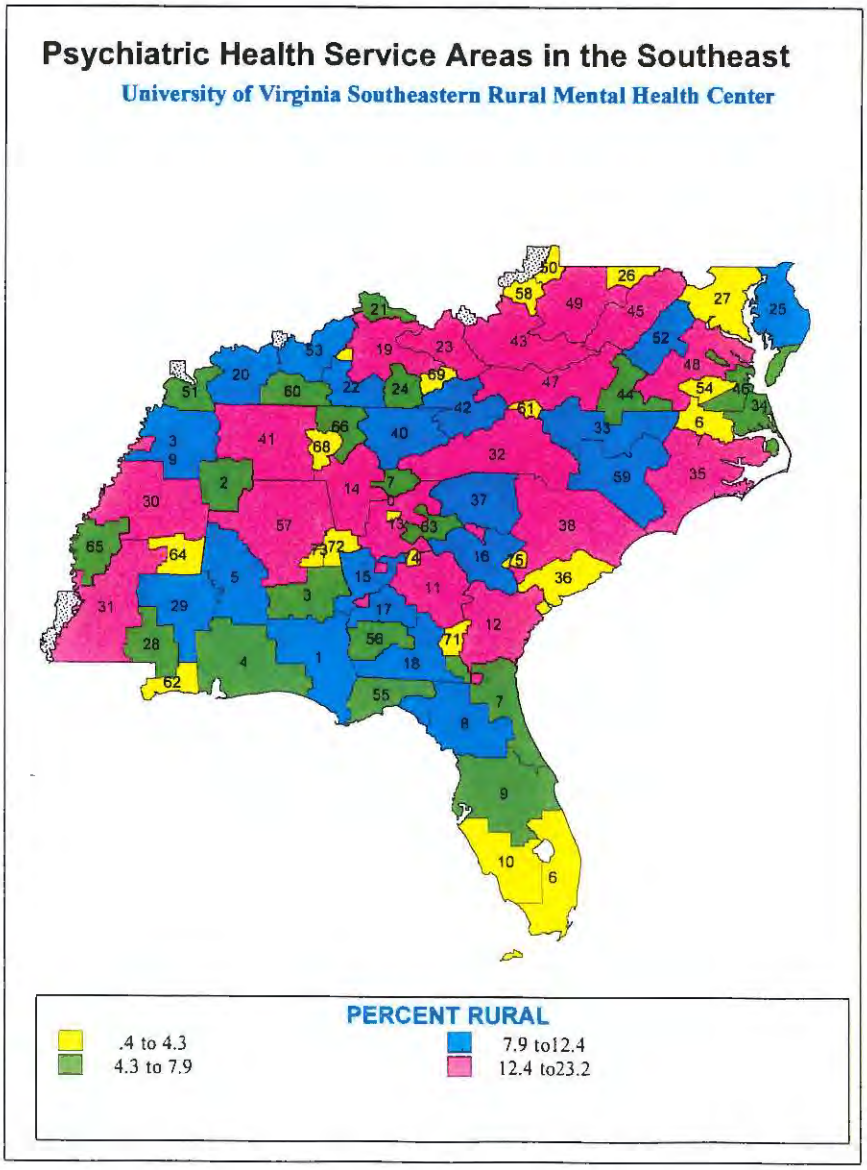
On average DMH decedents died 8.8 years earlier than the non-DMH population (males 14.1 years; females 5.7 years), and this difference was consistent across most causes of death. DMH decedents had a significantly higher frequency of accidental and intentional injuries when compared to the non-DMH group. External injuries such as accidents, suicides, and homicides, accounted for 29% of years of potential life lost in the

DMH population compared with only 10% for the general population. Poisoning by psychotropic medications was reported nearly 18 times more than expected. Cancer, diabetes, and circulatory disorders were significantly less frequently reported than expected.

The Figure above ranks the proportion of years of potential life lost by underlying causes of death for the DMH group. It illustrates that both injuries and disease conditions are factors in the generally poor health status of this population. The reduced life expectancies and mortality differentials reveal a health gap faced by those with serious mental illnesses. The methods used in this study are replicable wherever patient registries can be linked to state death records.

Dembling, B., Li, X., Chang, W., Mackey, S., & Merwin, E. (2001) Psychiatric Health Service Areas in the Southeast. *Administration and Policy in Mental Health, Vol. 28, No. 5*, p. 407-416.

This study defined Psychiatric Health Service Areas (PHSAs) in the southeastern United States, using a method that overcomes arbitrary aspects of political boundaries. A total of 422,765 hospital stays for a primary psychiatric disorder were extracted from 10 million Medicare discharges in 1991. Of the records extracted, 25% were from within 950 counties in the 13 southeastern states. The agglomerative cluster analysis average distance method was used to generate solutions for 50, 75 100, 125 and 150 clusters. 75 PHSAs seemed optimal for the southeastern U.S. Each PHSA had an average of 13 counties, a mean population of 783,241, and a mean land area of 6,040 square miles. This compares to 214 HSAs with an average of 5 counties, a mean population of 274,000, and mean land area of 2,117. Eleven percent of patients received care outside of the PHSA of their residence, which was comparable to 11.5% reported in the original HSA cluster method. Solutions greater than 75 clusters had high rates of area fragmentation and small single-county clusters.



Dembling, B., Merkel, L.. Suicide in Virginia 1979-96. Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia.

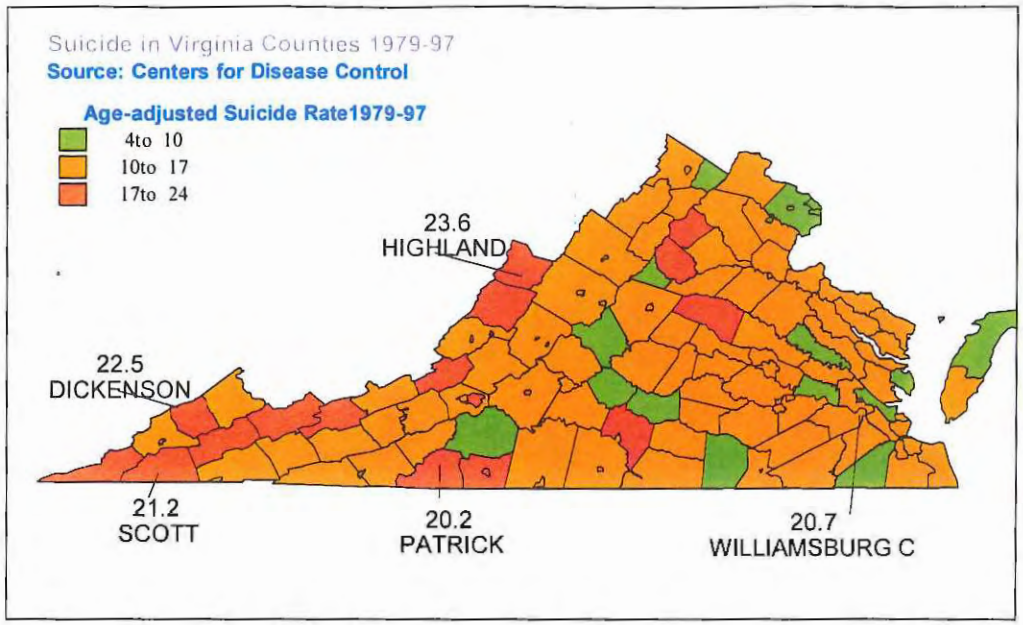
Suicide follows accidents as the second leading cause of injury deaths in the US. In the period 1979-1996 suicide rates in Virginia were higher than the national average. To understand how risk and protective factors vary among Virginia communities we analyzed variation in county rates. Suicide deaths by cause, gender, age group, race, and county were extracted for the US and Virginia for the period 1979 to 1996. Additional geographic, demographic, and health services resource data were aggregated for Virginia counties. Suicide declined in both Virginia and the US during this period, however Virginia's rate remained above the national average. Patterns of suicide in Virginia are similar to national patterns with regard to race, gender, and age. As Table 1 shows, white males have the highest rates, and black females have the lowest rates. Firearms are the most common means in suicide deaths in Virginia and nationally for both males and females. Among Virginia counties, suicide rates were highest in predominantly white, rural counties with declining populations, and those classified as mental health professional shortage areas.

Table 1: Virginia and US Suicide Deaths by Gender and Race 1979-96
From Centers for Disease Control and Prevention

	Virginia		US	
Race	Deaths	ADR*	Deaths	ADR*
Males				
White	9686	23.3	384598	21.4
Black	1301	14.3	29039	12.8
Other	102	8.6	8354	12.6
Females				
White	2636	6.0	104630	5.6
Black	244	2.4	6161	2.3
Other	59	4.3	3135	4.4

*ADR=age adjusted death rate per 100,000 population

Contrary to the traditional idea that rural areas are less stressed, more idyllic, and freer from violence and psychopathology than urban areas, recent research points to the fact that rural areas may have as much, if not more, violence and psychopathology than urban areas. This may be true of suicide as well. In addition, rural areas tend to have decreased access to resources and poorer health care delivery. The understanding, detection, and prevention of suicide in rural settings is an important public health issue, given the increasing recognition of rural suicide, and the more limited access to social service and health care resources.



Demographic profiles do not provide an adequate appreciation of socio-cultural factors in suicide. Suicide is in part determined by the local culture and social environment. One local cultural factor is the local beliefs about suicide. The local understanding of what is suicide, who commits suicide, and why someone commits suicide constitute essential elements in the development of models for the prevention of suicide. In addition to local beliefs, local social structure, including the availability of trusted resources for help, is also important.

Other research has shown that rural areas have as high if not higher rates of violence than urban areas. Traditionally it has been believed that urban areas have higher suicide rates, but recent suicide research has documented the possibility that rural areas may have higher suicide rates. In addition the causes of suicide in rural populations may differ from the causes of suicide in urban populations. The southern parts of the United States may be especially prone to high levels of violence and suicide.

Given that suicide may be a culturally shaped response to conflict and loss of sociocultural inclusion in culturally and psychologically vulnerable individuals, it is important to approach the problem of rural suicide from a sociocultural perspective. It is only within such a cultural understanding that sociodemographic and psychological variables in suicide can be understood. Such a cultural understanding is critical to the development of effective prevention and intervention strategies. Suicide is an essentially public health concern and thus the cultural determinants of suicidal behavior must be included in any attempt to understand and prevent suicide.

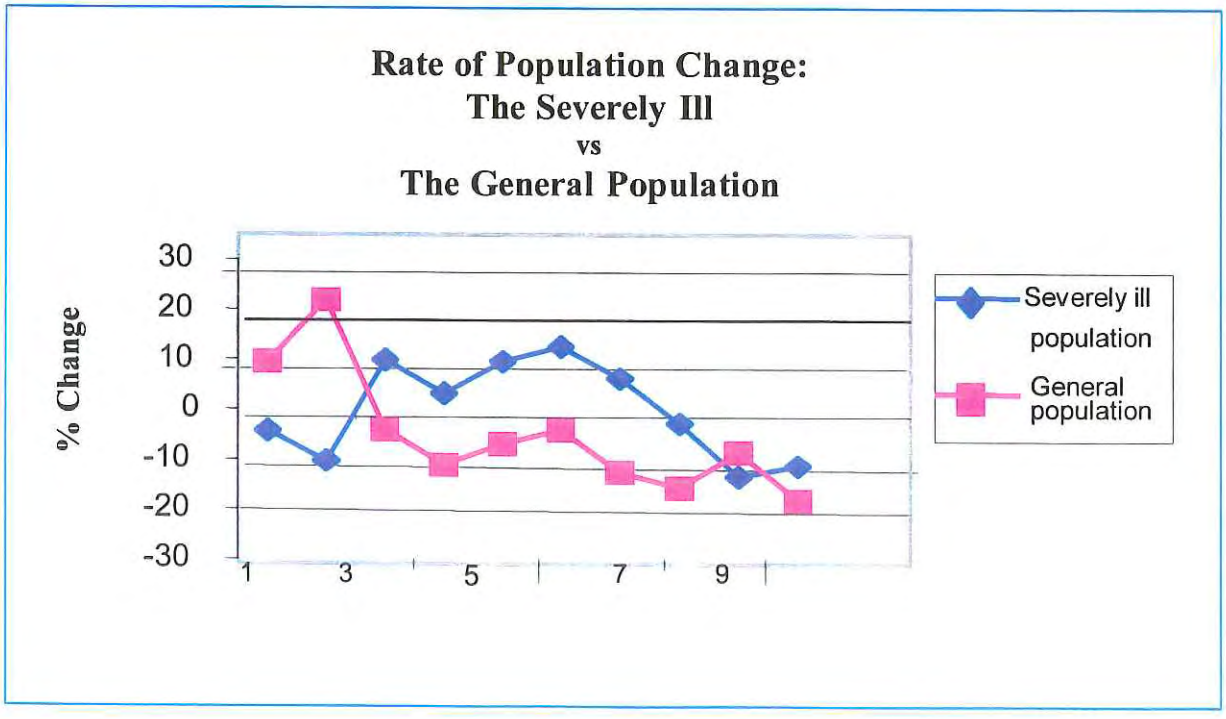
It has been suggested that prevention of suicide revolves around improving concern for and contact with at risk populations through specific services and training of professionals, as well as a general shift in sociological attitudes. Those at risk often are either not aware of or do not turn to available agencies that could provide help or support. General physicians may be the sole source of social support and information. The role of informal services has not been explored in regard to suicide however, and these may play a significant role. Therefore, the development of services to address suicide in rural communities needs to be culturally informed and work within the cultural context. This necessitates a cultural perspective.

Dembling, P., Rovnyak, V., Mackey, S. and Blank, M. Effect of Geographic Migration on SMI Prevalence Estimates. Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia.

Although severe mental illness (SMI) and poverty usually go hand in hand, the prevalence of SMI in a community can also be influenced by migration patterns of severely mentally ill patients. Such patients may move into or out of an area, thereby increasing or lowering the rates of SMI in the communities.

Such migration behavior is important to study because of its possible implications for resource allocation policies. For example, it may indicate a lack of resources, such as mental health facilities and professionals, in communities that see a consistent out-migration of their severely mentally ill population.

Dembling, Rovnyak, Mackey, and Blank examined a population of adults who used inpatient state psychiatric care in Virginia between July 1978 and November 1992. One of their findings was that a substantial proportion of psychiatric patients changed county of residence over time. They tended to migrate to poor, small urban communities from very poor rural areas and from large metropolitan urban areas. See figure below. The migration away from large metropolitan areas was contrary to shifts in the general population. Public needs assessments and resource allocation policies probably understated the need in communities where severely mentally ill patients tended to move out. Future studies are needed to more accurately classify communities and document patients' locations, and to address questions such as why patients change residence and whether they are better of as a result.



Farrell, S., Blank, M., Koch, J., Munjas, B., Clement, D.(1999). Predicting Whether Patients Receive Continuity of Care After Discharge From State Hospitals: Policy Implications. *Archives of Psychiatric Nursing, 13*(6):279-285.

When patients with serious mental illness are discharged to the community, continuous and coordinated care is necessary, desirable and a positive outcome for both the patient and the system. Accordingly a study was performed to investigate prediction indicators for continuity of care. The study completed used computer automated statistical analysis of a combined data set to calculate odds ratios of whether continuity of care would happen or not. Need factors were considered (such as patient discharge diagnosis). Enabling factors, such as discharge to a rural or urban area or discharge to a different area than their family support, were considered. And predisposing factors of age, gender and race were considered. The combined data set was one state's database and the results of a 1992 patient discharge follow-up questionnaire. The statistical technique used is known as logistic regression analysis. One advantage of using it is the ability to display its results as graphs. The graph of such results for the continuity of care study may be seen in Figure 1.

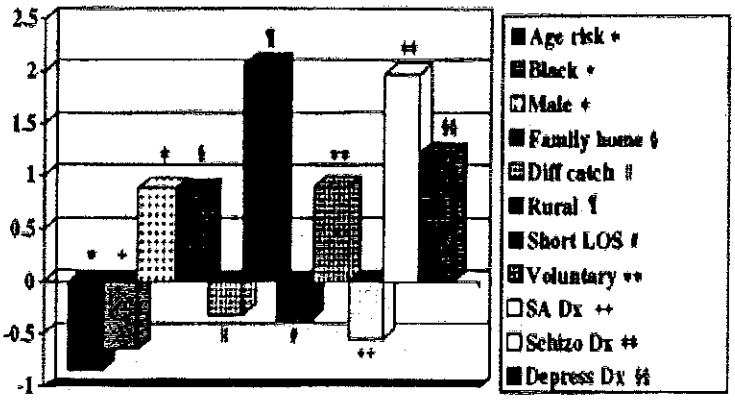


Fig 1. Logistic regression of predictors of continuity of care for discharged patients.

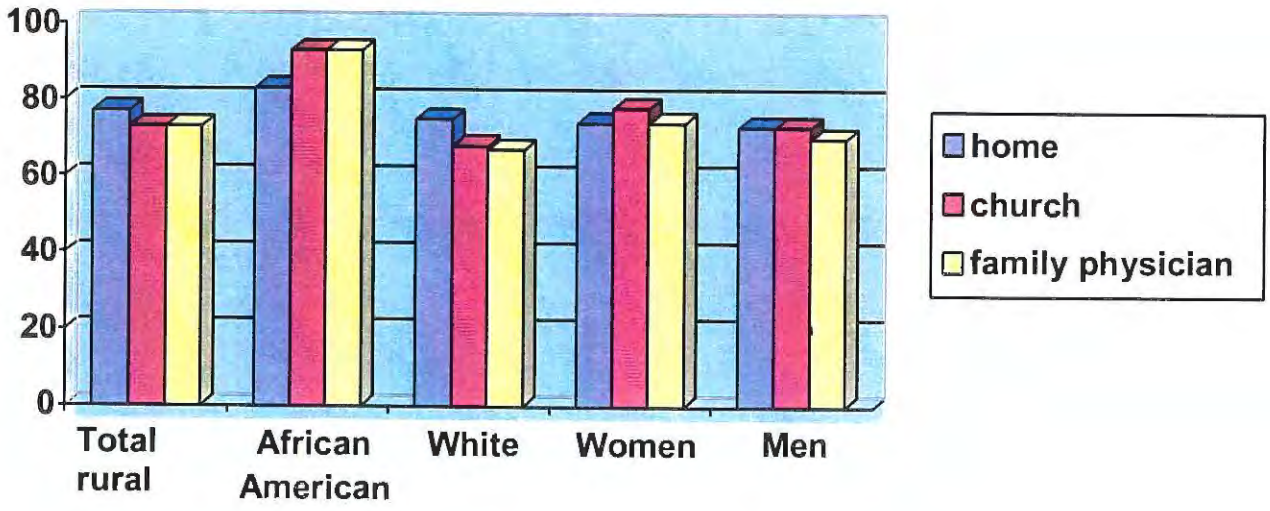
The following conclusions are among the study results. A person discharged from a state hospital to a rural CMHC (Community Mental Health Center) would be twice as likely to have continuity of care as a corresponding patient discharged to an urban CMHC. Patient age is significantly associated with continuity of care. Persons who were black had less likelihood of receiving continuity of care than those who were not.

One policy change evidenced as necessary by the study results is that the hospital nurse discharging the patient should send pertinent discharge information to another nurse at the destination CMHC. Currently, the discharging nurse is required to send the discharge details to a CMHC staff person. Other possible recommendations for policy change were indicated by the study.

Fox, J. C., Blank, M., Rovnyak, V.G., Barnett, R.Y. (2001) Barriers to help seeking for mental disorders in a rural impoverished population. *Community Mental Health Journal, 37*(5), 421-436.

A large household interview study of 646 residents in 9 southeastern poor rural counties demonstrates that there were several differences between African-American and white individuals with regard to ways to overcome barriers for seeking mental health services. Most rural residents stated that they would be more likely to seek services if someone would come to their home to deliver services (77%) or if they were available through church (74%) or through a family physician (73%); providing transportation was endorsed by fewer individuals (67%). African-American individuals were particularly likely to endorse the idea of receiving services from church (93%) or from a family physician (93%). The challenge now is to determine how to package culturally relevant, effective services for poor rural communities by partnering with churches and family physicians, particularly in hopes of reaching more of the African-American community.

"I would seek out mental health services if they were available from..."



Fox, J., Merwin, E., and Blank, M. (1995) De Facto Mental Health Services in the Rural South. *Journal of Health Care for the Poor and Underserved*, 6(4):434-468. Southeastern Rural Mental Health Research Center, University of Virginia.

The rural poor continue to experience a scarcity of mental health services, with most mental health services provided by the general medical sector. This de facto system combines specialty mental health services with general care, such as from primary care, nursing homes, ministers, counselors, self-help groups, families, and friends. This article examines the availability, accessibility, and use of mental health services in the rural South and the applicability of the de facto model to rural areas. It integrated information from many resources to document the de facto system in the South. Sources for specific facts below are documented in the article.

Demographics:

- 86% of counties with "persistent poverty" are in the South
- 50% of rural poor under 65 live in the rural South
- 91% of ethnic minority rural households are in the South and are primarily African American (overall U.S. rural population is not ethnic minority)
- 47% of rural African American households are poor
- 80% of rural African American female-headed households are in the South

Education:

- The proportion of adult college graduates in the South is less than in other regions
- Of 489 counties in the U.S. having the lowest proportion of adults with high school education, nearly all are located in the South
- 25% of the adult population has less than an eighth-grade education

Economic base of non-metropolitan counties in the United States:

- 29% farming dependent
- 28% manufacturing dependent
- 21% retirement dependent
- 8% mining and energy dependent

Economic base of population:

- 13% farming dependent
- 40% manufacturing dependent

Rural South:

- Highest unemployment/underemployment rates in the United States
- Lowest median family income
- Highest poverty rates for all age groups

Generally characterized by:

- Poor housing
- Greater variability in road and telephone infrastructure
- Limited employment opportunities
- Limited or no public transportation
- Limited sources of services
- Vulnerable small governmental representation
- Out-migration diminishes resources

Health care services availability:

- Of 1,682 counties in the U.S. are without a psychiatrist, psychologist, or social worker; all are rural
- 61% of rural Americans live in areas short of psychiatric staffing
- 13% of non-metropolitan counties have psychiatric in-patient units
- Rural South ranked last in the ratio of health care professionals to population

Mental health care provided in general health care sector:

- 1 in 14 rural hospitals provide psychiatric services
- 14% of rural hospital beds are designated for psychiatric services
- 60-95% of adult home residents have been diagnosed with mental illnesses
- Rural community health clinics (CHC) are the only source of health care for many rural poor and ethnic minority individuals
- Approximately half of CHC patients have neither private nor public insurance

Help-seeking:

- 50% of rural residents with mental disorders do not seek care
- 80-90% of Southerners' health problems are treated with popular home remedies or other self-help strategies

Hinton, I. D., Blank, M. B., Brand, M. C., & Trivits, L. C. (2000). Effects of Welfare Reform on Children and Families in Planning District Ten Time 1. *Report for Virginia Department of Social Services Thomas Jefferson Planning District Ten*, Charlottesville, VA. Southeastern Rural Mental Health Research Center.

This study examined the impact of welfare reform policies implemented in July 1997 on Temporary Aid for Needy Families (TANF) recipients to determine who is succeeding and who is not succeeding in the welfare-to-work transition. The sample consisted of 167 females who were presently or previously enrolled in the Virginia Planning District Ten VIEW program.

- The best predictors of work experience for the overall sample were education, income from TANF, economic hardship, attitudes toward low wage jobs, functional barriers to services, and mental health status. Economic hardship and income from TANF have the most impact on predicting work experience for both urban and rural areas. Education predicts work experience in urban areas, but not in the rural areas. In rural areas, mental health status and attitudes toward low wage jobs predicts work experience.

- For white recipients economic hardship and Medicaid were the best predictors. For the rural white residents both variables did indeed predict work experience; however, for the urban white residents only Medicaid was a predictor. For African American recipients income from AFDC, education, economic hardship and past physical health problems were the best predictors. This was true for the urban African American residents only. None of the variables predicted work experience for the rural African American residents.

These findings suggest that there are two possible groups of participants with weak work experience.

- One group consists of those highly dependent on welfare assistance because of low job prospects and educational attainment. They generally tend to be urban residents, and although they may look a little different, both white and African American urban recipients fit this model.

- Another group of participants with weak work experience consists of those who have mental health problems because of chronic life stressors and barriers to services. They tend to be rural residents, and although the results were not significant, they may be the rural African American recipients. Emotional barriers to services affected mental health status in African American rural recipients only. These results illustrate the importance of recognizing the uniqueness of problems faced by rural recipients, especially African Americans. Addressing the issue of stigma towards seeking services and disrespect for the services provided in rural areas is as important as transportation and childcare problems for these recipients.

Overall, the results of the study suggest that transportation and childcare problems in getting to work are no longer the primary predictors for work experience. For these recipients economic hardship and education are the primary problems. However, addressing problems in getting services, especially mental health services, is as important as education for rural recipients. The results also showed a significant relationship between maternal well-being and children's well-being. This further illustrates the importance of providing appropriate services for recipients suffering with mental health problems. In addition to improving economic outcomes, appropriate treatment is likely to have a positive influence on the mental health status of their children.

Holt, F., Merwin, E., & Stern, S. (2001) **The Lengths of Psychiatric Hospital Stays and Community Stays.** *Virginia Economic Journal, Vol. 6*, pp. 1-25.

This study examined state mental health inpatient care and the effect of length of stay and diagnosis on subsequent functioning in the community. It also included information about a client's community to consider the effect of community resources on the utilization of inpatient services that can be used to identify profiles of those at higher risk for recidivism. The main source of data for the study was the master demographic file for the Patient/Resident Automated Information System (PRAIS) provided by DMHMRSAS. Out of 134,236 records, each detailing an episode for an individual in one of Virginia's eight public adult psychiatric hospitals was the major data source. Supplemental data was also utilized from the Area Resource File (ARF) containing county and city aggregate data on a number of variables.

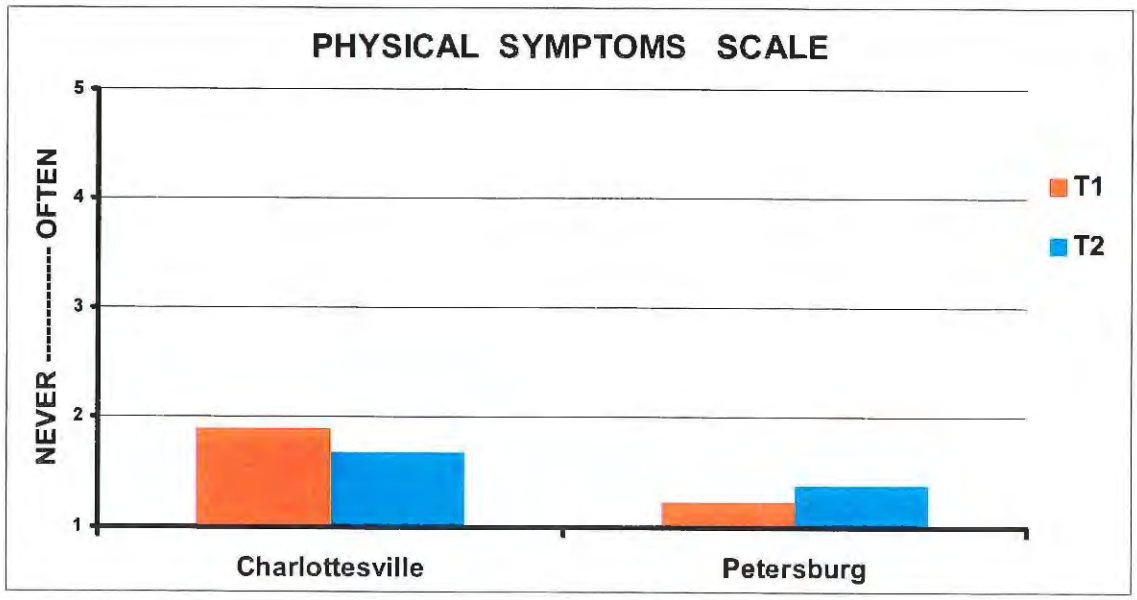
The study included 5,662 hospital stays and 4,797 community stays. The study included observed covariates, duration dependence, and unobserved heterogeneity in a survival model. The results utilize the standard proportional hazards model with the log baseline hazard modeled as a piecewise linear function. The authors found that sex, marital status, employment status, diagnosis, age, committed days, and urban/rural codes help explain hospital stay lengths. For example, being single or unemployed increases the rate of inpatient readmission, while being black has an insignificantly positive effect on this rate. Psychiatric diagnoses have predicted effects on the rate of discharge from inpatient stay. Patients diagnosed with organic or schizophrenic disorders have the longest median and average lengths of stay while substance abuse disorders have the shortest. Characteristics of particular counties are not predictive of these rates, but some county medical resources help explain community tenure. The length of the last previous hospital stay as well as the number of previous hospital stays, decreases the rate at which one is discharged from the hospital and also results in a faster rate of leaving the community for readmission for inpatient care. The results of this study also show significant evidence of duration dependence and unobserved heterogeneity.

Prepared by, Julie Roebuck, BSN
University of Virginia

Kane, C. F., and Blank, M. **NPACT: Assertive Community Treatment with Nursing and Peer Support.** Working Paper. Southeastern Rural Mental Health Research Center

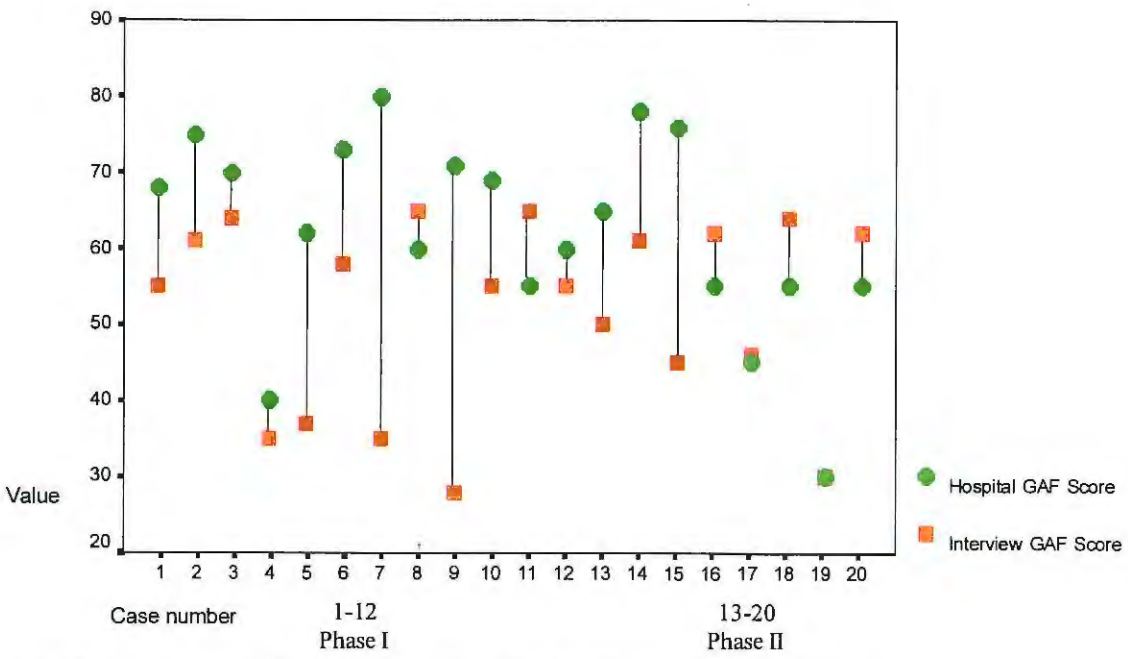
Catherine F. Kane, PhD, RN, FAAN
Michael Blank, PhD

This on-going study examines the effectiveness of adding Advanced Practice Nurses (APNs) and stabilized consumer providers to a standard psychiatric Assertive community treatment (PACT) program. In all, 40 subjects receiving NPACT were compared to subjects receiving traditional PACT at another site. In a psycho-educational framework, APNs emphasized and consumer providers reinforced health promotion principles and activities in the course of care. APNs conducted assessments concerning health behaviors and physical symptoms. The new interventions focused on the physical risks in SMI populations that result in high rates of morbidity and mortality. It was hypothesized that consumer-providers would offer the social supports necessary to teach positive health behaviors, including early illness intervention, medication education, symptom management, and reduced substance abuse. Using semi-structured interviews, data was collected at baseline and at six-month intervals for 18 months. Preliminary results indicate that both groups showed improved functioning over time as a result of assertive community treatment. Participants in NPACT have fewer physical symptoms in follow-up than participants in PACT, but are no differences with regard to specific health behaviors.



Kane, C., Thompson-Heisterman, A., Hinton, I., Burkett, B., Merwin, E., Chen, D. (2001) **Outcomes for Patients Discharged from State Psychiatric Inpatient Care, Final Report.** Office of the Inspector General. http://www.oig.state.va.us/specialreports/dischargestudy.pdf

This study was commissioned by the Inspector General for Mental Health of the Commonwealth of Virginia, and undertaken by the Southeastern Rural Mental Health Research Center of the University of Virginia, to assess the discharge placement process and outcomes for individuals recently discharged from Virginia state mental health facilities. The majority of the randomly selected discharged sample could not be contacted, despite extensive follow-up attempts. The findings are based on interviews with twenty discharged clients and analysis of 126 discharge plans. The interview tools utilized included the Positive and Negative Syndrome Scale (PANSS) and the Mental Health Statistics Improvement Program Task Force on Mental Health Report Card-Consumer Survey (MHSIP).



GAF Scores at Discharge (Hospital) and Follow-up (Interview)

Findings included the discovery that the majority of cases were discharged to a higher level of care than that recommended by LOCUS, that the time between an individual's discharge and initial CSB appointment averaged less than one week. Changes in medications were found to occur in most cases from inpatient to community care. The inability to follow-up with the majority of clients led to the conclusion that continuity of care appeared to be lacking, and that the lost individuals were at a high risk for relapse. It was found that discharged clients had recognizable symptoms, were deteriorating in level of functioning as shown in the graph above, had a high level of physical distress and need for medical services, and were not involved in rehabilitative programming.

Improved tracking strategies and further investigation of these issues was recommended. Medication dosages were found to be decreased by community providers. Further study was recommended to determine the reason for this trend. Consumer satisfaction was found to be lower than that of a comparative sample, and it was recommended that MHSIP regularly assess consumer satisfaction.

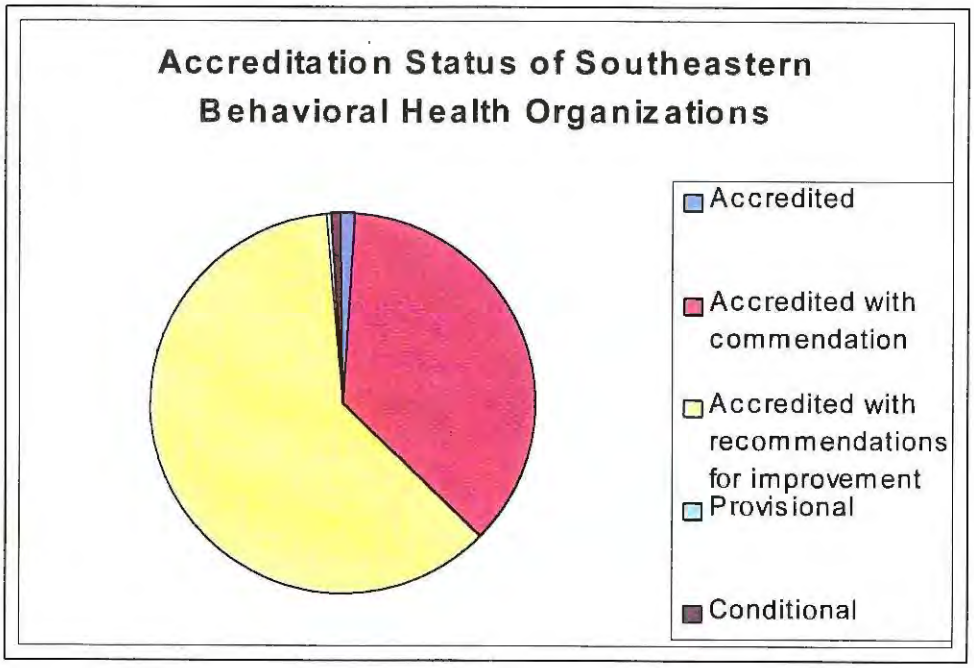
Marcopulos, B. A., McLain, C. A. & Giuliano, A. J. (1997). Cognitive impairment or inadequate norms? A study of healthy, rural, older adults with limited education. *The Clinical Neuropsychologist, 11*(2), 111-131. Southeastern Rural Mental Health Research Center, University of Virginia

This study established preliminary norms for nine commonly administered neuropsychological tests for a biracial sample (N = 133; White = 64, African American = 69) of nondemented, rural community-dwelling elders (mean age = 76.48; SD = 7.87) with 10 or fewer years of formal education (mean education = 6.65 years; SD = 2.14). Hierarchical multiple regression analyses revealed that education was an important predictor of performance on the Mini-Mental State Examination (MMSE), Mattis Dementia Rating Scale (MDRS), Clock Drawing, Ravens' Colored Progressive Matrices, Wechsler Adult Intelligence Scale-Revised (WAIS-R) Vocabulary and Block Design, Verbal Fluency (Category) and Logical Memory and Visual Reproduction subtests from the Wechsler Memory Scale-Revised (WMS-R), but did not predict scores on the Fuld Object Memory Evaluation or memory savings scores from the WMS-R. Race was a predictor only for WAIS-R Vocabulary and Block Design, and WMS-R Logical Memory Delayed. Approximately half of the subjects scored below the punished cut-offs for the MMSE and MDRS and would have been considered mildly to moderately impaired on many of the test measures.

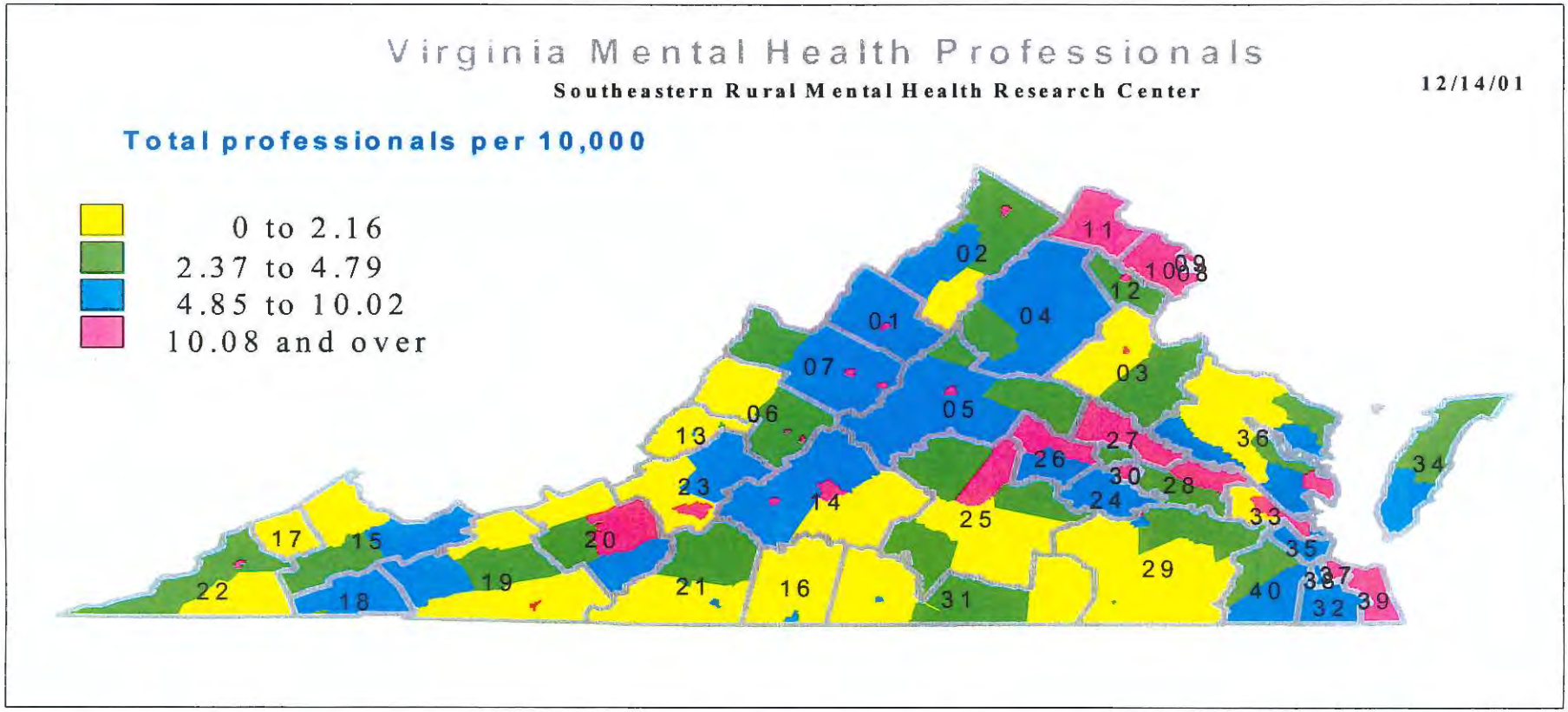
Merwin, E., Li, X., Cook, B. & Chen, D. *Accreditation, Not Necessarily a Safeguard of Quality*. Working Paper. Southeastern Rural Mental Health Research Center, University of Virginia.

The quality of health care is an important issue to every individual who visits a hospital or a health organization. The Joint Commission on Accreditation of Hospitals (JCAHO) provides extensive standards for organizations to meet as a way to promote quality of care through accreditation. So how well does accreditation say about the quality of care?

This study included 225 behavioral health organizations in 10 southern states for which performance data was available from JCAHO's website as of July 28, 1999. Only 33 hospitals were located in rural areas, and they served communities with lower income and lower percent of minority populations. This study found out that most organizations received accreditation with recommendations for improvement or with commendation.



Accreditation signals that an organization has met certain standards. This study sought to determine if publicly available information on behavioral health organizations was sufficient to inform consumer's choice of facilities or to use as an overall empirical indictor of quality. Since all hospitals were accredited, one provisionally due to being newly accredited, knowing that a facility is accredited offers little help to the consumer. Additionally the average overall score for organizations accredited with commendations or accredited was 97 compared to 93 for those accredited with recommendations, or provisional or conditional accreditation. This narrow difference reduces usefulness of these overall categories of accreditation to inform a consumer's choice of provider. There is a small and overlapping range in scores; however, there are 25 specific areas in which there were differences in the organizations, including important areas of patient assessment, treatment, and safety. Scores on these important areas provide more useful information for comparison. For example, average overall scores for implementation of safety plans was 1.2 in the first group, compared to 1.8 in the second. Information of specific standards like use of seclusion, restraint and medication would provide more revealing and useful information to inform clients' choice of providers and as empirical indicators of quality.



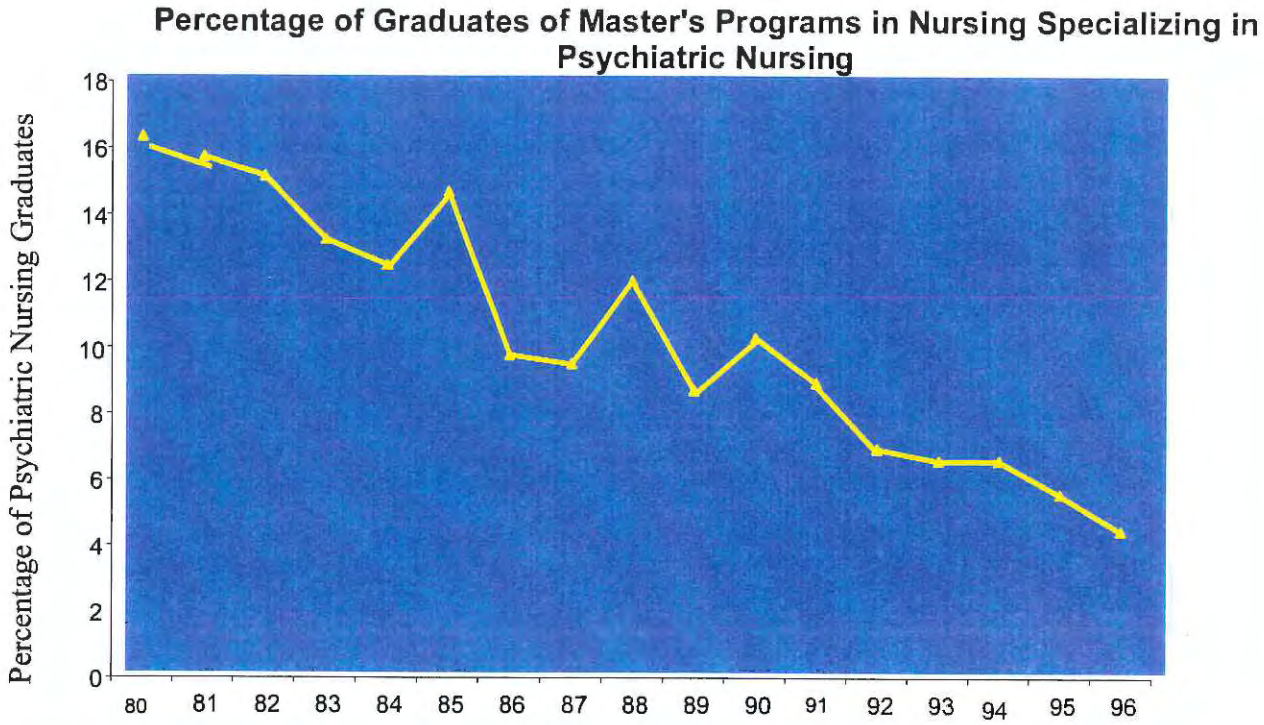
Merwin, E., Hinton, I., & Dembling, B. (2002) **Shortages of Mental Health Professionals in Virginia.** Virginia Primary Care Association. http://www.vpca.com/

This study was conducted to help determine the actual availability of mental health professionals in Virginia, the disciplines categorically involved and differences in accessibility depending on geographic area. The study represents findings of cities and counties of Virginia during the four year time period of 1996 to 2000. There was an overall increase in availability of mental health professionals in Virginia, however this increase did not always include rural areas of the state. In fact, studies found several counties without clinical psychologists. It was discovered that the rural areas with the most shortage of mental health providers were the areas in greatest need of mental health services. One half of the 48 counties determined to have shortages were 100% rural. Altogether in Virginia there was an increase in availability of mental health professionals over the past 10 years, however the lack of mental health professionals in the rural areas of The Commonwealth continues.

Prepared by Julie Roebuck, BSN, University of Virginia.

Merwin, E. & Fox, J. C. (1999). Datapoints: Trends in psychiatric nursing graduate education. *Psychiatric Services, 50*(7), 905. Southeastern Rural Mental Health Research Center, University of Virginia.

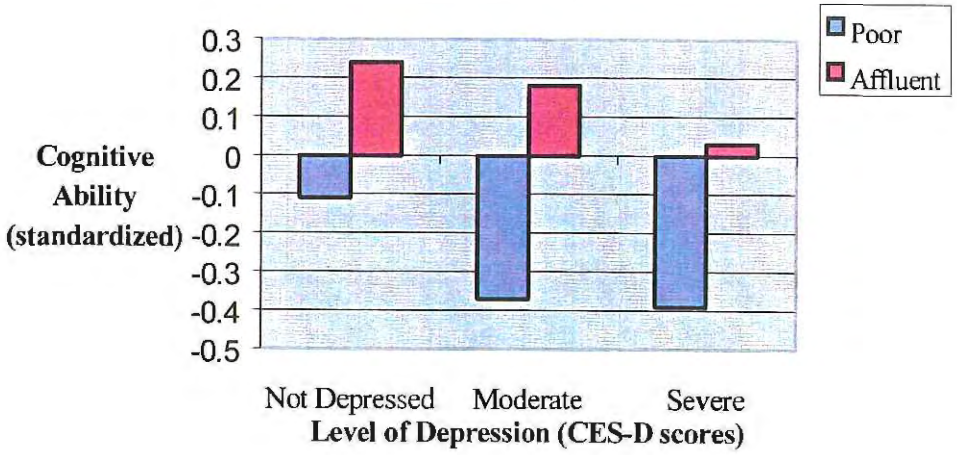
Educational trends among graduate-prepared psychiatric nurses were evaluated. Despite a marked increase in the number of graduates from masters' nursing programs overall, the number of graduates from master's programs in *psychiatric* nursing declined steadily between 1980 and 1996. Figure1 shows this continual decline in actual numbers of graduate level psychiatric nurses prepared. This decrease is likely to lead to leadership gaps in the profession and insufficient numbers of psychiatric nursing educators.



Petterson, Stephen and Alison Burke Albers. 2001 (November/December). Effects of Poverty and Maternal Depression on Early Child Development. *Child Development.* *72*(6).1794-1814.

Petterson and Albers examine the mediating effect of maternal depression in the relationship of poverty and child development. Using data from the National Maternal and Infant Health Survey, they show that young children, between the ages of 2 and 4, of poor depressed mothers fare worse developmentally than those of non-poor, depressed mothers. Young children in poor families have substantially lower scores of cognitive development than children in more affluent families (defined here as those with income three times poverty). The poor-affluent gap in scores widens substantially for children with moderately depressed mothers, but narrows slightly for children with severely depressed mothers.

Figure 1. Maternal Depression, Poverty and Early Child Development

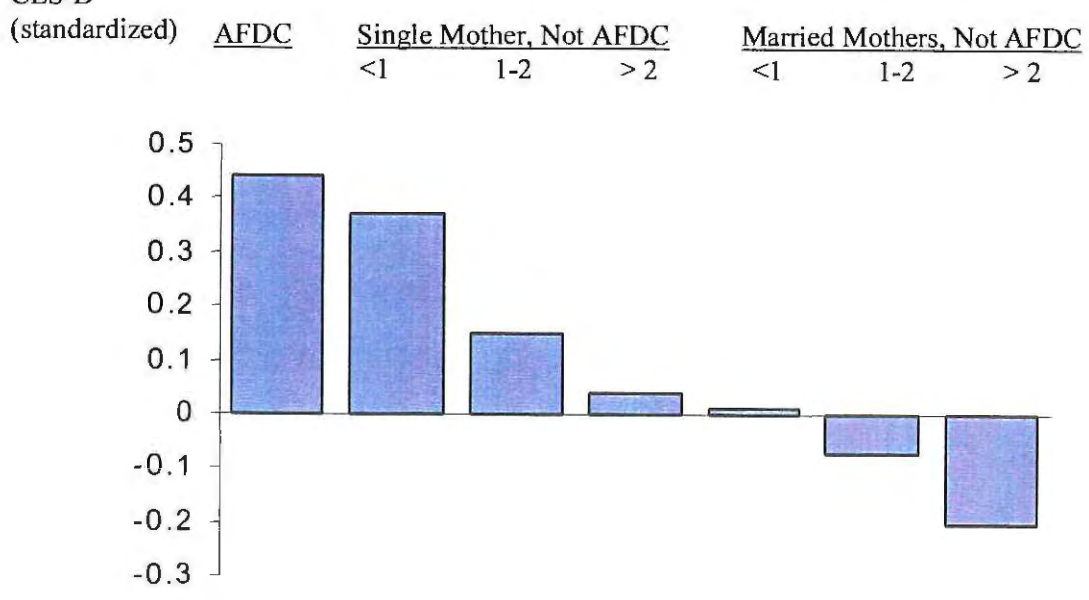


Petterson, S. and Friel, L. 2001. Psychological Distress, Hopelessness, and Welfare Recipiency. *Women and Health 32,* 79-99.

Petterson and Friel (2000) assesses the claim that poor single mothers are better off psychologically if they work than if they don't work. They show that the greater emotional distress experienced by welfare recipients is due primarily to their low income, not welfare receipt *per se.* They use data from two large, nationally representative data sets (the National Longitudinal Survey of Youth and the National Survey of Families and Households) to examine differences in levels of depressive symptoms across different groups of mothers.

The most important finding is that the higher CES-D scores of welfare recipients can be attributed mainly to the material hardship they experience. Specifically, single mothers living in poverty but not receiving assistance, particularly those working in low-wage jobs, report very similar levels of depressive symptoms as welfare recipients (see Figure 1). Moreover, the results show that compared to single mothers, married mothers experience lower levels of distress and that their psychological well being is less affected by their material well-being. These findings call into question a core assumption guiding recent welfare reform, namely that requiring poor mothers to work will improve their psychological well-being.

Figure 1. Psychological Distress and Income-to-Need

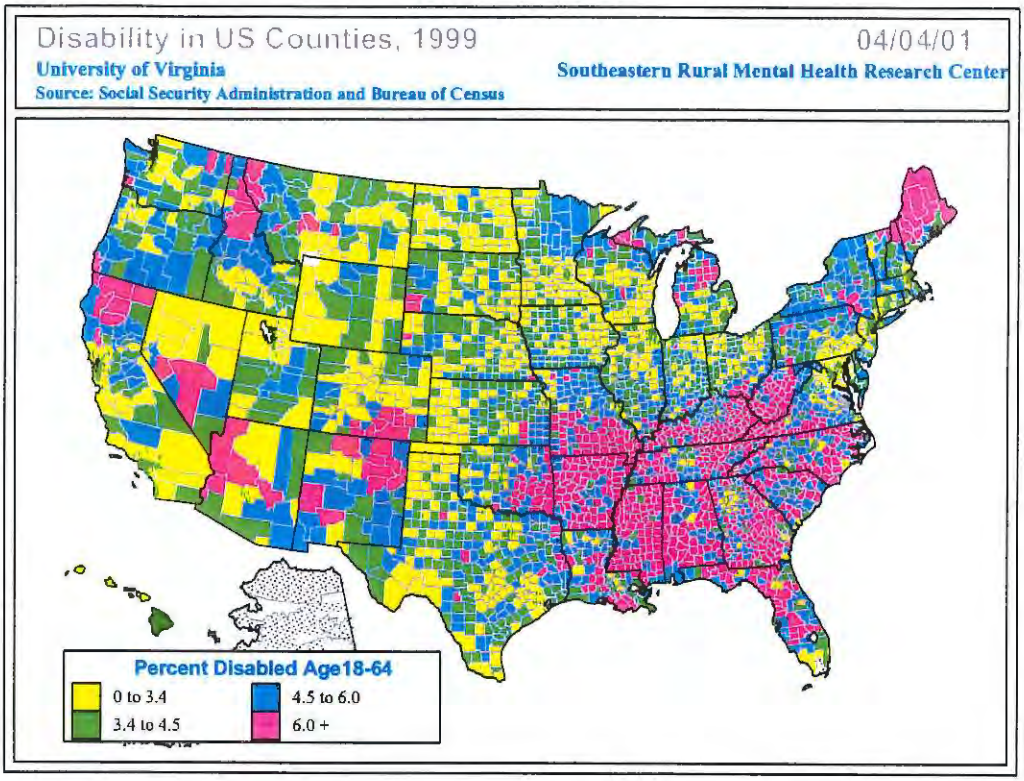


Silverman, S. H., Blank, M. B., & Taylor, L. C. (1997). On our own: Preliminary findings from a consumer-run service model. *Psychiatric Rehabilitation Journal, 21*(2), 151-159. Southeastern Rural Mental Health Research Center, University of Virginia

A consumer-run service model, referred to as a Drop-In center or Clubhouse was evaluated. The Drop-In center for this study was entirely consumer driven and sought to provide a safe, supportive, and normalizing environment for its members. It served an average 55 persons per day. Researchers found that high levels of hostility were associated with increased numbers of visits to these centers and that members reported high levels of substance abuse.

Stern, S., Merwin, E., Holt, F. (2001) Survival Models of Community Tenure and Length of Hospital Stay for the Mentally Ill: A 10-year Perspective. *Health Services & Outcomes Research Methodology, Vol. 2*, pp. 117-135.

This study examined the effect of certain personal and community characteristics on individuals' length of tenure in the community and length of stay at state psychiatric hospitals over a ten year period. The characteristics of focus were specifically race and rurality. Data was obtained from the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services (DMHMRSAS) from 1982-991, and from the Area Resources Files (ARF). The study design was a longitudinal, population-based design with maximum likelihood estimation of survival models, presenting a random effects model with unobserved heterogeneity independent of observed covariates. The primary dependent variables were lengths of inpatient stay and subsequent length of community stay. Explanatory variables measured personal, diagnostic, and community characteristics, as well as controls for time. It was found that African-American clients spend less time in the community than whites, but that when other characteristics were controlled for, race did not affect length of hospital stay. People from rural areas were found to have longer hospital stays, even when other characteristics were accounted for. It was concluded that information available from inpatient records is useful in predicting both the length of inpatient stay and the subsequent length of the community stay.


Disability in US Counties, 1999
04/04/01
University of Virginia
Southeastern Rural Mental Health Research Center
Source: Social Security Administration and Bureau of Census
Percent Disabled Age18-64
0 to 3.4
3.4 to 4.5
4.5 to 6.0
6.0 +

Dembling, B. (1999) Race, Geography, and Mortality. Paper presented at the Race, Culture, Mental Health Services and Family Well-being Conference, Charlottesville, VA.

Mortality patterns are a traditional measure of well being used by epidemiologists and public health policy makers. Changes in life expectancy and causes of death are a straightforward and generally convincing indicator of improvements in the health status of populations over time. Geographic variation in mortality patterns are also useful as indicators of the combined effects of social, economic, and health resources available to communities.

Using data derived from the Atlas of U.S. Mortality (Pickel et al.) and the Bureau of Census, Dembling (2000) identified geographic patterns associated with recent white and black mortality in the United States and created maps and tables based on 805 Health Service Areas established by Maku et al.

White and black Americans have distinct patterns of settlement in the U.S. African American communities are most concentrated in the areas from Washington, D.C., south to central Louisiana White settlement on the other hand, is more evenly dispersed across the interior U.S. Nearly all rural African Americans live in the agricultural Southeast, as these communities has been historically to urban areas in the North and West. The pattern of rural white settlement shows concentrations in Appalachia and northern Midwest areas. Figure 1 shows that rural African American populations are concentrated in a few areas of the interior Southeast.

Figure 1 Rural African American populations

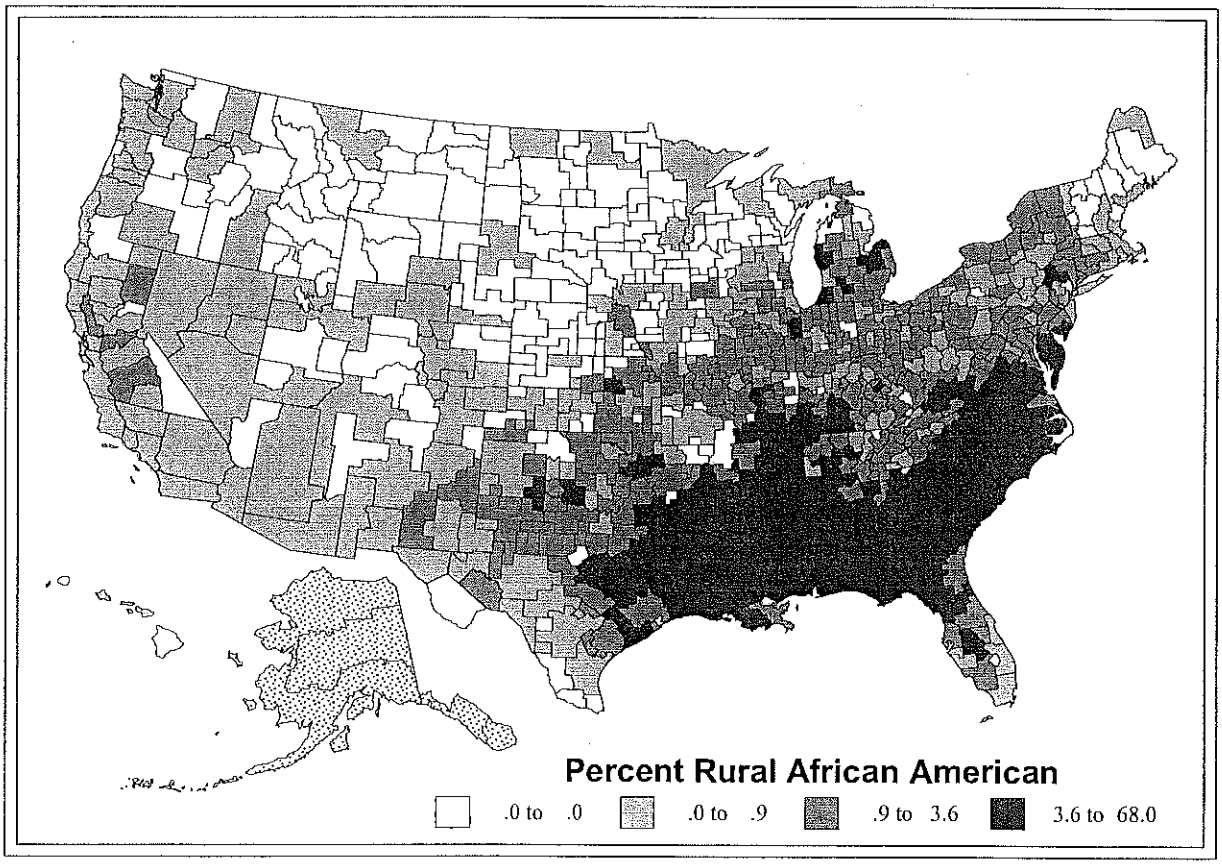
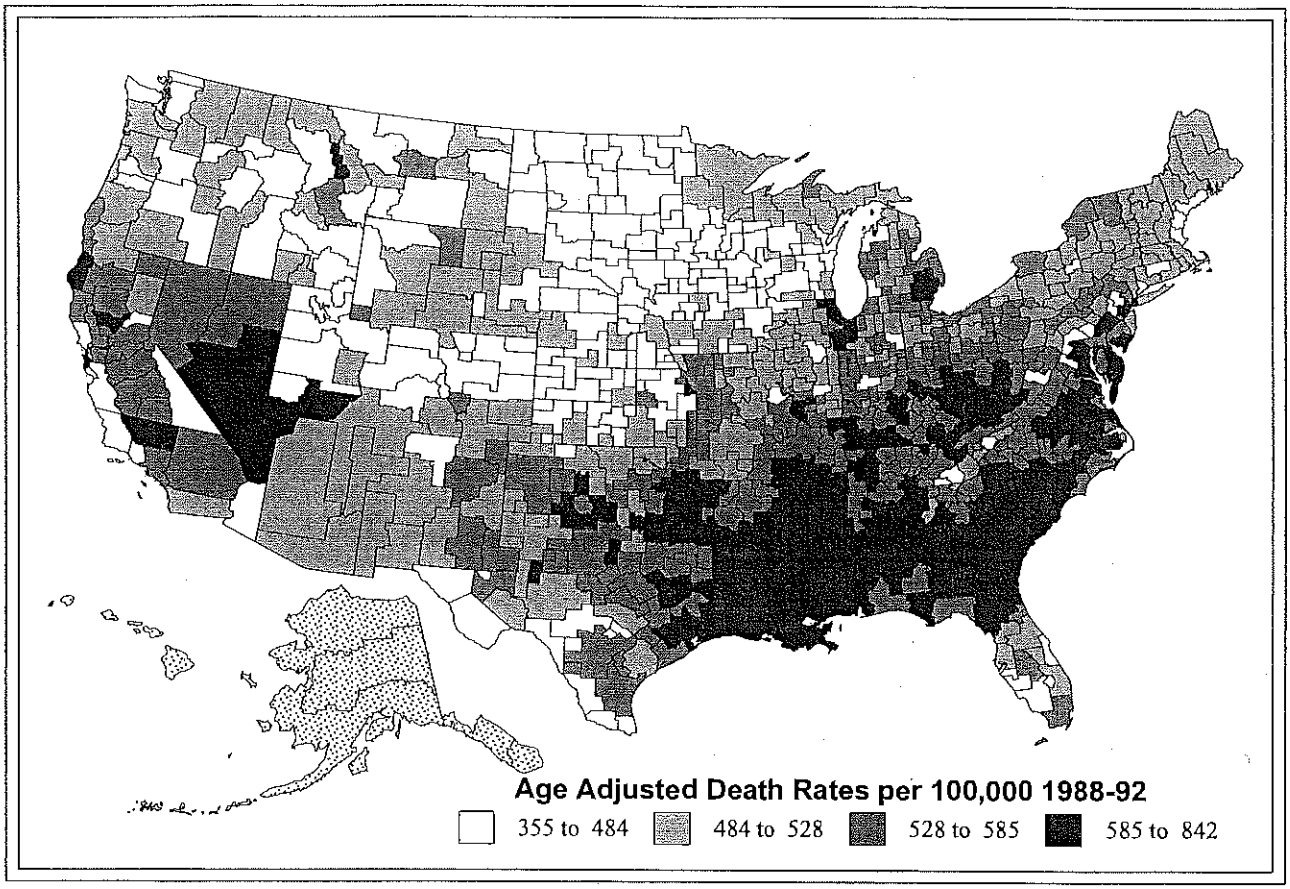


Figure 2 Combined black and white deaths due to non-injury mortality.



In the period 1988-92, age adjusted death rates by race shows a substantial racial gap remains between whites and blacks. To a certain extent, this is also a regional pattern. Whites and blacks in the Southeast share high mortality rates when compared with the remainder of the U.S. Combined black and white mortality rates are highest in the Southeast for injury, non-injury, and infant deaths. High non-injury mortality is associated with higher rates of poverty, adult smoking, low adult marital rates, and low health worker labor densities. Figure 2 shows the combined black and white deaths due to non-injury mortality.

While the population of the U.S. is becoming increasingly mobile and many regional differences are diminished as a result, the historical effects can still be seen in geographic patterns of mortality. Although these are often presented as racial differences, there are likely to be strong regional and cultural differences that underlie the patterns.