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A Word from the Editorial Staff

This volume consists of 17 articles on the subject of Mental Health on the Frontier, organized by Fellow and Past WAS President Dr. Ronald W. Manderscheid and his colleagues. These articles address a real and growing need in our society, and we hope that our readers will find the information both interesting and useful.

This publication represents the entirety of Volume 86. Our next publication, Volume 87, will also come out as a single issue instead of four individual issues. JWAS will then be back on schedule for the year 2001, but we may continue to experiment with the number of issues per volume.

The editorial staff is still seeking WAS Fellows who wish to participate in the publication of the Journal by reviewing manuscripts in their fields. The Journal receives scores of manuscripts each year, and they all require peer reviewers. Please contact the Journal (by mail), indicating your interest and specifying your area of expertise.

New Guidelines for Contributors are being developed, and these will appear both in the Journal and on the WAS Web site, http://www.washacadsci.org. Please visit the site for up-to-date information on Academy activities and projects.

On behalf of the Board of Managers and all members of the Academy, we thank each of the contributors to the journal for their continued interest and their patience.

Marilyn R. London
Thomas E. Smith

Mental Health on the Frontier

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Mental Health on the Frontier

Outline

Mental Health on the Frontier

Introduction

Although the frontier areas of the United States still hold considerable interest and promise, they also have special problems not shared by other segments of the population. One of these areas is the delivery of mental health services. In the early 1990s, the US Center for Mental Health Services funded a Technical Assistance Center for Frontier Mental Health Services to identify problems in mental health service delivery on the frontier, to prepare needed technical assistance documents, and to offer technical assistance. The manuscripts included in the present edition of the *Journal of the Washington Academy of Sciences* were prepared as part of that endeavor.

The manuscripts are organized into six Sections to help the reader think through the problems associated with delivering mental health services on the frontier. Section A can help the reader understand the "frontier" and its characteristics; Section B examines the questions of service availability and accessibility on the frontier; Section C discusses service delivery to two key populations—adults with serious mental illness and children and adolescents with serious emotional disturbance; Section D analyzes several broad-based topics from the point of view of the frontier—consumer involvement; aging; service integration, and the role of the primary care physician; Section E provides tools to determine the cost and outcome of care; and Section F examines telemedicine and managed behavioral health care as two potential future strategies.

We hope that readers will find this compilation or articles useful in addressing mental health problems on the frontier. For more than 100 years, the Washington Academy of Sciences has demonstrated the importance of turning research into practice. This volume of the *Journal* is intended to continue that grand tradition.

Readers can provide any comments to the Senior Editor, Dr. Ronald W. Manderscheid, by contacting him on e-mail at rmanders@samhsa.gov.

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Focusing on "Frontier": Isolated Rural America

James A. Ciarlo, Ph.D. and Pearlanne T. Zelarney, M.S.

Abstract

Under a contract from the Center for Mental Health Services of the Federal Substance Abuse and Mental Health Service Administration, the Frontier Mental Health Services Resource Network (FMHSRN) was created in 1994 to gather, analyze and disseminate information about the need and demand for and availability of behavioral health services in "isolated rural areas." Providing any type of human services to this rural population presents formidable geographic, cultural, and human resource problems. As an initial step in explicating the behavioral health problems of frontier areas, this paper uses existing literature to distinguish frontier rural areas from other types of 'rural' areas and thereby provides the basis for understanding the special problems of isolated rural areas.

Introduction

The Frontier Mental Health Services Resource Network, under a contract with the Center for Mental Health Services of the Substance Abuse and Mental Health Services Administration, was created to gather, analyze and disseminate information about mental health and substance abuse needs and services in "isolated rural areas" in the US. The papers presented in this special issue of the *Journal of the Washington Academy of Sciences* identify some of the technical assistance information about frontier behavioral health problems and their solutions provided by this contract. As an initial step in explicating these problems of frontier areas, this paper uses existing literature to distinguish frontier rural areas from other types of 'rural' areas and thereby provides the basis for understanding the special problems of isolated rural areas. This paper presents common and unique physical, socio-demographic, and economic characteristics of rural and frontier rural areas.

Defining Rural Areas

In the existing literature, rural areas share the common characteristics of comparatively few people living in the area, limited access to large cities (and sometimes even to smaller towns), and considerable traveling distances to "market areas" for either work or everyday-living activities (see Ciarlo et al., 1996; Zelarney and Ciarlo, 1999). Often rural areas are conceptualized as a continuum from more rural (frontier) to less rural to urban and operationally identified using the following factors (Hewitt, 1989):

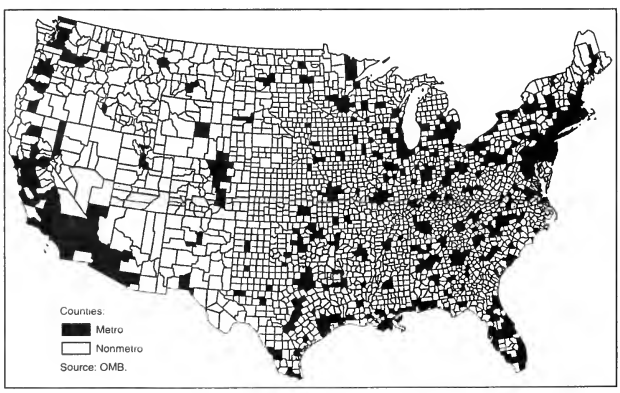
Proximity to a central place
Community size
Population density
Total population
Economic/Socioeconomic factors

Over the years, public agencies and researchers have used combinations of these factors to define "rural" and designate geographic areas as "rural."

The particular definitions discussed below have been selected largely from the different ways mental health-oriented researchers and writers have defined "rural" in their work. It in no way purports to be a definitive review. Instead, our focus is to bring greater clarity to the mental health-oriented tasks that comprised the mission of this Frontier Mental Health Services Resource Network.

The Nonmetropolitan County as "Rural." The Federal Office of Budget Management (OMB) distinguishes metropolitan areas from nonmetropolitan areas. Nonmetropolitan areas are frequently considered by medical and mental health writers as "rural." These designations are based on the concept of living either within or outside the "labor market" area of a *large central place*, typically a large city. Specifically, except in New England, OMB defines labor market areas, called Metropolitan Areas (MAs)[1] , as counties that contains a city with more than 50,000 residents or a Census Bureau defined urbanized area (a built-up area) of 50,000 residents and a total population of at least 100,000 (central areas) and counties that are socially and economically integrated with the central areas. Commuting to work is used to index social and economic integration. In New England, minor civil divisions are used as the building blocks for metropolitan areas. All counties not classified as metropolitan are designated **nonmetropolitan** (nonmetro) (Bureau of the Census, 1990; GAO, 1993). An extremely large number of counties throughout the US are "rural" based on this nonmetro classification (see Fig. 1).

Figure 1. Metro and Nonmetro Counties, 1990



If we consider just the **total number of persons** living in these nonmetro counties, some of the midwestern and southern large-population states (e.g., Illinois, Pennsylvania, Texas, and Alabama) have the largest nonmetro populations. However, if one considers the **proportion** of nonmetro residents in a state, the states with the highest percentages of nonmetro residents tend to be those more commonly thought of as "rural"—for example, Maine, Montana, Iowa, Arizona, and Alaska (see Ciarlo et al., 1996).

An important reason why many health and mental health-oriented data sets use the nonmetro definition to designate rural is because a great deal of important health-related and economic data are collected in the US by county. So-called "rural" data can thus be obtained, and compared with data for "urban" areas, by simply dividing any set of counties into these metro/nonmetro categories. Federal and state agencies are often required by statute to use metropolitan area and nonmetropolitan designations for "allocating program funds, setting program standards, and implementing other aspects of their programs" (OMB, 1998). Such political mandates, as well as the easy availability of these nonmetro and metro county designations, have made this an often-used scheme for labeling some counties as "rural" and others as not. Noteworthy, this is a fairly broad characterization that treats small, often densely populated eastern counties the same as large counties in the west with more variable population densities.

Rural Areas by Census Definition. A definition that can be used for not only counties but also smaller (e.g., census tracts) and larger (e.g., regions, states) geographic areas is the Census Bureau's definition of rural. This definition is based on the concepts of *place size* and *population density*. Urban areas include the built-up areas around large cities (the urbanized area) and places of 2,500 or more persons. "Urbanized" areas include a large city and the surrounding densely settled regions with a total population of 50,000 or more persons and generally a density of greater than 1000 persons/sq.mi. Again, rural is defined by exclusion; all areas not designated as urban are considered "rural" (Bureau of the Census, 1990; GAO, 1993).

It is worth noting, again, that states with large **total** populations also tend to be the states with the largest "rural" populations by this definition (e.g., New York, California, Pennsylvania, Illinois). When considering the ratio of rural to total population, however, those states with more than half their population living in "rural" areas are again those commonly spoken of as rural—Maine, West Virginia, Alabama, and the two Dakotas. Notice that **Alaska's** population is less than 50% rural, reflecting the concentration of its people into its coastal cities and towns (see Ciarlo et al., 1996 for map).

Overlap of Metro/Nonmetro and Rural/Urban Definitions. While both the Census and the OMB definitions lead to an estimate of a "rural" US population of around 25%, the areas defined can be quite different. Many people living in nonmetropolitan "rural" counties may actually live in urban areas (towns and cities with 2,500-50,000 people) according to the census definition. Conversely, within an MA and its associated metro counties, there are many rural areas where most or all residents live outside the densely populated urbanized area or towns of larger than 2,500 population. This

situation occurs more commonly in the West, where counties are generally larger. The boundaries of these large counties are less likely to match up with urban and suburban developments, thus creating pockets of rural living within metro counties. Hence, when the county is used as the geographic unit in question, accurate designation of an area as "rural" is more difficult in the West than in other regions of the US.

Emphasizing this, some metropolitan counties are so large that one cannot assume that all residents have easy geographical access to the central areas of the MA. Thus, even though the most populous part of a large metro county may be metropolitan in character (socially and economically integrated with central areas), other parts are clearly not integrated. Recognition of the situation has resulted in a reevaluation of the use of counties as the basic building block of metropolitan areas. (Goldsmith et al., 1993; Cromartie and Swanson, 1997). Accordingly, as part of the preparation for the 2000 Census, the OMB is currently conducting a full review of the concepts and standards surrounding the metropolitan designation with the intent of revising them. First, under consideration is changing the geographic "building block" from the county to a subcounty level, which should allow finer specification of areas as metro or nonmetro (see the section below on Use of Census Tracts in Definitions for more on the implications of this change). Second, the OMB has recently presented four new criteria approaches for public comment. One approach uses population density rather than the traditional identification of a core area and its commuting relationships with surrounding areas. The other three approaches continue to use commuting as a criteria, but leave out various other criteria used currently to include outlying areas as part of a metropolitan area (OMB, 1998).

Alternative (non-binary) Typologies of "Rural"

As mentioned earlier, rural areas in the US, including "frontier" areas, are widely diverse and vary along a continuum from most urban-like to most isolated rural. Researchers have found the preceding simplistic definitions do not always adequately describe or differentiate the diversity. Therefore, further classification schemes or typologies have been proposed which use more factors and categories to define rural areas. Several of these are noted below.

Defining the Continuum: There are two scales sponsored by the USDA that operationalize a rural-urban continuum. These are the Economic Research Services (ERS) Rural-Urban Continuum Code and the Urban Influence Code. These codes are useful because they go beyond a simple metro/nonmetro or census rural-urban dichotomy and array counties along a continuum from the most isolated rural counties (counties with limited access to services of generally available in towns and cities) to the most

urban and metropolitan counties (counties with easy access to the services of big cities. The codes for these classifications are presented below (see Buttler and Beale, 1994; Ghelfi and Parker, 1996).

ERS Rural-Urban Classification

Metro counties(MSAs)

0. Central counties of MSAs of 1 million or more persons
1. Fringe counties of MSAs of 1 million or more persons
2. Counties in MSAs of 250,000 to 1 million adjacent to metro areas
3. Counties in MSAs of fewer than 250,000 persons

Nonmetro

4. Urban population of 20,000 or more persons adjacent to a metro area
5. Urban population of 20,000 or more persons not adjacent to a metro area
6. Urban population of 2,500 to 19,999 persons adjacent to a metro area
7. Urban population of 2,500 to 19,999 persons not adjacent to a metro area
8. Urban population of less than 2,500 persons adjacent to a metro area
9. Urban population of less than 2,500 persons not adjacent to a metro area

The Urban Influence Categories

Metro counties (MSAs)

1. Counties in MSAs of 1 million population or more
2. Counties in MSAs with fewer than 1 million residents

Nonmetro

3. Counties that are adjacent to large metro areas and have a city of 10,000 or more
4. Counties that are adjacent to large metro areas and do not have a city of at least 10,000
5. Counties that are adjacent to small metro areas and have a city of 10,000 or more
6. Counties that are adjacent to small metro areas and do not have a city of at least 10,000
7. Counties that are not adjacent to a metro area and have a city of 10,000 or more
8. Counties that are not adjacent to a metro area and have a city of 2,500 to 9,999
9. Counties that are not adjacent to a metro area and do not have a city of at least 2,500

It should be noted that not only do these continua clearly separate metropolitan counties from nonmetropolitan counties, but for nonmetropolitan counties distinguish predominately urban from predominately rural counties and counties adjacent to metropolitan areas from those that are not. To be classified as an adjacent nonmetro county, two percent of the labor force of the county must commute to the adjacent metropolitan county. These continua assume that the larger the population, particularly the urban population, or the presence of a city of 10,000 or more persons, the more likely the county is to have a market that provides a range of goods and services and consequently is more urbanized. It is also assumed that if nonmetropolitan counties are adjacent to metropolitan counties they are more likely to have access to the good and services that are available in the central areas of the metropolitan county (see Holzer et al., 1998).

ERS County Typology. The Economic Research Service (ERS) of the US Department of Agriculture (USDA) has developed a classification of nonmetropolitan areas based on type of economy and socioeconomic characteristics of the population (Bender et al., 1985). Eleven (11) types of nonmetropolitan counties, six "economic" and five "policy," are defined. The developers argued that the classification provides a useful perspective for policy analyses and "reflects the extremely diverse economic and social structure of rural America" (Cook and Mizer, 1994).

The six distinct, mutually exclusive types of counties identified based on economy were: farming-dependent, government-dependent, manufacturing-dependent, mining-dependent, services-dependent and non-specialized. This typology scheme also classifies nonmetro counties by five policy criteria; retirement-destination, Federal lands, persistent poverty, commuting, and transfers-dependent (Cook and Mizer, 1994). When using this classification of nonmetro areas, one normally characterizes areas according to both economic and policy classifications.

What is Frontier America Like?

Frontier Rural. The type of rural area of primary interest to this project is that designated as "isolated" or "frontier." Frontier areas have usually been defined exclusively by low *population density*, most often fewer than 6 (sometimes 7) persons per square mile (Popper, 1986; NRHA, 1994; GAO, 1993). The consequences of this more restricted definition of rural are striking. Applied to US counties, an upper limit of 6 persons per square mile reduces the number of rural counties by the nonmetro definition from 2,357 using 1980 census data to roughly 400 frontier rural counties (Popper, 1986; Hewitt, 1989; NRHA, 1994) —a reduction of 83% in the list of nonmetro counties. This restriction to only low-density frontier rural areas removes from discussion many nonmetropolitan "rural" counties having sizable towns or small cities. However,

using density alone as a defining factor can also be deceiving, especially in large western counties. An extremely large county land mass may mask the existence of higher density urban populations by unrepresentatively low county-wide density figures.

In contrast to the nonmetropolitan (OMB) and rural (Census) definitions, essentially all frontier counties are in western states (including Alaska), lying West of a north-south line (approximately the 98th meridian) running from the middle of North Dakota through the middle of Texas (see Ciarlo et al., 1996). They are characterized by considerable distances from central places (cities) and consequently by poor access to market areas with a wide range and volume of goods and services. Such isolation is characteristic of frontier areas.

Reflecting this isolation, the frontier constitutes less than 1 percent of the population, but a prodigious forty-five percent of the total US land mass (Popper, 1986). As one might expect, providing any type of human services to this rural population presents formidable geographic, cultural, and human resource problems Isolation is considered to be its greatest defining characteristic. This isolation often results in long trips, both inside and outside the county and state, for basic needs. Duncan (1993), a journalist, suggested that these residents differ in kind, not just degree from urban and other residents:

> People in these regions have always had to adapt to weather and terrain, but the counties of the contemporary frontier have made a further adaptation — to their unique paucity of people. Healthcare, education, religion, politics, law and order, transportation, communication, sense of community, sense of self, even the act of finding a mate — virtually every human institution and activity demonstrates the impact of few people and long miles.

Breshears (1993) has deftly encapsulated the meaning of frontier and how it is different:

> Frontier is an attitude. The last frontier; frontier spirit; independence; low tolerance of systems, especially governmental systems; Indian nations and tribal lands; a "boys will be boys" attitude; and wide open spaces. Many things we often associate with "frontier" are all often true in the frontier states.

Fragile Economy. It has been discussed elsewhere (e.g., Wagenfeld et al., 1994) that rural areas in general tend to be economically unstable and that this may have an impact on the mental health of its residents. *This is even more true for the frontier.* There is little manufacturing; the major sources of income are tourism, ranching, farming, logging, and mineral extraction.

Economic downturns have begun earlier in frontier areas than in the rest of the country. For much of the Plains, the Great Depression began over a decade earlier. By 1925, Montana had experienced 214 bank failures and the average value of ranch land had dropped by half. During the Depression, the proportion of farm families on relief was highest in many of these states. The infamous Dust Bowl, the result of misguided

agricultural policies, came to the Plains earlier than the rest of the Midwest. The more recent farm crisis of the 1980s was also felt more acutely in this area. Many of these points can also be made about the petroleum industry. The single industrial base of these areas makes earning a consistent living more difficult, and one of the consequences is frequent migration (NRHA, 1994).

If the industrial base is depressed or collapses, an inevitable chain reaction occurs. Businesses dependent on these industries experience reverses, public services shrink or disappear, and the quality of life suffers (Popper and Popper, 1987). In addition, distance from metropolitan centers and low population density have made frontier areas attractive for practice bombing ranges, missile sites, and nuclear waste dumps. In their zeal for economic stability, communities have actively sought these more questionable opportunities (Norris, 1993).

New Work in Defining Frontier

A simple binary definition of frontier rural areas, such as designating counties with less than seven persons per square mile as frontier counties and all other as not, belies the diversity of these areas. Thus, as with rural areas, a number of more complex frontier typologies have also been developed to overcome the limitations of such simplistic dichotomous definition. They tend to use combinations of population parameters and other parameters such as total population, percent rural, distance and/or time from central areas as well as density, economics, poverty, commuting, and county infrastructure. Some of these typologies are discussed below.

States with Frontier Populations. This project has developed a scheme to identify and then rank states with frontier populations. This designation is based on two defining variables — **total population** of a state's frontier counties (those with less than 7 persons/sq.mi.), and the **percentage** of frontier-county residents within a state. There are 26 states with frontier counties (See Table 1). These states have as few as one county to as many as 62 frontier counties. This scheme breaks these 26 states into four groupings or categories based on the two variables. Category I includes those states with more than 15% of their population in frontier counties or with a total frontier population of greater than 250,000. Six western states fit into this category. Category II includes states with 5 to 14% of their population in frontier counties or with a total frontier population of greater than 150,000. Several states are included in this category because they have a large frontier population, even though in relation to the state's total population it is only a small percentage (e.g., Texas). Even some of the higher-population western states have substantial numbers of frontier counties within their borders; for example, about half (32) of Colorado's 63 counties had seven or fewer persons per square mile in 1990. For less populous states like North Dakota and Wyoming, the proportion of frontier counties is even higher. Categories III and IV include more eastern and higher-population states with few frontier residents.

Table 1. States with Frontier Populations

State	No. of Frontier Counties	1990 Population in Frontier Counties	% of the State's Population in Frontier Counties
Category I **States with more than 15% of their population in frontier counties or with a total frontier population of greater than 250,000**			
Wyoming	18	246,156	54.27
Alaska	21	202,937	36.89
Montana	47	281,822	35.27
South Dakota	39	178,742	25.68
North Dakota	37	159,505	24.97
Idaho	22	162,431	16.13
Category II **States with 5 to 14% of their population in frontier counties or with a total frontier population of greater than 150,000**			
New Mexico	17	190,152	12.75
Utah	17	185,237	10.75
Nevada	11	115,100	9.58
Nebraska	36	116,665	7.39
Kansas	40	155,625	6.28
Arizona	5	206,588	5.64
Colorado	32	169,559	5.15
Texas	62	225,662	1.31
Category III **States with 1 to 4% of their population in frontier counties or with a total frontier population of greater than 50,000**			
Oregon	11	97,132	3.44
Maine	1	18,653	1.48
Minnesota	7	63,843	1.46
Washington	7	71,985	1.19
Oklahoma	7	33,271	1.06
California	8	126,538	0.42
Category IV **States with less than 1% of their population in frontier counties and with a total frontier population of less than 50,000**			
Michigan	3	16,318	0.17
Mississippi	1	1,909	0.07
Virginia	1	2,635	0.05
Florida	1	5,569	0.04
Georgia	1	2,334	0.03
New York	1	5,279	0.03

Rural Composite Index. In an attempt to better define rural areas, and particularly the most isolated or "frontier" rural counties, this project also created a new rural-urban continuum by expanding upon the previously described "density" definition of rural. To the population density (persons per square mile) criterion, we added the Census definition of "rural" and another standard population measure—county population size—to create a thirteen-category classification or "index" of rurality versus urbanicity. It was postulated that a combination of these three parameters—population density, raw population size, and residence outside a town of 2,500 or more—came closer to describing rurality than most, if not all, single-criterion definitions. Thus, this classification scheme assumes that if a county has a very small population, a high degree of dispersion among its residents, and a high percentage of "rural" non-town residents according to the Census definition, the county is extremely rural in nature. At the other end of the continuum, counties with very large populations, with residents living extremely close to each other, and with most living within towns or cities of at least 2,500 persons, must be quite urban in nature.

The continuum from most rural to most urban counties was generated using composite index scores. The population values were all from the 1990 Census, and the county was the geographic unit used (although other geographic units would also be appropriate for the continuum). Each county population variable was divided into five categories. These individual categories were assigned a number from 1 to 5, where 1 was the least populous, least dense, or most "rural" (see Table 2). A county's Rural Composite Index Score was simply the sum of the three individual variable scores. Hence, each county scored over a range of 3 to 15, where 3 would be the most rural and 15 the most urban. For instance, in 1990, Costilla County in Colorado had a population of less than 10,000 (Score = 1), a density of 2.6 (Score = 2), and was 100% "rural" in Census terms (Score = 1). Its Rural Composite Index Score was therefore 4. The 13-point continuum produced was then again split into five categories primarily for easy viewing on plotted maps. (see Zelarney and Ciarlo, 1999 for maps).

It should be noted that the 98th meridian (or "anhydrous line") shows up as an apparent eastern border to less populated areas. Counties from the most rural category can be found primarily in the West where counties tend to have the most land and the fewest people. This lowest category of the continuum (scores of 3-5) also closely mirrors the designation of frontier counties based simply on density (in this project, less than 7 per square mile). However, it may be more useful (and certainly less arbitrary) to have frontier areas designated by the broader continuum that includes population size and residential location, rather than using a simple binary classification based solely on density. Furthermore, in contrast to the previously described rural definitions, this continuum-based classification designates the most isolated rural areas (frontier) within the full spectrum of rural and urban counties. It also has the advantage of being simple to understand and easy to apply. With sub-county unit data sets, it could

also easily be applied to smaller geographic units, where one would expect greater specificity and differentiation of highly rural areas than can be generated by county-level data.

Table 2. Variables Used in Rural Composite Index Scores

POPULATION VARIABLE	VALUE	SCORE
Total population*	Less than 10000	1
	10,000 - 49,999	2
	50,000 - 99,999	3
	100,000 - 499,999	4
	Greater than 500,000	5
Density -Persons/Square Mile*	Less than 1.9999	1
	2 - 6.9999	2
	7 - 9.9999	3
	10 - 14.9999	4
	Greater than 15	5
Percent Rural (Census)*	100	1
	75 - 99.9999	2
	50 - 74.9999	3
	25 - 49.9999	4
	Less than 24.9999	5

* All values are from the 1990 Census.

Frontier Education Center Definition. The Frontier Education Center, in conjunction with the Office of Rural Health Policy, conducted a consensus-development project to generate a widely acceptable definition of frontier that again also goes beyond the use of density as a single definer. They felt that the definition must allow for extremes of distance and isolation and in some way reflect the major problem of infrastructure development in frontier communities. They began by limiting the population density to less than 20 persons per square mile. Both the Frontier Education Center and

the Frontier Mental Health Services Resource Network have noted that this loosening of the density does not make a significant difference in counties and areas identified. The counties delineated are still found primarily in western states and make up less than 4% of the US population. The Center went on to limit the counties to those that in addition to being less than 20 persons/sq.mi. were also located at least 60 miles and/or 60 minutes from the nearest market center. The Center developed a multi-classification matrix with a 0-to-105-point scale that can be used as a tool to determine frontier status for individual areas (see Table 3). On this scale a given area, such as a county, must have a minimum of 50 points to be designated as frontier.

Steps Toward Development of a Sociodemographic Typology of Rural Counties. While most categorization schemes to denote differences in "rurality" involve the use of primarily geographic variables (such as metropolitan/ nonmetropolitan area types,

Table 3. Frontier Education Center Frontier Matrix

Criteria	Points	
Density (persons/sq.mi.)		
0 – 12	**45**	
12 – 16	**30**	
16 – 20	**20**	
Distance (miles)	**To Primary Care**	**Or To Next Level of Service/Market**
> 90	**25**	**30**
60 – 90	**20**	**20**
30 – 60	**15**	**10**
< 30	**0**	**0**
Time (minutes)	**To Primary Care**	**Or To Next Level of Service/Market**
>90	**25**	**30**
60 – 90	**20**	**20**
30 – 60	**15**	**10**
<30	**0**	**0**

adjacency to cities, population size and/or density, etc.), few if any employ personal characteristics of area residents or their social environments as defining variables. An exception to this is Goldsmith, Holzer, Woodbury, and Ciarlo's (1999) recent use of **grade of membership (GOM)** analysis of sociodemographic variables to derive "pure types" of rural and non-rural areas intended to better depict the nature and character of rural residents. Such a typology may often be more helpful than geographically-based categories of "rurality" in planning mental health and substance abuse services for these residents. For example, it could be important to know the socioeconomic statuses, age

characteristics, and ethnic backgrounds of a rural area's residents before trying to recruit mental health personnel to staff a planned public facility to provide mental health services. Steps toward such a sociodemographics-based descriptive typology for both rural and urban areas have been made by Goldsmith et al. as part of FMHSRN's efforts to improve the quantity and quality of mental health services in the western rural US.

"Grade of Membership" analysis or GOM is a multivariate statistical classification procedure applied to a set of variables that generates "pure types" (or clusters of variables) with distinct characteristics. It was used to analyze a data set consisting of 75 economic, social, and health variables using 1980 decennial Census data and other government statistics for the 3,064 counties in the coterminous United States. The principal types of variables covered are listed in Table 4.

Table 4. Types of Variables Used in GOM Analysis

Social rank (including economic, occupational and educational status)
Household and family composition
Housing characteristics
Mobility
Journey to work characteristics
Ethnicity
Local economic activities
Tax structure
Expenditure for police and fire service

The GOM analysis led to 27 pure types of counties, each of which would possess specific patterns of demographic, economic, social, and health characteristics. Once the pure types were defined, Goldsmith et al. then selected out for further attention those pure types with high concentrations of "isolated rural" or "frontier" counties as defined by very low population density. Nine of the pure types had greater-than-average percentages of counties with less than 7 persons per square mile (FMHSRN's working definition for "frontier" counties), or between 7 and 15 persons per square mile (often termed "frontier-like" and usually found near or adjacent to "frontier" counties). Table 5 lists the nine pure types, along with their population-density characteristics.

Note that Pure Type 2 consists almost entirely (91%) of **sparsely populated** counties, while the remaining eight types have lower percentages of such "frontier" areas (49% or less). Nonetheless, all nine types are important to studies or analyses of extremely rural or "isolated" rural areas because they have greater-than-average percentages of these "low density counties"—that is, all are comprised of at least 25% **sparsely populated** or **less densely settled** counties. Further, they are of particular interest since they include 71% of all such "frontier" and "frontier-like" counties in the coterminous United States.

Table 5. Percentage Distributions of Designated Pure Types by Density in Order of Proportion of Low Density Counties

Low-Density Pure Types	% Distribution of Counties by Density			
	Low Density Counties		Densely Settled Counties	Total (number)
	Sparsely Populated Counties (less than 7 persons per sq. mile)	**Less Densely Settled Counties** (7 to 15 persons per sq. mile)		
2	91.42	6.67	1.90	100.00 (105)
1	48.99	24.83	26.17	100.00 (149)
5	36.05	27.91	36.05	100.00 (86)
10	25.20	32.52	42.28	100.00 (123)
14	22.61	15.65	61.74	100.00 (115)
13	20.54	11.61	67.86	100.00 (112)

Pure Type 1 counties are concentrated in the short-grass prairie states of the western US (Iowa, Kansas, Minnesota, Nebraska, North Dakota and South Dakota), even though a few (about 9%) fall outside this locale. Also found in this region of the US are the counties of Pure Type 2, concentrated in the states of Kansas, Nebraska, Texas, Colorado, and Montana. For the rest of the pure types, the counties were found in a wide variety of US regions. Maps of locations of the pure types are not shown here because of space limitations; however, pure-type location maps can be seen in the HREF="http://www.du.edu/frontier-mh/letter18.html", entitled *Low Density Counties with Different Types of Sociodemographic, Economic, and Health/Mental Health Characteristics*, or viewed on the FMHSRN's Internet website (www.du.edu/frontier-mh/) under that same heading.

These nine pure-type (PT) sets of counties tend to share certain sociodemographic, economic, and health-related characteristics. Most counties have a small population (less than 45,000 persons). Their residents typically have a moderate educational sta-

tus, but are economically mixed. They consistently work within their county of residence or at home. They are predominately white, but pockets of higher concentrations of Hispanic persons do exist. These counties also share a high percentage of husband-wife households, although PT 10 is an exception with a high percentage of elderly people living alone. Finally, and not surprisingly, these counties all have low numbers of physicians per 1000 persons, and moderate to low numbers of (medical) inpatient days. Somewhat contrary to expectations, only those residents in PT 1 and PT 2 have a high percentage of employment in resource-dependent industries (such as mining and logging).

Denoting the diversity of Frontier Areas

In HREF="http://www.du.edu/frontier-mh/letter18.html" , Goldsmith et al. (1999) described four "frontier-like" clusters of counties with distinct characteristics along with their locations in the United States (Pure Types 2, 1,5 and 10). The FMHSRN's advisory committee, as well as many newspaper and magazine articles, informally confirms the existence of these community types. To emphasize the diversity of frontier areas, this paper will use these four GOM-derived portraits of frontier communities as a backdrop for a discussion of issues important in frontier areas, including the economy, population growth, poverty, land use, and mental health services in frontier areas.

Western Farming, Ranching, and Mining Communities (Pure Type 2 counties). As noted, these communities are scattered throughout the west from the eastern edges of the coastal states to the Great Plains, but particularly in the states of Kansas, Nebraska, Texas, Colorado and Montana. Goldsmith et al. (1999) describe these counties as:

> The population in these counties was very small (<15,000) and stable. The average person living in a PT2 county would be a white, high school graduate, most likely married, with a high to a very high per capita income who works in his/her county of residence, commutes less than 10 minutes to work and lives in an older home (built prior to 1951), which may be modular (10% or more) or rented (20 to 40%). Males are employed full-time, while women, if seeking work, are likely to be employed. Often, employment was in resource dependent industries (40% or more of the labor force) such as agriculture. Employment in service or manufacturing industries is likely to be very low (less than 10% of labor force).

Mining, lumber, and other extractive industries are increasingly limited in these areas in the western US, often leading to increased unemployment (Murray and Keller, 1986; Wilkinson, 1982). This can be even more true for frontier areas such as Pure Type 2 where the economy is often resource-based and less diversified. The major sources of income in these areas are farming, ranching, logging, and mineral extraction; there is little manufacturing. Each of these industries fosters significantly different cultures. Interacting as a mental health professional with a farmer in North Dakota will be significantly different than with a miner in Nevada.

Mining played a large role historically in the settlement of frontier areas. By its very nature, mining activities create boom and bust cycles, from the discovery of the mineral to the closing of the mine when the cost of extracting the mineral becomes prohibitive. Mining communities therefore are often temporary in nature and experience extreme instances of boom and bust. For example, in Las Animas County in Colorado as late as the 1950s, 40 coal mines operated, employing thousands, and driving a thriving economy. In 1996, the last operating coal mine closed, ending an era and bringing a decline in county population from 42,000 in 1950 to approximately 13,000 (Foster, 1996).

Ranching in frontier areas also has a long and colorful history. Arid and vast, these areas are ideal for cattle and buffalo. Jackson County, a frontier area in northern Colorado, now struggles with a ranching based economy. Located in the vast mountain basin of North Park, land-use restrictions limiting logging and mining have meant job loss and a stagnant economy. Almost two-thirds of the million-plus acres of the county are publicly owned. Most of the remaining land is held by large privately owned ranches. Ranching as a way of life is becoming precarious for smaller ranches. To survive, some ranching families have turned to tourism and outfitting in an uneasy compromise (Garner, 1995).

The single industrial base often found in these and other frontier areas makes earning a consistent living more difficult, and one of the consequences is frequent migration and shrinking communities (National Rural Health Association, 1994). If the industrial base is depressed or collapses in these areas, an inevitable chain reaction occurs. Businesses dependent on these industries experience reverses, public services shrink or disappear, and the quality of life suffers (Popper and Popper, 1987). It can be catastrophic when the only industry in a county declines dramatically. The town of Walden is one such example. This town in northern Colorado relied heavily on the lumber industry. When the main lumber mill closed down in 1994, 100 people in the town of 900 residents lost their jobs and Walden lost a $3.5 million annual payroll. Luckily ranching and farming, the other industries in the area, have done better recently and the town is now getting a big boost from tourism and recreation. However the economy is still fragile and town leaders are trying to bring in light industry to provide year-round jobs and greater security (Kelly, 1997).

As these more traditional industries falter, frontier areas such as those in Pure Type 2 as well as other frontier areas are turning more and more to tourism to answer economic woes, especially in the scenic wilderness areas in the west. This new industry creates large transitory populations who often overload the existing mental health services in the area. The economic base of one frontier state —Nevada — is heavily dependent on gambling-based tourism. This, of course, has implications for health, mental health, and substance abuse services. Obviously, these areas attract many transients, who may experience crises with substance abuse and mental illness. The gam-

bling lifestyle of these places also has an impact on the health and well-being of permanent residents. In their zeal for economic stability, some communities have also actively sought more questionable opportunities (Popper, 1986; Norris, 1993). Distance from metropolitan centers and low population density have made frontier areas attractive for practice bombing ranges, missile sites, and nuclear waste dumps.

Some of the more scenic frontier counties have recently experienced a resettlement. So-called "urban-refugees" have come looking for a better way of life in these frontier areas. These new settlers tend to hold service jobs in teaching, medicine, law, business and technology. This obviously changes the mix of the economy. For instance, in Montrose County Colorado, the percent of mining dependent jobs went from 17% in 1979 to only 1% in 1993 (Frazier, 1996).

Northern Great Plains Farming Communities (Pure Type 1 counties). In the Great Plains, once popularly known as the Great American Desert (Stolzenburg, 1996), the frontier areas are unique. The GOM analysis cited above shows that these communities are made up of mainly white, married couples with children who have lived in the same community for at least 5 years. They own their own homes and the husband tends to work in a resource-dependent industry, such as farming. Persons in the labor force tend to work in their country of residence (less than a ten-minute commute to work). The populations in these counties are very small, generally less that 15,000 persons.

Many of these areas were developed during the westward expansion in the mid- to late-1800s. Homesteaders settled here with great anticipation of personal success and the promise of significant population growth. Many of these rural communities did experience population growth through the 1930s, and only over the past 50-60 years have they experienced dramatic population declines. Consequently, many of the early settlers migrated to the Great Plains not as an escape from urban life, but rather, to found and build great communities of the future. Unfortunately, the combination of the absence of adequate water, the technical revolution in agriculture (the green revolution), the development of modern transportation and communications, and the onset of World War II led to a mass exodus, or rural-to-urban migration. As a result, many rural counties that would not have met the density criteria for "frontier" in the 1950s meet those criteria today. In fact, the number of frontier counties continues to grow in the Great Plains as the population decreases.

The decline in population in the frontier areas of the Great Plains is not characteristic of all counties or all decades. The populations in rural areas have been said to be both increasing dramatically and decreasing alarmingly, depending on the specific area and the decade described. The 1970s were an era of growth in nonmetro rural areas. Population tended to decline in the 1980s and now in the 1990s the trend seems to be repeating that of the 70s (Nucci and Long, 1995). This population growth in the 90s is widespread in nonmetro counties (Johnson and Beale, 1994; Nucci and Long, 1995). The increase may be due to the net inflow of migrants — particularly seniors, but is

probably also due to suburbanization. Nonmetro counties adjacent to metro counties or suburban areas seem to be growing the fastest. Growth has also been seen consistently in recreation-centered counties, supporting the net inflow supposition and the idea of a "rural renaissance." There is believed to be a preference by Americans to live in smaller places to avoid the crime and congestion of urban areas (Nucci and Long, 1995). For instance, in the 1990s over 1 million Californians have moved to other western states, presumably to avoid crime and to find a simpler lifestyle. This increase in population in nonmetro areas may also be due to a shift in the nation's economy from manufacturing to more service-oriented industries (Nucci and Long, 1995).

This growth in nonmetro and frontier areas is not, however, universal. At the other end of the spectrum, rural to urban migration continues as a consistent theme in some frontier areas, particularly in the Great Plains (Jenkins, 1991; Wilkinson, 1982). Growth was much less prevalent in nonmetro counties in the Great Plains and West Texas and in farming- and mining-dependent counties (Johnson and Beale, 1994). Nonmetro counties with the lowest population densities (frontier counties) also showed the least growth (Johnson and Beale, 1994). Population declined in large portions of the Great Plains during the 1980s, creating new ghost towns and apprehension in remaining residents. Increased farm productivity in farming areas has lead to fewer workers, larger farms and therefore lower population densities. The number of counties with less than two persons/sq.mi. grew from 143 to 150 during the 1980s, another indication of the loss in population and the growing number of extremely sparsely-populated frontier areas. There are some indications that this trend may be slowing in the 1990s. For example, in North Dakota where approximately three-fourths of the state is in the Great Plains, 89% of its counties declined in population from 1980 to 1990. In Census estimates from 1990-95, however, only 81% of the counties declined in population. But the Great Plains states, such as South Dakota, North Dakota, Nebraska and Kansas, still have very slight population changes in comparison to the rest of the frontier states. These four states had an average percentage of growth of 1.9, compared with 5.6 for the US and 10.2 for all frontier states (Census, 1996).

Low Density Counties with Hispanic Frontier Communities (Pure Type 5 counties). While almost all frontier areas in the United States are composed primarily of white residents, there are significant populations of Hispanics in certain areas of the southwest (mainly in Texas, New Mexico, and southern Colorado). Settled earlier than most other frontier areas, these areas still include communities of mostly Spanish-speakers. Goldsmith et al. describe these counties as follows:

Unlike PT2 or PT1 counties, the populations of PT5 counties generally include some Hispanic persons (at least 5% of county populations and often 20% or more). An average resident of a PT5 county would be white (generally, 80 to 90% of county populations), married and living with his/her spouse and their children, often, in a town. Mothers with children are not likely to be employed (generally, less than 50%). He/she

would work within the county and have a commuting time of less than ten minutes. Household income would be low and there is a good chance the family would be living at or below poverty level (15 to 30% of PT5 county populations, have incomes at or below the poverty level). He/she might not have completed high school (30 to 70% of persons 18 and over in PT5 counties, complete high school). If male, he would be working in a low occupational status job (generally, 40 to 45% of the male labor force); if female, chances are that she would be working in a high status job. The likelihood that the average resident would be employed in resource dependent industries is generally between 20 and 40% of the labor force. The likelihood of employment in manufacturing industries, however, is very low (less than 10% of labor force).

Poverty is often an issue for these small communities, much more so than in the other frontier types. The recent changes brought on by welfare reform are expected to have devastating effects on these extremely rural communities. Costilla County in southern Colorado is one example. This frontier county is extremely poor; 16.5% of its residents are unemployed and 34.8% receive food stamps (as opposed to 5.9% statewide). The new welfare reform laws call for the county to move 30% of adult welfare recipients into jobs, however, there are no jobs in Costilla county. In fact, a local mine laid off 68 people in 1997. Neighboring counties have some job openings, but most are seasonal or part-time and there is not public transportation to these areas (Callahan, 1997; Crowder, 1998). The fear is that working age adults in poor families may be forced to leave their homes and go to more urban areas, such as Denver, for work. The result of this would be a county with mainly elderly residents taking care of the children left behind.

It should be noted that poverty is not a defining characteristic for all frontier counties. The frontier tends to be a land of extremes and this is true for its poverty levels as well. The two counties in the US with the lowest and the highest poverty rates found by the 1990 Census are both designated frontier (Shannon, SD — highest; Loving, TX — lowest). The West, however, does have the highest regional poverty rate (15.4%) in the country. Two of the only three states in which poverty rates increased from 1994 and 1996 are western states – Arizona and Montana. New Mexico, home to many Hispanic frontier communities, had the highest state poverty rate—24.0%—for 1994 to 1996 (Census, 1997).

Declining Retirement Communities (Pure Type 10). These small communities can be found mainly in the Great Plains. The average age is high and the death rate is quite high in these communities. However, these areas are not prospering retirement destinations as can be found in Arizona, California, and Florida. These were once thriving farming communities, but because of the incredible increases in farm size due to farm efficiencies, there are not enough jobs for younger people to stay. Here the concerns of aging citizens and disappearing communities are paramount. Goldsmith et al. (1999) describe these counties as follows:

An average person in a PT10 county would live in a county with a small population (15,000 or less) that is characterized by concentrations of elderly persons (median age of county residents is 54 or greater), few children, low economic status and residence in older (built prior to 1951) stand-alone home (90% or more of the dwelling units). While not as high as PT2 or PT1 counties, persons in PT10 counties generally work in their county of residence. Many of the residence of these counties, particularly the elderly, either live alone or with non-related adults and receive social security payments. Employment in resource dependent industries, like agriculture, is often high (30 to 40% of the labor force) but below that of PT2 or PT 1 counties.

Frontier areas, particularly PT10 counties, are often economically dependent on agriculture. The land and climate, however, make farming extremely challenging. Farming-dependent areas in the Great Plains have experienced many cycles of boom and bust since their settlement in the late 1800s. After the Homestead Act of 1862 lured settlers, creating a boom, the financial panic and drought of 1890 caused a bust in which many residents left. In the early 1900s homesteaders were again encouraged to settle and it was during this era that the Great Plains experienced its highest population levels. Drought and the Dust Bowl in the 1930s reduced the population again. In the 1970s, federal subsidies, an export boom, and gas and oil discoveries brought new prosperity, only to usher in an oil bust and farm crisis in the 1980s. Parts of the Great Plains today are again struggling with drought conditions. Coupled to these boom and bust trends, farming as a whole has become more efficient. Increased farm productivity has lead to the need for fewer workers and larger farms. This has also has led to declining populations in the farming counties of the frontier.

A trend in the Great Plains frontier areas, such as PT 10 counties, is an increasingly older average age of its residents. US News and World Report (1995, July 17) carried a story on the economic decline and depopulation of the ranching area of the Sand Hills in Nebraska. With the outmigration of younger persons, the population is becoming increasingly elderly. In some counties this chronic outmigration of younger persons of childbearing age has resulted in deaths outnumbering births (Nucci and Long, 1995). One resident, aged 67, noted:

> The area has turned elderly. I put up the mail and I know how many get Social Security checks, and that's most of them. Our kids got a good education and they took a good work ethic with them when they left—none of them are slackers. But there's nothing here to hold the young ones. The opportunities are better somewhere else. What it means is that Paul and I are the 'young couple' in the church and at the Library Society, and that's so sad.

The Future of the Frontier

A vigorous debate has emerged in recent years about the meaning of the frontier and its future (Duncan, 1993; Popper, 1986; Popper and Popper, 1987). On the one hand, its history and resources make it a vital part of our heritage and future. On the other hand, it has been said that the Plains—as a result of the "largest, longest-running agricultural and environmental miscalculation in American history", may "become almost totally depopulated" (Popper and Popper, 1987:12). In addition, as the US becomes more densely populated and urban, these isolated rural areas are increasingly seen as important for preservation and protection. A sense of immediacy is added with the incursions into traditionally rural areas by more urban development. In Colorado alone it was estimated that 250 acres per day are converted from farmland, ranchland and open space to housing and other more urban developments (Foster, 1996).

At the same time that Frank Popper was rediscovering frontier areas, he was also speculating about their future (Popper and Popper, 1987). In a controversial hypothesis, he predicted that the population would continue to decline in the Great Plains until large portions became completely uninhabited. He feels these areas should revert to pristine short grass prairie and become a vast wildlife preserve — home to large herds of buffalo. The area that would be created has been dubbed the "Buffalo Commons." To current residents of these frontier counties, this idea is abhorrent.

Yet Dayton Duncan (1993) in his noteworthy book Miles from Nowhere suggested another view of the future of the frontier. After his yearlong travel in the American frontier he remained optimistic about its survival. He maintains frontier counties will stabilize at their "irreducible minimum," which he estimates at around 2 persons/sq.mi. At this density, small towns always have "hairdressers and video rental stores," in his view apparently the two businesses essential for survival.

Frontier residents themselves often see their countryside as the "affordable new frontier" with new opportunities for progress. They view themselves as "pioneers" and feel that other more urban dwellers will follow their lead. This has begun to happen in limited areas as urban "refugees" move to frontier areas and start new businesses using technology. Examples can be found in Lincoln County, Montana where an orthopedic surgeon settled and created an informatics company (Kootenet, 1996); and in Colorado where old ghost towns are being resettled (Lipsher, 1997).

Ironically, these lands that nobody wanted 50 to 100 years ago are now the targets of great debate over how to protect them. As a Denver newspaper put it—"What happens to what many consider the last and best acres of truly wild land?" (Ryckman, 1996). This debate seems to be heating up as the rest of the nation becomes more urban and densely populated. Environmental groups are racing to preserve federal lands within the frontier as wilderness areas. Others are working toward the establishment of National Monuments and National Parks, which increases tourism in these areas and therefore stimulates the economy. Wilderness area designations are supported much more

by those who either live in urban areas within the state now or have done so in the past (Bradsher, 1997; Ryckman, 1996). Ironically, environmental groups and rural residents alike oppose the establishment of National Parks, fearing the overuse by tourists (Ryckman, 1996). Even in the less traditionally scenic Great Plains, efforts are afoot to preserve and protect isolated areas. The Nature Conservancy is one organization that has begun a national effort, called the Great Plains Project, to save North American grasslands (Stolzenburg, 1996).

The view of frontier areas as valuable and worthy of preservation is often in direct opposition to their resident's dreams of economic prosperity. Frontier residents fear that this preservation trend will limit economic opportunity and change land use that has existed for a hundred years. At the forefront of this battle are the federal government, environmental groups and frontier residents. They are squaring off over grazing, water and mineral rights. This conflict has spawned a political movement variously described as the "county rights movement," "county supremacy movement," or the "private property rights movement." These movements maintain counties have authority over the federal lands within their borders and have sometimes led to violent actions against federal offices and agents (Larson, 1995).

Implications of Behavioral Health Services

Frontier areas are a particularly interesting and often forgotten type of rural area. They are notably distinct from other types of rural and nonmetro areas because of their location in the West and their extreme isolation. In fact, their isolation and distance from services define them. Their western nature lends to their picturesque, but also extremely rugged, character. This harshness and a lack of abundant water make everyday living on the frontier a challenge. Their future has always been in question, and never more so than now with the pressures from their more urban neighbors.

Frontier areas are not at all homogenous, however. They differ in climate, economies, population trends, and certainly in culture. All of their common and unique characteristics must be taken into account when discussing mental health service provision to their residents. Funding agencies, Congress and rural advocates need to understand frontier areas' commonalties to adequately understand their residents' needs. Individual practitioners, managed care organizations, and state authorities must understand their diverse natures when providing treatment and creating service provision models. These areas cannot be arbitrarily lumped with other rural areas, and certainly not with urban or metro areas when considering health and mental health services issues. Frontier areas deserve to be understood and accounted for in the new health and mental health care arena on their own terms and in consideration of their special uniqueness and value to all US citizens.

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Notes

[1] Metropolitan areas are further classified into free-standing Metropolitan Statistical Areas (MSAs) or Consolidated (multiple) Metropolitan Statistical Areas (CMSAs) based on their location with respect to other MAs.

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The Availability of Health and Mental Health Providers by Population Density

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Abstract

This paper explores the local availability of mental health service providers in different types rural areas. Emphasis is place upon the services available to frontier and isolated rural areas. Because persons with mental health problems may use a wide variety of social, medical and psychological providers depending on their degree of functional deficit, providers in both the general medical and the specialty mental health sectors are evaluated. This permits the determination of the extent to which both of these services are locally available in high density urban areas as well as frontier and isolated rural areas. The types of providers examined are psychiatrists, child psychiatrists, family practice physicians, all physicians, psychologists and social workers. The analysis demonstrates that mental health service providers tend to be concentrated in the densely settled counties, counties that are likely to be highly urbanized and in metropolitan areas. This is particularly true for psychiatrists and child psychiatrists and to a lesser extent psychologists and social workers. Such providers, however, are not likely to be found in frontier and isolated rural counties. While most counties, including frontier and isolated rural counties are likely to have physicians, including family practice physicians; there are many of these low density counties that do not have the services of physicians available.

Introduction

Based on population density, this paper examines the local availability of mental health service providers for those living in rural areas and those living in areas designated as frontier due to their extremely low population per square mile. Our initial assumption, which is largely born out in the following analysis, is that persons living in frontier and isolated rural areas have fewer mental health service providers available to them either through the general medical sector or through specialty mental health sectors than persons living in more urbanized areas. In addressing this question we define availability of mental health services as the presence and the number of those psychiatric and/or psychological providers of services that traditionally address the needs of those with various types of behavioral health problems or disorders.

Earlier studies clearly demonstrate that services provided by specialty organizations increase as one goes from low density isolated rural areas to the most urbanized high density counties, no empirical demonstration has shown that this relationship holds

for both general medical and specialty providers of mental health services (Goldsmith et al., 1997; Holzer, Goldsmith and Ciarlo, 1998). Since services needs are likely to be similar at all population density (urbanization) levels (Wagenfeld et al., 1994), understanding differences in availability is essential for effective program planning. Also, because persons with mental problems may use a wide variety of social, medical and psychological providers depending on their degree of functional deficit, providers in both the general medical and the specialty mental health sectors play major roles in providing care for behavioral health problems. The extent to which these services are both locally available reflects the extent to which the residents of an areas have choices among professional service providers.

Sources of Data

Area Resource File. A primary source of data for addressing the availability of services is the Area Resource File (ARF) of the Department of Health and Human Services, Bureau of Health Professions, Office of Research and Planning (Quality Resource System, 1996). Most of the data included in the file is drawn from governmental agencies such as the National Center for Health Statistics and the US Census, or from private agencies such as the American Medical Association (AMA), and the American Hospital Association (AHA). They collect data either from administrative records of the agencies or from surveys of hospitals or other facilities.

Public Use Microdata 5% Sample (PUMS) – 1990. Because the Area Resource File focuses primarily on professionals in specified health settings, it contains only minimal data on psychologists and social workers. In order to gather additional information on these professions, we conducted analyses of data from the Public Use Microdata 5% Sample (PUMS) of the 1990 US Census. This contains a sample of approximately 5% of the US population, particularly those who filled out the Census long form questionnaire—the form that contains detailed information about respondents and their families. Because the PUMS is a sample of individual records, confidentiality is protected by limiting geographic identification to areas corresponding to about 100,000 persons. For purposes of the present analyses we aggregated sub-county areas up to the county level, and for areas containing multiple (small) counties we allocated the record data to the counties contained within it, proportionally by county population, and then adjusted the marginals of tables to match available published Census tabulations (STF files). This procedure is described elsewhere, but has the effect of approximating the county information in a manner that should not be unduly biased in subsequent tabulations (see Holzer et al., 1998).

Definitions of Rural and Frontier

Our primary measure of the urban-rural dimension is population density. This is the number of persons residing in a county divided by its land area. We have adopted the Frontier Mental Health Services Resource Network's definition of "frontier" as counties with less than 7 persons per square mile (see Ciarlo et al., 1998). To provide a continuum, we have further divided this density category into "very frontier" (0 to 1.9 persons per square mile) and "frontier" (2.0 to 6.9). All frontier and very frontier counties are nonmetropolitan (having limited access to the daily market areas of big cities, cities with 50,000 or more persons) and are predominately rural (having no urban place of 2,500 or more persons represent 64.4 and 81.4 percent of these counties, respectively) (see Holzer and Goldsmith, 1998).

Analyses Based on the 1996 Area Resource File

The Area Resource File provides counts for a number of different types of health and mental health providers by the setting in which they practice. Rather than attempting to present too many subtypes, we have selected for presentation a few of the major types of providers. These include psychiatrists, child psychiatrists, psychologists, social workers, family practice physicians, and all physicians.

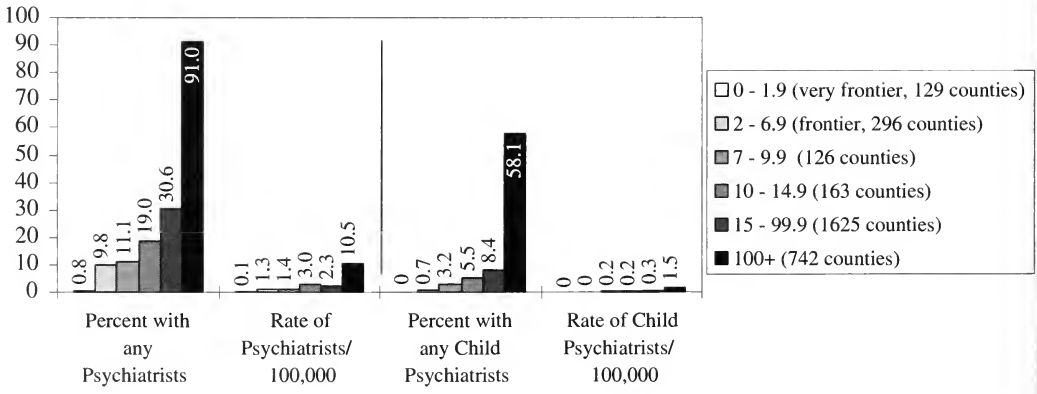
For each of the selected provider types we have presented the availability of the provider by population per square mile categories. In each figure the legend identifies the population density category and the number of counties in that density category. For each variable the percentage of counties with any providers in the category is given. This is important because it shows that many counties have no service providers of the particular type. Also present in each figure is the number of providers or units of service per 100,000 persons living in the designated county area. Thus one can see when there are not only fewer providers, but also fewer providers relative to the size of the population.

Availability of Psychiatrists. Figure 1 presents the availability of psychiatrists for each population density category. This variable is reported from the AMA survey of medical specialists, and does not include those employed by the federal government. The county for the psychiatrists in this source appears to correspond to the office location rather than his/her residence. In the lowest density category, from 0 to 1.9 persons per square mile, there are 129 counties that are designated "very frontier." In the next category, with densities from 2.0 up to 7.0 persons per square mile, there are 296 counties identified as "frontier." The first data set presents the percentage of those counties identified as having any non-federal psychiatrists, regardless of type of activity. Less than 1 percent of the very frontier counties had any psychiatrists, and only about 10% of the frontier counties had any psychiatrists. This contrasts sharply with 30.6% for counties with more than 15 persons/sq. mi., and with 91% for counties with over 100

persons/sq. mi. The next data set presents the number of psychiatrists per 100,000 populations. This figure takes into account the smaller population of the frontier counties. Even as a rate of psychiatrists per 100,000 population, the availability of psychiatrists in frontier counties is almost nonexistent and much lower (0.1/100,000 and 1.3/100,000 respectively) than the 10.5/100,000 found for the most densely settled counties.

Availability of Child Psychiatrists. Figure 1 also presents the availability of child psychiatrists in 1994, which are not federal employees, as obtained from the AMA Physician Master File by density category. This figure shows that child psychiatrists are not present in any of the lowest density counties and are found in only 0.7 percent (i.e., only two) of the remaining frontier counties. Less than 10% of the counties with 7 through 99.9 persons per square mile have any child psychiatrists. Only in the counties with over 100 persons per square mile does the percentage with even one child psychiatrist rise to 58.1%. Similarly the availability of child psychiatrists by rate increases with population density, but then only to an average of 1.5 per 100,000 persons for the densest areas. The maximums in a few areas are much higher, but those are primarily in counties with major medical schools.

Figure 1. Availability of Psychiatrists and Child Psychiatrists in 1994 by Population Density



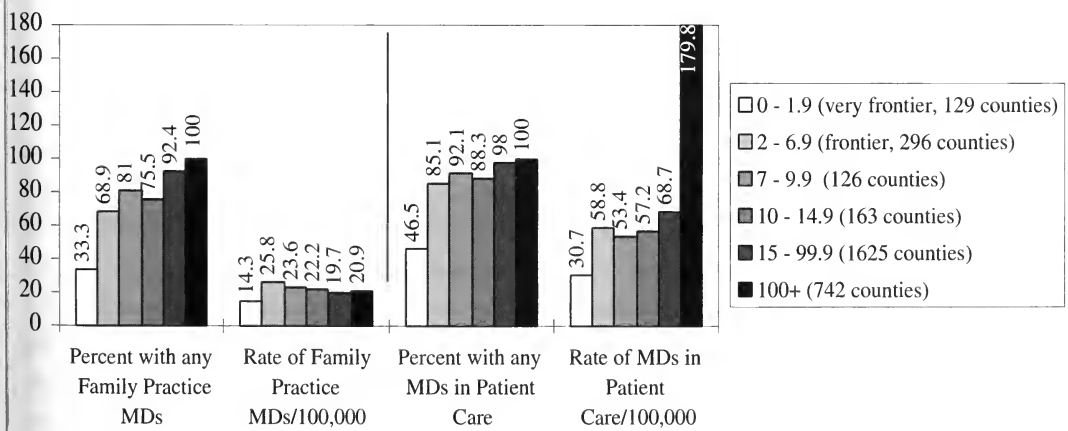
Availability of Family Practice Physicians. According to the de facto model (Regier et al., 1978), as much as half of mental health care may be obtained in the general medical sector. Much of this care will be from physicians in family or general primary care practices. We have included family practice physicians to identify the availability of physicians who could provide mental health care in the absence of mental health specialists. It should also be noted that many family practice physicians obtain additional training in psychiatry, not only as a general requirement of their residencies, but because of interest in mental health in family settings. Figure 2 presents

the 1994 distributions for MDs in non-federal family practice, as obtained from the AMA Physician Master File by population density. Of the counties with the lowest density, 0-1.9 persons per square mile, only 33.3% have MDs in family practice. Noteworthy, this reflects an average of only 0.7 per county. With a rate of 14.3 family practice physicians per 100,000 persons, an average practice size would be nearly 7,000 if patients were not accessing other forms of care. Clearly, a medical practice this large would not allow a great deal of time for providing mental health services.

For the counties with densities of 2.0-6.9 persons per square mile (frontier), the availability of family practice physicians increases to 68.9 percent, or an average of two per county. The availability of family practice physicians per 100,000 population is 25.8. This is not only a substantial increase from the very frontier counties, but is actually higher than for any of the more densely settled areas. This finding may indicate that while it takes a minimum population density to maintain a practice, the family practitioner is a common form of medicine in frontier areas. Additionally, as will be noted later, after our examination of psychologists and social workers, the family practitioner is also the most common medical practitioner who is likely to provide mental health services.

Availability of All Physicians. In order to address the question of whether the reduced availability of specialty mental health providers or family practice providers is part of a general pattern of availability of physicians, we have included figures on the distribution of all MDs engaged in patient care. Figure 2 also presents the availability of all physicians engaged in patient care by population density. This variable includes all MDs who are active and providing patient care, including office-based, hospital residents, clinical fellows, and hospital-based full-time staff. It excludes those primarily involved in administration, teaching, or research. It was drawn from the AMA Physician Master File for 1994.

Figure 2. MDs in Family Practice or any Practice in 1994 by Population Density



Even when all types of physicians are considered, less than half of the very frontier counties have any physicians, although this jumps to over 85% for even the frontier counties. The rate per 100,000 is 30.7 for the very frontier counties. The range is 53.4 to 68.7 per 100,000 for all the intermediate categories, and then jumps to 179.8 per 100,000 for the highest density counties/cities. Clearly, physicians are concentrated in the cities. Moreover, in comparison with psychiatrists and child psychiatrists, it is clear that in the more densely populated areas, there is more opportunity for choice of a mental health provider who is in the specialty sector or the medical sector.

Analyses Based on the 1990 US Census PUMS Data

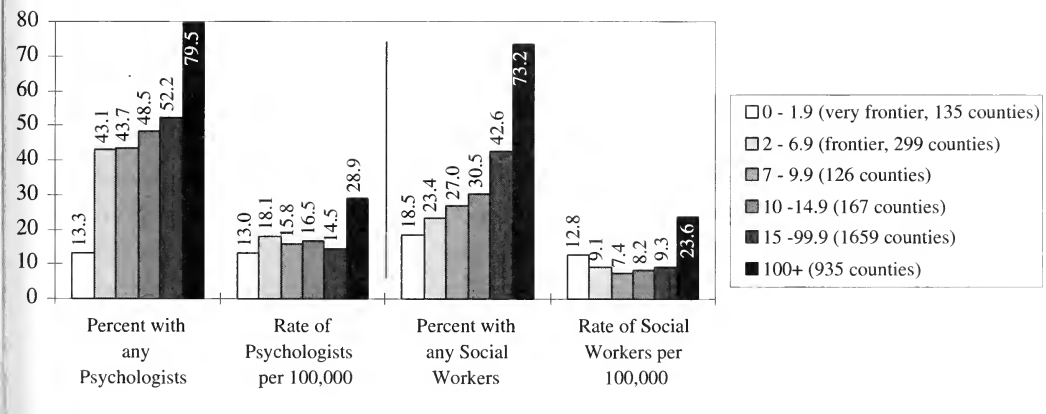
Rationale. In preliminary work, we examined the distribution of psychologists. We discovered during this work, however, that the available counts in ARF are limited to psychologists working full- or part-time in hospitals, whether short- or long-term facilities. The numbers of psychologists identified by that means was extremely low, with only a small proportion of counties having any psychologists identified at all. Even in metropolitan central cities, only 66% had even one psychologist. Although this pattern could be consistent with psychologists being in individual or group private practice outside hospitals, or working in nonhospital-based health care settings, it appeared to greatly understate the availability of psychologists. In order to obtain a more complete picture of the distribution of psychologists, we examined the US Census Public Use Microdata Sample for 1990. We were able to identify psychologists, social workers, and clergy as potential sources of mental health care, but these titles are non-specific and do not identify function. Because many with these occupational titles are engaged in work totally unrelated to mental health, we placed two additional restrictions on the persons to be tabulated. First, we limited the count to persons with at least a master's degree. This is the usual level at which one can engage in independent mental health practice, although there is variability in state statutes regulating private practice. Second, we limited the count to persons who are identified as working in any kind of health-related industry, including offices and clinics of physicians, health practitioners, hospitals, nursing and personal care facilities, health services not otherwise classified, residential care facilities, and miscellaneous professional and related services. We think that this would include psychologists in private practice. This reduced the numbers of M.A. or higher psychologists by about 30-40% from their total and M.A. level social workers by 60-70%.

Availability of Psychologists. Figure 3 presents the number of M.A. or greater psychologists working in health-related settings by population per square mile. Because these figures are based on 1990 rather than 1993 data, the distribution of counties by population per square mile is slightly different. In the areas with less than 2 persons per square mile, only 13.3% of counties have psychologists in health care settings, although that percentage would increase to nearly 31.1% if all settings were included.

The difference might be influenced by psychologists working primarily in schools who may have both mental health and educational roles. For population densities of 2.0 through 6.9, about 43.1% of counties have psychologists in health care settings. This increases gradually and then jumps to 79.5% for high density counties. In a parallel way, the number of psychologists per 100,000 population is lowest (13.0 per 100,000) in the least densely populated counties and is greatest in the densest counties (28.9 per 100,000).

Availability of social workers. Figure 3 also presents the population density distributions of social workers with master's degrees or greater who work in health-related settings. Only 18.5 percent of counties with less than 2 people per square mile had social workers of this type, and only 23.4 percent of the remaining frontier counties had comparable social workers. In contrast, 73.2 percent of the most densely populated counties have social workers at this level. As a population rate, the low density counties had about 12.8 social workers of this type per 100,000 population, as compared to 23.6 per 100,000 for the high density counties. The rates for the intermediate counties were even lower than for the frontier counties. For reference, social workers in health settings represented about a third of all social workers with comparable education levels. Other settings in which social workers are found include schools and social service agencies without a health focus.

Figure 3. MA+ Psychologists and Social Workers in Health Settings in 1990 by Population Density



Implications for Behavioral Health Services Behavioral Health Services

This paper explored the availability of mental health services providers in counties with different levels of population density using the 1996 Area Resource File and the 1990 Public Use Microdata Sample. Emphasis was placed upon the availability of providers in frontier and vary frontier counties. The primary concern was to determine whether the access to providers in both the general and specialty mental health sectors were significantly lower these types of "isolated rural counties" as compared to more

highly urbanized counties. The extent to which such services are not available to the residents of "isolated rural areas," residents have only limited choices with respect to locally based professional mental health services. Using a density classification to differentiate counties with respect to their frontier status, we examined the distributions of types of providers, including psychiatrists, child psychiatrists, family practitioners, all physicians, psychologists and social workers. Not unexpectedly, the overall finding was that mental health service providers tend to be concentrated in the most densely settled counties—counties that likely to be either metropolitan counties or nonmetropolitan counties with large cities. This is particularly true for psychiatrists and child psychiatrists, and to a lesser extent, for psychologists and social workers. Such providers are not likely to be found in the frontier or very frontier counties. While physician family practitioners as well as all physicians are likely to be found in the majority of frontier and very frontier counties, there are still many of these counties that have no physicians available who might provide mental health services in the absence of specialty mental health care providers.

It is clear from the analyses presented, specialty mental health service provider are not available in many frontier and very frontier areas. This means that if mental health services are to be provide to these areas, they will have to be provided by locally based primary care providers in the areas that have such providers or, in areas that do not have primary care providers, through strategies such as telemental health that make the specialty provider who reside in densely settle areas accessible.

Limitations

Clearly, the Area Resource File has limited current information about types of specialty mental health services. The distribution of psychiatrists may be a rough surrogate for that distribution, but it can only do so minimally due to the large proportion of mental heath services offered by psychologists, counselors, and other mental health workers. A second limitation of the present analyses is that the providers of services are identified by the county in which they are located rather than differentiating the counties that they serve. The ARF identifies contiguous counties but provides no means of allocating services identified to neighboring populations. A third limitation is that it does not take into account the ability or willingness of rural residents to access services beyond their county of residence. Finally, access to services, even when present, can be limited by economic, social, and psychological barriers to access.

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Access To Mental Health Services In Frontier America

Dennis F. Mohatt, M.A.

Abstract

This paper reviews and evaluates the access, the potential and actual entry of a given population group, to mental health services in frontier areas of the United States. The paper takes into account that the combination of the shortage of providers and limited array of services, coupled with a thin layer of third party payors, creates a fragile continuum of care for rural residents, especially those residing in remote frontier areas. these conditions exacerbate the problems of providing access to appropriate and effective mental health care. Several case studies are presented to illustrate the nature of the problem and potential solutions to the problems. The importance of Medicaid and the emergence of managed care in frontier areas are also considered.

Introduction

While comprehensive healthcare reform at the federal level now appears unlikely, the healthcare marketplace is nonetheless changing rapidly. The traditional American healthcare system of independent providers being reimbursed by patients and indemnity insurers on a fee-for-service basis is rapidly yielding to myriad new payment and delivery systems, multi-provider networks, and innovative private and public efforts to manage the care of beneficiaries. This shift toward what is most often called managed care has been a clear trend in the marketplace for the past decade, and has currently shown a rapid acceleration of pace (US Congress, Office of Technology Assessment [USC-OTA], 1995). The trend is especially evident in the public sector, where 42 states have received approval from the federal Health Care Financing Administration (HCFA) for various managed care approaches to Medicaid (WAMI Rural Health Research Center [WAMI], 1994).

The rural implications of this trend have not been empirically established, due to a lack of rural-specific managed care experience and the rapid evolution of managed care strategies. Rural issues that may impact the development of managed care have however, been clearly illuminated in recent years. Limited access to and availability of appropriate mental health care for rural residents are just two examples. These issues take on new meaning and are even more dramatic in isolated "frontier" areas of the United States. Murray (1990) testified at a regional field hearing on rural mental health that "we are beyond needing to argue that there are rural human resource shortages or that rural practice is unique and presents a special set of demands on professionals;

solutions to these problems need to be provided." This is particularly true in our evolving efforts to reform the healthcare system through the imposition of managed care strategies, and imposed funding growth ceilings for federal spending in Medicare and Medicaid.

Some are already concerned that managed care efforts, instead of providing for more affordable and accessible services, will further limit already sparse mental health services in rural frontier areas (T. Perkins, personal communication, 1995; J. Fowler, personal communication, 1995; K. Quint, personal communication, 1995). While others (Korczyk, 1994) believe managed care may actually be more effective than the current system in enhancing health care access for rural populations, they also feel it will be less effective in reducing the cost of care to rural populations. Korczyk believes rural residents will probably have greater access to primary care under managed care, but will need to utilize urban resources for more specialized care at a greater cost. Serrato and Brown (1992) suggest, from their review of the Medicare system, that rural areas are typically underserved and not a source of high cost. As a result, they believe, emphasis can be placed upon increasing access in rural areas, rather than on controlling costs. Clearly the need is critical to better understand the impact of such dramatic system change on accessibility and availability of services in behavioral health systems serving remote frontier populations.

Aday and Anderson (1974) assert that "access may be defined as those dimensions which describe the potential and actual entry of a given population group to the health care delivery system." In reviewing existing literature, three spheres of access seem to impact individuals seeking health and/or mental health services. The special issues of rural frontier environments impact all three spheres. The first sphere is financial access to care, how the care for an individual in need is funded. The second sphere is physical access to care, not to be confused with availability, which relates to how a person directly links with the caregiver. The third sphere is psychological access, which is the actual acceptability of the caregiver, treatment setting, and modality of care to the consumer. As access is explored in this paper, all three spheres will be examined. Finally, availability of services appears to be impacted by the complex interactions of the distribution of professionals and agencies, the comprehensiveness of a continuum of services, and the choice of public and private service delivery systems.

Current Access to Mental Health Care in Frontier and Rural Area

Over one-fourth of the population of the United States reside in non-metropolitan areas, and nearly all states have distinct rural populations. These rural Americans experience incidence and prevalence rates of mental illnesses and substance abuse which are equal to or greater than their urban counterparts (Wagenfeld, Murray, Mohatt and DeBruyn, 1994). They also suffer from chronic shortages of mental health providers and services which significantly impact the organization and delivery of behavioral

healthcare. Rural and frontier residents are less likely than their urban counterparts to have access to inpatient mental health services. One study indicates that in isolated, rural counties inpatient psychiatric services are almost nonexistent (Wagenfeld, Goldsmith, Stiles and Manderscheid, 1988). While the data does not look specifically at inpatient resources in frontier areas, it appears evident that persons residing in these isolated, low population areas will be least likely to find psychiatric inpatient resources within their community hospitals.

Over sixty percent of rural areas have been designated as federal Mental Health Professional Shortage Areas (USC-OTA, 1990), and many of these are frontier counties. The public mental health system is often the only provider in rural areas and primarily serve persons with serious mental illnesses (Wagenfeld et al., 1994). Frontier areas are often served only by itinerant providers or regionalized systems requiring considerable travel to access most services. As a result, isolated rural residents must travel for substantially longer distances to access a mental health provider, and are much more likely to see a mental health provider with less advanced training than their urban peers (Schurman, Kramer and Mitchell, 1985; K. Quint, personal communication, 1995).

Rural areas are also less likely to offer a full array of behavioral health services (T. Perkins, personal communication, 1995; J. Fowler, personal communication, 1995; K. Quint, personal communication, 1995). For example, while 95% of urban counties have psychiatric inpatient services, only 13% of rural counties have such services, and outpatient services are available in twice as many urban as rural hospitals (Wagenfeld et al., 1988). Frontier settings, with small and widely dispersed populations, often cannot support the economies of scale necessary to maintain specialty services. Additionally, supportive resources such as public transportation, housing, and vocational assistance, which are vital for promoting independence in persons with serious and persistent mental illnesses, are often limited or unavailable in rural areas (Wagenfeld et al., 1994).

In sparsely populated frontier areas such as those found in the larger western states (such as Nevada, Arizona, Utah, New Mexico), consumers may have to travel hundreds of miles for mental health care (J. Fowler, personal communication, 1995; K. Quint, personal communication, 1995). An example of distance as a barrier to treatment was given by a physician's assistant, Mary, who sought care for depression precipitated by the tragic death of her only child. Mary was working in an Indian Health Service (IHS) hospital on the Rosebud Reservation in South Dakota. Her son was killed in a tragic car accident on the way home from a basketball game. In the weeks following his death, Mary became increasingly depressed and pondered suicide. Although a range of care was available in Rosebud's IHS hospital, specialty mental health services were unavailable. As a federal employee, Mary's health care was reimbursed through the Federal Employee Health Plan (FEHP); however its nearest approved pro-

vider for mental health care was in Rapid City, 150 miles northwest of Rosebud. When Mary finally sought care, it required her to drive over four hours twice weekly to receive outpatient care. While Mary had the resources and transportation to seek this care, for many persons the time and travel required to access care would prove an insurmountable barrier.

Catchment areas can also complicate access to services for rural residents. These service area designations for public mental health providers are often the artifacts or remnants of the Community Mental Health Centers (CMHC) Act (US Congress, 1963 as amended). This act initially guided federal efforts to develop community based comprehensive treatment options across the nation. Although the CMHC Act lapsed in the early 1980s, replaced by the Mental Health Block Grant (OBRA 1981), many rural catchment areas endure based upon the acceptable practices of the Act. As a result, the delivery system for public mental health maintains its ties to county and state policy and revenue streams, which serve as the conduit for public oversight and revenue. While useful for public accountability for disbursement and revenue accounting, and implementation of mental health public policy by the states, these catchment areas often have little if anything to do with the reality of how persons seek services, which is more likely to relate to their patterns of trade or commerce.

An example of this was clearly illuminated by a consumer from the panhandle region of Nebraska. The panhandle region is in northwest Nebraska, and is a typical western frontier area. The consumer routinely travels 120 miles (one-way) to Cheyenne, Wyoming for everything from groceries to healthcare. Cheyenne is the center of trade and commerce for the region. However, since her son, who has a serious and persistent mental disorder and receives public assistance due to this disability, receives his mental health care from the public sector, he must use a Nebraska provider. This requires regular trips of 90 miles (one-way) in the opposite direction and clearly outside the routine patterns of trade/commerce for the family. Since the community where the mental health care is available in Nebraska lacks the services and products routinely accessed in Cheyenne, the family is forced to make extra trips, incur extra expenses, and often delay or postpone care due to access barriers (e.g., weather, cost of travel, time). The consumer relays, "...the solution to this issue for me would be to shop where I want for the services that best suit me and my family."

While the previous example relates to a more complex issue of interstate public policy and cooperation, the same problem also arises within state boundaries. A family living in a frontier county in northcentral Montana faces similar difficulties due to county borders. Their child needed specialized treatment as a result of Serious Emotional Disturbance (SED). Although the child attended school across the county-line in a small town (pop. 3,500), only 25 miles from their ranch, the public mental health agency, which they were required to utilize for care five days per week, was 60 miles in the opposite direction. Since the provider catchment areas were organized via multi-county designations, and received county funds, the family would have to seek the approval for payment of services received outside the area.

Rural areas also have disproportionate populations of uninsured and underinsured. As a result of a large percentage of rural persons being employed in small business or self-employed, they are more likely to be uninsured or have only "catastrophic" insurance coverage, which lack behavioral health benefits. Only one-fourth of the rural poor qualify for Medicaid, compared to 43% of the poor in urban areas (US Senate, 1988).

The combination of professional shortage and limited array of services, coupled with a thin layer of third party payors, creates a fragile continuum of care for rural residents, especially those residing in remote frontier areas. These conditions have traditionally resulted in: 1) rural persons going without appropriate care; 2) rural persons accessing less than timely care, resulting in increased cost and duration of care; 3) rural persons being treated at higher (and more costly) levels of care; and 4) rural persons receiving care at a greater distance from their home and work, resulting in loss of community ties and difficulty in reintegration (Beeson and Mohatt, 1993). Effective health care systems, such as managed care strategies, must address each of these issues to ensure both cost containment and access to quality service in frontier areas. Collectively, these issues make up a "check-list" of potential challenges to the planning, implementation, management, delivery, and evaluation of mental healthcare in rural and frontier settings. These include:

- Wide Dispersion of Population
- Geographically Vast Areas
- Few Inpatient Psychiatric Resources
- Chronic Shortages of Health and Mental Health Professionals
- Lower Per Capita Participation in Health Insurance
- Lower Per Capita Participation in Medicaid
- Limited Array of Health and Mental Health Services
- Dependence Upon Public Subsidy for Mental Health Systems
- Limited Supportive Services (Housing, Transportation, Vocational)
- Low Penetration of Commercial Managed Care
- Limited Consumer Advocacy
- Limited Self-Help Resources
- Stigma
- Lack of Anonymity

Two Frontier Area Examples

Rural advocates and researchers stress the need to carefully develop our view of rural America. Rural America is not homogenous. The frontier environment is equally diverse, with Kewauna County, Michigan being vastly different from Apache County, Arizona. This diversity has specific impact upon access and availability of services, and the strategies shaped to address them.

Apache County in northeastern Arizona stretches over 350 miles along the New Mexico border north/south from the Utah border, and is the longest county in the United States. Its more than 60,000 residents are widely dispersed across 11,211 square miles. The geography includes high mountains, the fertile Little Colorado river valley, and high desert. The nearest large metro areas are Flagstaff, Tucson, and Phoenix in Arizona, and Albuquerque in New Mexico, each of which are many hours away by car. The area is not served by commercial airlines or public transportation (except for limited specialized transportation for senior citizens). The county population is predominately Native American, with the northern one-third of the county dominated by the Navajo Nation. The county is also home to a small Zuni reservation and a portion of the Whiteriver Apache Reservation. The remaining quarter of the population is Caucasian or Hispanic.

Reservation residents have access to mental health services operated by either the tribes, Indian Health Service, or sometimes both, as well as community mental health programs funded by other public and private sources off-reservation. The non-reservation residents are primarily served by a community mental health program and a minimal number of private providers who serve the area on an itinerant basis out of Phoenix. Any inpatient psychiatric treatment must be accessed in a distant metro area.

While patterns of trade and commerce in this area cross county, state, and tribal boundaries, access to outpatient mental health care is primarily limited to defined service areas. As a result, the issues relating to access to and availability of mental health care are complicated and complex; involving multiple funding streams, policies and procedures, governmental and agency boundaries/responsibilities, patterns of trade and commerce, and last, real cultural diversity relating to mental healthcare and help-seeking behavior.

For example, it is not uncommon for a non-Indian residing on the reservation to experience a mental health crisis requiring involuntary admission to the State Hospital in Phoenix. Often they enter the mental health emergency services system through the intervention of law enforcement. They are on the Reservation, a region larger than some states, however outside the jurisdiction of either the Navajo Department of Public Safety or Tribal Court System. Although the Tribal Police may be the initial point of contact, they must call in either an Arizona state law enforcement officer or county deputy sheriff, who will then transport the person (under emergency protective custody) to a secure facility (i.e., jail or hospital emergency room) for emergency mental health evaluation and, if appropriate, the filing of a petition for involuntary treatment with the Superior Court. This would likely occur in the county-seat, St. Johns, which may be anywhere from 1 to 3 hours from the person's residence on the Reservation.

Following their discharge from an involuntary hospitalization, it would be highly unlikely for them to receive aftercare services from the off-reservation mental health program due to the vast travel distances involved. The Indian Health Service and Navajo Nation operate mental health programs on the Reservation, however the non-Indian Reservation resident cannot access care from these systems.

Kewauna County in Michigan is at the very tip of the long finger-like Upper Peninsula reaching out into Lake Superior. An area which is now dependent upon the trade generated by tourism, it formerly was a center of mining and timber industry. It is one of the few frontier counties east of the Mississippi, sharing primarily its low population density with its western frontier peers. The residents of the county do not face the diversity of jurisdictions or complexity of service delivery responsibilities as those in Apache County.

Instead residents face simple isolation, compounded by winters where snowfall can exceed 250 inches. The nearest outpatient mental health services are available primarily through the community mental health provider, an official multi-county authority. The bulk of the continuum of care is located in Houghton, at least an hour long drive away. The nearest inpatient psychiatric services are in Marquette, MI, requiring at least a three hour drive. The population is simply too small and dispersed to support a full array of community-based services in a cost-effective manner. However, unlike many western frontier areas, a full continuum of services is available within an hour's drive and in a location which is a part of resident's routine pattern of trade/commerce.

These two counties, one in the southwest and the other in the northcentral US, are representative of the ends of the "frontier spectrum", and between them rests frontier America. Accessibility and availability to mental health services are strongly associated with the specifics of the particular place, its culture, and myriad other factors. Although the county in Michigan's Upper Peninsula is as isolated as many frontier places, the fact that Michigan ranks second in per capita expenditures for public mental health (National Association for State Mental Health Program Directors, 1995) makes it much more likely for these frontier residents to have access to a full array of services in relatively close proximity. In Nebraska, which ranks forty-ninth, frontier resident's access and availability is impacted by both isolation and public policy.

> *"Rural areas are often neglected in health care planning because it is easier and more economical to rely on existing urban models, than to gather new information and to plan systems specifically suited for rural communities."*
>
> –Jeffrey Human,
> former Director,
> Federal Office of Rural Health Policy

Medicaid and The Emergence of Managed Care

Currently more than 33 million Americans receive their health insurance through Medicaid. The cost of Medicaid has increased over 400% since 1980 and it absorbs an average of 16% of state budgets (WAMI, 1994). Congressional efforts to balance the

national budget have seen the emergence of managed care as a strategy (along with spending ceilings) for controlling the cost of Medicaid. Frontier and rural areas are likely to be disproportionately impacted by such strategies, since they have proportionately greater populations of Medicaid and Medicare beneficiaries. The need to control cost is obvious, and managed care is being embraced as the vehicle to drive cost containment. While the motive for the move to managed care is clearly cost containment, it is unclear how this marketplace shift will impact rural and frontier behavioral healthcare where the challenges are more closely related to access and availability than cost containment.

Regardless of the changes which evolve, the focus in rural areas remains trying to address the same underlying problem always faced in relation to health care: how to keep local, financially accessible, good-quality care available to rural populations less able to pay and less efficient for providers to serve (because of low population density) than their urban counterparts. When not considered in the move to managed care through the waiver process, the rural issues previously discussed can pose serious barriers to consumer access.

For example, a current 1915b waiver for a Medicaid managed care program for mental health and substance abuse in a western state contains standards for pre-treatment assessment and supervision of care that may create significant barriers to consumer access to treatment. These standards, which are part of the waiver, require a pre-treatment assessment of all recipients prior to the provision of outpatient care (i.e., psychotherapy, day treatment) by a psychosocial intake-diagnostic process. These new standards require the mental status portion (inclusive of the diagnosis) to be completed by either a physician or licensed doctoral level psychologist. Furthermore, the standard requires monthly supervision by a physician or psychologist of all cases where treatment is provided by other mental health providers (e.g., social workers, counselors, psychiatric nurses) including a verbal discussion/case presentation. The supervising professional is also required to have face-to-face contact with the consumer at six-month intervals. Obviously the intent of such standards, albeit influenced by the political process, is to ensure quality of care. However, considering that much of the west is rural and has serious shortages of health and mental health professionals (especially physicians and doctoral level psychologists), these standards could seriously impede consumer access to treatment resources currently available primarily via mid-level practitioners.

> *"Rural health networks have the potential to play a key role in the development of coordinated systems of care in rural areas under virtually every health care reform scenario."*
>
> –Ira Moscovice and
> Jon Christianson

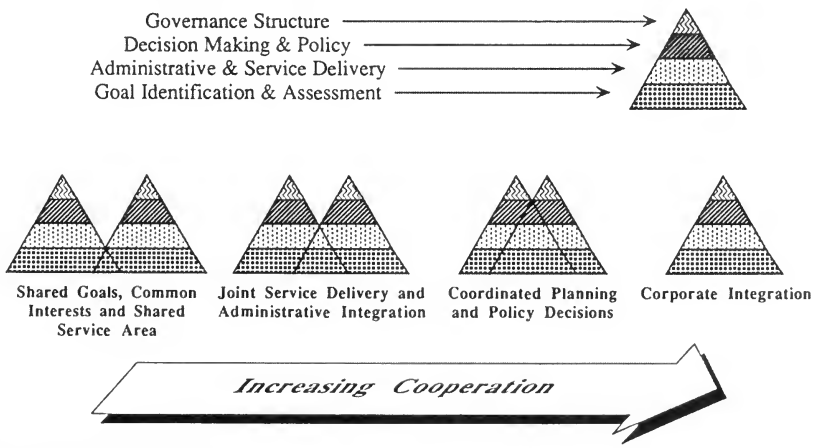
Health Care Reform: Issues for Rural Areas

Provider and System Integration

The development of horizontally or vertically integrated provider networks has become a well established industry response to managed care across the country. It has been frequently adopted in rural and underserved areas as a popular mechanism for rural provider response to both access and availability issues. The objective of managed care is clear: the achievement of cost containment via utilization management. Management of utilization can best be achieved through systematic protocols for access, level, and duration of care, which are directly related to the measurement of outcomes. Clearly the predominant system of public behavioral health care in the United States does not operate in such an environment. Instead, persons traditionally served by the public system often go without appropriate care; access care later than desirable resulting in increased cost and duration of care; are often treated at higher (and more costly) levels of care; and receive care which is not integrated with their physical healthcare. Integrated networks seek to achieve the objectives of managed care through collaboration among providers.

So what exactly is an integrated network? Conrad and Dowling (1990) define it as "...an arrangement whereby a health care organization (or closely related group of organizations) offers a broad range of patient care and support services operated in a functionally unified manner." When organizations agree to form a network to provide services, the concept of autonomy for those individual organizations diminishes. Figure 1 outlines the progression from autonomy to integration which occurs through the formation of a provider network (Rosenberg, 1994).

Figure 1. Types of Provider Network Integration



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All provider organizations consist of four functional levels, which are represented in Figure 1:

- Governance Structure
- Decision Making and Policy
- Administrative and Service Delivery
- Goal Identification and Assessment

In most public mental health organizations this translates into:

- Board of Directors
- Executive Director - Management
- Staff - Service Delivery
- Needs assessment and program planning

Developmental Aspects of Network Formation

The process depicted in Figure 1 is indicative of a developmental process which occurs over time as providers move from independent and autonomous operation to collaboration. Each stage of development requires ever increasing interdependence, and the cornerstone of such interdependence is trust. As with any group, such trust is dependent upon the partners' capacity to adopt a shared vision for mission and values, and their ability to resolve internal and external conflict. Furthermore, in establishing a network it is far more important to address issues of "process" rather than structure. How it works, how it is integrated, and how it communicates is more important initially than its size, shape, function, and structure (Rappaport, 1977). Unless such process issues are examined, accepted, and implemented any structural integration is doomed to failure.

For some frontier areas, the establishment of integrated service networks could provide a solution for enhancing access and availability. However the very culture of frontier/rural society demands a developmental process sensitive to their desire for local control and flexibility. In addition, networking in rural and frontier areas is not without its own special problems. The limited number of providers and basic rural/frontier demographics mean that if local providers form an integrated service network, the result may be a monopoly (McKay, 1995), raising serious anti-trust issues. A discussion of two possible types of integration, vertical and horizontal, for frontier areas follows.

Vertical Integration

Vertical integration approaches to managed care seek to network a group of rural healthcare providers, at various levels of primary care and behavioral health, to form an integrated service network (Casey, Wellever and Moscovice, 1994). They seek to develop, via cooperation, a coordinated, consumer focused, seamless continuum of care designed to improve access and availability through efficiencies gained by the elimination of redundant services or systems.

A model rural, vertically integrated system is the Laurel Health System in northeastern Pennsylvania. Laurel was founded in 1989 with the merger of five not-for-profit organizations: 1) Laurel Management Services, 2) Laurel Realty, 3) Soldiers and Sailors Memorial Hospital (SSMH), 4) Soldiers and Sailors Memorial Volunteers, and 5) North Penn Comprehensive Health Services (North Penn). This network spans the human service gamut inclusive of primary care, nursing homes, senior housing, ambulance service, and hospital.

The continuum of care is focused in Laurel's two major service anchors, SSMH and North Penn. The merger linked a primary and tertiary health care system serving a balanced public/private payor mix, with a community health and mental health system which was heavily government subsidized (six federally qualified rural health centers and the community mental health program). To accomplish the merger, both major organizations were forced to, and succeeded in, overcoming a history of rivalry dating back to 1972.

Today, Laurel is moving forward in its partnership. In its move toward managed care, Laurel has turned its planning focus toward the development of a health maintenance or preferred provider organization (HMO/PPO) option for the local insurance marketplace. Laurel is seen as a model integrated rural health delivery system, successful in its mission to provide the community a seamless system of care inclusive of both traditional health and mental health services.

Horizontal Integration

The horizontally integrated network brings "same type" providers together to achieve the advantages of economies of scale, and to position organizations to eliminate administrative duplication. Access is enhanced through the redirection of resources formally utilized in redundant, primarily administrative, functions.

A recent example of such a horizontal integration is the 1994 formation of Northpointe Behavioral Healthcare Systems in Michigan's sparsely populated Upper Peninsula. It was formed as a proactive response to the evolving managed care environment in public sector mental health. Northpointe was established through the consolidation of two community mental health programs serving three rural counties. The

consolidation allowed the CMHCs to centralize executive administration, management information, fiscal management, and human resources for the new entity which employs more than 300 people and serves more than 3,500 consumers annually.

Neither CMHC alone would have possessed the capital to effectively build the management and information infrastructure necessary for a managed care operation. The efficiencies gained through the consolidation have allowed Northpointe to invest its combined capital in managed care readiness efforts. The new entity employs centralized intake and utilization review, coupled with an evolving clinical outcome and consumer satisfaction assessment system. Northpointe utilized a portion of Michigan law, known as the Urban Cooperation Act, which allows elements of local government to consolidate to more effectively meet public needs (previously used primarily to form airport and solid waste authorities). This act allows Northpointe to establish for-profit and not-for-profit subsidiaries, and provides the participating county governments legal separation from Northpointe related risk.

Implication for Behavioral Health Services

Rural areas present a unique environment for the creation of state-of-the-art behavioral health care systems, such as managed care. The managed care movement seeks to contain costs through effective and efficient clinical management, however, it is unclear how such a system will impact and address the problems of serious underservice in rural frontier America. While health care in urban settings is characterized by competition, health care in remote rural areas will likely take on aspects of cooperation due to a limited number of providers. The formation of both vertically and horizontally integrated networks has become a common response to managed care in rural health care settings.

Despite some existing cooperation, integration, which rests upon an ability for collaboration and cooperation, faces many challenges in the rural environment. Historic relationships between providers may often exclude collaboration. Geographic realities of many frontier regions, where the population is widely dispersed and the service continuum extremely limited, may mean they simply do not have the resource base to effectively meet the demands of a managed care approach. Finally, integration poses risks to provider autonomy. Through collaboration the partners must agree to share authority, accountability, risk, as well as benefit or loss. In a managed care environment, it is essential to ensure beneficiaries are linked with both the most appropriate level of care and provider of care. For an integrated network to succeed, the partners must be capable of addressing myriad issues arising out of such shared responsibility for utilization and outcome. As with any group process, the key to success as a cohesive group will be the member's ability to resolve conflict.

The bottom-line has remained constant for decades; Rural and frontier populations are underserved by the health care system in general, and the mental health system in particular. Accessibility and availability are impacted directly by the costs associated with providing a comprehensive continuum of quality care to dispersed population areas. Additionally, the disparity between rural and urban populations in relation to rates of insurance, high-risk populations, and infrastructure makes the enhancement of access and availability especially challenging. Finally, the ability to effectively address access and availability is a complex process which must involve the entire health care system and community.

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Mental Health Service Utilization in Rural and Non-Rural Areas

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Abstract

This paper uses data from the 1989 Mental Health Supplement to the National Health Interview Survey (NHIS) to determine the mental health utilization patterns, including type of provider utilized and met and unmet needs, for the residents of different types of urban-rural areas with behavioral health problems. A four fold classification of residence is utilized—within metropolitan areas respondents are classified as residing in or not in a central city and within nonmetropolitan areas respondents are classified as residing on a farm or not on a farm. The highest rate of mental disorder are reported for central cities of metropolitan areas. Nonmetropolitan nonfarm areas have prevalence level nearly equal to those of central cities. The noncentral-city metropolitan areas and nonmetropolitan farm areas show a much lower prevalence of disorder. Generally, unmet need for mental health services (persons with a disorder but not using services) is higher in nonmetropolitan areas than metropolitan areas. Further, within nonmetropolitan areas, farm areas have higher levels than nonfarm areas and, within metropolitan areas, noncentral-cities have higher levels than central cities.

Introduction

The often-limited availability of mental health services to residents of rural America has been an issue of importance to those residents, to states with large rural populations, and to the federal government (Human and Wasem, 1991). A closely related issue is that of *utilization* of such services by rural persons needing mental health (MH) services — that is, to what degree are these people willing and able to use what services may be available in their area? This paper discusses MH service utilization in terms of a four fold urban-rural typology, and points to some potentially important implications for governments hoping to provide greater assistance with mental and emotional problems than has been typical in the past.

Recent epidemiologic surveys have established that, on the whole, the *need* for MH services is only slightly less prevalent for Americans living in rural areas than it is for urban or suburban residents. For example, a national survey by Kessler et al. (1994) found that the prevalence rate of any formally diagnosable mental disorder was only 1.1 times higher in major metropolitan areas than in rural (i.e., nonmetropolitan) areas. Also, Ciarlo and Tweed (1992) found that while relatively isolated "rural non-towns" in Colorado had somewhat lower prevalence of need for services (diagnoses and every-

day dysfunction) than urbanized areas, the more populous rural "towns" (that is, urban areas of at least 2,500 people) had very nearly the same need prevalence as major cities in that state. In sharp contrast, however, there is considerable evidence that the *availability* of services for mental disorders is substantially lower in rural areas than in urban ones — and especially so in the lowest-density, more isolated rural areas often termed "frontier" (Goldsmith, Wagenfeld, Manderscheid and Stiles, 1996; Holzer, Goldsmith and Ciarlo, 1998). Hence, it is important to learn whether this relative scarcity of MH services in rural areas may reduce the number and proportion of needy residents able to access and receive or "utilize" MH services. The purpose of this paper is to examine the extent to which there may be differential utilization of available services in rural and non-rural areas, through reanalysis of the 1989 Mental Health Supplement to the National Health Interview Survey (NHIS) (National Center for Health Statistics, 1993).

Use of the Mental Health Supplement of the NHIS provides both advantages and disadvantages for the present purpose. Its greatest strengths are its large sample size (n = 84,572) and national sampling frame. It provides enough nonmetropolitan respondents for accomplishing meaningful analysis of at least part of the "rural" component of MH service usage (i.e., rural towns). Further, the data are relatively recent (1989) compared to survey data from the Epidemiologic Catchment Area Study (ECA) (Robins and Regier (1991), which was conducted between 1980 and 1983. The data are not much older than those of the National Comorbidity Survey (NCS) by Kessler, et al. (1994), which was conducted between 1990 and 1992. One disadvantage of this NHIS Supplement is that it assessed mental disorders by a simple self-report or informant report of whether a disorder is present. Unlike the ECA and NCS, it does not employ a formal diagnostic questionnaire and thus reports lower prevalence rates. It has been speculated that this is because respondents are unable or unwilling to identify illnesses without the extended probing of a structured diagnostic instrument, or without the feedback and labeling received in treatment of mental disorders. On the other hand, the Supplement asks simple direct questions about the use of MH services that are roughly equivalent to those asked in the ECA and NCS. The relationship between prevalence and utilization will be explored further below.

Defining A "Urban-Rural" Typology

As noted in this paper a four fold urban-rural typology is utilized. First metropolitan areas, the daily labor market of big cities, are distinguished from nonmetropolitan areas (areas outside the daily labor market of big cities). Within a metropolitan area, central cities (densely settled urban areas) are distinguished from areas outside central cities (usually less densely settled than central cities) and within nonmetropolitan areas, residence on a farm is distinguished from residence that is not on a farm (nonfarm residence) (see Zelarney and Ciarlo, 1999).

Comparative Prevalence of Disorders in Rural and Urban Areas

The ECA project has reported some limited "rural/urban" comparisons for a number of disorders, employing the common non-metropolitan vs. metropolitan county definitions of these terms. The urban lifetime prevalence for any disorder is 34%, which is only slightly higher than 32% for rural areas (Robins and Regier, 1991), and for the past one-year prevalence the comparison is 21% vs. 20%. It should be noted that the ECA had relatively small rural samples, primarily in North Carolina and Missouri, which were compared to cities such as New Haven, Baltimore, St. Louis, and Los Angeles. In the NCS study, which was based on a national sample, comparisons were made that differentiated major urban, other urban, and rural, with the latter being equivalent to nonmetropolitan. These comparisons showed only slightly higher prevalence of several disorders for the major metropolitan and other urban as compared to rural areas, but none of the comparisons was significant. The prevalence rate of any formally diagnosable mental disorder was only 1.1 times higher in major metropolitan areas than in rural (i.e., nonmetropolitan) areas, which was not statistically significant.

In considering these small differences in ECA and NCS prevalence rates surveyed across areas, one might expect there to be at most a small differential between urban and rural utilization of services. However, both the ECA and the NCS reported rates of services utilization which were far smaller than the reported disorder prevalence rates. Hence, for the NHIS with its sharply lower prevalence rates, any utilization rates are expected to be still smaller.

Methods

The NHIS is a large national survey of a variety of health conditions initiated in 1957 and conducted continuously since that time by the US Bureau of the Census, under specifications from the National Center for Health Statistics. The sampling design is closely linked to the Current Population Surveys of the US Census and consists of a multistage sampling design of the noninstitutionalized civilian population of the US. The sampling design is intended to result in approximately 49,000 housing units and 132,000 persons per year.

The core questions of the NHIS survey include basic health and demographic items, which are asked of a person in a household or of a household informant about each eligible member of the household. These items include disability days, physician visits, acute and chronic conditions, limitations of activity, and hospitalizations. In addition, representative subsamples of households are asked to respond to questions on special health topics, and in 1989 mental health was one of those topics. The MH questions included items asking whether specific disorders were present, and whether particular types of MH services were used and when. Interviews were completed with 96 percent of all eligible households.

The identification of mental disorders in the 1989 mental health supplement was based on the question: "During the past 12 months did this [person] have [...any of the...] following mental and/or emotional disorders?" The listed items included: schizophrenia, paranoid or delusional disorder, manic episodes, manic depression, major depression, personality disorder, senility, alcohol abuse, drug abuse, and/or mental retardation. Then the respondent/informant is asked whether this person "had any other mental disorder" and "what the other disorder is called." Finally, a summary "mental disorder reported" was coded which includes the mental disorders and senility. Substance abuse or mental retardation were coded separately.

Utilization of services was identified by the question "When [this person] last saw a mental health professional about [any] disorder(s)." The answers were coded into the categories: less than two weeks, less than one month, less than three months, less than one year, less than five years, five years or more, and never. Those with no known mental disorder received a blank code.

Results

Table 1 presents the distribution of the sample and the population estimates by the urban-rural categorization. The sample column is the number of persons who responded or who had informant provided information. The population is the weighted population estimate based on the sample, and the percentages are calculated on the weighted population estimates.

Table 1. Distribution Of Adult Sample And Population By Urban-Rural Categories

Category	Sample	US Population	Percent*
Metropolitan, central city	27,122	55,200,859	30.75
Metropolitan, noncentral city	37,905	85,071,068	47.39
Nonmetropolitan, nonfarm	18,287	36,850,642	20.53
Nonmetropolitan, farm	1,258	2,406,353	1.34
Total	84,572	179,528,922	100.0

* The population figures and percentages are based on population weights (NWTFA).

Table 2 presents the number and percentage of specific disorders reported by respondents or household informants broken down by the type of urban-rural residence. It is immediately apparent that the rates presented for mental disorders are substantially lower than those presented in epidemiologic surveys based on diagnostic interviews, and by an order of magnitude or more (for example, the rates for the ECA or the NCS noted above were 21%-urban and 20%-rural).

Table 2. Typology Of Mental Disorders Reported By Urban-Rural Categories

	Metropolitan				Nonmetropolitan			
	Central city		Noncentral city		Nonfarm		Farm	
	N	Percent	N	Percent	N	Percent	N	Percent
Schizophrenia, paranoid or delusional disorder	106	0.34	69	0.17	44	0.24	4	0.35
Manic episodes, manic depression, and major depression	307	1.16	388	1.08	198	1.05	10	0.75
Personality disorder, senility, other mental disorder	156	0.55	152	0.39	109	0.62	9	0.64
Any mental disorder	**569**	**2.04**	**609**	**1.64**	**351**	**1.91**	**23**	**1.73**
Substance abuse (alcohol abuse, drug abuse)	106	0.37	131	0.35	52	0.32	1	0.08
Any mental disorder or substance abuse	**675**	**2.40**	**740**	**1.99**	**403**	**2.23**	**24**	**1.81**
Mental retardation	45	0.16	53	0.14	33	0.16	4	0.36
Any of the above	**720**	**2.56**	**793**	**2.13**	**436**	**2.39**	**28**	**2.17**
No disorder reported	26402	97.44	37112	97.87	17851	97.61	1230	97.83

Table 3 presents a typology of reported utilization of MH services by persons with a mental disorder, excluding substance abuse and mental retardation. The four levels are persons with no reported mental disorder; disorder but no use of services; past use; and use in the last 12 months (current utilization). Percentages are weighted for the adult population. As can be seen, reported current utilization is highest for those in central cities (1.22%), followed by 1.06% for nonfarm, 0.92% for noncentral-city areas, and 0.91% for farm areas. Rates of utilization in the past are quite low, and are again lowest for the farm (0.16%) and noncentral-city metropolitan areas (0.25%). Combining past and current utilization yields rates of lifetime utilization not much higher than for the last year.

Table 3. Utilization Typology For MH Services By Urban-Rural Categories

	Metropolitan				Nonmetropolitan			
	Central city		Noncentral city		Nonfarm		Farm	
	N	Percent	N	Percent	N	Percent	N	Percent
No disorder reported – no utilization	26553	97.96	37296	98.36	17936	98.09	1235	98.27
Disorder reported - never used services	141	0.50	172	0.46	98	0.54	9	0.67
Disorder reported –used in the past only	81	0.32	94	0.25	59	0.31	2	0.16
Disorder reported -used in last 12 mos.	347	1.22	343	0.92	194	1.06	12	0.91

Table 4 presents utilization in the last 12 months as a percentage of persons with a disorder reported for the same time period. Those with no reported utilization but a current disorder can be considered cases of unmet need for services. Those in the central cities reported the highest utilization relative to disorder, with 59.75% reporting current use. Noncentral-city, metropolitan area residents reported the next highest level of utilization —56.45%. The nonfarm areas were next with 55.43% utilization, and the farm areas had the lowest utilization (52.53%) and the highest unmet need (47.47%).

Table 4. Unmet Need For MH Services By Urban-Rural Categories

	Metropolitan				Nonmetropolitan			
	Central city		Noncentral city		Nonfarm		Farm	
	N	Percent	N	Percent	N	Percent	N	Percent
Any mental disorder	569	100.00	609	100.00	351	100.00	23	100.00
Current use	347	59.75	343	56.45	194	55.43	12	52.53
No current use	222	40.25	266	43.55	157	44.57	11	47.47

Table 5 presents the type of mental health professional last seen by persons who received specialty mental health services. In each of the urban-rural areas the mental health professional identified is predominantly a psychiatrist. Psychologists are listed as a distant second, which is unexpected given the role of psychologists in mental health facilities and the broad definition of psychologist used in this study. Only 14 persons reported contact with a doctoral level psychologist. Social workers and nurses are rarely identified as the last MH contact. The larger number of "other mental health workers" is exclusive of the categories designated above, but may reflect the work of case workers or specialists whose formal designation is unknown. Only a few nonpsychiatrist physicians were identified, most likely because the question used the term "mental health professional."

Table 5. Type Of MH Professional Last Seen By Urban-Rural Categories

	Metropolitan				Nonmetropolitan			
	Central city		Noncentral city		Nonfarm		Farm	
	N	Percent	N	Percent	N	Percent	N	Percent
Psychiatrist	258	62.10	245	56.94	145	60.64	10	76.46
Psychologist*	67	17.50	77	20.25	51	19.70	2	14.64
Social Worker**	19	4.33	23	6.25	7	2.87	-	-
Other MD	8	1.71	16	3.38	5	1.84	-	-
RN	-	-	3	0.65	1	0.44	-	-
Other MH worker	57	14.37	55	12.53	38	14.52	1	8.89

* Psychologists are mostly MA or less. **Social workers are mostly MSW or less.

Discussion

Results from the above analyses are largely consistent with our expectations regarding urban-rural differences, given the initial finding that the reported prevalence of MH disorders is sharply lower than in standard mental health epidemiologic surveys such as the ECA, NCS, and CSHS. Our expectation was that urban-rural differences in the prevalence of mental disorder would be relatively small, paralleling other surveys. The present analyses show a somewhat lower reported prevalence in nonmetropolitan areas, but the large sample size of the present survey makes it clear that a simple "urban-rural" classification is inadequate to characterize the differences found. The highest rates of Any Mental Disorder are reported in the central cities of metropolitan areas; however, the noncentral-city metropolitan areas show a much lower prevalence of disorder—lower even than the nonmetropolitan farm areas. Further, the nonmetropolitan nonfarm areas show higher prevalence than farm areas, and very nearly reach the level of central cities. Interestingly, this same pattern of disorder prevalence was found in Colorado subareas (Ciarlo and Tweed, 1992), where the non-central city metropolitan areas were labeled "exurban," and the nonmetropolitan nonfarm areas were called "rural towns." Finding the same patterning of prevalence of MH service needs on a national-scale survey thus makes it clear that the debate over urban-rural differences must move beyond the use of a simple urban-rural dichotomy. While it is unfortunate that the present data set does not include the greater levels of differentiation afforded by the identification of "frontier" areas or the use of the USDA rural-urban typology (Butler and Beale, 1994), it does indicate clearly that greater refinement in our classifications are essential.

An important issue is the lower prevalence rates generated from the present survey in comparison to the estimates generated by the diagnostic surveys of the ECA and NCS. The most likely explanation for these differences is the simple self-report of "disorder" used in the NHIS, which inquires about the disorders in terms of their labels or names. In contrast, the diagnostic surveys ask about patterns of symptoms found in DSM-III or IV diagnostic systems, and subsequently identify all disorders matching the presenting symptomatology (some or all of which disorders may not have been identified by the respondents, their families, or their doctors). The latter is a far more sensitive diagnostic approach than simple self-report of disorders, because even persons who have psychiatric symptoms may not recognize them as such, and/or may not have the knowledge necessary to identify and label them as disorder. Further, knowledge of mental illness and the elements of making a self-diagnosis vary widely throughout US culture, with some expectations that younger, better educated, and more cosmopolitan persons are more likely to have the knowledge base to do so than persons who grew up in a less psychologically-oriented culture. Such cultural differences are likely to be related to the urban-rural categorization, but not necessarily in a tidy manner.

The NHIS Mental Health Supplement also addresses issues of service utilization, with some clear urban-rural differences. Again, however, we note that the reported rates of services utilization are much lower than reported in the ECA and NCS surveys. This is perhaps to be expected, given the greater focus on mental health issues in the latter surveys; it certainly raises the issue of how important it is to establish a specifically mental health symptoms/problems context when performing interviews related to use of MH services.

We have also considered the question of whether extensive use of "household informants" in the NHIS survey would make a difference; such differences were observed when informant interviews were conducted in the ECA project. In the present study, analysis of informant responses regarding another household member showed lower rates of reported disorder and service utilization than did self-reports. The overall rate of disorder for completely self-reported information is 2.33%, for partial self-report 2.21% and for a proxy interview 1.81%. Similarly, the reported utilization rate for complete self-report is 1.15%, for partial self-report it is 1.05%, and for proxy interviews it is 0.80%. This may have significantly lowered over-all results, as about one-third of the data come from proxy interviews.

Notwithstanding these concerns, we do see trends for lower MH services utilization in the nonmetropolitan areas as compared to metropolitan central cities, though again the nonmetropolitan nonfarm areas are fairly close to the latter. This appears to be true both as a percentage of the total population and as a percentage of only those persons in need. And again it is apparent that utilization rates are lower in the noncentral-city metropolitan areas than in the nonfarm nonmetropolitan areas. Finally, farm areas show the lowest levels of utilization in both absolute and relative terms. However, the tiny number of western-US. farm areas included (51) make this conclusion hard to generalize to "frontier"-area farms, the vast majority of which lie west of the 100th meridian (which runs from North Dakota to Texas).

It was surprising that the highest rates of MH service utilization were reported for psychiatrists, followed by psychologists of all levels and unspecified mental health workers. This pattern was unexpected because the staffing of most mental health facilities is weighted in favor of nonpsychiatrists. Further, we know that much of the care nationally for mental health problems is provided in primary care settings, yet nonpsychiatrist MDs were barely represented in the provider list (perhaps because the utilization questions asked when a person "last saw a mental health professional"). This may also be partly because many persons treated in primary-care settings do not receive psychiatric diagnostic labels, even if they receive psychoactive medications; hence, such utilization may have gone unreported in this survey.

In conclusion, we must note that the expected pattern of lower rates of utilization in nonmetropolitan areas was confirmed by this survey, despite the unexpectedly low rates of disorder and utilization reported. Finally, it should also be noted that ongoing changes in the entire health care system, especially the advent of managed mental health care (or

"managed behavioral health care" as it is often termed), are likely to have brought about changes in the provision and utilization of such services over the decade since these data were collected.

Reader inquiries are welcome!

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General Models for Delivering Mental Health Services to Seriously Mentally Ill Persons in Frontier Areas[1]

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Abstract

This paper deals with the delivery of services serious and persistent mental illness (SMI) in scarcely populated frontier areas—an historically underserved group living in primarily in the western part of the United States. The paper provides information on some of the general models of service delivery that are available as well as the implication of these models for managed behavioral health care. The models discussed include multi-disciplinary team models, community support models, models that utilize paraprofessionals and lay caregivers, and wellness/clubhouse models. Some of the models have been adapted from urban or more populous rural areas, sometime in very imaginative and resourceful ways.

Introduction

At the extreme rural end of the rural-urban continuum there are 394 frontier counties (counties with less than 7 persons per square mile) in 27 states. They are protected from large-scale settlement by harsh climate, difficult terrain, lack of water, distance from metropolitan areas, lack of exploitable resources, and federal land policies. These areas also contain a high proportion of persons living in poverty and have a limited local tax base. Most human services are provided through state and federal programs. Low population densities make it impractical to deliver many labor- and resource-intensive programs. In addition, of course, these areas also chronically lack trained staff. As one might expect, providing services to this frontier population presents formidable cultural, geographic and human resource problems. These difficulties notwithstanding, services to this important population are delivered, often in imaginative and resourceful ways. This paper deals with the delivery of services to persons with serious and persistent mental illness (SMI) these sparsely populated areas. Specifically, this paper sketches some general models of service delivery, consider some of the implications of managed care and indicate where detailed information about the models can be found. To illustrate how states with frontier population provide services to SMI, the organization of services in five states with significant frontier population is presented in Appendix A.

One of the consequences of mental health policy in the last four decades has been the emptying of the state mental hospitals or the process of "deinstitutionalization" (Bachrach, 1977). A number of different research and service models for the treatment of SMI within communities as opposed to within a hospital were subsequently developed. Predictably, most have been urban in nature. However, some material has appeared that deals with its rural dimensions. The care of the SMI in frontier areas is a particular challenge. Here, resources that one would take for granted in urban or more populous rural areas may be nonexistent. In looking at service delivery to this population, the high levels of innovation and flexibility shown by providers is impressive. Combating few resources and long distances in innovative and flexible ways is a hallmark of the treatment modalities found in the frontier area programs described below.

Programs in frontier areas can also take advantage of some of the unique features and strengths of the frontier, though often these features are under appreciated (Kane and Ennis, 1996). These assets include a higher tolerance for abnormal behavior among residents and the existence of natural systems of social support. While for many a negative feature of rural life is a lack of privacy (living in a "fishbowl"), for the mental patient, a strong sense of community and social ties can lend support to the patient. The lack of "therapeutic incognito" (Mazer, 1976) can also make it easier for the therapist to know the patient and his or her world. A number of approaches described below consider this.

Multi-disciplinary Teams

A recurring theme in rural programs is the use of multi-disciplinary teams to compensate for a lack of mental health professionals. These programs take advantage of whatever resources are available within the community and then build upon them. Davis and Ziegler (1990) presented a Community Resource Team model that expanded the resources available to persons with severe mental illness living in rural communities in Wyoming. These communities had basic human services, but did not have the financial capacity nor the social commitment to develop a diverse network of services for the SMI population. The team was drawn from social services, mental health, nursing homes, hospitals, and vocational rehabilitation offices.

A relatively new approach to the treatment of the SMI that also uses multi-disciplinary teams is *Training in Community Living*. Developed at the Mendota Mental Health Institute in Madison, WI and also known as assertive community treatment or ACT, it is an alternative to inpatient treatment and aftercare. It basically transposes the work of a multidisciplinary team from an inpatient to a community setting. Team members spend most of their time in the community providing direct treatment, rehabilita-

tion, support, and educational services for a fixed caseload. Some data exist attesting to the cost-effectiveness of the ACT program. Though not a model created specifically for rural areas, it has been demonstrated and used there.

Santos et al. (1993) developed an ACT program for a rural population in South Carolina. Given the realities of service delivery in rural areas, the program differed in a number of respects from urban models, particularly in the availability of a treatment team, logistics of travel, use of formal and informal community support, and frequency of contact with family. The lack of residential and vocational opportunities in rural areas also required modification of program goals. These modifications notwithstanding, a measure of the program's success was a significant reduction in hospital utilization. This, in turn, resulted in a cost reduction of 52%. This approach has been adapted to frontier areas: ACT teams are in place in all of the service regions in Idaho (Idaho, 1997).

The Community Support Model

The community support model has also been used in frontier areas. Community Support as a therapeutic modality for the SMI was first described by Turner (1977). Several investigations have compared characteristics and outcomes for rural and urban SMI to determine if rural patients would be at a disadvantage in this model.

One example, the Community Support Services (CSS) model, employs case managers for SMI patients. Baker and Intagliata (1984) evaluated several urban and rural CSS programs. They found that, while rural clients were more likely to reside in community residences or cooperative apartments, there were few differences between rural and nonrural SMIs in the medical, rehabilitative, and supportive services that were provided to them. Some services appeared even more readily available to rural clients, including competency and coping skills training. They concluded that the CSS model was appropriate for application in rural areas. Somers (1989) examined the relationship between geographic location and use of mental health services using data collected on 1,053 Community Support Program (CSP) clients. Results again did not support the assumption that rural residence had uniformly negative effects on service use.

Husted, Wentler and Bursell (1994) investigated the effectiveness of Prairie Community Waivered Services, a CSP serving five counties in rural western Minnesota. The lead persons in the program were paraprofessionals who resided in the communities in which they worked. They worked with clients in their homes and communities with backup from social workers and psychologists. Patients were given the option of choosing their own physician or psychiatrist or one who was under contract to the program. The physicians provided medication management. A crisis bed was provided by the program. The emphasis in the program was on flexibility of program plans for each client. In addition, support groups and social events were provided in the coun-

ties. The researchers reported a significant decrease in number of days hospitalized. An additional benefit reported was a greater acceptance of the mentally ill by the community.

Jackson, Macias and Farley (1993) reported the results of a CSP demonstration program in three sparsely populated rural areas in Utah, a state with a significant frontier population. Mental health center staff provided two kinds of help: money management and encouragement of daily social activity. Evaluation of the program by consumers was favorable. They reported that CMHC staff assisted them significantly in these areas, more so than either friends or family. In a related article, Macias, Kinney, Farley, Jackson and Vos (1994) found that patients receiving a combination of case management and psychosocial rehabilitation, functioned at a higher level of competency and experienced lower levels of psychiatric symptomatology than those receiving only rehabilitation.

Sullivan (1989) coined the term *Program Without Walls* to describe community support programs in rural areas. Central to this concept are the recruitment of community collaborators and the redesign of traditional community support programs to most effectively use available personnel for provision of necessary services to clients and their families. To minimize and overcome problems associated with lack of resources and great distances, a premium is placed on flexibility and innovation. Core services in traditional rural community support programs would normally deal with:

- medication monitoring and maintenance
- case management
- leisure time and recreational opportunities
- family support.

The *Program Without Walls* might go on to provide medication clinics on wheels, decentralized day programs and community collaborators. Potential sites for locally based programs would include churches and community halls. In the ideal scenario, case managers who are indigenous to the area would direct such efforts. Part of the goal would be to establish a culture in which the consumers begin to help each other. The case managers would strive to engage clients in activities that bolster self-esteem—volunteer work or regular employment.

The Use of Paraprofessionals and Lay Care-Givers

Several programs in frontier and rural areas build upon this theme of community collaborators and use paraprofessionals and lay care-givers as a way to extend services to the severely mentally ill. These programs attempt to identify and utilize all resources found within a community. One rurally developed model using this approach is the Rhinelander Model developed in Rhinelander, WI in the 1980s (Rhinelander Model Consultants, 1990). It served a small town and rural catchment area. The goal here was

not to supplant or compensate for professional care, but to fill in the spaces between other services. Non-professional, supportive caregivers or citizen mental health workers provided the bulk of the service. These workers were supervised by more experienced non-professionals who, in turn, were under the aegis of agency professionals. Two basic services were supplied: companionship and monitoring. Supportive care workers worked weekly with two clients for five hours each. The developers emphasize that this went beyond togetherness. The model is strictly based on a theoretical perspective (Transactional Analysis) that guides interaction. The intent is to change client behaviors in a supportive and nonintrusive manner.

Activities engaged in by workers with their clients varied from taking a walk to taking in a movie, from sewing to shopping, and from attending to chores to attending church. While all these divergent activities provided normalizing socialization opportunities for the SMI, the Rhinelander Model goes a significant step beyond by assuring that workers use these experiences to support their clients in developing increasing independence. Without that critical element, the Rhinelander Model would be little more than a low-cost escort service, but with it, it becomes a successful method of *modifying* [emphasis in original] the SMI's dependency and thereby reducing his or her reliance on excessive psychiatric hospitalizations (Rhinelander Model Consultants, 1990).

Proponents of the model have argued that its effectiveness can be seen in a fifty percent reduction in mental hospitalization. The estimated annual per client cost in 1987 was estimated at $1,700, making it affordable. The relatively low level of professional involvement also suggests that it is feasible for frontier areas. It has not been widely adapted because of third-party reimbursement and certification requirements. Another barrier to adoption has been the requirements of its theoretical model. Having the community workers also provide crisis services, for example, would alter role relationships and may be inappropriate (Galli, personal communication, 1995).

A frontier example of the use of non-professional care-givers is The *Citizen Companion Program* (CCP) in Idaho (Sword and Longden, 1989). CCP is a creative adaptation of several existing urban and rural models. It borrows elements from the Rhinelander Model, the COMPEER program developed in Rochester, NY, and a program sponsored by the Mental Health Association of Waukesha, WI. The CCP was initiated as a demonstration program in two rural sites in 1984. For strategic reasons, the demonstration was under the aegis of the Idaho Mental Health Association. After the success of the pilot phase, it became part of the formal service mix of the regional mental health programs. It was not, however, implemented in a uniform way. One measure of its flexibility is that it serves both child and adolescent patients, as well as adults.

The CCP is designed to provide support and advocacy for persons with SMI thorough interaction with non-professional companions. This program enhances the work of professional case managers. The core of the program is its flexibility. The exact

nature of the client/companion activities is determined by the needs of the client, but might include skills-building in activities of daily living, or advocacy with various entitlement programs. For younger clients, this might also involve locating child services. It is less theory-bound than the Rhinelander Model but—in common with that program—one of its goals is to provide *normal role models* for the SMI.

The CCP is an interesting mix of public and philanthropic efforts. All service recipients must be clients of the Idaho Department of Health and Welfare, but services are provided by the Mental Health Association or other not-for-profit agencies. The CCP has a number of objectives, including:

- sustain persons with a history of SMI in a community setting and enhance their level of functioning,
- increase community tenure and delay or reduce the need for hospitalization,
- enhance client quality of life,
- improve access to needed services,
- provide role models for a trusting and responsible relationship,
- enhance the capabilities of professional case managers,
- reduce the stigma of mental disorder,
- enhance community collaborative efforts to provide services to adults and children and adolescents,
- assist families in caring for the client.

In order to be eligible, adults must have a serious, persistent, mental disorder and be participating in a treatment program of the Idaho Department of Health and Welfare. In addition, the potential clients must be sufficiently motivated and physically capable of program participation and have sufficient self-care skills for independent or semi-independent living arrangements.

The program is decentralized and operated out of the rural field offices of the mental health centers. Length of time of participation is determined by the therapist or case manager. One of the strengths of the program is its nominal cost. It was estimated that an on-site coordinator and three companions costs about $5,000/year. The program consists of four components:

- clinical services provided by the local mental health center,
- program administration,
- companion services,
- technical assistance by State Mental Health Program staff

The core of the program, however, is the citizen companions. The not-for-profit contracting agency recruits both the coordinator and companions. There are no formal educational requirements, but the prospective companions must display caring, responsibility, dependability, a willingness to learn, and a positive attitude toward the those with a mental disorder. Knowledge of the community and transportation are additional desiderata. Once hired, companions undergo a training program that covers psychiatric

management, the availability of resources, and role relationships. There is also ongoing consultation, quarterly training, and monthly coordination meetings. An explicit decision was made to have paid companions and coordinators, rather than relying on volunteers. The companion is expected to provide 2-5 hours/week of service to a client as specified in the treatment plan.

The Wellness/Clubhouse Model

As a counterpoise to the medical model, the "wellness" model of psychosocial rehabilitation stresses the integration of the SMI into the community, providing a diverse set of meaningful activities, improving the individual's level of independent functioning, and enhancing self-worth and self-esteem through developing social skills and work habits. The service site is seen as a clubhouse, rather than a treatment center. The prototype of this approach was Fountain House, in New York City (Beard, 1976; Beard, Propst and Malamud, 1982). Pressing, Peterson, Barnes and Riley (1983) describe the organization and development of a clubhouse program—Highlands Clubhouse—in a rural area of southwestern Virginia. A similar program —Cirrus House—operates under the aegis of the Panhandle Mental Health Center (MHC) in Scottsbluff, NE. The center serves a sparsely populated 11-county catchment area in Western Nebraska and serves 75 adults (Perkins, personal communication, 1995). A modified version of this approach is being employed in Idaho. Indeed, the state mental health plan notes: ".....Psychosocial Rehabilitation, sometimes known as psychiatric rehabilitation, *has now become the treatment modality of choice* [emphasis added], and enables services to be provided in the client's natural setting of home, work, and community. Ongoing training is taking place with both state staff and private providers to continually improve the practice of psychosocial rehabilitation (Idaho, 1997)."

A program (Tele-N-Touch) in Appalachia uses the self-esteem enhancement goals of the clubhouse models to provide assurance to the rural elderly (Smith, 1989). Clubhouse members at Cumberland Mountain Community Services provide telephone reassurance to at-risk homebound elderly living in socially and geographically isolated areas of southwestern Virginia. Callers determine their immediate health and note any immediate needs. Back up by staff provides follow-up when immediate needs are identified. The help line afforded an opportunity for mutual benefit. The program was seen as consonant with the rural ethic of service to others in the community. While this project has not found any instances of a program of this sort in a frontier area, it's low cost and "low tech" approach suggest that it would be a feasible model for use in frontier areas.

Other Frontier Models

Other frontier models of note include the Badlands Human Services Center (HSC) and several grants programs in Alaska. The Badlands HSC serves a large, sparsely populated area. Care for the SMI is accomplished in some innovative ways. The largest community in the area—Dickinson—is the center for specialized services: a psychosocial center, a supported employment program, and a social club.

On the other hand, there is significant decentralization. Virtually every small community in the region has a long term care facility. Direct services are provided by a psychiatric nurse who travels to remote sites to work with patients and to develop treatment plans with family and local caregivers. Regular outreach is provided to communities more than 80 miles round-trip from Dickinson. Local primary care physicians provide medication monitoring through formal agreements with the HSC. This provides an impetus for cooperation with the outreach workers.

Alaska represents a unique set of problems in the delivery of care for the SMI. The authors of the GAP volume describe the complexities of caring for a single person with SMI. The service delivery system operated on three levels: village, region, and urban. A total of about 50 people and seven or eight facilities were involved (Group for the Advancement of Psychiatry, 1995). In a situation like this, how does one achieve continuity of care, so that immediate and long-term needs are met? In the case of this patient (identified as *Dog Bone*):

> ... a village response team was eventually assembled, using the health aide [an indigenous paraprofessional], the VPSO [village public safety officer], and a local minister. A regional master's-level person was identified for backup. This person in turn kept in telephone contact with the psychiatrist in the urban center. The village team, after some initial hesitation, went to the village council to discuss the situation with the village leaders. They were able to get Dog Bone to go to a family physician at the regional general hospital for a checkup. He was medicated ... and returned to the village where he is somewhat improved. The village health aide dispenses his medication and checks for side effects and then calls the family physician in the regional town to get advice on any changes in his condition. Brief training for the local village team and the master's-level backup person was provided by teleconference with the psychiatrist (GAP, 1995).

Soule (personal communication, 1995) described a program for delivering mental health services to Alaskan Natives living in remote villages. The intent of the initiative was to provide services that were responsive and sensitive to the unique needs of the target populations. Largely in response to direction from the Native community, significant changes were made to the way services were delivered, the nature of the services, and who provided the services. Except for the State Hospital, no direct services are provided. Grants are made to local entities to design and manage programs to address the problems of self-destructive behavior (including AODA) and suicide. The

role of the state is to provide technical assistance and support, leaving the decisions about what will work for them to the 60 participating communities. Examples of local projects were: crisis response teams, teaching of traditional values and skills, teen centers, and preschool programs. A second program, the Rural Human Services Project, provides grants to local human service agencies to hire, train, and supervise indigenous providers. These grants are intended to reduce reliance on non-native professionals who ride circuit to the villages. The program also attempts to create service delivery models that are holistic and focused on the community as well as the individual and that respect and incorporate the values of both native and western cultures and approaches to prevention, treatment, and recovery.

Implications for Behavioral Health Services: Evolving Healthcare System

If providing services to the SMI in frontier areas has traditionally been a problem, providing them in the evolving environment of the current healthcare system is even more of a challenge. Without doubt, managed care as a way of funding health and mental health service is the salient issue in the field today. The implications of this for rural and frontier mental health and AODA services have only recently been explored. At this point, the discussion is largely theoretical. Planners and providers interviewed have generally noted that managed care has had little impact in their frontier areas. Private companies have shown little interest in these areas because of the low population base and poverty. In the following quote, Kane and Ennis (1996) discussed services for the seriously mentally ill in relation to healthcare reform, but their points have equal validity with respect to managed care, which is certainly one part of reform. They note (1996:447):

The constellation of impairments and deficits of the seriously mentally ill challenge mental health service systems, both urban and rural. However, rural environments have consistently been identified as having limited capabilities to comprehensively care for the serious mentally ill. Health care reform, in attempting to address the needs of the severely mentally ill, must ensure that the capacities for rural mental health care are further developed to enhance the delivery of comprehensive care to the rural living seriously mentally ill.

They outline four strategies for providing these services: linkages to primary care systems, use of ACT, use of lay caregivers and use of adult homes. The first strategy of integrating of the health and mental health service system is especially important in view of the higher risk of physical illness among the SMI. Over the years, repeated calls have been made for integrating mental health, primary care, and AODA services in rural areas as a means of improving access. Ozarin, Samuels and Biedenkapp (1978),

for example, evaluated the community health center/community mental health center linkage program and found it to be highly effective for providing mental health services.

Indeed, this linkage between health and mental health systems is seen by some as an important element in a managed care system. A recent research study provides some useful contemporary insights (Maine Rural Health Research Center, 1996). The investigators conducted a national telephone survey of rural primary care providers who successfully linked with substance abuse or mental health services. The primary care providers included hospitals, community health centers, health departments, HMO and private practitioners. Of particular note, eight of the providers were in states with frontier populations: North and South Dakota, New Mexico, and Arizona. Four models of integration were employed, either singly or in combination:

- diversification
- linkage
- referral
- enhancement

Diversification is the closest form of integration: there is coordination of services within a single organization (primary care and mental health providers work for the same agency). With *linkage*, specialty mental health providers offer services at primary care sites through a formal, ongoing relationship. *Referral*, as the name suggests, involves primary care providers referring patients to off-site mental health providers. Finally, with *Enhancement* primary care providers receive training in order to improve their ability to treat mental health problems directly.

Overall, these integration efforts have proven effective. Primary care providers often feel that they lack the knowledge to deal with the SMI and their orientation is to acute, rather than chronic care. Nonetheless, primary care providers are a crucial part of mental health and AODA care. Given the success of these linkages, *a recommendation for architects of managed care would be to provide incentives for primary health care providers to link with mental health and AODA agencies*. These incentives could include educational programs for providers as well as fiscal incentives for linkage.

Kane and Ennis (1996) also feel that the large body of data supporting the efficacy of Assertive Community Treatment mandates its inclusion as a strategy in a reformed health system. They add a qualification (1996:448):

Assertive community treatment programs have the potential to significantly improve the care of the rural seriously mentally ill. However, those factors which presently impede the provision of mental health services in rural areas, will also need to be addressed in implementing rural PACT programs (1996;455).

The nature of rural life suggests the third strategy: utilization of lay and informal caregivers. The use of these informal caregivers is not without some risk. Kane and Ennis (1996) caution:

Use of and reliance upon lay caregivers as an adjunct to more formal systems of care have a number of issues which must be addressed to insure optimal utility. The informality of natural support systems establishes an opportunity for lapses in practices of confidentiality. Individual, family and community boundaries may be blurred in a paradoxical environment which seeks to both protect the privacy of an individual and offer a caring supportive 'neighborhood.' Professional ethics standards adopted by psychiatrists, psychologists, social workers, and nurses are all at risk when these professionals embrace lay caregivers as a part of the service system. The absence of standards of ethics in relation to confidentiality among lay caregivers leaves practice violations without sanction...While lay caregivers offer resource enhancement to the care of the mentally ill and offer mental health professionals an understanding of local custom ... one cannot forget that, generally, lay caregivers have not received training in the care of the mentally ill. The imposition of formality to a system which is inherently informal places mental health providers, consumers and their supports at risk for relying on a de facto delivery system that cannot provide essential skilled services.

The final element is adult homes, which can also be referred to as board and care homes, boarding houses, and congregate care facilities. These shelter arrangements house almost 40% of the SMI nationally. Kane and Ennis summarize the generally favorable literature on these homes. They provide a less restrictive environment and lower levels of stress than institutions and are better venues for maintaining independent living skills. In addition, they are much lower in cost than institutions and are perceived by residents as offering a higher quality of life. While no accurate data exist about the number in frontier areas, providers interviewed for this paper have noted that these homes exist in many communities in their areas. As part of its process of deinstitutionalization, New Mexico reported an increase in the number of such homes, many of them operated by former employees of the state hospital. The state hospital provided mental health, crisis intervention, and support services to these adult homes via a visiting psychiatrist and nurse team. Without careful controls on placements and the provision of adequate support services, however, these homes have proven problematic, as was the case in Colorado (Kane and Ennis, 1996).

One of the impediments to creating a workable frontier model, using the above suggestions appears to be categorical funding. Designed to meet a certain need or designated population or to provide a certain modality, this approach severely limits the flexibility that is needed in resource-poor frontier areas. If, for example, funds are available to pay for adolescent inpatient treatment, then services are likely to be skewed in that direction. An alternative, community-based approach, may be more appropriate in a given case, but a lack of funds may preclude its use.

Much has been said about the inappropriateness of the urban model of services—specialized, well-staffed and funded, with a geographically dense area of responsibility—for rural venues. This is even more true for the frontier. A frequent comment

made by planners and providers in the interviews was the inability to afford the luxury of specialized caregivers. The frontier caregiver, even more than his or her counterpart in more populous rural areas, needs to be a versatile and flexible *generalist*. Fiscal constraints, a paucity of potential clients, and an absence of peer backup militate against specialty care. The generalist, by definition, needs to be concerned with a number of different approaches and to operate within a variety of milieus. This speaks to the issue of the need for *flexibility*. The need for a general, flexible orientation argues strongly against categorical funding of programs. A categorical program is directed toward a specific clientele and, often, prescribes a particular modality. This just does not work in frontier areas! *Another concern of managed care plans, then, ought to be greater discretion on the part of planners and providers in allocating resources to meet local or individual needs.*

As noted, frontier mental health and AODA services are organized and delivered in several different ways. This reflects state differences in ideologies and fiscal arrangements. The richness of diversity, however, can be problematic in a call for linkage in a situation where, for example, the mental health agency is public, and the AODA agency is private, or where one state managed care plan includes AODA services and another specifically excludes them. What *one can recommend is that a national organization such as the National Association of State Mental Health Program Directors assume a leadership position in advocating a more uniform policy.*

In sum, in keeping with the seriousness of the problem, a number of models of service delivery to the SMI have been developed or modified for rural areas. While all report success in reducing days in hospital and enhancing client autonomy, some of the "high tech" models that rely on high levels of professional input, would not appear appropriate for frontier areas. The first of these *Letters* ended with the observation that—in spite of formidable resource and geographic obstacles—a variety of core services for the SMI are provided in the five states with frontier populations examined. Reflecting the differences in the organization of state mental health systems, there was understandable diversity in approaches. This *Letter* has adopted a broader focus and looked at some of the models that have been developed or adapted for rural areas. In addition, the advent of managed care and other market-based reforms offers an opportunity to restructure the healthcare system and to integrate the various service delivery systems.

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Appendix A. Delivering Mental Health Services to the Seriously Mentally Ill in Frontier Areas: Evidence from Five States[2]

Introduction

Frontier areas are a unique part of the United States and are also historically underserved. This Appendix will look at the organization of services in five states with significant frontier populations. A planner in Idaho captured the essence of designing and delivering services in frontier areas when noting that "programs were born of necessity" (Sword, personal communication, 1997).

Without doubt, managed care as a way of funding health and mental health service is the salient issue in the field today. The implications of this for rural and frontier mental health and AODA services have only recently been explored. If providing services to the SMI in frontier areas has traditionally been a problem, providing them in the new environment of a changing healthcare system is even more of a challenge. At this time, the discussion is largely theoretical. Planners and providers interviewed have generally noted that managed care has made little impact in their frontier areas. Private companies have shown little interest in these areas because of the low population base and poverty.

While frontier areas share some common obstacles to service delivery, they also display great diversity. This diversity is reflected in the variety of organizational models for the delivery of mental health and AODA services at the state level. States with frontier populations tend to vary both in ideologies and fiscal arrangements. For example, in Idaho and North Dakota, mental health and AODA services are part of a single agency. In Nevada, they are housed in separate agencies at both the state and community level. At the local level, these services may be delivered by a single entity or delivered separately. In yet another approach, Idaho has an umbrella state agency that is responsible for mental health and AODA services. At the local level, treatment for mental disorders is provided by state-run agencies, while delivery of AODA services is carried out by private, not-for-profit agencies under contract to the state. This can be even further subdivided: a private, not-for-profit organization contracts with the state to provide case management for the SMI (Sword, personal communication, 1997). This paper will now consider services to the SMI by sketching the delivery systems in five states: North Dakota, Idaho, Arizona, Montana, and Alaska.

North Dakota

North Dakota provides a good example of frontier issues. A quarter of its population resides in frontier areas. It has received recognition for the organization of its mental health system and it is the only state with a 24-hour 800-number Help-Line. This Help-Line, which is run by the state mental health association, provides referral and brief emergency counseling (Armstrong, personal communication, 1997). In 1972, the state was divided into eight regions under the Department of Human Services for the provision of mental health services. Each of the eight regional Human Services Centers is autonomous and is charged with providing care for both adults and children/adolescents. In theory, each is required to provide a full range of services. As one might expect, this is often not the case in practice. Table 1 presents the six broad areas of service provided.

Table 1.

Regional Intervention	crisis stabilization and resolution, admission/intake, information/referral, short-term inpatient, crisis residential beds, state hospital liaison, inpatient discharge planning
Medical	evaluation, medication administration, medication monitoring, and treatment
Psychological	evaluation, therapy, consultation and technical assistance
Acute Treatment	individual, group, and family therapy
Extended Care	meeting the needs of the SMI — provides a variety of modalities under case management, community residential, partial care/day treatment, psychosocial rehabilitation centers, supported employment, and community supportive care
Children and Family Treatment	a variety of outpatient, residential, supervisory, and consultation activities

One of the eight regional service centers, the Badlands Human Services Center, in Dickinson, ND provides a good example of local delivery of services to the SMI. It is located in a very sparsely populated area of southwestern North Dakota. The center serves an eight county area covering 41,000 square miles. Excluding the 17,000 persons residing in Dickinson, the population density is quite low: 1.5 persons/square mile. The area has been experiencing severe declines in population, with an outmigration of younger persons. Higher-risk groups tend to remain behind, and a "silting up" effect has occurred, with a rise in prevalence of disorder. This is seen in the high demand for services: 320 cases of SMI, along with 320 clients with developmental disorder or mental retardation. As one might expect in an area as sparsely populated as the Badlands, vast distances and a lack of transportation are major impediments to service delivery. In addition, the widely recognized problem of lack of specialized treatment staff also exists here. Of necessity, the generalist model prevails (Fry, personal communication, 1997).

St. Joseph's Hospital in Dickinson provides inpatient services. The state hospital, in Jamestown, is 200 miles east, but state policy discourages anything other than emergency or involuntary admissions. Few private therapists practice in the area. There are 83.5 FTE staff, and an additional 20 who work on contract. In addition to the statewide hotline run by the Mental Health Association mentioned above, there are specialized hot lines for the Badlands Human Services region. There are a number of inter-agency agreements to facilitate coordination of services. In anticipation of managed care, the

HSC is attempting to obtain accreditation from the Council on Accreditation of Rehabilitation facilities (CARF). In addition, a new model of mental health delivery ("New Company") is in the process of being developed. This will combine the best elements of both public and private care in preparation for a move to managed care.

Badlands Human Services Center provides care for the SMI in some innovative ways. Specialized services are provided in Dickinson, the largest community in the area. Services include a psychosocial center, a supported employment program, and a social club. On the other hand, there is significant decentralization. Virtually every small community in the region has a long term care facility. A psychiatric nurse provides direct services. This nurse travels to remote sites to work with patients and to develop treatment plans with family and local caregivers. Regular outreach is provided to communities more than 80 miles round-trip from Dickinson. Local primary care physicians provide medication monitoring through formal agreements with the HSC. This provides an impetus for cooperation with the outreach workers.

Idaho

In Idaho, mental health services are part of an umbrella human services agency—the Department of Health and Welfare. This department fulfills such diverse functions as veterans services, environmental quality, welfare, family and community services, and information systems. Mental health services fall under the Division of Family and Community Services. The organization of services in Idaho, while funded at a very low level, has been viewed as a model for rural states (Sargeant, personal communication, 1997).

The state is divided into seven human services regions. State community mental health centers in all seven regions deliver mental health services. Inpatient services are provided in two state hospitals — one in the north in Orofino with 60 adult beds, and the other in the South in Blackfoot with 90 adult beds. With virtually no psychiatric beds in community hospitals and almost no free-standing private psychiatric hospitals, state policy, unlike in North Dakota, does not discourage inpatient admissions to the state hospitals.

Recently, the regional mental health centers were transformed into Regional Mental Health Authorities (RMHAs) with increased responsibility for system development and planning, and coordination of public and private service delivery. These RMHAs are also charged with the responsibility of developing opportunities for the privatization of services. For example, contracting agencies now deliver AODA services. In addition, the RMHAs have used Medicaid's Rehabilitation Option to support the move toward privatization of services. The Medicaid program has traditionally required that mental health services be provided in medical settings. In frontier areas, the lack of these facilities has been a major service delivery problem. Recently, Medicaid has

adopted the Rehabilitation Option that allows non-medical services to be delivered in community settings. This option introduces a welcome note of flexibility into programming.

Priority for the public sector delivery of core adult mental health services is to those, age 18 and older, with a severe chronic mental disorder that interferes with one or more areas of functioning. Short-term treatment is accorded to those with acute problems not falling into the above criteria and who are at risk of psychiatric hospitalization. Similar to the array of services in North Dakota, core adult mental health services broadly provided by each of the regional centers include:

- screening for eligibility for services
- targeted case management
- crisis intervention
- psychosocial rehabilitation
- assertive community treatment
- psychiatric services
- short-term mental health intervention

Targeted Case Management includes psychosocial assessment, treatment plan development, monitoring and coordination of service delivery, linkage with services, client advocacy, and direct assistance with symptom management. *Crisis Intervention* includes an array of both agency- and community-based services. *Psychosocial Rehabilitation* encompasses a variety of outcome-oriented services that includes both individual and group rehabilitation, pharmacological management, nursing services, skills development, housing, and supported employment.

Assertive Community Treatment is part of the repertoire of adult services and includes assistance with symptom management, medication management, 24-hour crisis availability, financial monitoring, and assistance in vocational reintegration. *Psychiatric Services* are an essential element in any program for the SMI. In Idaho, these involve evaluation, prescribing and monitoring of medications, consultation and education, and psychiatric nursing. The final service element is *Short-Term Mental Health Intervention*. Here, services are provided to those without a SMI who are in distress and at-risk of hospitalization. This includes short-term therapy, medication, referral to community agencies, and designated examinations (Idaho, 1997). In conjunction with the Department of Housing and Urban Development, Idaho has instituted *Shelter Plus,* a sheltered housing program for the SMI. Dual diagnosis services (for persons with both SMI and AODA problems) are provided at the State Hospital North and in three of the seven regions.

Arizona

Arizona delivers services through a managed care system. It is organized around five non-profit Regional Behavioral Health Authorities (RHBAs). The major features of the Arizona approach are:

- a statewide behavioral health carve out to the Health Department
- agreements between the state Medicaid and mental health programs
- integration of mental health and AODA services
- combining of Medicaid and non-Medicaid funding streams
- capitated Medicaid for acute care
- capitated Medicaid for behavioral health
- non-profit Regional Behavioral Health Authorities
- open competitive bidding for authorities
- consent decree for the SMI population

The RBHA has several functions:

- provider network development
- contracting with providers
- prior authorization
- case management
- monitoring of performance
- quality management
- human resources
- needs assessment and community planning
- grievances and appeals

Some data exist on the accomplishments of the Northern Arizona RBHA. By sharing risks and incentives with providers, there has been a reduction in utilization of inpatient and residential services, an increase in the use of wraparound services, increased incentives for providers to work with schools and the juvenile justice system, a reduction in paperwork though elimination of prior authorization for outpatient services, and a reduction in RBHA authority administrative costs. It has also enabled providers to improve their financial situation, establish standards of performance and reward positive performance, all the while maintaining and improving quality. Miller (personal communication, 1996) suggested that managed care has had a greater impact on services for children and adolescents than on the SMI population.

Montana

In Montana, public mental health services are under the aegis of the Addictive and Mental Disorders Division of the Department of Public Health and Human Services (DPHHS). Until recently they were delivered primarily through five regional Commu-

nity Mental Health Centers (CMHCs). Montana also operates two inpatient facilities: the Montana State Hospital and Montana Mental Health Nursing Care Center. As the name suggests, the latter is a residential care facility for those with mental disorders who require nursing home level care. In the last year, Montana instituted a state-wide managed mental health care system called the Mental Health Access Plan (MHAP). This program is to provide all necessary and appropriate publicly funded mental health care through a managed care organization on a prepaid, risk basis.

Montana began the process by issuing Request for Proposals (RFP) for managed care organizations (MCOs) to implement the Mental Health Access Plan. The approach was seen as unique:

...the MHAP represents a significantly different approach to providing mental health care from that seen under traditional Medicaid and other health insurance programs or even other managed care programs. Montana's Mental Health Access Plan, if administered by a competent and experienced MCO which is dedicated to the program's success, will establish a comprehensive and coordinated system of care which integrates all public funding sources to provide treatment of a uniform quality and continuity that we believe will be unprecedented in the nation's public health system (Montana, 1996).

The RFP required that specific attention be paid to several groups of persons and levels of service:

- the SMI
- homeless mentally ill
- individuals eligible for Medicaid and Medicare
- elderly
- Native Americans
- secondary prevention
- jail inmates
- clients of the juvenile justice system

It is interesting that, unlike Arizona, which integrates AODA and mental health services in its system, persons with a sole diagnosis of an AODA disorder or mental retardation are specifically excluded from the RFP.

Alaska

Alaska, the ultimate frontier, represents a special case of mental health service delivery that dwarfs even those of the most remote areas of the continental US — the "lower 48." With population densities approaching 0 in some areas, it goes beyond frontier and can be considered wilderness. The Group for the Advancement of Psychiatry (GAP, 1995) has written about the problems of providing mental health services under extreme conditions of isolation, harsh climate, long distances, different languages and sub-cultures, and resource deficits. In many ways, they view the situation in Alaska as analogous to a developing country.

More than 200 communities, many with populations of less than 800 persons, are scattered through out the state. Only about 19 communities are accessible by road; the rest can only be reached by plane, boat, snowmobile, or dog sled. Distances are staggering: a person requiring mental hospitalization and living on of one of the outer Aleutian Islands would have to be flown a distance equivalent to that from Boston to Los Angeles. Because so much travel is by air and both the patient and an escort need to be transported and lodged, cost per unit of service is formidable. To cite a "simple" case:

...the costs of doing an assessment included a 30-minute round-trip charter flight from the village to the regional hub town, at $90 for the patient and another $90 for the escort. The 3-hour trip to the urban center was another $450 round trip for the patient as well as $450 for the escort. Because of plane connections, the escort had to stay overnight in the city, entailing food and lodging costs. Hotel costs for professionals traveling to the regional hub centers from the city were $125 per night. In the village, itinerants who stay overnight would probably sleep in a sleeping bag on the floor of the health clinic, at a cost of $20 (GAP, 1995).

These time and cost factors are important because they obviously become part of a proposed treatment response. Additionally, the "ownership" of a problem is an issue in frontier areas where there are often overlapping spheres of responsibility. These can cause jurisdictional disputes. Then, there is the issue of empowerment and how to avoid over-dependence on scarce professional resources.

Virtually all mental health services are public sector in Alaska, organized in a three-level hierarchical fashion. Front-line services are delivered at the village level by para-professionals (community health or mental health aides), who are generally indigenous to the village and who have little formal education. Being native to the villages where they practice, they share the values of their clients. Even the standard clinical reference book, the *Physicians Desk Reference (PDR)* has been adapted for village use. The *Village Drug Reference* is designed to be used with telephone backup from regional primary care physicians.

At the next level are the small regional hospitals (12-15 beds) that provide basic emergency inpatient services. Primary care physicians and mid-level mental health practitioners are found here. Also likely to be found here would be a regional jail. Tertiary-care mental health facilities are found in the urban areas (with populations of 40,000 - 200,000).

Alaska, then, represents a unique set of problems in the delivery of care for the SMI. The authors of the GAP volume describe the complexities of caring for a single person with SMI. This person received services from all three levels: village, region, and urban. A total of about 50 people and seven or eight facilities were involved. In a situation like this, how does one achieve continuity of care, so that immediate and long-term needs are met? In the case of this patient (identified as *Dog Bone*):

...a village response team was eventually assembled, using the health aide [an indigenous paraprofessional], the VPSO [village public safety officer], and a local minister. A regional master's-level person was identified for backup. This person in turn kept in telephone contact with the psychiatrist in the urban center. The village team, after some initial hesitation, went to the village council to discuss the situation with the village leaders. They were able to get Dog Bone to go to a family physician at the regional general hospital for a checkup. He was medicated...and returned to the village where he is somewhat improved. The village health aide dispenses his medication and checks for side effects and then calls the family physician in the regional town to get advice on any changes in his condition. Brief training for the local village team and the master's-level backup person was provided by teleconference with the psychiatrist.

In sum, this overview illustrates the diversity of mental health systems in states with frontier populations. A common feature to all, however, is the fact that services to the SMI are provided—often under extreme circumstances of distance, inhospitable climate, and chronic shortages of professional staff.

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Notes

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Organization and Delivery of Mental Health Services to Adolescents and Children with Persistent and Serious Mental Illness in Frontier Areas[1]

Morton O. Wagenfeld, Ph.D.

Abstract

This paper sketched out a number of models of organizational structures that are being used or can be used to the delivery of behavioral health services to children and adolescents in frontier areas—a historically underserved group living primarily in the western part of the United States. It is based on published and unpublished literature as well as interviews with mental health planners and providers. Nearly all the models identified were rural models, but they are applicable for frontier or remote areas. Three general principles can help guide us in the presentation:

- do the models make use of existing informal and community support systems?
- can the models be run without specialized staff?
- can the models be done in a decentralized manner?

Using these principles, most of the models described in this *paper* are modifiable for frontier areas. The salience accorded services to children in various frontier programs speaks well for the concern for the well-being of this vital part of our society.

Introduction

This paper is one of a series (see Wagenfeld, 2000) dealing with different aspects of delivery of mental health services to persons in sparsely-populated frontier areas. This paper deals with the organization and delivery of services to children and adolescents with serious mental illness (SMI). It is based on published and unpublished literature, and interviews with planners and providers. A companion paper (Cooper and Wagenfeld, 2000) will complete the picture by presenting the highlights of two study groups—one for providers, and the other for parents held in a frontier area.

Models of Service Delivery

Children and adolescents are an important part of any community as a resource for the future. Attention to their problems of mental disorder, the abuse of alcohol and other drugs (AODA), and developmental disability should, therefore, be a priority. A number of papers and interviews with planners and providers have highlighted numer-

ous impediments to service delivery for this group, as well as delivery models. To begin with, an important impediment is the problem of cases crossing systems when they involve minors (e.g., school, juvenile justice, welfare, etc.). Often, and this is by no means unique to child and adolescent services, there is a lack of coordination between systems and a lack of information sharing.

Providers view categorical funding of services, in itself, as a possible barrier, inasmuch as it limits flexibility. In other words, if moneys are available for inpatient or institutional services, that, rather than the needs of the child may drive treatment plans. As a result, these approaches may not necessarily tap into available and local informal systems, particularly, the families of the children or community value systems.

A number of authors have considered the general problems of service delivery to rural children and adolescents. Kelleher, Taylor and Rickert (1992) note that there are four barriers unique to rural areas:

- transportation
- communication
- laws
- attitudes

In addition, there is the well-documented problem of recruiting and retaining qualified providers. Like other aspects of frontier mental health services, the lack of child and adolescent specialists is a significant problem. In North Dakota, specialty mental health services decline as one moves west from the population centers at the eastern edge of the state. It is not unusual for a family to have to travel more than 100 miles one way to see a child psychiatrist. The response of rural providers has generally been to rely on federal and state dollars and focus on noncategorical and preventive services. The use of paraprofessionals and natural helper systems has helped to provide needed services in a resource-poor environment.

Petti and Leviton (1986) developed some policy guidelines for serving rural youth. They proposed that a practical option is developing personnel trained to function as extenders of service delivery by certified child psychiatrists and psychologists. Petti developed and evaluated a specific consultative model in a rural area of western Pennsylvania (Petti, Cornely and McIntyre, 1993). Sheldon-Keller, Koch, Watts and Leaf (in press) feel that mental health and social services for rural children and adolescents should address four areas:

- placement options (from most to least restrictive)
- treatment options (psychotherapy, pharmacotherapy, rehabilitation, etc.)
- treatment modalities (individual, family, group)
- service delivery locations (e.g., schools, mental health centers).

A new approach that overcomes many of the rural impediments is what has been termed "wraparound services". Here, services are needs-based (as defined by an assessment), flexible, individualized, and "wrapped around" the family. The service plan can use both formal and informal local resources. Wraparound services are flexible,

capitalize on local support systems, and involve the family in planning. Such flexibility and reliance on local resources make it ideal for frontier communities. Arizona, North Dakota, and Idaho are three states providing these types of services to frontier populations.

Linkage with school systems is particularly important for working with children and adolescents. Consultation can be provided to the schools through special education districts and the human services or mental health centers. A problem here is a low level of recognition of mental health problems or issues in schools. School personnel tend not to be trained in the assessment of these problems (Ronnigen and Sweet, personal communication, 1997).

A number of specific models of delivery will be discussed in the following sections for mental disorder, alcohol and other drugs of abuse, and developmental disability. The programs highlighted here are all from rural areas in ten states and one region (Appalachia). Some of these were from states with significant frontier populations (e.g., Alaska, Idaho, North Dakota, Wyoming), while others were from less isolated rural areas (e.g., Florida, Michigan, New York, North Carolina, Wisconsin, Virginia). Understanding where the models were developed and have been practiced is important in assessing the applicability of these programs to the special needs of the frontier.

Mental Disorder. Several models for delivering services to children and adolescents in rural and frontier areas with SMI have been reported. The *Family Living Model* was developed in a rural area of central Oregon as an alternative to traditional residential care. It focuses on reducing costs, maintaining the child (aged 3-12) in his or her local culture, using community resources, and forming a network of support for the children. The principal program element is day treatment, with a supplementary plan enabling one to three children to be placed with residential Family Living parents. The children usually return to their own homes on weekends. This often avoids placement in a more traditional residential setting. The model is based on the *Teaching Family Model* of Boys Town, Nebraska (Tovey, 1983).

Schools are an obvious venue for the prevention and detection of mental illness. Several school-based prevention models have been developed. A structured 8-week program to target all 11-to 13-year-old youths in an 11-county rural school district in Florida had three goals:

- develop an inexpensive rural primary prevention program that could be easily maintained and replicated
- promote activities that address the correlates of youth at risk
- provide a positive recreational and group experience for the participants (Richmond and Peeples, 1984).

In a rural area of New York State, a consortium of school-based programs for early detection and prevention of school adjustment problems was established. The program expanded the reach of early services to young children and stimulated communication, interaction, and support among professionals in participating districts (Farie, Cowen and Smith, 1986).

Another school-based program, one that would likely be suitable for remote or frontier areas, was developed in southeastern Washington. The area was almost totally without services. No state or county social or health agencies, not even a satellite center, were located in any of the towns. A program of helping skills intervention was developed in five schools. With the coordination of a mental health worker, outreach personnel from county agencies talked to the students. They focused on enhancing self-concept, increasing sensitivity and response to other people and their situations, problem solving, and the knowledge and skills to seek assistance appropriately. Results indicate that the program was successful in increasing support among students and promoting cooperation between schools and county agencies (Mooney and Eggleston, 1986).

The increase of suicide in younger populations has forced communities to develop prevention and intervention programs. One such program in rural Maryland, *Lifelines,* utilized a systems approach to the development of a community-based suicide prevention program. The model employed three levels: *awareness, intervention, and post-intervention*. Because it is not a resource-intensive program, it appears feasible for isolated rural areas (Gray and Cannon, 1987).

A model developed specifically for a frontier area (in Idaho) was the *Citizen Companion Program* (Sword and Longden, 1989). It has proven useful for adults with SMI. A version for children and adolescents—*The Children's Companion Program*—was subsequently put in place. Adults serve as companions in school or at home. It is currently referred to as *Youth Trackers* and is even more popular than the original adult program (Sword, personal communication, 1997). To be eligible for *Youth Trackers,* children or adolescents, in addition to a diagnosis of a severe mental disorder, must:

- reside in intensive inpatient or residential facilities but could benefit from a less restrictive environment, or
- currently reside in the community, but have a history of hospitalization or are at risk for further hospitalization, or
- be at risk for out-of-home placement because of their disorder, or
- be under commitment due to criminal conduct, child protection requirements, or are at risk of injuring themselves or others (Idaho, 1997).

Child abuse and neglect programs are badly needed in rural areas, but their implementation faces a number of barriers. Sefcik and Ormsby (1978) review some of these problems:

- rural community attitudes
- lack of awareness of and education about the incidence and impact of child abuse/neglect and its spin-off problems (truancy, juvenile delinquency, crime)
- small town conservatism
- perceived threat to parental rights and family privacy
- fear of becoming involved through reporting
- lack of knowledge regarding the law and reporting procedures
- small town politics and power structures
- geographic scattering
- scarce or inaccessible resources.

Project Children is a rural child abuse/neglect program serving a five-county area in south-central Indiana. The purpose of this program is twofold. First, to develop a service network in which the various agencies' roles and relationships are clear. Second, to provide the best system for helping families by avoiding overlapping functions and ensuring that essential services are available in the community. The program consists of a hospital child protection team, parent aides, community education, and prevention efforts. The hospital child protection team uses a physician, a Department of Public Welfare worker, and a psychologist and/or psychiatric social worker. The initial focus of prevention efforts was on two identified needs:

- a child care facility that would serve children 0-6 years of age, and
- a parenthood course as part of a junior and senior high school curriculum.

Alcohol and Other Drugs of Abuse. In recent years there has been great concern about the AODA problems of children and adolescents. A number of prevention and treatment models have been developed specifically for rural areas or adapted from urban models. AODA prevention programming can be a special challenge in rural areas. Edwards, Egbert-Edwards, D'Anda and Perez (1988) provided a good overview of several special considerations. As in most areas involving professional resource deployment, the staff members working in prevention activities have often been trained in urban settings. It is important to provide these professionals with orientation to the rural environment.

The *Upper Peninsula Teen Leadership Program (UPTLP)* in Michigan involved networking to provide quality substance abuse prevention and early intervention services to high school students (Lindenberger, 1994). The program was based on peer leadership to prevent substance abuse by strengthening resiliency factors. One of the developers noted: "It promotes the concept that prevention is not something that we can do to our teens, but something that we must do with them, as partners."

The *New Holstein Student Assistance Program* was developed in a rural area of Wisconsin and was designed to serve students in grades K-12. In addition to students and school staff, the program involved parents and the community-at-large. The pro-

gram offered identification, assistance, referral, and support services for students with problems related to the use of alcohol or other drugs. Three kinds of support groups were available: use/abuse groups, concerned persons groups, and aftercare groups. The program was seen as an alternative to strict disciplinary codes that too often resulted in dropouts, expulsions, and the loss of educational opportunities (Wieser, 1988).

In any discussion of delivery of services to remote populations, Alaska — the ultimate frontier — needs to be mentioned. The Group for the Advancement of Psychiatry (GAP, 1995) published a book on delivering mental health services to remote populations in this state. Illustratively, providing treatment services to an adolescent girl living in an alcoholic family in a remote village was problematic. Little help could be offered, even by the itinerant regional workers. In this case, the psychiatrist attempted to help her by periodic, brief telephone calls and letters, supplemented by contacts with regional providers. Many mental health professionals in these situations must choose between providing sub-optimal clinical services or expending effort to develop local capacity.

Many professionals are opting for the latter. A major effort is underway in Alaska to develop village capacity to deal with alcoholic families. Paraprofessional village counseling positions have been developed, as well as regional teen substance abuse outreach and aftercare coordinators. As noted (GAP, 1995:120):

. . .Specialized training, including creation of curricula and training manuals, university-based efforts to get certification systems in place, and statewide regional workshops, is being developed to give village paraprofessionals and regional backup teams the skills they need to work with adolescents and their families. *Difficult problems that in urban [and populous rural] locations would be handled by subspecialists will in remote rural areas be dealt with by paraprofessionals and mid-level staff* [emphasis added].

Developmentally Disabled. A group not at all well served in rural areas are children with developmental disabilities. Federal legislation mandating educational and preschool services for all developmentally disabled children places additional pressure on local resources.

When services to these children are to be delivered in "mainstream" settings, there are particular concerns that need to be addressed. Gerber and Semmel (1983) describe two technical assistance systems—Virginia's Technical Assistance Centers (TACs), and California's Special Education Resource Network (SERN)—that illustrate important issues in providing comprehensive special education services to preschool children in rural areas. The obstacles to delivery of these services share a number of the same problems as rural service delivery in general. They include recruitment and retention of staff, higher per-capita costs, and difficulty in achieving economies of scale.

Both TACs and SERN utilize a mix of core staff and paid consultants that overcomes the limitations of both center-based and home-based delivery systems. In essence, a resource center "travels" to where the primary service provider is located. The arrangement allows for adaptation, adjustable funding arrangements, and data-based responsiveness to clients and their requests. They also assert that the effectiveness of these models might be enhanced by some of the advances in telecommunications and microcomputer technology: e.g., computer-assisted self-instructional modules; videotape and disc storage and retrieval systems; closed-circuit or microwave transmission of lectures, workshops, and demonstrations; and remote monitoring and evaluation systems.[2]

A model of family-centered, community-based case management for families with developmentally-disabled children was developed in Appalachia. The goal was the empowerment of parents as caretakers and planners for their children. Master's level social work case managers staffed the program (Fiene and Taylor, 1991). In a rural area of North Carolina a program of peer support (*Parents Supporting Parents*) was developed for parents of children with developmental disabilities. Support was given either face-to-face or over the phone. The program provided training in basic listening skills and the availability of community resources. The program was inexpensive to develop and, therefore might be applicable in a wide variety of areas (Scott, 1989).

Implications for Behavioral Health Services

This paper sketched out a number of models for the delivery of services to children and adolescents in frontier areas. Nearly all were rural models, but are they applicable for frontier or remote areas? Three general principles can help guide us in this decision:

- do they make use of existing informal and community support systems?
- can they be run without specialized staff?
- can they be done in a decentralized manner?

Using these principles, most of the models described in this *paper* are modifiable for frontier areas. The salience accorded services to children in various frontier programs speaks well for the concern for the well-being of this vital part of our society.

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Notes

[1] I am indebted to my colleague, Sheila Cooper, for her helpful comments and for organizing the two study groups.

[2] By eliminating or minimizing the barriers of access to specialized care and distance to services, telecommunications have become an increasingly important way of delivering mental health services in frontier areas. A paper on this topic is available (see LaMendola, 2000) from the Frontier Mental Health Services Resource Network

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Delivering Mental Health Services to Children and Adolescents with Serious Mental Illness in Frontier Areas: Parent and Provider Views[1]

Sheila Cooper and Morton O. Wagenfeld, Ph.D.

Abstract

This paper builds on an earlier paper that provide an evaluation of the types of services available to adolescents and children with serious mental health disorders who reside in sparsely-populated frontier areas (see Wagenfeld this issue). Specifically, this paper provides local evaluations of the adequacy of services typically available to adolescents and children in frontiers areas. In 1998, the Frontier Mental Health Service Resources Network (see Ciarlo, 2000) invited mental health professionals and parents of adolescents and children receiving care for mental health problems and who were residents of four contiguous frontier counties in a western state to participate in two separate focus groups that evaluated local availability and access to appropriate mental health services. This paper summarizes the results of these focus groups

Introduction

Adolescents and children are our link to the future, so attending to their health and mental health needs is a vital investment and should be accorded a high priority. A previous paper described some of the models of service delivery to this group in sparsely-populated frontier areas — a historically-underserved group living in a special and unique part of the United States. Some of these approaches were adaptations of urban or more populous rural models; others were developed specifically for frontier areas. This Letter builds on the earlier one by providing input from both service providers and parents of children with serious mental disorders—those closest to the problem.

There are 394 frontier counties (equal to or less than six persons/square mile) in 27 states primarily in the western part of the United States. These areas are at the extreme end of a rural/urban continuum. As a group, frontier America constitutes less than one percent of the population, but forty-five percent of the land mass. While the frontier of historic imagination no longer exists, it does live on, protected from large-scale settlement by harsh climate, difficult terrain, lack of water, distance from metropolitan areas, lack of exploitable resources, and federal land policies. These areas contain a high proportion of persons living in poverty, and have a limited local tax base. Federal and

state programs provide most human services. Low population densities make it impractical to deliver labor- and resource-intensive programs. In addition, of course, there is the chronic problem of hiring and retaining a qualified staff.

A Snapshot of the Focus Group Site

In 1998, the Frontier Mental Health Services Resource Network (see Ciarlo, 2000) invited mental health professionals and parents of children and adolescents receiving care for mental health problems from four contiguous frontier counties to participate in two separate focus groups. Although each of the counties met the frontier criterion of low population density, their diversity was profound. Two of the counties are among the least populous in the state or nation, with 1990 population densities of 0.4 and 1.7 persons per square mile. The only community mental health center is located in the community where the focus group was held (which we will refer to as *Central Place*). The service area for the community mental health center totals 19,783 square miles, making transportation and driving distances a major issue for both professionals and clients. One of the counties—which has a geographic area of 6,928 square miles—is larger than the states of Delaware and Rhode Island combined. All four counties are quite impoverished; the percentage of families below the federally designated poverty level ranged from 18% to 25%. Per capita income in these counties was below state and national levels. Federal lands constituted as much as 63% of the land area of one of the counties and 50% of another. Major industries vary from mining to ranching.

The four counties are all federally-designated health professional shortage areas. The only psychiatrist is located in the same county as the community mental health center. There is no in-patient psychiatric care for children and adolescents in these counties. The nearest such facility is 115 miles from the Central Place and much further for most of the service area. Only one county has a public sector primary care provider. In 1995, the most recent data available, suicide rates for all age groups in two of the counties exceeded the state average of 2.4 deaths per 100. The national prevalence figure is 1.3. From 1993 to 1995 the average suicide rates per 100,000 population in this state for males age 15-24 was 37.7; the national rate was 23.4. For females in this age group the national and state suicide rates were 3.7 and 7.3, respectively. The effects of distance, poverty, underfunding and lack of services are likely reflected in these figures. Births to teen single mothers did not exceed the state average in any of the studied counties, but the state rate exceeds the national figure.

Providers and Parents

The groups were held on a Saturday at a local university. To encourage open discussion, two separate sessions were held; one for providers and another for parents. Each group lasted for about two hours. The sessions were audio-taped, and major

points put on a flip chart. A set of questions was prepared in advance and individual questions are included below in italics. The format of this *Letter* is to aggregate the responses to the questions. In some instances, side comments did not easily fit into a question, but are included wherever possible.

Providers. The providers in this group were from the mental health agency that served the four-county catchment area (CA). Most of them were enthusiastic participants and, at times, it was difficult to keep up with the flow of responses. The agency has 1.5 FTE psychiatrists. A little over 6 therapists serve the two major population centers. The caseload for the case managers was 25-30; for the more intensive program Assertive Community Treatment (ACT) it was 12. For a few families, the modality was intensive home-based care.

What is the first thing that comes to mind when I mention mental health services for children and adolescents in frontier areas?

They cited three related problems as most significant: lack of transportation, long waiting lists, and—as one staffer put it—"the kids were desperately underserved." In situations where there is conflict in the biological family or the parents are unable or unwilling to care for the child, foster care is frequently employed. Not enough foster parents were available in the area. There were no mental health inpatient services for children and adolescents within a reasonable distance. From some parts of the CA, it was necessary to drive over 150 miles to receive this service. In addition to distance, the roads were typical of frontier areas in this part of the country: narrow and mountainous.

In your opinion, what do you think are the major mental health problems for children and adolescents in this area?

The participants listed eight mental health problems:

- substance abuse
- suicide
- child abuse
- incest (particularly in two counties)
- depression
- domestic violence
- homelessness
- developmental disabilities

Several side comments dealt with shortages. It is well known that rural areas suffer from extreme shortages of health and human services. Problems in frontier areas are even more extreme. Staff —often with less than optimal levels of education—need to travel long distances to reach clients. One clinician summed it up well by noting:

"We're it!." In addition, they felt their salaries were much lower than in other areas. One participant noted, "I could make double what I make here. But why? I don't want to. I like it here."

If a young person has an emotional problem around here, how does one go about getting help? To whom do you turn? (Probe for "formal" and "informal" caregivers: e.g., specialty sector, primary care sector, ministers, public health nurses, county agents, family, neighbors, etc. In areas with large Hispanic or Native-American populations, probe specifically for alternative healers (e.g., Curanderas, shamans)).

One could receive help directly through: walk-ins at the clinic, making an appointment, calling a 24-hour crisis 800-number, or from a mobile crisis unit. Adults, but not children, can go to the emergency room at the local hospital. In addition to direct client contacts, they received a large number of referrals from a variety of sources: members of the clergy, shelters, school counselors, and primary care physicians. Indeed, the latter group was the major source of referrals.

Participants volunteered a number of responses for alternative sources of care:

- ministers and churches
- primary care physicians
- family and neighbors. (The group felt that this was a particularly important resource and that people were deeply involved.)
- these providers referred clients to curanderas when appropriate. (One therapist noted that these healers "...help them (patients) help themselves.")
- public health nurses
- child protective services
- juvenile probation
- domestic violence shelter
- jail
- peer support programs (includes mentoring, mediation, and teen court)
- Big Brother/Big Sister
- private therapists who deal in alternative or complementary approaches (e.g., Reiki massage therapy, Healing Touch)

Particular mention needs to be made of school counselors. They are an obvious source of case-finding and first-line treatment. In general, feeling toward them was positive, particularly in view of the fact that they were overwhelmed; one district did not even have any. The linkage was essentially one-way: referrals to the mental health center for drug and alcohol screenings. As one participant noted: "They look to us for resources. We're their resource, they're not our resource. They're the one who send us the clients, but they're not a resource. We don't refer back ..... to [them]."

The providers did not see the state hospital—seven hours away—as accessible or helpful since it does not provide care for children and adolescents. Finally, it is worth noting that one important source of care that was mentioned as being absent in the area was detoxification. The nearest service was about 115 miles from Central Place.

A related issue in resources is the availability of psychotropic medications. These drugs often spell the difference between remaining in the community or being hospitalized. Because of widespread poverty and the lack of health insurance, obtaining these medications is quite difficult. The mental health center will provide one year of medications while the client qualifies for benefits. Another source of these drugs is donations from pharmaceutical companies.

How well do agency staff understand the particular emotional problems of young people around here?

As we noted in the section on the demographics of the CA, the four counties are dissimilar in their ethnicity, culture and values. This creates problems for providers. They noted the difficulty in being accepted by clients, along with the statement, "They want us when they need us." It's interesting that staff felt the lack of acceptance was most evident in the least populous and most remote counties. Staff felt that more bilingual therapists were needed, but that cultural competency was not a problem. They noted that the staff is half Hispanic and half Anglo, just as the counties themselves are. In addition all of the employees have participated in workshops on multiculturalism and many have taken a multiculturalism counseling class at a local, small public university.

A major health care issue nationally is managed care. By that, I mean organizations like HMOs that attempt to control utilization and cost of health and mental health services. Has it had any impact in this area?

Responses to this question were, in general, a mixture of frustration and anger. One respondent referred to it as "mangled care." Some jokes were made about managed care (MC) and one respondent said that they laughed so that they wouldn't cry.

A Medicaid MC was introduced in one county and was scheduled to be instituted in the other three in early summer, 1998. The center was part of a Behavioral Health Organization of 12 members. Among the problems cited were:

- less money
- increased bureaucracy
- confusing and contradictory requirements
- mandating intake assessments in what they consider to be an unreasonably short time
- unethical nature of MC — making large profits at the expense of client services
- poorer quality of care for persons with a serious mental disorders

To elaborate on some of these points, there was a great deal of discussion about alleged cost savings. When the state was directly funding services, the center could expect to spend about 80% on clients. With the introduction of an additional echelon, the amount available has declined to 50 or 60%. As a consequence, one therapist noted that clients were "deeply suffering." The limitation on number of visits goes against the chronic nature of schizophrenia, bipolar disorder, borderline personality disorder, and major depression with psychotic features. While patients need intensive care at the beginning of treatment, once stabilized, they could be seen monthly.

Let's say that we could put together, from the ground up, a mental health program for an area like this. The program would be designed to serve all persons in need of services. What would be the ideal program for you?

Not surprisingly, there were plenty of responses to this question. The providers offered 31 suggestions on various aspects of an ideal system. Eliminating redundancy, they were:

- funding for expansion of services and for increased staff and staff salaries
- a nicer facility
- day care for both clients and staff
- a housing assistance program
- employment services
- detoxification services
- a training center
- inpatient facilities for children
- safe home for teenagers
- group homes
- better transportation
- centralized computers with links to the Internet
- less paperwork, standardized forms
- improved communications system
- increased client accessibility
- family-based system
- more wilderness or experiential programs
- sex education for clients
- a system to assist teenagers and adolescents become used to the "real world" through part-time jobs, job skills training
- preventive services
- skills-based education (parenting, goal setting, anger management, job preparation, problem solving)
- a focus on substance abuse prevention

Parents. The participants in the group were a mixture of one-and two-parent households, both Anglo and Hispanic. Their children had a number of serious mental disorders.

What is the first thing that comes to mind when I mention mental health services for children and adolescents in frontier areas?

Here, the participants volunteered a variety of answers, stressing problems of money, geography, and access to and quality of services:

- having to drive so far
- trouble with agencies
- suicidal children
- agencies are hard to deal with
- anger at the lack of agency responsiveness. One parent asked plaintively: "Why wasn't there help?"
- a lack of money to pay for services
- a too-easy willingness of providers to hospitalize their children without finding out the nature of the problem
- confidentiality was a major concern. Too many persons with no need to know were privy to the problems of the children.
- labeling. Related to confidentiality, parents expressed concern that their other children, as well as they, would be stigmatized and isolated, making the situation worse.
- lack of understanding by the community
- a need for family advocacy
- lack of communication between clinicians and parents. It was often seen as difficult for parents to understand what was wrong with their child. Information came out in bits and pieces, but they [parents] were required to act, even with incomplete knowledge.
- an over-reliance on pharmacology, often given at inappropriate doses and a lack of supportive services to help the children understand the nature of their problems
- the need for individualized treatment
- long distances to hospitalization that were financially draining
- a generalized and diffuse view that no help was available
- the need for more staff to serve outlying areas

If a young person has an emotional problem around here, how does one go about getting help? Who do you turn to?

The parents listed the following options:

- Make a lot of long-distance calls.
- Mental health center

- Pediatrician
- Primary care physician (This was qualified by the feeling that the physicians were not familiar with the full range of psychotropic medications.)
- Clergy

Although not a direct response to the question, they continued to voice anger toward the system: for example, "I can't get help," "Nobody cares," "They just say it, but it's not there." Long waiting lists were also cited.

How helpful are all these mental health services? Are people satisfied? Which would you rate most helpful? The least?

For some of the participants, response to the question on satisfaction was short and emphatic: "Zero." Others—mainly residing in or near Central City—expressed more satisfaction. It is interesting that the most vocally negative were from one of the more remote counties. The residents of this county were also those the staff saw as least accepting of services.

Participants cited two services as most helpful: counseling and medication. They further noted that more dependable and reliable choices were needed in counseling. Counseling services needed to be "sensitive" and "good." Additional concerns were: lack of transportation and insurance coverage.

How well do agency staff understand the particular emotional problems of young people around here?

Although we did not ask this question specifically, the answers to some of the other questions displayed a pervasive feeling of dissatisfaction. Again, those living in the more remote areas were more vocal about staff's lack of understanding. A particular target of ire were psychiatrists. They were viewed as thinking that they knew the problems of the child better than the parents. Additionally, parents felt that they had to implement treatment plans that they did not fully understand and that the doctors would unilaterally change medications or put the child on a vacation from the medications.

Let's say that we could put together, from the ground up, a mental health program for an area like this. The program would be designed to serve all persons in need of services. What would be the ideal program for you?

We were surprised at the flurry of responses to this question. They very eloquently listed over 16 suggestions:

- affordable
- dependable
- reasonable distance to affordable services
- more trained and educated people

- reliable
- 800-number
- people who care, listen, and try to help, not thinking that they know more than you do
- affordable medications
- knowledgeable people
- transportation
- preventive services
- public education about mental illness to avoid stigmatization
- extended peer and parent support groups to enhance coping skills
- an outdoor weekend for parents and children
- educational material about day-to-day coping with the problems of living with a child with a mental disorder.
- public policy to encourage more mental health professionals to work in frontier areas (This was starred on the chart!)

Implications for Behavioral Health Services. It is appropriate to end this *paper* by noting points of the implication of the focus groups for the provision of services in frontier areas While the parents and providers expressed problems in different terms, it is also clear that both were in agreement on a substantial number of points. They include geographic barriers, deficiencies in services, pressing need for services, long waiting lists, need for more staff, and advanced training for staff.

The areas in which parents and providers disagreed were what one might broadly term "communication." The literature on client/provider differences as an impediment to the effective delivery of mental health services is voluminous (e.g., Frank and Frank, 1991; Snowden, 1982; Wagenfeld and Wagenfeld, 1981). Differences in the tendency to define a problem in mental health terms, in willingness to seek help, and in expectations of outcome have been shown to be influenced by socioeconomic status, gender, race, and ethnicity. In their classic work, Frank and Frank (1991) said that a *shared assumptive world* was necessary for therapeutic success.

In response to the question of how well agency staff understand the emotional problems of young people, providers commented on the difficulty of being accepted by clients, along with an assertion that the clients wanted help in a selective way. While acknowledging the need for more bilingual therapists, they did not feel that cultural competency was a problem. The parents, on the other hand, expressed strong negative feelings towards the providers. They said they wanted knowledgeable people who care, listen, and try to help, without thinking that they know more than you do. This discrepancy in viewpoints may be the result of the lack of a shared assumptive world as described by Frank and Frank. Much work remains to be done to reduce this barrier to access.

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Notes

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Problems Faced By Consumers Of Mental Health Services Out In A Frontier Community

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Abstract

While there is considerable information about how consumers of mental health services in rural areas cope with stigma, feelings of isolation, lack of relevant services, and the trauma of having a mental illness, little is known about such issues for consumers who live in frontier areas. Also little is known for frontier consumers about the role of work, the importance of hope, self-control of psychotic mechanisms, and emerging recovery paradigms. Bases on a focus group of nine consumers, two of which were case managers in a frontier areas of a western state, information about these problems in frontier areas are explicated. In addition, problems related to distances, lack of transportation, lack of caregiver choice, overlapping roles in the community, lack of any anonymity, lack of peer consumer groups, and scarcity of work opportunities in frontier areas are explored.

Introduction

Most people think that the frontier is somewhere up in Alaska. In reality, however, 1% of the US population lives in 45% of the total US landmass (Popper, 1986). In our western frontier areas with less than 7 people per square mile (Ciarlo, Wackwitz, Wagenfeld, Mohatt and Zelarney, 1996), "... healthcare, education, religion, politics, law and order, transportation, communication, sense of community, sense of self, even the act of finding a mate—virtually every human institution and activity demonstrates the impact of a few people and long miles." (Duncan, 1993). To compound all of these problems with serious and persistent mental illness is nearly unthinkable. Yet frontier is home to only a slightly smaller proportion of residents having a wide variety of mental health problems and service needs than are urban areas; and even worse, it is approximately equal to urban areas in proportion of population with the more severe, dysfunction-linked disorders (Ciarlo, 1999). Add poverty, chronic provider shortages, a disproportional number of uninsured, and huge distances and it is a sheer wonder that anyone finds treatment in the frontier (Beeson and Mohatt, 1993; GAO, 1993; Geller, 1998).

Both the formal and fugitive literature now abounds with articles by consumers of mental health services about coping with stigma, feelings of isolation, lack of relevant services, and the trauma of having a serious mental illness. Also to be considered are the

emerging recovery paradigm, the role of work, the importance of hope, and self-control of psychotic mechanisms (e.g., Deegan, 1994; Leete, 1988; Lovejoy, 1982; Unzicker, 1989). However, there is little known literature from frontier consumers on such issues or even about how to receive services there. In addition, more needs to be known about living with the compounding problems of frontier life (distances, lack of transportation, lack of caregiver choice, overlapping roles in the community, lack of any anonymity, lack of peer consumer groups, and scarcity of work opportunities).

Profile of the Service Area

To talk about these problems and gather more information, a focus group was held with seven clients and two case managers (both of whom were also consumers) in a frontier area of a Western state. The case managers used two vans and drove a total of 346 miles round trip to bring these consumers to a centralized town. The town had a population of 800 and was located in a county of 3,190 people. This was a farming and ranching county with a large mountain range nearby and only 2.6 people per square mile. Hispanics numbered 79% and had a long, illustrious history of Spanish occupation prior to US statehood. The nearest mental health center and small general hospital with a psychiatric bed was 42 miles away from the community in which the focus group was held, and the closest state hospital was 120 miles. The mental health center had served the area since 1972 and had entered into a partnership 3 years ago with one of the nation's largest managed care organizations. The town, where the meeting was held, had a small medical clinic, three restaurants, and a small historical museum. Main Street was five blocks long. The meeting was conducted in a building that used to be a small convent adjacent to the church, but was now converted to a small, pleasant, church-run bed and breakfast inn (B & B).

Description of the Focus Group

The consumers all had serious and persistent mental illnesses such as bipolar disorder, schizophrenia, and major depressions. Some participants also suffered from combinations of substance abuse, other medical diagnoses, and personality disorders. Altogether, there were 2 males and 9 females contributing to the discussion with an average age of 40 years.

The session was held in the living room of the B & B. It was such an amiable atmosphere that the participants wished out loud that they could meet at the B & B for their weekly group meetings as well. (The group did reserve the room for their weekly meetings for the next several months.) With the participant's permission, the entire afternoon was audio-taped. Questions had been prepared in advance of the meeting and a flip chart was available, but little used. The focus group facilitators were clinicians familiar and comfortable with persons suffering from serious and persistent mental illness. A spontaneous connection with early arrivals was made out on the porch before the meeting started while the focus group facilitators were eating lunch. Some participants were dropped off earlier than others due to the transportation challenges. The facilitators offered part of their lunches

purchased at the local market minutes before. This simple act led to many conversations and a relaxation of all parties before the start of the "official" meeting. It soon became clear that focus group members knew one another and had participated in weekly groups, together, on a regular basis. This fortuitous circumstance permitted the group to get down to the business of the meeting more rapidly and to speak more freely. They had much to contribute on each question and demonstrated impressive and considerable humor about themselves, their predicaments, and their lives. They particularly enjoyed being paid consultants to the "big city folks."

Questions and Discussion

The group was asked a specific set of questions approved in advance by the Center for Mental Health Services/SAMHSA, which was the funding agent for this project of the Frontier Mental Health Services Resource Network. However, the discussion was far-ranging and interactive. Meeting participants sometimes jumped back to a previous topic in their efforts to share more information and to make certain that their out-of-town visitors really understood their situations. An overview of the project was given as well as the ground rules for the process. Included in this presentation was a description of what was meant by a "frontier area."

1. Based upon your own experience or experience of others, what is it like for you to live in such a frontier area?

The participants spoke about how pleasant the area was with beautiful scenery, which was "serene", and how warm the weather was compared to northern parts of the state. "It's real peaceful and you don't have to worry about somebody breaking into your house or at least not as much."

However, the discussion went almost immediately to the huge distances which people had to travel to meet their needs and how much they had to depend on others for transportation. "You make sure that, when you go to town, you get all your prescriptions for the month because I go into town once a month." Further, the distances caused feelings of isolation and depression. If they had a telephone they used it a lot. However, "If you need help at 3 am, you gotta wait! It is not like you have a neighbor right outside your door like in the city." The mental health center did have a 24-hour emergency crisis clinician on call.

2. What is it like to live in the frontier with the addition of coping with your illness?

Some respondents spoke poignantly about the fact that even though the distances were large, everyone seemed to know everyone else and their business. "Everyone knows that you have this problem." Some remarked that it was harder to make friends.

In fact, one person said "I think, for awhile, I tried to just totally withdraw from society and people and to not interact with anybody, but that didn't work for me. So now I am selective in who I talk to and what I share with them. Most of my friendships or acquaintances are people that are just kind of on the surface." When asked if that was lonesome, the reply was that it was "safe." A second consumer spoke about her sheep dog who seems to make bridges between her and others. Another person said "I wouldn't live anywhere else because I think it's also helped me to sort through my problems in a way too, on my own because the mental health people aren't always there when you are isolated in a smaller community...you just don't have these people to rely on all the time."

3. How does living in a frontier area affect your ability to get to and obtain services for your problems?

Having a family or friends with a car was perceived as very helpful to get needed services. However, the mental health center also provided case manager van drivers who logged a phenomenal yearly mileage. Consumers seem to spend more time in the van than in treatment. Sometimes people only got a ride one way and had to figure out how to get back home. Some consumers said, "they have their route and if you live outside their route...that can really be a problem." (It should be noted that this person lived 17 miles outside the route.) The staff members said that coordinating their own staff meetings with those for consumer groups posed a very difficult strategic problem with transportation.

4. What kinds of services are available to you?

When discussing their entry into services, some had been using them for so long they had forgotten where the referral had been generated. Some said the state hospital, some mentioned family members, while others used the telephone book for a self-referral. Some complained that the phone books they had were old ones and the emergency number they dialed got them, ironically, Community Corrections. This service had provided emergency call answering services until 3 years ago.

Some participants spoke about the small frontier staff of the mental health center and the large job they had. Indeed, some meetings at other sites had to be discontinued, as well as outings to do fun things. Other groups focused on activities of daily living (balancing a checkbook, cooking, etc). There was some discussion about being spoon-fed and that consumers might take more responsibility, themselves, and with helping one another. Other participants spoke about many other people, whom they knew and who could use services, but were not connected to any care.

To counter these comments, another participant said that she thought that small was beautiful... "because everybody knows everybody and you get to be kind of friends and you miss somebody when they're not there...and...you try to keep track of those...or

they call each other at home even." Others spoke about the stability of the group "so that you don't have to explain yourself all over again." Yet others related that this stability could have negative side effects, such as unfavorable feedback to ideas which would then not be broached again. Yet everyone agreed that someone who listens well was the best treatment... "just being there to listen and be."

5. What kinds of services are not available which you would recommend as important to frontier residents?

A consumer wanted a computer to be connected to the Internet but also needed lessons on how to use it. Others said they got free ones from the local school or a raffle but no one knew how to use them.

Staff turnover was cited as a substantial problem but the focus group facilitators noted that this is also a problem for urban staff. A lady said, "I find it really hard for me to have to keep dealing with somebody different." Another consumer said, "I was tired of saying the same story over and over so I don't say it no more." One of the focus group facilitators suggested that a videotape be made so that a new clinician could see it and then the consumer would not have to retell his or her story over and over. The group liked the idea but they were certain that the new case manager would still not take the time or have the time to see it. On the other hand, those workers who stay can also be a problem because "even if the personalities clash...you're going to have to stick with the same person...and you hope that that's the one that's going to move on! (animated with group laughter)." The group talked about the multiple roles people play in small communities. Clinicians are also neighbors, relatives, shoppers in the grocery store, and churchgoers. One described the difficulty with her brother who is employed in the same agency where she was being treated. "It's changed our relationship." Her case manager said that this same brother was her own supervisor on the same case, an awkward situation that made her uncomfortable.

When asked what would keep counselors around, the group thought that more pay, hiring indigenous workers with families in the area, time to read the records so patients would not have to repeat their histories, more staff, and being native to the culture of the place would be advantageous. The focus group members also liked having bi-lingual clinicians.

When asked if there were other organizations (e.g., church, grocery stores, Rotary Club, etc.) which might be helpful, one answer was the history museum. They said it gave them roots and linkages to the community. Further, the town had a shrine built at the top of a nearby bluff. Many participants said that it symbolized their faith or spirituality, which could be supportive to them. Alcoholics Anonymous and Narcotics Anonymous meetings were also available but at considerable distance. The local 4H organization was also mentioned as a truly rural group. There were senior citizen groups used by other consumers and the library was also mentioned as a resource.

A discussion ensued about substance use and abuse out in the frontier. Cocaine, inhalants, acid, marijuana, crack cocaine, and methamphetamine were all listed. "You'd be surprised how big it is!" When asked how easy it was to find a dealer, laughter erupted in the group and we were told of a dealer who even printed his own business cards! Another consumer chimed in: "My therapist showed up at one of my AA meetings so I quit the meetings."

When asked about the interface with the sheriff's department, the response was: "It took them 6 _ hours to respond." 911 was not even available in this frontier. One of the consumers spoke about a serious attempt at overdosing on antipsychotics, but when she called, the counselor said: "Make yourself throw-up and I'll call back in an hour." One participant noted that to get oneself into the hospital you "act real crazy and the cops come and get you." This behavior, however, is not unique to the frontier. There also appeared to be a problem between the police and emergency workers from the mental health center because of a lack of collaboration.

Residential services/options seemed to be very sparse with a very long waiting list. Homeless services existed only in the town where the community mental health center was located.

Vocational rehabilitation, work training, supported work, transitional work programs, and individual placement services, appear to be nonexistent.

There was much confusion about all the rules and complexities around SSI, SSDI, Medicaid, and Medicare. Most consumers living on entitlements felt they had to figure out how to obtain the entitlements by themselves. A few were helped to obtain SSI or SSDI by the state hospital or the community mental health center physician, who evaluated them for only 15 minutes. Some of the consumers were surprised at being told they might be eligible for entitlements, because they were working and living independently.

6. What "types" of caregivers do you think could best provide services in the frontier?

The answers were: "indigenous people, religious people, a nonjudgmental person, an experienced person, a helping person, a listening person, someone who can stop being serious and have some fun."

7. How can services be improved?

When asked what would be helpful in the frontier, the responses were: "home visits, someone willing to travel miles and miles, willing to work with families, someone I have something in common with, someone who understands the social and economic problems here."

8. Are there any consumer-led or sponsored services in this county?

They did not know of any consumer-led services, other than the two van drivers who also provided support and education to the consumers.

Other Comments and Discussion

In looking over the transcript, we found that this group of consumers did not know about a wide variety of work options/programs. For instance, many participants did not know how to get entitlements, how to set up consumer-run enterprises, how to be empowered to ask for programs they needed, how to get their clinicians to pay attention to milder but annoying side effects of medication, or how to be more assertive and ask for a different clinician if there was not a match.

Despite the perceived natural beauty of their surroundings, these people were consumers with serious and persistent mental illnesses who also suffered from poverty and extreme isolation. They relied upon whatever services a distant community mental health center could manage and "the kindness of strangers." Their treatment was minimal compared to standard maintenance and stabilization models found across the US and did not come close to rehabilitation or Program for Assertive Community Treatment (PACT) models being offered in other parts of the country in service "pockets of excellence." The community mental health center only provided one weekly support group, medication reviews as needed, and two consumer/case managers in an agency van to provide transportation. Their personal resilience and persistence, in the face of life on the frontier with all of its challenges, were truly remarkable.

Implications for Behavioral Health Services

It is difficult to live in the frontier. It is even more difficult to live in the frontier with a severe mental illness. It is more difficult yet to have mental illness and medical co-morbidity or co-occurring disorders and live in a frontier area. Transportation is the number one problem to overcome. The distances to centers and hospitals, pharmacies and the basic necessities are large barriers to service and life.

The sheer distance, scarcity of resources, few services, and a staff spread too thin and often unavailable when needed makes it a wonder that treatment occurs at all. Minimal supports are provided to the few people connected to the system but many people still fall through the cracks. Acquisition of entitlements is still a hit or miss affair. Consumers make linkages to any existing organization such as the library, post office, history museum, market, church, 4H, and senior citizen's group for support and feelings of belonging to a community.

The few staff working out there are devoted but overworked, often transient, and sometimes not culturally competent. They have found it as difficult as their clients to have multiple roles to play in the community in which they live. The treatment options are very limited (case management and a weekly group or two, and many long trips to and from the distant center for medication evaluations of their clients). Other options, such as crisis and nearby inpatient care, vocational and other rehabilitation strategies, are non-existent.

Persons with mental illness living in the frontier have a small voice but very large needs. They include speedier crisis response, psychosocial and vocational rehabilitation, a range of housing and employment options, access to medical and dental care, eye glasses, hearing tests, cognitive retraining and therapy, and timely lab work and side effects evaluations. Finally, they need someone with whom to share their deepest fears and hopes in order to reclaim their lives.

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Aging, Mental Illness, and the Frontier

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Abstract

This paper reports on the findings from an eight-person study group meeting held in 1998 in a frontier rural community to discuss the mental health needs of older adults. The group consisted of five older (over 64) adult mental health service consumers and three family members of the older adult consumers. The study group members indicated that older persons have difficulty receiving appropriate and responsive health and mental health services because of stigma, vast distances, lack of transportation, limited finances, lack of community education about geriatric mental illness and delayed diagnosis and treatment. Delayed diagnosis and treatment the elderly can mean that subsequent disability is more severe, requiring more expensive and restrictive long-term care, often in combination with chronic health problems.

Introduction

The Frontier Mental Health Services Resource Network (FMHSRN), under a contract with the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration (SAMHSA), was created to gather, analyze and disseminate information about mental health needs and services in "frontier" areas. These isolated rural areas, defined for purposes of this contract as having fewer than 7 persons per square mile, are almost all located in the western states and Alaska. Eleven western states have substantial areas considered to be "frontier" (Ciarlo, Wackwitz, Wagenfeld, Mohatt and Zelarney, 1996). This paper reports on the findings from a study group meeting held in a frontier rural area to discuss the mental health service needs of the older adult population.

A National Association of State Mental Health Program Directors Task Force on Mental Health and Aging recently declared that "the elderly remain the most underserved and inappropriately served population in mental health services" (Wilson, Kazieczko and Kast, 1997). This problem is exacerbated in rural and frontier areas, where vast distances, mountainous terrain, poverty, and inadequate human resources serve as severe barriers to access for rural and frontier residents.

Several major concerns must be considered in examining the quality of care for older persons with serious mental illness living in frontier rural areas: 1) older adults have difficulty in accessing health and mental health services because of stigma, vast distances, lack of transportation, limited finances, and a lack of community education about geriatric mental illness; 2) delayed diagnosis and treatment means subsequent

disability is more severe, requiring more expensive and restrictive long-term care; 3) older persons frequently have serious mental illness in combination with chronic health problems; and 4) support and coping skills needed to deal with life stresses caused by social, economic, and housing conditions are critical. To confirm and further examine these concerns, the FMHSRN invited older adult mental health consumers and family members, from two contiguous western-state counties, to participate in a study group to discuss mental health problems, service availability, and service access issues.

Profile of the Service Area

The two counties selected are served by the same mental health center, located in the larger of the two counties. The larger county had an estimated population of 12,000 in 1995 with 10% of its population over 65 years of age. This older age group is increasing. Its largest minority groups were Hispanic at 5% of the county population and Native Americans at 0.9 % in 1990. This larger county is a frontier-like rural county with a population density of 8.9 persons per square mile. Approximately 12% of the population are estimated to be below the poverty line. The smaller, neighboring county had an estimated population of 2,600 in 1995 with 19% of the population estimated to be over 65 years of age. The smaller county has a smaller minority population, with 3% Native Americans and 1.4% Hispanics in 1990. The smaller county is a "frontier" county with a population density of 0.9 people per square mile. Approximately 17% of its population are estimated to be below the poverty line (U.S. Census, 1990). The two counties have a combined population density of approximately 3.7 persons per square mile.

The mental health center operates two satellite locations, one in the contiguous county and one in the larger county. The larger county has two senior centers; the smaller county has one. The directors of the senior centers in both counties, and the director of the mental health center, which serves both counties, put a high priority on improving the mental health care of older adults. The two counties need to work together on mental health and health services in order to maximize their resources as they have a small population in a huge area.

Description of the Study Group

The eight-person study group consisted of five older adult mental health service consumers and three family members of older adults with mental health problems. One of the consumers also had a seriously mentally ill family member whom she sometimes cares for. At least four of the consumers also had serious medical problems or physical disability problems. One of the consumers was dually diagnosed with alcoholism and mental illness. All of the consumers were women, while two of the three family members were men.

The group met at a senior center on a weekday afternoon in the fall of 1998. The session lasted for close to three hours and was audio taped. Questions had been prepared in advance, and the major group responses were summarized on a flip chart. However, the group bonded very well and some of the most interesting points made were generated by the group interaction and were not necessarily in response to any one question. The group seemed to enjoy the interaction and some clearly felt that the opportunity to share experiences with their peers and these two FMHSRN strangers from out of town was therapeutic in itself.

Questions and Discussion

The sequence of questions posed by the group facilitator will be used to highlight the major findings:

1. Based on your own experience or the experience of others, what are the main things you think we should know about what it is like for an older person living in an isolated or frontier area here in this state?

Surprisingly, at least to the facilitator, the major response to this question dealt with the weather. Immediate reference was made to the winter "gloom" in this state. The "cloudy gray days affect elder moods." The weather was also mentioned in terms of the long distances that sometimes have to be traveled on slippery winter roads in order to obtain services and/or meet basic needs such as buying groceries. However, the major emphasis was placed on the feeling of being shut-in in the wintertime.

2. In your opinion, how does living in a frontier or rural area in this state affect your ability to get to and obtain services for a mental health or substance abuse problem?

Again, in response to this more specific question, they cited the long distances that sometime must be traveled to get services and the winter weather that affects the driving conditions. However, the major issue presented was the shortage of mental health specialists. One participant noted: "we have physicians, not mental health specialists." No psychiatrists are actually located in the service area. The point was made, and reemphasized several times, that the general practitioners in their area are not well trained to provide mental health services and, in addition, there are no geriatric medical specialists. It was brought out that, as a result, many older persons are not adequately or accurately diagnosed, and because of the lack of qualified providers, older adult consumers get medications only (maintenance approach), with little counseling, psychotherapy, or other interpersonal mental health care. One of the participants indicated

that older adults get "over-treated for medical problems and under-treated for mental health problems." However, it was pointed out that there were some "good counselors" available through the mental health center that had been helpful to some of the participants of the study group. The professional level of training of these counselors was not known. It was indicated by another participant that "you must go a long way for real therapy" — that is to the nearest large town, from 45 to over 100 miles away, depending on your location in the service area.

Two examples illustrated the effect a combination of a lack of mental health specialists and the long distances to larger communities where they might be available can have. One family traveled over 250 miles (one way), to another state, to get specialized mental health treatment for their older adult family member. In another case, when a well-liked family care doctor moved to a larger town outside the county, his satisfied consumers had to travel longer distances to continue to receive services from him.

3. What types of mental health services for elderly persons can be found in your county?

Consensus was reached among the group that the following services were available within the two-county area:

- Counseling services from the mental health center and satellites
- Prescriptions for psychiatric medications (generally provided by general practitioners)
- An Alcoholism Anonymous group in at least one of the satellites
- Primary health care
- Transportation - Senior centers provide buses in the towns where the centers are located and the State hospital provides buses for hospitalized patients to and from the state hospital, which is located over 300 miles away.

The study group developed the following list of services that are not available within the two counties:

- Psychiatric inpatient beds
- Psychiatric emergency services
- Special outreach to the elderly (identification and engagement of older adults with symptoms of mental illness)
- Day care for the elderly
- Home-based services for mental health and substance abuse consumers
- Individual psychotherapy and group therapy
- Respite care for family caretakers

The lack of inpatient beds and emergency services seemed to be of particular concern to both the mental health consumers and family members. The lack of quick access to inpatient or emergency assistance usually meant an exacerbation of the illness. Members of the study group indicated that the lack of emergency service on weekends was particularly problematic because of the difficulty in getting transportation to the nearest psychiatric emergency services (again, located in a town, 45 to 100 miles away).

4. Of the services that are not available in the service area, which would you recommend as being the most important for elderly residents to have available?

The majority of the study group expressed their belief that local access to psychiatric inpatient beds and emergency services were of the highest priority. Also important to the group were the availability of special home-based services for mental health and substance abuse consumers and respite care to assist family caretakers. There was also an interest in learning more about Medicare coverage for specialized day treatment for the elderly. Group members believed that most of these services were available in a town of with a population of about 50,000 in an adjacent county — but they were neither accessible nor affordable.

5. What types of rural or frontier-area caregivers do you think can (or would) provide the services that are most important to an older adult consumer?

The group seemed resigned to the reality that the numbers and types of mental health specialists will not change any time soon. However, they did discuss the possibility that psychiatrist time might be provided by traveling psychiatrists from larger communities on specified days (the "circuit rider" approach). Still, what they expressed most strongly was a need for more education on mental health and substance abuse treatment for the primary care doctors and their support staff. One participant also discussed the possibility of more extensive use of psychiatric nurse practitioners to meet the needs of older adults. Trained, affordable, home mental health care workers was also given as a priority.

6. How do most elderly persons pay for mental health and substance abuse services in the two counties — does Medicare cover most needed services? Are many persons eligible for Medicaid? Have these resources been available to you?

Medicare covered most mental health and substance abuse costs of the members of our study group and they paid out of pocket for what Medicare did not cover. Their big concern was that they did not always understand how Medicare worked. As one par-

ticipant put it—"If you know all of the little hoops and loops that you have to go through you come out all right— if not, you can get stung for extra costs." They expressed concern that there was no coverage of psychiatric or general medical medications under Medicare. Their highest priority was getting the Medicare and Medicaid bureaucratic policies and regulations simplified and standardized to the point where they could understand them, and medications that were at least partially and consistently reimbursed. They were also concerned that Medicare supplemental insurance policies were not affordable, and that many of the elderly may someday have to spend or give away their assets to be eligible for basic Medicaid coverage.

7. Are there any problems in accessing medical services that an elderly person might need — do you receive general medical care, dental care, eye exams/glasses, hearing aids that might be needed? How far do you have to go for these services?

There was general satisfaction with access to general medical care. In some cases, where medical specialists were required, they had to travel outside the service area to a larger community in an adjoining county (45 to 100 miles away). At least two of the study group members also traveled outside the service area to see their general practitioners because of their preference for a particular individual. Two participants expressed the feeling, however, that they had had general practitioners who were "embarrassed" to have them in their office for medical treatment because the doctor knew that they also had a mental health and/or substance abuse problem. One person traveled outside the service area for general medical services because of this stigma issue.

8. How satisfied are you with whatever mental health and substance abuse services you have received? And, in your opinion, how can services for older persons with mental illness be improved? What would you like to see changed?

The group indicated general satisfaction with the counseling services provided by the mental health center. These counseling services were sometimes recommended by their primary care doctors. They were also generally positive about their primary health care services including dental care and optometry. They insightfully observed, however, that there was a great need for mental health specialists and for education of primary caregivers in order to "treat the whole person" (this point got particularly strong emphasis in relation to older adults with substance abuse problems). They were very positive about the services provided by the senior centers. There was general consensus around one participant's comment that "the Senior Center is the touch point for the elderly."

The following changes or improvements were cited as priorities, along with filling the gaps in services:

- We need a central clearinghouse of services and providers. We need to know what is available — where and when. (The assumption was that this would include the service area and the surrounding area.)
- We need educational activities about mental illness in older adults for consumers themselves, their family members, the general community, and most of all for the primary care givers.
- In substance abuse services, the elderly are in groups with the young people. We need a separate group for the elderly. (They recognized that this was not always feasible because of the small number of clients in a frontier area.)
- More use of "alternative medicine" could be helpful for older persons. There was specific reference to natural foods and herbs.
- We need more consumer group meetings (like this one) to talk about needs and priorities. The primary care doctors need them as well.

9. Are there any consumer-operated or consumer-sponsored services in the service area at the present time? Should they be encouraged?

Interestingly, they could not think of any and did not seem to understand the concept.

Other Comments and Discussion

In response to some specific sub-questions throughout the meeting it seemed clear that the group had little or no knowledge of the following mental health related topics:

- They did not seem to know about the *Alliance for the Mentally Ill* (AMI) family organization at the national, state or local level.
- They seemed to believe that protection and advocacy services were only available for the developmentally disabled population and the physically disabled.
- They did not seem to have much understanding of psychiatric rehabilitation concepts or programs.
- Only one member of the group (a family member) seemed to have any knowledge of telecommunications and the potential it might have for mental health education and treatment activities.

There were miscellaneous important thoughts expressed throughout the meeting that seemed to define the human condition:

- The spiritual side of life is very important for recovering from or living with mental illness — "you must have God in your life."
- Suicide feelings are a reality — "My attitude is dark sometimes."
- Perhaps feeling problems of isolation from family, the group resonated to one person's observation that "The Japanese still keep their old people at home — when did we get away from that in this country?"
- Younger adults have children to take care of — "so they must be seen as a higher priority for services than us older adults."

Despite the tenor of these comments, the group appeared to bond very well to each other, and individual members used humor throughout. Laughter was quite prevalent, suggesting that their sense of humor also helps them survive and cope with their problems on a daily basis.

Implications for Behavioral Health Services

It was clear that the highest immediate priority of this study group of older adult consumers and family members from a frontier area was improved communication and education about geriatric mental illness. This improved communication is needed between consumers, family members, mental health center staff, primary health care providers, senior center staff and advocates for the elderly. Education about geriatric mental illness must be directed at the general community and the groups listed above, with an emphasis on primary health care providers. Technical assistance and education about the financing of mental health services for the elderly is also a high priority.

It is interesting to note that the high priority for improving the mental health education of primary health care providers is consistent with the findings of a previous FMHSRN study group that dealt with primary care providers and mental health services. Geller (1998) reported that "the literature suggests and the focus group confirms, these providers (primary caregivers) do the best they can, they often feel uncertain and less than fully prepared to serve the mental health needs of their patients." Indeed, one of the physician participants from this earlier study group is reported as saying, 'And I think that, just speaking freely, I don't think I'm adequately trained to do a lot of what I do'. And, more to the subject of this paper, another primary care provider is quoted: 'I have a pretty clear idea of how far I can go with a depressed patient....but the place I really get stuck all the time is with geriatrics." It seems clear from this earlier report that the primary caregivers in rural and frontier areas themselves feel the need for mental health treatment education and technical assistance.

There are indications that the federally funded Geriatric Education Centers Program is a promising resource for providing mental health education and training activities to primary care providers, consumers, family members, and other stakeholders in frontier areas. In an earlier Frontier Network knowledge-synthesis paper, Wagenfeld (1998) reported on a collaborative geriatric education center in Iowa. He indicated that, "the Iowa Geriatric Education Center (IGEC) provides training and education programs for primary care physicians, public health nurses, social service workers, and related caregivers in service delivery models for the elderly." A similar model should be developed for frontier areas. Perhaps the increased utilization of telemental health technology, in combination with the geriatric education center model, will be the answer to improving the quality of mental health services for older adults living in remote rural and frontier areas.

Advocacy for the growing percentage of older adults in rural areas is very much needed. It is hoped that increased communication among stakeholders, and the implementation of new educational activities concerning mental illness and substance abuse, will facilitate the availability and/or accessibility of inpatient services, emergency services, and home-based care for older adults in frontier areas.

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Frontier Mental Health Strategies: Integrating, Reaching Out, Building Up, and Connecting

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Abstract

To achieve equity in the local availability of mental health services rural and frontier regions, emphasis has often been placed upon the development of mental health programs and services and the recruitment of mental health professional to these areas. Given the low population base and corresponding weak economic base coupled with vast distances and isolation, it is unlikely that specialized mental health services will seldom be locally available to frontier areas. There are, however, strategies that can be used to improve the access and availability of mental health services. This paper discusses a number of these strategies. Specifically, these include integration of medical and mental health resources (integration), sending mental health professional from external treatment resources out to provide local services to residents of frontier areas (reaching out), using the external treatment resources to build up local service capacity (building up) and connecting frontier areas to external treatment resources via telecommunication and other vehicles (connecting).

Introduction

While a great deal of attention has been focused on rural mental health over the years, virtually none of that attention has dealt specifically with "frontier mental health." By "frontier mental health" we mean meeting the mental health needs of persons living in areas with less than 6 (sometimes 7) persons per square mile. Understanding and responding to the problems of availability and accessibility of mental health services in frontier areas requires a different perspective from the traditional "developmental model." The services and human resource literature in rural mental health as well as the policy and programmatic initiatives of state and federal government have had "development" as their primary focus (e.g., Wagenfeld, Murray, Mohatt and DeBruyn, 1994). In other words, to achieve equity (or perhaps fairness) in the availability of mental health services in rural regions, emphasis has been placed upon the development of mental health programs and services, and the recruitment of mental health professionals to those areas. The appropriateness of such a position, i.e., trying to make rural areas look more like urban areas, is questionable at best when addressing the mental health needs of persons living in these remote and isolated frontier areas.

For the vast majority of frontier areas, the development of specialized mental health services within the area is not economically feasible for either the private or public sector. A low population base and corresponding weak economic base coupled with vast distances and isolation mean that specialized mental health services will seldom be locally available to frontier areas. For most persons living in frontier areas, specialized mental health treatment is (and most likely will continue to be) available from mental health professionals and programs that have their permanent central location some place outside of (and often not readily accessible to) frontier areas. This means that residents of frontier areas must either find services outside their community of residence or not utilize needed mental health services.

There are however, strategies that can be used to improve the access and availability of mental health services to residents of frontier areas. Based on an examination of the existing literature and observations, we have identified four global strategies for making treatment resources more accessible and available to persons in frontier areas in need of mental health services:

Integrating integration of medical and mental health resources

Reaching Out sending mental health professionals from external treatment resources out to provide services to residents of frontier areas in their own or nearby communities

Building Up using the external treatment resource to build up local capacity to respond to local frontier community treatment needs

Connecting connecting frontier areas to external treatment resources via telecommunications or other vehicles

In this *paper*, we explore each of these strategies, examining their sub-variations and the recorded experience of each, including their advantages and disadvantages.

Integrating

It has long been known that primary care physicians have been actively involved in the delivery of mental health services (Locke, Krantz and Krammer, 1966; Locke and Gardner, 1969; Rosen, Locke, Goldberg and Babigian, 1972; Lerner and Blackwell, 1975; Fink, 1977; Goldberg, Babigian, Locke and Rosen, 1978; National Rural Health Association, 1992). Physicians that practice in rural and frontier areas tend to play an even larger role in mental health care provision. This is due, in part, to the relative scarcity of mental health and other health care professionals in these outlying areas of

the country. Consequently, it is not surprising that a strategy increasingly used to bring mental health services to frontier areas is the integration of mental health and general medical services in a unified clinic structure.

In a recent study of these integrated models in rural areas, Bird, Lambert and Hartley (1995) interviewed over 50 primary care provider organizations across the nation that successfully linked with mental health and substance abuse treatment services. Interestingly, over half of these integrated models were found in federally-funded community health centers (PL 330/329). The remainder were located in rural hospitals, health departments, rural health maintenance organizations (HMOs), and of course, rural private physician practices.

In another report, Mohatt (1995) noted the advantages of linking primary care and mental health services in underserved areas. These include:

- The enhancement of real and perceived levels of patient confidentiality.
- A decrease in patients' feelings of being stigmatized when visiting an integrated clinic as compared to a free-standing mental health facility.
- Enhancement of referrals from physicians to mental health professionals.
- An increase in early identification of persons with mental disorders.
- An increase in interaction between medical and mental health professionals, leading to reductions in feelings of professional isolation.
- Increased clinic economic viability, as operating costs are reduced through the sharing overhead expenses.

Disadvantages to integrated models seem to be few. However, sparsely populated areas that do not have established mental health services (i.e., counseling) or providers (i.e., psychiatrists, psychologists, and social workers) also tend to have fewer primary care physicians. Consequently, some frontier areas without established primary care clinics will obviously be unable to benefit from these integrated models.

Reaching Out

The two primary vehicles for reaching out to persons in need have been the "circuit rider" and the "satellite clinic." From the early days on the frontier, the "circuit rider", whether a judge, preacher, or mental health professional, has been one of the cornerstone approaches to getting a scarce resource to rural and frontier communities. The circuit rider approach involves mental health professionals external to the area traveling to frontier communities, usually on some regular schedule (i.e., once a month or once a week). They may spend anywhere from a few hours to a few days seeing patients. Their work is commonly coordinated through local community institutions like churches, schools, other agencies or indigenous healers.

The limited access provided by circuit riders is clearly better than nothing. However, it does present problems for continuity of care. Moreover, these types of service providers often have to conduct therapy in ad hoc environments that are at times problematic. Wagenfeld (personal communication, 1995) noted several instances of complaints by outreach workers regarding their inability to locate suitable space to work in remote communities. Ad hoc arrangements in beauty or barber shops, grocery stores, or on the street do not produce the most conducive environments for productive therapy.

The satellite clinic is simply a more institutionalized version of the circuit rider. This model achieved prominence during the era of federal community mental health staffing grants. Through the Community Mental Health Centers Act (1963), federal funding greatly assisted in the development of these clinics in small, remote communities. The satellite clinic is usually a stable place (maybe a store front, church basement, or regular office) that is staffed by mental health professionals and support staff and open on some regular basis. In some cases, the satellite clinic is a full time operation and functions as a branch of a larger mental health program. In other cases the clinic is staffed by support personnel full time but by mental health professionals only part of the time. In frontier areas, the satellite clinic is more likely staffed by mental health professionals on some regular but not full time basis.

However, satellite clinics in frontier areas are costly to operate with large overhead (office space, support staff) and rather low client volume. Further, since the changes in the federal government's funding obligation for community mental health centers in the early 1980s, there has been a steady reduction in the number of satellite clinics in operation. As the federal funds decreased, greater emphasis was placed on fee-for-service activities. Thus, given the high overhead and cost inefficiencies found in many of these clinics (especially those serving poor remote communities), many communities found them difficult to sustain.

Lastly, while circuit riders and satellite clinics are reasonably suited to deal with the maintenance of long term mental health problems, emergent care is more difficult to address. Consequently, some clinics have established crisis intervention services, or "hot lines" through toll-free 800 services. These calls often are answered by staff at the "parent" clinic, or nearby facilities in other communities.

Building Up

One of the often cited approaches to dealing with frontier mental health needs is to make frontier people and communities more self-reliant when it comes to responding to mental health problems. This takes several forms, including: use of natural helpers and local healers; use of paraprofessionals; use of local (non-mental health) professionals; public education; support groups and systems; and providing self-help resources. D'Augelli and Ehrlich (1982) and others have suggested that the shortage of profes-

sionals in rural areas leads to a greater potential for the use of indigenous workers to develop natural helping networks (Gottlieb, 1983; Kelley, Kelley, Gauron and Rawlings, 1977). Hollister and his associates (Edgerton, 1983; Hollister, Edgerton and Hunter, 1985) also believe that a rural model of service requires a shift away from direct treatment toward services that are supportive of individuals, their families, and the natural caregivers already present in the client's environment.

Natural Helpers. The use of indigenous persons or natural helpers (those persons within the community people naturally turn to for help) in support roles in rural mental health programs is clearly of value. Clergy play a significant role as natural helpers in the lives of rural people and are often the only helping resource in rural areas. For decades, research has indicated that roughly 40% of persons seeking help for psychological distress prefer clergy over human service providers (Chalfant et al., 1990). One reason for this may be the fact that a majority of people have personal contact with a church through family ties. Clergy then often become the first contact for services.

In some rural communities, the police and sheriff play a major role as a social services agency. The mental health center often benefits from liaison work with law enforcement. Similarly, other community resources, such as churches or local medical practitioners, may add substantially to the effectiveness of mental health services. Treatment may be more effective if family and other informal support networks can be used in an individual's treatment plan (Loschen, 1986). The natural helper programs described by Timpson (1983) and Hollister et al. (1985) usually involved collaboration between interagency personnel and indigenous workers.

Paraprofessionals. The use of paraprofessionals to respond to local mental health needs has a long tradition (Richter, 1974; Walt, 1990; Indian Health Service [IHS], 1991). These local resources have been known, but long overlooked as members of the mental health care work force. Unfortunately, there is no single accepted definition of a community health worker or paraprofessional. Witmer, Seifer, Finocchio, Leslie and O'Neil (1995) defined these workers as "community members who work almost exclusively in community settings and who serve as connectors between health care consumers and providers to promote health among groups that have traditionally lacked access to adequate care." Witmer, Seifer, Finocchio, Leslie and O'Neil (1995) noted that a recent national survey has identified community health worker programs operating in every state.

The most extensive structure supporting these workers currently is the Indian Health Service (IHS). Since 1968, the IHS has hired local paraprofessionals as Community Health Representatives, or CHRs. CHRs serve as vital links between medical and mental health providers located in IHS-supported clinics and hospitals, and the Native American population they serve. Assistance with transportation, medication, appointment scheduling, and identification of problems are all part of the important role played by CHRs.

Perhaps the most extensive use of paraprofessionals in frontier health care is the Alaska "Community Health Aide" program (IHS, 1991). These local workers are often found in remote villages and settlements with no other health providers. Consequently, the level of training they receive and the array of services they provide is extensive. Training includes basic emergency care, prenatal and well-baby check-ups, and patient education. More recently, Colorado has experimented with the development of "crisis homes" staffed with paraprofessionals as an approach to meeting rural crisis needs and as a way to avoid bringing rural persons in for treatment to state hospitals (Wackwitz and Wilson, 1992).

Self-Help Resources. In a recent article, Ferguson (1996) discussed the revolution in consumer health informatics. In his discussion of the electronic self-help community, Ferguson noted that with a whole new generation of electronic tools, it is much easier for the average consumer to access accurate, reliable health-related information, where once only the most dedicated and diligent were able to succeed. Ferguson noted that while we think of our health care system as containing primary, secondary and tertiary resources today, tomorrow we will view the access to consumer health informatics as the fourth and biggest health resource of all: "... the ability of informed laypeople and experienced self-helpers to prevent and manage their own health care problems (1996, p. 36)." While not addressed directly, the implications for rural residents are considerable.

This new field of informatics examines the development of computer and other telecommunications systems designed for use by lay-people. Interactive systems are already available to assist consumers in health promotion, and more importantly, self-management of existing health care problems. For example, the University of Wisconsin has developed software for use at home for people with diseases, such as AIDS, substance abuse, depression, and diabetes. Another example is the Therapeutic Learning Program that contains a "psychological spreadsheet" for people experiencing high stress life events. Resources like these that can be accessed from the home can have a significant impact in providing needed information resources for those in underserved areas. Today, a number of self-help organizations already have active on-line forums (e.g., Citizen Access Network of Maine, MADNESS network). The opportunities for rural residents to participate in electronic self-help groups and networks will only increase over time.

Benefits and Disadvantages of Building Up. In assessing the benefits of lay-people, natural healers, paraprofessionals, and self-help groups in rural areas, clearly the greatest impact is in the area of increased access. For some (e.g., remote Alaska), indigenous workers are the sole link to health care information and the organized health care system. However, for most rural and frontier residents, these indigenous outreach workers augment the formal systems of care and are an important link to them.

In addition to increasing access, lay outreach workers are cost effective as well by providing residents in remote locations with limited case management services and accurate information on the appropriate use of the health care system. A testament to this is in the state of Hawaii, where an HMO under a Medicaid contract uses community health workers to increase access to disease prevention services for Medicaid beneficiaries (Knobel, 1992). Computer-based resources may also prove to be cost effective. Preliminary studies suggest that the University of Wisconsin's software for home health workstations has reduced the medical bills for patients with AIDS by up to 30% (Ferguson, 1996).

The obvious disadvantage to these indigenous and self-help resources lies in the limited training of those providing outreach services and the accuracy of information they deliver, both directly and electronically. The ability of such outreach workers or members of self-help groups to recognize when consumers need a referral to more formal systems of care are somewhat questionable. However, even recognizing these limitations, it would be hard to argue that consumers in remote areas would be better off without access to these indigenous resources.

Connecting

Telemedicine is the practice of health care delivery, diagnosis, consultation, treatment, and transfer of medical data and education using telecommunications. The telecommunication technologies used can range from telephone and FAX to live interactive video. Today, many rural health experts view telemedicine as a critical tool for the direct care of rural patients and for the development of rural health systems. Primarily, telemedicine affords rural residents ready access to specialty care without the inconvenience of traveling to urban centers.

One of the most common ways of connecting urban or rural mental health professionals to persons in frontier areas in need of treatment has been the "telephone hot line." This is often a toll free number staffed by mental health professionals or specially trained paraprofessionals. These hot lines are usually maintained by not-for-profit, consumer organizations (e.g., mental health associations; community-based programs, etc.) and allow rural residents entry into a service network 24 hours a day. Throughout the 1980s, these hot lines were highlighted in the literature, as they provided critical information, treatment and referral services to thousands of farm families during the "farm crisis." More recently this technology has become an important strategy of proprietary behavioral health systems and managed care providers for recruitment, crisis intervention and case management. Consequently, today it is commonplace to find these toll-free numbers in local telephone directories.

One of the most comprehensive telecommunication projects today is called RODEO Net and is administered through the Eastern Oregon Human Services Consortium (Britain, 1995). This project utilizes multiple technologies in an effort to provide comprehensive services to residents of a 45,000 square mile area in eastern Oregon. Technologies utilized in the RODEO Net project include: two-way audio/one way video satellite services; fully interactive two-way video and audio digital satellite services; and a service area-wide computer network providing E-mail, bulletin boards, private conferencing, and Internet gateways. Behavioral health services provided over these technologies include crisis intervention and evaluation from the Eastern Oregon Psychiatric Center; pre-commitment legal hearings via interactive video; pre-admission and discharge planning via interactive video; and tele-consultation services from the Psychiatric Center, State Hospital, or University Health Science Center via interactive video. Britain (1995) notes that all three technologies are utilized for tele-education services for rural providers, as well as consumer and provider networking.

However, it is important to note that there are several barriers to the future growth, development, and utilization of telecommunications services. First, and perhaps most important from the providers' perspective is the lack of reimbursement mechanisms in place for teleconsultation services. To date, few insurers (including the Health Care Financing Administration) have recognized teleconsultation as a reimbursable event. Consequently, most providers and proprietary systems are reluctant to make investments in these technologies without the ability to be reimbursed for services provided.

Second, few empirical studies are available evaluating the strengths, weaknesses and effectiveness of telemedicine services. Most advocates in the field recognize that without a significant amount of scientific evidence, many providers will continue to shy away from this technology, and insurers will continue to view the technology as experimental.

Finally, paradigmatic shifts will need to occur among providers in how they view the delivery of services to rural and remote consumers. Many health care providers, including those in behavioral health care, are skeptical that telecommunications technology is a significant advancement in the delivery of treatment services to patients with mental and emotional disorders. Consequently, without such paradigmatic shifts, telemedicine services will continue to be viewed as a technology unable to fulfill its potential. For a more in-depth treatment of telemental health, see LaMendola (this issue).

Managed Care

Now that we have reviewed the four global strategies to improve access and availability to residents in frontier regions, we will review these strategies within the context of managed care. In an effort to improve service delivery and control the costs of

mental health services, states have been initiating a variety of managed behavioral health care alternatives. Many managed care advocates (as well as state legislators) are embracing these changes, while many mental health advocates are fearful that it is all a pretext to simply cutting costs. We address two primary questions in this section: "Are these four global strategies congruent with the goals of managed care?" ; and "Will managed care organizations (MCOs) embrace or shun these strategies?"

Medically-Integrated Clinics. In a managed care environment, it appears that medically-integrated clinics might fare quite well. As noted above, two of the obvious advantages of these integrated clinics are their low overhead and their integrated delivery system. These characteristics are usually quite attractive to managed care organizations. With both medical and behavioral health professionals working in an integrated delivery system, a MCO will have much lower marketing costs and need to expend fewer resources coordinating care between providers.

Chris Jagmin, MD, Vice President of Pacificare of the Southwest, noted in the Office of Rural Health Policy (ORHP) roundtable that MCOs spend a great deal of time working on the interface between providers. However, "when local providers are more integrated, the HMO can take less" (Office of Rural Health Policy [ORHP], 1995). Thus, in an integrated system, with MCOs finding efficiencies in coordinating care, they can take less of the premium and still make the same profit margin. The same argument can be made regarding the overall operating expenses of these integrated clinics versus situations where multiple providers maintain separate clinic facilities. With overhead expenses being shared by both medical and behavioral health professionals, the operating efficiencies realized are more attractive to a managed care organization.

Further, it is assumed that MCOs are not interested in significant local infrastructure development, especially just to capture a small percentage of the rural market. However, some states, such as Washington are requiring MCOs to serve rural communities as a condition of doing business in their more metropolitan markets. Either of these conditions will lead MCOs to look for providers who already have a significant local market share and work aggressively to lower their costs. Again, local integrated clinics that have already brought together multiple providers and can document lower overhead costs could be attractive contractors for MCOs.

In sum, it is assumed that managed care organizations are not aggressively entering the rural and frontier markets. However, as they slowly penetrate that market, they will seek contractors who already have a significant share of the market, keep costs low, and have reduced their expenses by coordinating care. Thus, low-cost, medically-integrated clinics may be net beneficiaries as MCOs continue to move into more rural markets.

Satellite Clinics and Outreach Services. For many years community-based satellite clinics were the mainstay in the delivery of behavioral health services in small underserved areas. The expansion of these clinics was in part due to the 1963 Commu-

nity Mental Health Centers Act, which required and helped states fund the provision of mental health services through community mental health centers. However, starting in 1981, the Omnibus Budget Reconciliation Act (OBRA, 1981) began shifting the responsibility to state mental health authorities. This initial shift resulted in a reduction in federal support for mental health services. Thus began an increasing emphasis on fee-for-service funding and a deterioration of the number of satellite clinics.

Under a managed care environment, maintenance of these small, satellite clinics and outreach services may require a greater infrastructure investment than most health plans are willing to make. As Dr. Puskin noted in the ORHP roundtable on rural managed care, for a MCO "...to recoup its investment in developing rural infrastructure, ... it must have a significant share of the market and a strong network of providers. One way to achieve this ... would be to reach for broad rural markets encompassing a large number of providers (ORHP, 1995)." If this is true, it would suggest that more regionalized (or centralized) rural systems of care are more likely under a managed care scenario, than a scattering of small, relatively inefficient satellite clinics. With each satellite clinic having its own overhead costs and a rather small patient base, it is hard to imagine the benefits of such clinics to a MCO aggressively looking for efficiencies.

Utilization of Indigenous Providers/Self-Help Resources. Unlike satellite clinics, the use of indigenous providers to augment and establish linkages to more formal systems of care requires much less infrastructure development and appears to be quite cost effective. In fact, Knobel (1992) reports the use of community health workers to provide health promotion/disease prevention services to Medicaid beneficiaries by the Kaiser Permanente HMO in Hawaii.

Of course the obvious benefit in using indigenous providers in frontier areas is the increase in access. Without absorbing large infrastructure development costs, MCOs could significantly augment the delivery of services in underserved areas by training local community aides to provide limited services, information, and referral services to local consumers. In addition to health promotion/disease prevention information, indigenous workers can provide limited case management services, home-based services, transportation, and just as importantly, serve as an informed link between local consumers and the MCO. Much of the literature cited above documents the overall effectiveness (both in cost and outcome) of indigenous workers. Thus, faced with the alternatives of using indigenous workers, or utilizing a greater volume of resources to further develop local resources, it is reasonable to assume that many MCOs will look favorably on indigenous workers as a low cost method of maintaining service linkages in frontier communities.

Support groups and self-help resources may also fare well in a primarily managed care environment. We do not at this time see a deterioration of support group activities as rural markets move more toward managed care. First, most of these self-help groups (e.g., Alcoholics Anonymous; National Alliance for the Mentally Ill) are currently out-

side of the formal reimbursement streams. Thus, changes in the financing and delivery systems should not greatly effect these "grass roots" activities. In fact, we may find MCOs supporting such activities, as they serve as locally-based prevention activities.

Lastly, it appears that the field of consumer health informatics will continue to flourish as information science and technology continue to advance. Much of these resources are quite congruent with managed care's orientation toward data and consumer awareness. Further, many states have, or are in the process of developing Community Health Information Networks (CHIN). These networks often electronically link provider and consumer groups with state-based health information, as well as providing Internet gateway access. Consequently, in an effort to increase consumer involvement and education, we would speculate that this quickly emerging field will continue to flourish. In fact, we predict that many managed care organizations will actively participate in providing such information via these systems.

Utilization of Telecommunication Services. Two of the major barriers to care for rural consumers, time and distance, are easily overcome through modern telecommunications technology. Modern telecommunications technology has the potential to significantly improve access in frontier areas that have traditionally been underserved. Even with the barriers cited earlier, we predict that as managed care continues to penetrate rural markets, the use of telecommunications will dramatically increase. We make this prediction based upon several factors.

First, the use of telecommunications technology can be cost effective. As mentioned several times in this paper, managed care organizations are much more aggressive in finding cost efficiencies. The utilization of telecommunication technology, while expensive, is still considerably less costly than deploying human resources. Further, as with most technologies, as utilization increases, unit costs will decrease making it even more cost effective. Thus, over time, as MCOs cover more rural markets, the cost advantages of utilizing these technologies will increase.

Second, as mentioned earlier, some states (e.g., Washington), require MCOs to cover rural areas as a condition to having access to their more profitable urban markets. While it is difficult to predict whether this type of policy will become a trend in other states, clearly telecommunications technology offers a MCO a cost effective method to meet this requirement.

Third, in most states Medicaid benefits include the cost of transportation to access services not locally available to beneficiaries. More and more rural managed care plans also pay for patient travel to access urban providers (ORHP, 1995). Consequently, as more MCOs contract with states to serve Medicaid beneficiaries and serve more rural areas, the advantages to utilizing telecommunications technology to reduce these travel costs and improve cost effectiveness will become apparent.

Summary. This section attempted to speculate on how the four identified global strategies to providing behavioral health services in our nation's most frontier and underserved areas will fare under a managed care environment. In exploring these issues, we predicted that three of the four approaches will likely continue under managed care, with only the maintenance and further development of satellite clinics and outreach services decreasing. Looking at these predictions from another viewpoint, one might conclude that, as is often the case, rural areas have already developed cost-effective methods of providing admittedly minimal services in a limited resource environment.

Implications for Behavioral Health Services

This paper has attempted to explore the strengths, weaknesses and utilization of four global strategies that are in place today to serve the mental health needs of frontier populations. However, a comprehensive approach to meeting the mental health needs of persons living in frontier areas should consider programs that employ all of these strategies. Unfortunately, there is a tendency in dealing with rural or other special populations to look for a single programmatic solution to problems of accessibility and availability. While some of these strategies may prove sufficient in and of themselves to address particular mental health problems, in most of the cases when we are dealing with diagnosable mental disorder, a single strategy will often prove inadequate.

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The Role of Rural Primary Care Physicians in the Provision of Mental Health Services

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Abstract

Frontier areas of the United States tend to have fewer mental health providers and impatient facilities, and low utilization of traditional mental health services due to lack of anonymity in treatment, stigma and denial of mental problems, clashes between treatment and traditional rural values such as independence and privacy, and rural poverty. These conditions contribute to a scenario where much of the burden of mental health care is placed on primary care physicians. This paper provides an analysis of the role of the primary care physician in the provision of mental health services in rural and frontier regions of the country.

Introduction

Frontier rural areas suffer from a lack of mental health providers and inpatient psychiatric services (Goldsmith, Wagenfeld, Manderscheid, Stiles and Longest, 1989; Wagenfeld, Goldsmith, Stiles, Longest and Manderscheid, 1990; Goldsmith et al., 1994). A variety of reasons have been offered as to why mental health service delivery is impaired in rural and frontier areas. In frontier areas, community mental health centers cover vast service areas and the resultant distance from provider to consumer can impede mental health service provision (Prue, Keane, Cornell and Foy, 1979; Nease, 1993; Sullivan, Jackson and Spritzer, 1996). The ability to operate economically viable mental health services in frontier areas is hindered by low population density (Corney, 1968; Bachrach, 1983; Loschen, 1986), higher per-unit costs (Gertz, Meider and Pluckhan, 1975; Loschen, 1986) and greater reliance on governmental and other outside funding sources (Bachrach, 1983).

It is also generally believed that rural residents tend to under-utilize the mental health services that are available (Bachrach, 1985; Watts, Scheffler and Jewell, 1986; Nease, 1993; Rost, Smith and Taylor, 1993). Some rural residents will not seek or utilize mental health care because of a lack of anonymity in treatment, the stigma associated with treatment, and clashes between treatment and traditional rural values such as independence and privacy (Jeffrey and Reeve, 1978; Solomon, Hiesberger and Winer, 1981; Meyer, 1990; Rost et al., 1993). Denial of mental illness by the individual or family also impedes service utilization and can result in the future need for much more extensive care and decreased likelihood of a positive response to treatment (Berry and Davis, 1978; Loschen, 1986). Rural poverty is another, often overlooked factor affect-

ing under-utilization of mental health services. For instance, the economic downturn in the 1980s left farmers and other rural residents with fewer resources to be able to afford adequate health insurance coverage or the out of pocket costs of such care. Compounding the problem, this rural recession decreased employment opportunities in rural communities and raised stress levels among residents (Meyer, 1990; National Rural Health Association, 1992; Nease, 1993).

The combination of fewer mental health providers and inpatient facilities, and low utilization of traditional mental health services due to social factors and rural poverty all point to a scenario where much of the burden of mental health care provision is placed on primary care physicians.

Generalist Physicians as Sources of Mental Health Care

Almost 20 years ago, Regier, Goldberg and Taube (1978), in response to the 1977 President's Commission on Mental Health, used epidemiological methods to estimate the number of persons in the US who had a mental disorder, as well as the sector of the health care system where they sought treatment. They reported that approximately 21% of those estimated to have a mental disorder in 1975 sought care from the specialty mental health sector (approximately 7 million). However, over 60 percent of the total persons affected by mental disorders (estimated at over 19 million) sought treatment in a primary care setting. In a follow-up study in 1993 using Epidemiologic Catchment Area study data, Regier et al. found that approximately 40% (9 million) of those who sought care for a mental disorder in 1980 received care from the specialty mental health sector, and 43% (10 million) received care from the general medical health system.

Similarly, a 1984 report found that non-psychiatrist physicians provided 48% of the patient visits resulting in the diagnosis of a mental disorder, and primary care physicians (i.e., general practitioners; family physicians; and general internists) accounted for 77% of these diagnoses (US Department of Health and Human Services [DHHS], 1984). The DHHS also found that 28% of primary care visits were for psychological problems, and anxiety/nervousness accounted for 11% of the reasons people give to visit a physician. More recent studies of this nature have purported that generalist physicians provide up to 60% of the mental health services received by a population (Regier, Boyd and Burke, 1988; US Congress, 1990). Many other studies have also documented the important role of primary care physicians in mental health care provision (Locke and Gardner, 1969; Rosen, Locke, Goldberg and Babigian, 1972; Lerner and Blackwell, 1975; Fink, 1977; Goldberg, Babigian, Locke and Rosen, 1978; Regier, Burke, Manderscheid and Burns, 1985; Schurman, Kramer and Mitchell, 1985; National Rural Health Association, 1992).

The use of generalist physicians holds true for rural residents as well. They also tend to utilize general medical resources for mental ailments more frequently than area mental health centers (Fehr and Tyler, 1987) and actually prefer such primary care givers in the treatment of such problems (Flaskerud and Kviz, 1982). Ordway (1976) found that rural

residents tended to first think of receiving mental health treatment from primary care physicians and preferred consultation from a psychiatrist only in the case of serious mental disorder. Equally important, other studies have also found that rural persons afflicted with mental disorder prefer to initially consult a primary care physician (Blackwell and Goldberg, 1968; Goldberg and Blackwell, 1970; Lerner and Blackwell, 1975).

Johnson (1995) recently explored this preference for seeking help from a primary care physician in a statewide study of help seeking behavior among residents of Nebraska. In that analysis, respondents were asked who they would turn to first in seeking help for a mental health problem. Not surprisingly, a family physician was reported more frequently than any other category of provider (40.9%), followed distantly by a private psychiatrist (16.2%) and a minister (13.9%). Johnson also explored variations in help seeking behavior by residential location. Using Beale codes, Johnson found an even greater propensity for the most rural residents to seek help from a family physician (43% in the most isolated rural areas as opposed to 37% in urban areas).

Johnson's analysis suggests that primary care physicians are the primary choice of all residents when seeking help for a mental disorder, and that rural residents are even more likely to seek help from a family physician than urban residents. Surprisingly, and of some interest, is that less than one respondent in ten (7%) reported that they would first seek help from a community mental health center. This preference for the family physician can continue even after a person receives treatment from mental health providers. Lerner and Blackwell (1975) surveyed 100 psychiatric inpatients and found that 38% planned to have their family physician assist in aftercare.

Physicians that practice in rural and frontier areas tend to play an even larger role in mental health care provision due, in part, to the relative scarcity of mental health and other health care professionals in these outlying areas of the country. Unfortunately, sparsely populated areas without established mental health services (i.e., counseling) or providers (i.e., psychologists, social workers) also tend to have relatively few primary care physicians to act as substitutes. Nonmetro and frontier areas possess far less physician coverage than more urbanized areas even after controlling for population size. For example, Frenzen (1994) found that in 1988, the ratio of primary care physicians per 100,000 persons for remote rural areas was 38.2; for the more inclusive nonmetro areas it was 51.3. In comparison, metro areas had a ratio of 95.9.

Treatment Patterns

If primary care physicians are providing a majority of the care for mental illness in frontier areas, how well are they providing it? Much has been written about how primary care physicians treat and manage patients presenting symptoms of mental disorder, and how this differs from treatment provided by mental health professionals (e.g., psychiatrists and psychologists). Several studies have documented the drug-dispensing behavior and use of other treatments among non-psychiatrist physicians. One study (DHHS, 1984) found

that non-psychiatrists appeared to substitute drugs for time as their mental health-related office visits lasted half as long as those of psychiatrists and were twice as likely to result in a drug prescription. Gardiner, Peterson, and Hall (1974) also found that generalist physicians placed heavy reliance on the use of psychotropic drugs and favored their use as the sole treatment for the majority of their patients with mental disorders. In fact, these physicians have been found to favor such drug treatment in many patient visits even when no mental diagnosis is officially rendered (Jencks, 1985).

Not only do generalist physicians seem to use psychotropic drugs in treatment more frequently, there is also evidence of inappropriate use of drug therapy among these physicians. Fauman (1980) found that 59.2% of 72 surveyed general hospital physicians who prescribed tricyclic antidepressants did not dispense sufficient doses to their patients. In addition, 61.5% of 112 respondents were found to have inappropriately used tricyclic treatment for such conditions as chronic pain, insomnia, enuresis, agitation, and anxiety.

Although there is an abundance of information that points to the generalist physicians' higher propensity to use drug therapy, some studies have also documented their use of counseling in concert with prescription drugs and have even found counseling to be the most common treatment for mental disorders in the general practice setting. In one study of primary care physicians, it was found that 31% of patients with emotional disorders were provided with supportive therapy, 14% were given prescription drugs, and 35% were given a combination of these treatments (Rosen et al., 1972). Yet another study revealed that a combination of drugs, advice, and reassurance was the most common method of mental health treatment among a group of family practice physicians (Orleans, George, Houpt and Brodie, 1985).

Somewhat contrary to previous findings, Andersen and Harthorn (1989) found that primary care physicians *did* recognize the presence of mental disorder essentially as well as mental health professionals (e.g., psychiatrists, psychologists). However, these physicians were less accurate in their diagnoses of affective, anxiety, somatic, and personality disorders. Generalist physicians were most accurate (81%) in recognizing organic disorders and least accurate (14%) in identifying personality disorders. Only about one-half of the physicians correctly identified anxiety (49%), somatic (49%), and affective (47%) disorders (Andersen and Harthorn, 1989).

In one of the more recent and rural studies, Rost, Williams, Wherry and Smith (1995) examined the relationship between process and outcome for patients with major depression in 21 rural primary care practices in Arkansas. After screening over 600 patients, 47 meeting DSM-III-R criteria for major depression were recruited into the study. Findings from the study are significant: only 24 percent of the cases meeting the diagnosis criteria were found to have "depression" noted in the patient's medical record at the initial visit. Although 63 percent of those diagnosed received pharmacologic treatment, only 29 percent received a sufficient dosage for a long enough period of time to meet the AHCPR clinical practice guidelines. Further, while it was inconsistently noted in the record, it appeared that

few patients received psychotherapy from a mental health professional. Most importantly, only one-third (32%) of the patients followed were in remission after 5 months (a rate of less than half that found in other practice settings).

Rost, Humphrey and Kelleher (1994) examined the barriers rural primary care physicians face in the treatment of patients with depression. In that study, the lack of physician time and the inability of rural patients to recognize their problem were found to be the most often reported barriers. Other barriers such as the unavailability of mental health specialists and the inability of the patients to afford specialty care were also reported at somewhat lesser percentages.

In sum, the literature appears to be mixed regarding the appropriateness of generalist physicians' handling of mentally ill patients. This uncertainty raises questions concerning the extent of their mental health training and the degree to which they are prepared to adequately manage such patients. Both of these issues will now be addressed by examining the literature of the past 20 years in these areas.

Mental Health Training and Primary Care Physicians

Although primary care physicians provide a significant volume of mental health services, their training in mental health diagnosis and treatment appears to be limited. The time allotted to clinical psychiatric clerkships has gradually declined in most medical schools (Callen and Davis, 1978). In fact, the six-week clerkship in psychiatry for all third-year students is the briefest among the five standard third-year clinical rounds, and course work in behavioral sciences amounts to about 5% of the medical school in-class curriculum (US Congress, 1990).

In addition, it appears that students have little direct contact with psychiatrists during this training. Jones, Badger, Parlour and Coggins (1982) studied family practice residency programs and found that training was typically provided by part-time or volunteer faculty and that less than 5% of faculty members were full-time psychiatrists. Strain, Pincus, Houpt, Gise and Taintor (1987) also noted a general under-utilization of psychiatrists in medical school-based mental health training. In some cases, programs were found to bypass psychiatry departments entirely to hire less expensive nonmedical behavioral scientists to teach mental health content. Pincus, Strain, Houpt and Gise (1983) concluded that some family medicine programs don't adequately train students to carefully diagnose and treat psychiatric disorders. This lack of training can also be found in internal medicine, the major US primary care field. For board certification in internal medicine there is no required test for competence in patient interviewing or psychiatric diagnosis (Fogel, 1993). Similarly, Pincus et al. (1983) found that little attention was given to psychosocial concerns in most internal medicine programs.

Several articles have addressed how generalist physicians themselves feel about their preparation in the provision of mental health care. In an early study, Castelnuovo-Tedesco (1967) polled a group of recent medical school graduates and found that one-

third said their graduate training in psychiatry was indifferent or poor and one-half felt they had not learned enough psychiatry for their current general practice. Further, respondents felt psychiatry was one of the worst-taught subjects among their medical school experiences (Castelnuovo-Tedesco, 1967). Werkman, Mallory and Harris (1976) found that family physicians rated marital discord and alcoholism as the most common psychiatric matters, and many felt they needed additional training to adequately manage these patients. Fisher, Fowler and Fabrega (1973) found that the majority of family physicians under study felt they needed and desired additional postgraduate training in psychiatry to better serve their patients. Similarly, Cassata and Kirkman-Liff (1981) report that a group of family physicians they studied, in response to increasing demand for mental health care provision in their practices, expressed an interest in taking additional continuing education courses in psychiatry covering such topics as individual/marital/parental counseling and psychopharmacology. Finally, about one-third of polled US family physicians indicated a need for further training in treating emotional and psychiatric disorders (Orleans et al., 1985).

What subjects are important for someone who will set up a rural, primary care practice? Johnson and Snibbe (1975) studied a group of psychiatrists, psychologists and nonpsychiatrist physicians and determined the most important psychiatric topics for their practices. Topics included: interviewing, suicide evaluation, psychopharmacology, chronically ill or dying patients, psychophysiologic disorders, psychiatric referral, the doctor-patient relationship, drug and alcohol abuse, differential diagnosis, and sexual problems. Callen and Davis (1978) conducted a similar study using only rural primary care physicians and found that this group deemed many of the same topics to be the most pertinent to their practice. This rural list also included treatment of depression, psychosomatic disorders, and geriatric psychiatry.

A number of articles have concluded that non-psychiatrist or primary care physicians are, by and large, inadequately prepared to recognize, refer, or treat mental disorders (Feldman, 1978; Pincus et al., 1983; Jones, Badger, Ficken, Leeper and Anderson, 1988; Zimmerman and Wienckowski, 1991; Barrett, 1991; National Rural Health Association, 1992). Other possible reasons for this drawback, aside from inadequate training in psychiatry/psychology, included heavy patient load and time constraints on patient visits, expectations of authority and peers, medical school selection process, and students' experiences in medical school (Feldman, 1978; Orleans et al., 1985; Fogel, 1993).

Referral Patterns

Some research has also alluded to generalist physicians' referral behavior and its appropriateness. Although there is no reason to suppose that every patient presenting symptoms of mental disorder in a primary health care setting should see a psychiatrist, it is commonly believed (at least by psychiatrists) that the proportion referred is too small.

Kessel (1960) was one of the first to look at this issue and found that only 10% of patients in general practice considered suitable for referral were actually referred to a psychiatrist. Twenty-four years later, the US Department of Health and Human Services (1984) found that primary care physicians referred mental health patients to mental health professionals of any kind in only 5% of the episodes. Others have found that primary care physicians referred patients with psychiatric diagnoses at rates of 17-30% (Shapiro and Fink, 1963; Locke, Krantz and Kramer, 1966; Fink, Goldensohn, Shapiro and Daily, 1967; Orleans et al., 1985).

The type of disorder present appears to influence referral patterns. Andersen and Harthorn (1989) found that both primary care physicians and mental health professionals (i.e., psychologists) favored psychiatric referral over on-site treatment for most mental disorders, but physicians favored treatment in primary care settings for certain anxiety and somatic disorders. Hull (1979), surveying a group of nonpsychiatrist physicians, found that most tended to refer psychosis cases to psychiatrists but preferred to treat alcoholic and neurotic cases themselves. In a similar vein, Fauman (1983) found that among polled internists, more than one-half said they normally forgo referral and prefer to treat depression, anxiety, and psychosomatic and organic brain disorders themselves.

Research has also been conducted on other factors associated with the likelihood of referral. Patient characteristics such as being male, higher socioeconomic status, younger age and presence of a psychiatric label have been found to be positively correlated with referral rate (Shepherd, Cooper, Brown and Kalton, 1966; Wilkinson, 1989; Farmer and Griffiths, 1992). Physicians with longer practice tenure and positive feelings toward psychiatrists tended to refer more frequently (Shortell and Daniels, 1974; Gardiner et al., 1974; Wilkinson, 1989; Ozbayrak and Coskun, 1993). Also, attributes of the disorder, specifically issues of its type, severity and chronicity, and inadequate response to physician treatment have been found to be positively related to referral (Shepherd et al., 1966; Fink et al., 1967; Fink, Shapiro, Goldensohn and Daily, 1969; Hopkins and Cooper, 1969; Wilkinson, 1989; Andersen and Harthorn, 1989).

Mezey and Kellett (1971) found the most common reasons why nonpsychiatrist physicians did not refer patients to psychiatrists were the patients' dislike for such referral, physician concerns about labeling the patient, and feeling that the treatment of neurotic patients was every physician's responsibility. Steinberg, Torem and Saravay (1980) found that physician opposition to consultation was involved in more than 50% of non-referred cases. Specifically, physicians felt that there was either no psychiatric problem or that psychiatry could not help the patient. Less frequently cited was physicians' feeling that the patient might become upset with such suggestions of referral. Orleans et al. (1985) also found, while studying a group of family physicians, that they tended to treat most psychiatric disorders themselves. Most felt, however, that this care was incomplete due to patient opposition, time restrictions, limited third-party payment for mental health care, lack of coordination between primary and mental health care providers, and inadequate psychosocial training.

Implications for Behavioral Health Services

As populations in frontier areas continue to dwindle, it will probably become less and less feasible to recruit additional local mental health specialists (psychiatrists, psychologists, psychiatric nurses, and psychiatric social workers) to these regions. Nurses, social workers, and occasionally family therapists or ministers with some mental health training are currently working in rural and frontier areas, but primary care physicians are still the most numerous service provider in these areas (Holzer, Mohatt, Goldsmith and Nguyen, 1997). Thus, in the immediate future, rural as well as frontier mental health services are most likely to continue to be in the hands of primary care physicians. Therefore, a premium must be placed not on rural recruitment of psychiatric care givers, but on developing rural networks of care between primary care providers, mental health professionals, and nonphysician providers. It will also be necessary to improve medical and continuing medical education to better inform primary care physicians on mental health care issues. Interestingly, that was the exactly what Regier et al. (1978) concluded almost 20 years ago when they wrote, "Hence, there is a need for both further integration of the general health and mental health care sectors and for a greater attention to an appropriate division of responsibility that will maximize the availability and appropriateness of services for persons with mental disorder." (Regier et al., 1978:693).

There have been some innovative approaches to educating primary care providers on mental health issues. For example, the National Institute on Mental Health (NIMH) provides programs that teach primary care physicians how to recognize and treat mental conditions. The Depression Awareness, Recognition, and Treatment (DART) Program was developed in 1988 to educate primary care physicians and other health professionals around the country about the signs of and treatment for depressive disorders (Meyer, 1990; Hunter and Windle, 1991). In addition, the NIMH provides funding for various forms of mental health-related continuing education programs.

One of the most effective tools available to rural primary care physicians, however, appears to be the development and dissemination of the AHCPR Clinical Practice Guidelines for Depression in Primary Care (1993). In a small, but significant study, Rost et al. (1995) reported that depressed patients who received treatment in concordance with the guidelines were significantly more likely to be in remission after 5 months, than patients who received pharmacologic treatment, but not in concordance with the guidelines. Further, since that study, computer assisted versions of the guidelines have been developed, and are currently being tested.

Further efforts must also be made to explore ways in which primary care providers can successfully link with mental health care providers to improve efficiency and quality of care. Strides should be made in developing alternative means to strengthen the linkages between primary care physicians in frontier and rural areas and urban-based mental health specialists. One successful strategy to link primary care providers with mental health providers is the integration of practices in rural medical clinics (Bird et

al., 1995). Probably the most successful models of this type are the federally-funded Community Health Centers. These centers, many of which are located in rural areas, are required under federal law to offer a wide range of services to patients, including mental health services. Consequently, it is not uncommon to find patients requiring medical, mental health, or dental services sitting side-by-side in the waiting rooms of these centers. In addition, Bird et al. (1995) found that similar rural models in the private sector exist, although the majority are still in the public sector.

Another area that holds considerable promise is telemedicine. The use of two-way interactive video is slowly becoming an important bridge between rural primary care physicians and urban specialists and sub-specialists. Similar connectivity between rural physicians and urban based mental health specialists could considerably improve access to urban-based consultation. This would allow rural primary care physicians to consult about the diagnosis and treatment of various mental afflictions they encounter in the course of their practice. Just as important is the hope that as these linkages develop, and mental health and primary care providers establish stronger ties, that referral rates among primary care physicians will increase, to the benefit of both providers and patients.

The success of these emerging networks and training initiatives is likely to be directly linked to the ability of rural residents to access quality mental health services. Such networks will utilize local primary care providers (both physician and nonphysician) as the local point of contact, but offer the patient access to an expansive array of more urban-based professional mental health resources. The establishment of such emerging networks is critical, if rural mental health care is not to be synonymous with substandard mental health care.

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Cost Dynamics of Frontier Mental Health Services

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Abstract

New emphasis is being placed on the cost of providing mental health services to frontier communities. In part this reflects the growing importance of managed behavioral health care organizations in both rural and urban areas and their emphasis on cost containment and in part the growing importance of mental health as part of total health care. These trends result in demands for more organized and efficient services in rural and frontier areas. The ultimate goal is to provide mental health care equal to or better than in the past for less cost with more accountability. Coping with these condition in a frontier mental health setting requires both efficiency and effectiveness. Efficiency is the accomplishment of objectives at a minimum cost, while effectiveness measures how well objectives are achieved. This paper provides information on how key tools of cost analysis can aid managers of frontier mental health programs to obtain both effectiveness and efficiency in a developing managed care environment.

Introduction

Mental health programs in frontier areas of the United States face many challenges. Frontier areas suffer from a lack of health-care resources (any resources present are often underfunded and understaffed) and an absence of integrated health-care systems. Funding methods are changing as Medicaid expenditures grow and federal funds to states and local governments are concurrently cut. New service systems are developing with a shift from provider-centered to client-centered services. Pressures are increasing for assessment of client and program outcomes and effectiveness. Demands are also increasing for more organized and efficient services, all resulting in a thrust toward managed care (Broskowski, 1991; Feldman, 1992; Wagenfeld, Murray, Mohatt and DeBruyn, 1994; Van Hook and Ford, 1995; Minden and Hassol, 1996; Manderscheid and Henderson, 1997; "Study Finds Mental Health Spending," 1998).

Managed care is now an omnipresent pressure in health care (American Managed Care and Review Association [AMCRA], 1995). State mental health authorities (SMHAs) are reporting widespread current (or intended) use of managed care operations or contracts and the use of Medicaid funds to finance managed care (Sherman, Zahniser and Smukler, 1995). While some states with large frontier populations show low penetration of managed care, states with somewhat smaller frontier populations show higher utilization of managed care (AMCRA, 1995). In mental health services,

managed care seeks to reduce or eliminate unnecessary services, reduce the costs of care and maintain or increase effectiveness. The aim is to improve client outcomes, control costs, and decrease system fragmentation. The ultimate goal is mental health care equal to or better than in the past for less cost and with more accountability. However, managed care is not without its critics or problems. Managed behavioral health care in its various forms appears to reduce costs and improve access, but the effect on quality has not been conclusively demonstrated (Minden and Hassol, 1996). Reduction of costs in public sector managed behavioral health care programs also remains inconclusive (Minden and Hassol, 1996).

As mental health services increase as a part of total health services (Broskowski, 1991), new emphasis is placed on costs and outcomes of these services (Mirin and Namerow, 1991). Managing care requires careful documentation of the costs of services and of clinical outcomes. Strategies to monitor and assess treatment plans and outcomes take many forms ranging from preadmission reviews, continuing treatment authorizations, concurrent review, screens (often computerized), to performance outcome measures (Austin, Blum and Murtaza, 1995). This documentation of cost and outcome can be used, in addition, to respond to consumer and management concerns. Consumers (including clients, employers and payers) are beginning to demand accountability for the consumption of resources and the client outcomes in mental health programs. Good managers of mental health programs need to know how well their program and their clients are doing. Information systems (IS) to meet these needs should focus on systematic cost reports, indicators to assess clinical outcomes, and analyses of costs and outcomes to evaluate cost-effectiveness. Today's complex mental health environment gives neither easy nor clear-cut guidelines for these information requirements.

Coping with these constraints and opportunities in a frontier mental health setting requires both efficiency and effectiveness. Efficiency is the accomplishment of objectives at a minimum cost, while effectiveness measures how well objectives are achieved. This *Letter* focuses on how the *key tools of cost analysis* can aid the manager of frontier mental health programs in the developing managed care environment. Subsequent *Letters to the Field* will cover the topics of linking costs and client outcomes and choosing cost-effective management strategies.

Cost Analysis and Reporting

Managers of frontier mental health organizations are expected to acquire and use resources to create effective mental health services at minimum cost. Cost containment is also a primary motivation for today's health care reform (Freeman and Trabin, 1994). Sound cost management requires an understanding of cost behavior, cost distinctions for planning and control, and unit-of-service costs (Sorensen, Hanbery and Kucic, 1983).

Unit cost information will be increasingly important in the era of managed mental health care (McFarland, Smith, Bigelow and Mofidi, 1995; Zelman, McCue and Millikan, 1998).

Cost behavior—in total. Management accounting examines cost behavior in relation to volume of activity. As volume of activity varies, a cost may increase proportionally to volume (a variable cost), may not change as volume changes (a fixed cost) or may change in stepwise fashion (a step-variable cost) as volume changes. Some costs may contain both variable and fixed components and are called "mixed costs." The left column of Figure 1 portrays the graphical behavior of these total costs. Copying costs, for example, may vary directly with the number of copies (e.g., a variable cost), while annual lease payments may remain constant (e.g., a fixed cost) regardless of client volume. The number of administrative assistants may increase as the volume of activity (e.g., number of contracts) changes. This cost behaves in a stair-step fashion (e.g., step-variable cost), since each assistant can handle up to a certain number of contracts before another assistant is required. Utilities like heat and light may be mixed costs if there is a minimum (fixed) charge regardless of the level of service and a variable component depending of how much gas or electricity was used beyond the minimum.

Cost behavior—per unit. These cost categories, however, take on different behaviors when expressed on a per unit basis. Variable costs on a per unit basis are assumed to be constant. For instance, the first copy costs the same as each subsequent copy. Fixed costs, on the other hand vary inversely with volume. For example, the constant monthly rent is divided by a varying number depending on the volume; lower volumes create higher unit costs while higher volumes create lower unit costs. The step-variable and mixed costs tend to vary inversely with volume since they have a mixture of variable and fixed costs (e.g., the variable costs are constant per unit while the fixed costs vary per unit depending on the volume, thus leading to a decreasing cost per unit as volume increases). The right column of Figure 1 portrays the graphical behavior of these unit costs.

Short-run behavior of cost and volume changes deserves a special comment. If a step-variable cost is increased, the cost of the first few units of service after the new cost step is added may be higher than the former unit cost. As volume increases, however, the unit cost drops and is expected eventually (as economic return-to-scale emerges) to be lower than the unit cost before the new cost is added. For example, assume the following:

> A cost of $10,000 divided by the volume of 1,000 units of service equals a $10 unit cost ($10,000 / 1,000 = $10). If $5,000 is added for a new cost of $15,000 and the expected new volume at full operation is 2,000 units of service, the final cost per unit will be $7.50 ($15,000 / 2,000 = $7.50). As the operational volume adjusts upward, however, the early

periods may show a volume greater than the original 1,000, but less than the expected level of 2,000 (say, 1,200 units). In this case, the unit cost is $12.50 ($15,000 / 1,200 = $12.50) and that is higher than the original unit cost of $10. If these costs and volumes are graphed, the display shows a jagged cost curve with little spikes where you add the new cost. When the scale of the graph is reduced (such as in Figure 1), the curve appears to be smooth.

Cost distinctions for planning and control. Fixed costs can be either committed or discretionary. Committed fixed costs are fundamental (e.g., property taxes, bond interest payments, key personnel) and reflect long-run capacity needs. Typically these costs are not responsive to short run variations in activity. Discretionary fixed costs, on the other hand, are periodic costs influenced by management decisions (e.g., scheduled maintenance, staff training, professional travel). They often bear little relationship to volume of activity. In times of hardship, discretionary fixed costs are subject to reduction, although long-term effects can be negative.

Variable costs are either engineered or discretionary. Engineered costs represent a defined cost to produce a given service or product (e.g., cost of a psychologist to perform testing). Shifts in engineered costs change the resulting service or product (e.g., moving from a Ph.D. to a Masters level psychologist). Discretionary variable costs represent managerial choices that may be altered without a fundamental effect on the service or product (e.g., switching from a brand name drug to a generic type).

When management is looking for short-term cost reductions, discretionary variable and discretionary fixed costs become prime targets. Often these costs are subject to reduction without immediate adverse effects, but, some, if postponed indefinitely, will produce adverse effects (e.g., training or maintenance).

Unit-of-service costs for rate-setting, contracts and performance evaluation. Unit-of-service costs serve several essential purposes:

- *Rate-setting and cost estimating for varied contract negotiations.* Contracts should be based on the cost of services. As capitation contracting spreads, the capitation rate should be a function of the aggregated costs derived by the unit-of-service costs times estimated utilization for a package of services proposed for a targeted population. Unit-of-service costs (especially budgeted or projected ones) are fundamental financial tools as a provider assumes risk in meeting the needs of a covered population with a predetermined rate per participant.
- *Highlighting inappropriate rates charged or productivity problems.* The cost per unit of service is a *powerful summary of resource consumption* and *level of activity* for a period of time (e.g., annual cost per hour of individual outpatient service). When dividing the costs by the units of service there may be, for example, *excessive costs* (in the numerator) or *poor productivity* (in the denominator) that could produce unacceptable unit costs.

- *Maintaining financial control.* By comparing *budgeted* unit costs to *actual* unit costs managers possess a straight-forward, yet potent and understandable key performance indicator. Comparison of actual results to the budget is the underpinning of financial control. The ideal ratio would be 1.0 (actual cost divided by budgeted cost = 1.0). If the actual cost exceeds the budget, the ratio *is greater than 1.0.* For instance, if the actual cost is $150,000 and the budgeted cost is $100,000, then the ratio is $150,000/$100,000 or 1.5 or 150% of the budget. If the actual cost is $90,000 and the budget is $100,000 the ratio is .9 or 90% of budget ($90,000/$100,000 =.9 = 90%). Both favorable and unfavorable variances should be investigated. While over-spending may be problematic, underspending may be masking a failure to make needed expenditures (e.g., routine maintenance).
- *Benchmarking against the unit costs of outstanding organizations.* A provider organization can move to superior performance by measuring its performance against the best-in-class providers, determining how the best-in-class achieves its cost levels and then using the information to set targets, strategies and implementation.
- *Performing cost-outcome and cost-effectiveness reviews.* The resources consumed for a particular target group may be estimated with the unit-of-service costs along with levels of service (viz., unit-of-service cost x number of units received = resources consumed). Estimated costs can be linked to the target group outcomes to produce a cost-outcome analysis. Comparisons of cost-outcomes enable program managers (and funders) to select the most cost-effective services or programs.

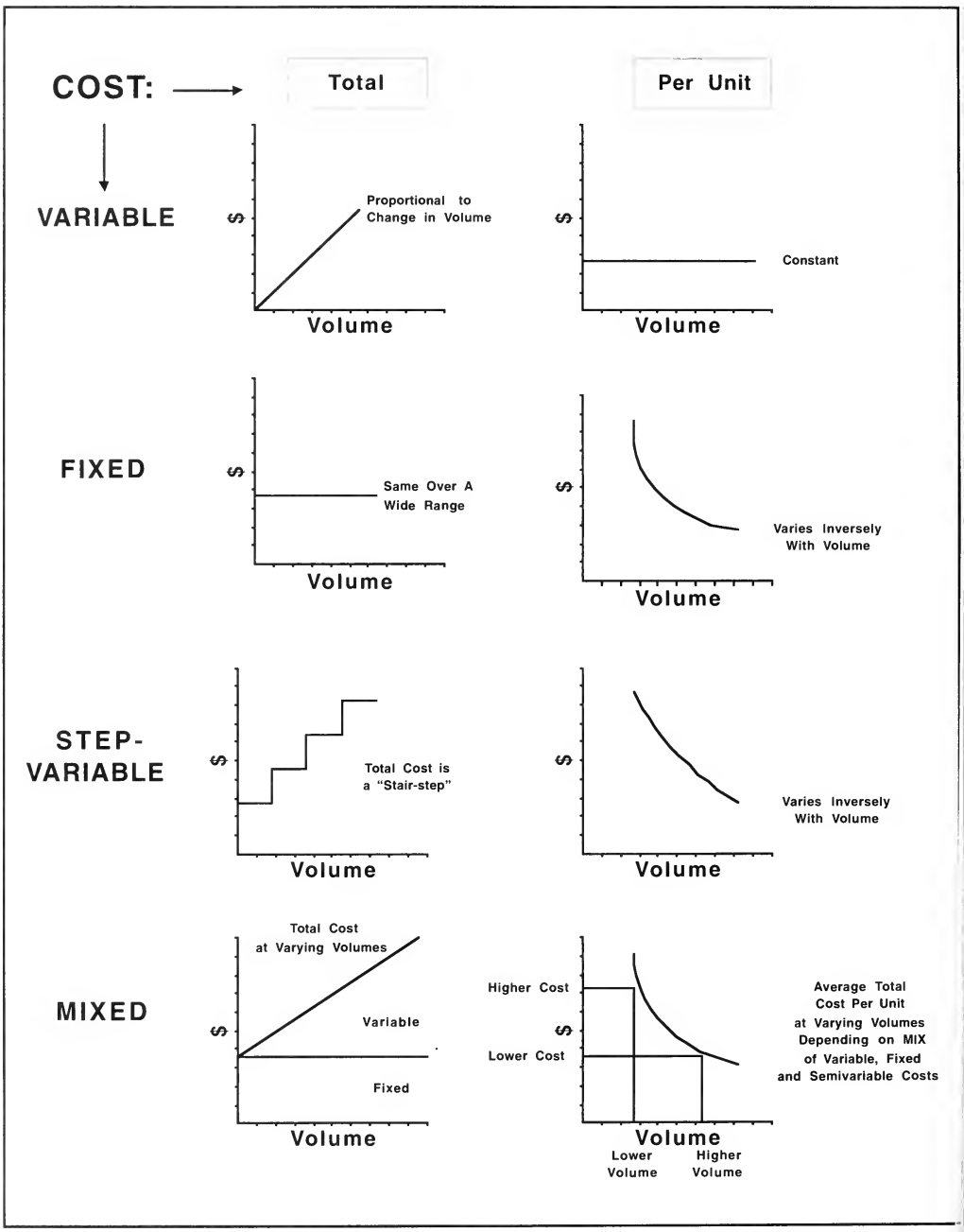
Unit-of-service cost procedures. Costs are associated with some activity, event, situation, product, or service—in short, with some cost objective. If the cost objective is the unit cost of services (or cost-per-unit), competent cost-finding requires ten (10) procedures (Vermont Department of Mental Health, 1988).

Ten Cost-Finding Procedures

Procedure Description

1. Identify and document the organizational units and the services (or programs) of each unit of the organization.
2. Assign the direct salary and wage cost to each organizational unit and to each service (or program).
3. Determine the cost of fringe benefits (e.g., social security, vacation, insurance, education leaves) and assign (estimated) fringe benefits to each organizational unit and to each service (or program).

Figure 1. Cost Behavior



4. Assign other direct and traceable expenses to each organizational unit and to each service (or program).
5. Assign indirect operating expenses by organizational unit and service (or program).
6. Estimate and assign the value of donated services, supplies and facilities (e.g., essential volunteers' services or "in kind" expenses) to each organizational unit and to each service (or program).
7. Assign the costs of administrative and support units to other organizational units and to services (or programs).
8. Determine the most feasible basis for unitizing the services provided by the organization.
9. Identify the actual (or estimated, if prospective) annual (or some other period) amount of service for each service (or program).
10. Compute the unit cost rate for each service (or program) (step 7 divided by step 9).

Table 1 summarizes these 10 cost-finding procedures required to produce unit costs for services. Each procedure is linked to an illustrative example in Figure 2. Procedure 1 identifies the organizational units and services as one administrative (and other support) services and two mental health services (A and B) in this hypothetical example. Costs are assigned to each service using procedures 2 through 6.[1] Costs are totaled for administration ($60,000) and for the two services (A = $300,000 and B = $200,000). Procedure 7 assigns the administration costs of $60,000 based on the relative cost of each service program (A= $300,000, B= $200,000) to the total organization costs less the assigned costs ($560,000 less $60,000 = $500,000). A is assigned $36,000 ($300,000/$500,000 or 60% of $60,000) and B is assigned $24,000 ($200,000/$500,000 or 40% of $60,000). Total program costs are $336,000 for A ($300,000 + $36,000) and $224,000 for B ($200,000 + 24,000). Procedure 8 defines the units of service and procedure 9 inserts actual (or estimated) levels of service (A = 6720 and B = 3200). Procedure 10 computes the cost of per unit of service for A at $50 ($336,000/6720) and $70 for B ($224,000/3200).

Activity-based costing suggests costs should be assigned to cost pools and then to specific services. This two-stage allocation procedure can result in improved cost assignments. For instance, the costs of an information system (e.g., IS personnel, computer, processing costs) may be collected in a cost pool and then assigned to organiza-

tional units based on use (e.g., number of transactions or hours of usage). Administrative costs may also be collected in a cost pool and assigned to other organizational units based on the number of full time equivalent (FTE) personnel (e.g., two half-time persons equal one FTE) employed in each unit (e.g., if a unit had 1 FTE out of a total of 10 FTE in the organization, the unit's assignment would be 10%).

An illustration of unit costing with typical services. Typical frontier organizations offer five to seven services. Versions of these services along with illustrative definitions include:

- *Residential* - usually a non-hospital, 24 hour care with *varying levels of support* for room, board and supervision; in some cases, a single category or *varied combinations* of support are separate services (i.e., living support).
- *Partial or day-treatment* - contact may be of varying lengths, but activities are generally programmatically linked. A *long* partial-day, for example, may be more than four (4) hours but less than 24 while a *short* partial-day as another service may be two (2) hours, but less than (4) hours.
- *Group* - therapeutic contact with more than one client up to a predetermined time (i.e., up to including two (2) hours).
- *Individual* - services may be apportioned on *time* (e.g., *brief* = up to and including 30 minutes or *conventional* = more than 30 minutes, up to and including two (2) hours) *or* the *character* of the service (e.g., early intervention).
- *Case management* - activities that focus on the *deployment* of the service plan (defined comprehensively to include the mental health treatment plan and plans of other care providers to meet the needs of the client).
- *Other mental health services* - a variety of other mental health services found in frontier centers. Illustrative services are *inpatient* (a 24 hour day in a facility licensed as a hospital by the State in or near the community, but are *not* state operated mental health institute days), *vocational, senior support, and prevention.*

Appendix A contains an extended example adapted from an actual frontier mental health organization. It illustrates the foregoing procedures using seven services found typically in frontier service delivery organizations and it offers a guide for the frontier mental manager embarking on an (or evaluating a current) unit-of-service costing system.Use as a key performance indicator in financial management. Managing mental health organizations with key performance indicators, including unit costs, is expanded by Sorensen, Zelman, Hanbery and Kucic (1987) to 25 measures covering the mixes of revenues, clients, staff and services. When unit cost performance indicators are computed as budgetary estimates and then compared to actual achievements, the *comparison (of budgeted to actual cost per unit of service)* can be used to maintain financial control of services and programs. Apparent performance deficiencies (Sherman, 1986) of a service or program indicator may be a function of:

1. Problems with the systems that generate, aggregate and report the data used to calculate the index—*data deficiencies*
2. Problems with the reliability or validity of the index—*psychometric deficiencies*
3. Problems with the standard used—-*inappropriate standards*
4. Problems with the operation of the entity whose performance is being measured—*numerator and/of denominator issues.*

If an entity is not performing up to standards, managerial attention may focus on unit costs where the numerator is cost and denominator is units of service. Numerator issues may include excessive professional, support, operating or overhead costs. Denominator issues may include time devoted to indirect services, time used in administrative activity, time lost in poor time management, excessive leave time, poor productivity requirements, and excessive staff turnover.

More refined unit service costs. The Substance Abuse and Mental Health Services Administration (SAMHSA) has sponsored research (Capital Consulting Corporation, 1993) to produced more refined unit service costs. These unit service costs disaggregate the earlier analyses into more specific component costs based on activity based cost (ABC) methods. The approach identifies the activities of the service path in more detail. The following service events are identified and applied to measure program cost profiles (Capital Consulting Corporation, personal communication, 1996):

> Initial assessment, medical examination, psychosocial evaluation, individual counseling, group counseling, medical and diagnostic services (with HIV testing and counseling identified separated), housing, clinical case management, networking and outreach, client transportation, child care services, client education and staff education.

A traditional step-down allocation assigns depreciation, rent and interest, administrative, and other support services to the client-oriented services. An illustrative application of these newer methods is found in Anderson, Bowland, Cartwright and Bassin (1996, in press) applied to substance abuse treatment program costs. The expanded level of analysis requires a more sophisticated cost accounting and statistical information system than is found usually in frontier mental health organizations.

Costs not discussed. A comprehensive concept of costs includes the use of resources, loss of resources and money transfers (Kamper-Jorgensen, 1976). *The foregoing analysis bears only on the resources used to provide direct mental health care by a specified organization* . Left out are **direct services** received from other providers (e.g., state hospital inpatient stays, social services), **private costs of clients** (e.g., transportation to receive mental health services, family burden), **loss of resources** (e.g., time-off from work or illness episode [loss of earnings and labor productivity], permanent disability [capitalized losses of earnings and labor productivity], destroyed private

or public property [via accidents]), and money transfers (e.g., governmental benefits or pensions and personal income taxes paid). Sharfstein and Clark (1978), however, challenge public money transfers as "costs."

Money transfers such as public aid, disability pension pay, disability insurance receipts or other cash payments do not use up resources, but only transfer title to resources from one group to another. The expanded version of costs is more likely to be accounted for in controlled cost-effectiveness or cost-benefit *research* studies.

Role of the Independent Public Accountant (Auditor). In most states with frontier service areas, the independent public accountant (usually a Certified Public Accountant or CPA), is required to examine and report on the financial statements of the mental health organization(s). Audits by a CPA requires *adherence to the American Institute of Certified Public Accountants (AICPA) *Audits of Providers of Health Care Services* (1994), referred to as the *Health Care Audit Guide*, *or* the AICPA *Audits of Not-for-Profit Organizations* (1996), referred to as the *Not-for-Profit Audit Guide*. The *Health Care Audit Guide* applies to 1) investor-owned businesses, 2) not-for-profit enterprises with no ownership interest and are essentially self-sustaining from fees or 3) a governmental entity. The *Not-for-Profit Audit Guide* may be appropriate for a non-governmental Voluntary Health and Welfare Organization (VHWO) if a not-for-profit organization provides services to individuals, but derives its revenues *primarily* from voluntary contributions. The not-for-profit status implies 1) contributions are a significant source of resources and the resource providers do not expect any meaningful pecuniary returns, 2) operating purposes other than profits, and 3) an absence of a business type ownership. A mental health organization that derives a *majority* of its support from public grants and donations (rather than fee for services, capitated care contracts or other health care payment arrangements) may use the audit guide for *Guide for Not-for-Profit Organizations.*

If an organization qualifies as a non-governmental VHWO, then a Statement of Functional Expenses is required (along with the Balance Sheet, the Statement of Activities, and the Statement of Cash Flows). The Statement of Functional Expenses assigns costs to program services and supporting services of the organization. When these costs by service are related to the units of service provided, unit costs can be derived.

Alert funding agencies (e.g., State Department of Mental Health) will add additional reporting requirements for the auditor to review and evaluate the statistical information system and to express an opinion on the units of service and/or clients service in relation to the basic financial statements taken as a whole and the related costs per unit of service. Typically the independent auditor is involved in detecting undisclosed liabilities. *A major liability could arise because of inaccurate reporting on costs and services to one or more funding agencies.* Because of a need to identify undisclosed liabilities as part of the audit, the independent auditor *must* review both the accounting

and statistical systems related to unit costs, thus nominal costs are incurred usually by expanding the reporting requirements to unit-of-service costs. *By adding the independent auditor's opinion to the unit costs, however, the power and credibility of the unit costs are increased enormously.* Now the unit costs are appropriate for contracting, reimbursement, internal financial management and as an input to cost-outcome and cost-effectiveness analyses.

For Colorado mental health service providers funded by the Department of Human Services—Mental Health Services, as an example—the independent auditor is *required* to review the expenses assigned to services *and* the accumulation of units of service *and* is *required* to express an opinion on the service unit costs (see "Chapter 5: Auditing and Financial Reporting Guidelines" in the 1997 *Accounting and Auditing Guidelines*, Mental Health Services, Colorado Department of Human Services.)

Implications for Behavioral Health Care

In this paper key tools of cost analysis were provided so as to facilitate efficient and effective management of frontier mental health programs. The implications of these tools for behavioral health can be summarized as follows:

- Managers of frontier mental health organizations are expected to find and use resources to create effective mental health services at a minimum cost.
- Frontier mental health programs face several challenges including managed care. Managed mental health care seeks to reduce or eliminate unnecessary services, reduce the costs of care, maintain or increase effectiveness and provide services satisfying to the customer. The effort is to decrease system fragmentation, improve client outcomes, control costs and please customers. Managed care reflects the emerging Continuous Quality Improvement (CQI) focus by providing ". . . the right care . . . deliver[ed] to the right patients at the right time in the right way" (Freeman and Trabin, 1994).
- Sound cost management requires an understanding of cost behavior, cost distinctions for planning and control and unit-of-service costs. Unit-of-service costs are a key performance indicator in effective financial management.
- Funding agencies should require the independent public accountant (auditor) to include the assignment of expenses to services, the accumulation of units of service and the unit-of-service cost as part of the *audit opinion* to enhance the *credibility of unit costs* in financial management, contract negotiations and accountability, and cost-outcome (and cost-effectiveness) analyses.
- Comparing the costs and outcomes of optional services enables cost-effective choices among services and programs.
- *To survive realistically in an unsettled environment, frontier mental health programs need to document costs, clinical outcomes and client satisfaction.*

APPENDIX A

Schedule of Unit Costs Example

The Schedule of Unit Costs (Figure A.1) follows the 10 procedures outlined in Table 1 and Figure 2.

Procedure 1: *Identify and document the organizational units and the services of each unit of the organization*

Nine categories of costs were identified and listed in the column headings, including administrative and other support services, seven mental health services and non-mental health services.

Procedure 2: *Assign the direct salary and wage cost to each organizational unit and to each service (or program).*

Procedure 3: *Determine the cost of fringe benefits (e.g., social security, vacation, insurance, education leaves) and assign (estimated) fringe benefits to each organizational unit and to each service (or program).*

The analysis for Procedure 2 and 3 starts with a Schedule of Time Allocation (Figure A.2). Using time reported in each major service, this schedule determines the compensation cost allocations for the *seven services* offered by the frontier mental health center. The cost data from Figure A.2 are imported into the Schedule of Unit Costs (see line 1 of Figure A.1).

Procedure 4: *Assign other direct and traceable expenses to each organizational unit and to each service (or program).*

Procedure 5: *Assign indirect operating expenses by organizational unit and service (or program).*

Costs for direct and indirect operating expenses are extracted from the accounting general ledger system for all of the services including administration and non-mental health services (See lines 2 and 3 of Figure A.1).

***Procedure 6**: Estimate and assign the value of donated services, supplies and facilities (e.g., essential volunteers' services or "in kind" expenses) to each organizational unit and to each service (or program).*

There are no donated services, supplies or facilities in this mental health center.

***Procedure 7**: Assign the costs of administrative and support units to other organizational units and to services (or programs).*

The administrative and support unit costs of $195,000 are ***assigned proportionally*** to each of the seven services and non-mental health services *based on the* ***ratio*** *of the individual service's cost* ***to*** *the total organizational costs* ***less*** *the administrative costs.* For example, the cost of residential service of $30,000 (line 4 in Figure A.1) *divided* by the total costs of the organization (i.e., $899,500 - $195,000 = $704,500) *equals* an assignment ratio of .042583. Multiplying the total administrative costs by this assignment ratio gives an assigned administrative cost of $8304. In terms of a formula:

Admin $ x [Service $ before Admin $ / (Total costs - Admin $)] = Assigned Admin $

$195,000 x $30,000 / ($899,500-$195,000) = $8,304

or

Admin $ x (Assignment Ratio) = Assigned Admin $

$195,000 x .042583 = $8,304.

In other words, for every dollar of cost incurred by the residential service, slightly over $0.045 (or 4 and _ cents) are assigned for administration. The remaining services are computed in a similar fashion until the $195,000 is assigned to all services including non-mental health services (See line 5 of Figure A.1).

***Procedure 8**: Determine the most feasible basis for unitizing the services provided by the organization.*

The seven mental health services are defined by the state contract and the units of service are computed from a time analysis of staff working in each service. Because the agency uses a log system, both staff time and client unit of services data are captured. Staff time spent in each service is used to assign compensation costs to each service (Procedure 1) and the total units of service from the Schedule of Time Allocation (Figure A.2) is carried forward to line 7 of the Schedule of Unit Costs (Figure A.1). Units of service could also be gathered from other sources, e.g., service rendered documents.

***Procedure 9**: Identify the actual (or estimated, if prospective) annual (or some other period) amount of service for each type of service (or program).*

***Procedure 10**: Compute the unit cost rate for each service (or program) (step 7 divided by step 9).*

The unit cost rates are computed on line 8 of the Schedule of Unit Costs (line 6 divided by line 7 on Figure A.1).

The remaining lines on Figure A.1 are adjustments made to comply with state regulations and reporting requirements. Line 9 subtracts donated resources (since they are not allowed by the state) to compute a net reimbursable rate on line 10. Since there are

Figure A.1. Schedule of Unit Costs

FRONTIER MENTAL HEALTH
Schedule of Unit Costs
for year ended 19B

#	EXPENSES	TOTAL COSTS	Administration and other support	Residential	Partial Day	Individual	Group	Brief	Case Management	Vocational	Non-Mental Health
1	Compensation (see time allocation)	$ 702,000	$ 165,000	$ 8,000	$ 15,000	$ 205,000	$ 55,000	$ 52,000	$ 57,000	$ 21,000	$ 124,000
2	Other direct and traceable	$ 87,000	$ 4,000	$ 14,000	$ 2,000	$ 32,000	$ 9,000	$ 6,000	$ 9,000	$ 4,000	$ 7,000
3	Indirect	$ 110,500	$ 26,000	$ 8,000	$ 4,500	$ 38,000	$ 7,000	$ 9,000	$ 6,000	$ 3,000	$ 9,000
4	TOTAL	$ 899,500	$ 195,000	$ 30,000	$ 21,500	$ 275,000	$ 71,000	$ 67,000	$ 72,000	$ 28,000	$ 140,000
5	Assignment of administration		$ (195,000)	$ 8,304	$ 5,951	$ 76,118	$ 19,652	$ 18,545	$ 19,929	$ 7,750	$ 38,751
6	TOTAL PROGRAM COSTS	$ 899,500	$0	$ 38,304	$ 27,451	$ 351,118	$ 90,652	$ 85,545	$ 91,929	$ 35,750	$ 178,751
7	UNITS of SERVICE (see time allocation)			672	422	4389	2590	1426	3283	389	
8	**COST PER UNIT of SERVICE**			$ 57	$ 65	$ 80	$ 35	$ 60	$ 28	$ 92	
9	LESS: Donated Costs			$ -	$ -	$ -	$ -	$ -	$ -	$ -	
10	**NET UNIT COST: 19B**			$ 57	$ 65	$ 80	$ 35	$ 60	$ 28	$ 92	
11	NET UNIT COST: 19A			$ 53	$ 60	$ 79	$ 30	$ 50	$ 22	$ 80	
12	CHANGE $			$ 4	$ 5	$ 1	$ 5	$ 10	$ 6	$ 12	
13	% CHANGE			7.5%	8.3%	1.3%	16.7%	20.0%	27.3%	15.0%	

no donated resources in this example, the adjustments are all zero amounts. Line 11 identifies the unit cost rate from the *prior* fiscal year and computes a dollar change (line 12) and a percentage change from the prior year (line 13). Lines 12 and 13 are used to track the changes in unit costs to assess the increasing (or decreasing) direction and to test the reasonableness of rate changes from the prior year.

Figure A.2. Schedule of Time Allocation

FRONTIER MENTAL HEALTH
Schedule of Time Allocation
for year ended 19B

Employee	MH $	Residential:				Partial Day:				Individual:				Group:				Brief:				Case Management:				Vocational			
ID #	Allocated	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation	Units	Hrs	n%	Allocation
231	$ 30,000	0	0	0	$ -	0	0	6%	$ 1,800	500	550	6%	$ 1,800	200	70	6%	$ 1,800	150	50	6%	$ 1,800	250	70	6%	$ 1,800	10	10	1%	$ 400
258	$ 24,000	0	0	0	$ -	0	0	0%	$ -	400	400	50%	$ 11,925	400	260	32%	$ 7,752	140	45	6%	$ 1,342	400	100	12%	$ 2,981	0	0	0%	$ -
356	$ 16,000	0	0	0	$ -	24	75	8%	$ 1,304	770	720	78%	$ 12,522	165	20	2%	$ 348	50	25	3%	$ 435	100	70	8%	$ 1,217	10	10	1%	$ 174
461	$ 16,000	672	600	0.5	$ 8,000	0	0	0	$ -	0	0	0	$ -	0	0	0%	$ -	0	0	0%	$ -	0	0	0%	$ -	0	0	0%	$ -
		——— detail omitted ———																——— detail omitted ———											
589	$ 12,000	0	0	0	$ -	0	0	0%	$ -	180	195	43%	$ 5,143	160	100	22%	$ 2,637	50	##	22%	$ 2,637	240	60	13%	$ 1,582	0	0	0%	$ -
Totals*	$413,000	*672*			*$ 8,000*	*422*			*$ 15,000*	*4389*			*$205,000*	*2590*			*$55,000*	*1426*			*$52,000*	*3283*			*$ 57,000*	*389*			*$21,000*

*Totals forwarded to Schedule of Unit Costs: see shaded cells)

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Notes

[1] Donated supplies (or materials), services and facilities require additional discussion. If the organization is using the American Institute of Certified Public Accountants (AICPA) *Health Care Audit Guide*, supplies are recorded at fair market value and reported as non-operating gains (or other operating revenues if material in amount). Under the same *Guide*, professional services may be recorded at fair market value and reported as non-operating gains (or other revenues) *if* the services are significant and would be performed by salaried personnel (if not for the volunteer), are subject to the usual employer-employee relationship, and are subject to an objective valuation. The fair market value of donated facilities (e.g., rent-free building) is recognized when placed in service. If a fixed asset is *donated*, then the timing of revenue and gain recognition is a function of *either* unrestricted use by the governing board *or* use by donor-specified restricted purposes. Unrestricted revenues and gains are recognized on an accrual basis while assets restricted for specified purposes are realized in the period they are used for the restricted purpose. If the organization is reporting as a non-government Voluntary Health and Welfare Organization (VHWO), then guidance comes from the Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 116,* "Accounting for Contributions Received and Contributions Made," (June 1993). The fair market value of significant donated materials or facilities or other assets used is reported as a contribution when received and as an expense when used or sold. Donated services are reported as contributions and expenses (or assets) *if* the service (1) created or enhanced a nonfinancial asset *or* (2) required specialized skills (e.g., accounting, medicine, pluming) provided by individuals with those skills and would have to be purchased typically if the services were not donated. These strict criteria preclude most volunteer services, for example in assisting staff work with agency clients

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Client Outcomes and Costs in Frontier Mental Health Organizations

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Abstract

Managers of mental health organizations that serve frontier areas residents are expected to acquire and manage resources to create effective and efficient mental health services. To do this managers must document costs, outcomes and client satisfaction at a minimum to survive the assault of managed care. As part two of a three-part series on frontier mental health that includes (1) analyzing cost dynamics, (2) linking costs and client outcomes, and (3) choosing cost-effective management strategies, this report builds a framework outlining the role of costs and outcomes in cost-outcome and cost-effectiveness analyses. This paper explores issues related to outcomes (to be linked with costs) and how cost-outcomes and cost-effectiveness may be used as a management strategy in the operating frontier mental health programs.

Introduction

Managers of mental health organizations that serve frontier area residents are expected to acquire and manage resources to create effective and efficient mental health services. Efficient cost management requires understanding cost behavior, applying cost distinctions for planning and control, computing unit-of-service costs, using unit-cost data in contracting and financial management and adding credibility to the unit-of-service costs by including the opinion of an independent auditor. But the fast emerging managed care environment requires more than just efficient cost management. Managed behavioral health care seeks to reduce or eliminate unnecessary services, reduce and control the costs of care, and maintain or increase outcomes and effectiveness.

As costs are reduced, concerns surface about compromised quality of care or, more specifically, *poor clinical outcomes* and *meager client satisfaction*. Knowing about client outcomes with services can help identify costs to be enhanced, diminished or reengineered. Outcome measures such as client functioning *or* symptomatic psychological distress *or* quality of life appropriate for the age and client type should be considered. Client satisfaction should also be measured. While not a measure of client functioning, assessing client satisfaction is a key measure of program performance and may be as important as treatment outcome. Standardized methods provide the ideal

assessment approach for both outcome and client satisfaction. Comparing the costs and outcomes of two or more services enables managers (and policy makers) to make cost-effective choices among services and programs.

Frontier mental health programs must document costs, outcomes, and client satisfaction at a minimum to survive the assault of managed care. As part two of a three-part series on frontier mental health that includes (1) analyzing cost dynamics, (2) linking costs and client outcomes, and (3) choosing cost-effective management strategies, this report builds a framework outlining the role of costs *and* outcomes in cost-outcome and cost-effectiveness analyses. This paper explores issues related to outcomes (to be linked with costs) and how cost-outcomes and cost-effectiveness may be used as a management strategy in operating frontier mental health programs.

Acquiring A Comprehensive View Of Mental Health Services

With the stimulus of widespread implementation of managed care, various healthcare organizations are focusing on a comprehensive framework of analysis using broad spheres of activity (or influence) called domains (MHSIP, 1996; ACMHA, 1997; NASMHPD Research Institute, 1997 and 1998). While the list varies across organizations, the domains generally include the four listed in the *MHSIP Consumer-Oriented Mental Health Report Card* (1996):

- ***access***—is a full range of needed services quickly and readily obtainable?
- ***appropriateness***—do appropriate services address a consumer's individual strengths and weakness, cultural context, service preferences and recovery goals?
- ***outcomes***—do services for individuals with emotional and behavioral disorders have an effect on their well-being, life circumstances, and capacity for self-management and recovery?
- ***prevention***—do preventive activities reduce the incidence of mental disorders by (1) early identification of risk factors or precursor signs and symptoms of disorders and (2) increasing social supports and coping skills for those at risk?

An analysis of each domain can produce a robust set of categories and questions. The MHSIP analysis of the domains focused heavily on the customer perspective. What is the customers' perception of access, appropriateness, and outcomes? Besides the customer viewpoint, a mental health manager may want additional measures. For example, access includes continuity of care, integration of physical and behavioral health care, use of hospitalization, success at engaging specific target populations (or penetration rates) and assessments of waiting time. The other domains expand in the same way. A suggested expansion is shown in Table 1. Many of the questions surrounding a domain are pervasive and may emerge at a service or program level or, perhaps, at a county or state level. When a *frontier service provider* tries to select from the bewildering number of interesting and relevant questions, s/he is compelled to make choices

Table 1. Analysis of Domains

Domain	Illustrative focus of content	Illustrative type of question
Access	1. Consumer survey	1. What are the customer's *perceptions* of access? Complaints?
	2. Continuity of care	2. What are the arrangements to refer inpatients to residential or outpatient servic
	3. Integration of physical and behavioral health care systems	3. How is the transition from one to the other supposed to work?
	4. Hospital utilization	4. What are readmission rates and average lengths of stay (ALOS)?
	5. Penetration rates	5. What is the ratio of ***x*** clients served to total ***x*** population in catchment area?
	6. Waiting time	6. What are the standard and actual results for timeliness after request for service:
Appropriateness	1. Consumer survey	1. What are the customer's *perceptions* of appropriateness? Complaints?
	2. Continuity of care	2. What are the referral patterns from inpatients to residential or outpatient servic
	3. Cost of services	1. What is the cost per unit of service?
	4. Integration of physical and behavioral health care systems	2. What are the number of coordination events between the two?
	1. Voluntary participation	3. What is the percentage of inpatient admissions that are *involuntary*?
	6. Penetration rates	4. What percentage of certified SPMI are served?
	7. Services to promote recovery	5. What is the ratio of residential to inpatient units of service?
Outcomes	1. Independence	1. What is the average number of days spent in the community?
	2. Criminal justice	1. What is the proportion of adults and children who spent time in jail?
	3. Productive activity (employment or education)	2. What is consumer's vocational and/or educational status? (days worked? $ ea
	4. Functioning	3. What is the change in functioning over time?
	5. Hospital utilization	4. What is the proportion of clients readmitted within 30 days?
	6. Living situation	5. What is the type of living arrangement (and level of independence)?
	7. Quality of life	6. What is the level of general life functioning?
	8. Satisfaction	7. What is the consumer satisfaction with their mental health center and services'
	9. Substance abuse	8. What is the age of first use of alcohol? Marijuana? Cocaine?
	10. Symptom reduction	9. What is the reduction in symptoms?
Prevention	1. Information provided to reduce the risk of developing mental disorders	1. What are the expenditures per enrollee on dissemination of preventive inform
	2. Interventions designed to reduce the risk of developing mental disorder	2. What is the percentage of enrollees participating in preventive programs?

because of limited resources such as time and money. This paper suggests several questions may be more important than others given sparse resources. Two are prominent: *service costs* and *client outcomes*.

As mental health services increase as a part of total health services (Broskowski, 1991), new emphasis is placed on costs and outcomes (Mirin and Namerow, 1991). Managing care requires careful documentation of the costs of services and of clinical outcomes. Strategies to monitor and assess treatment plans and outcomes take many forms ranging from preadmission reviews, continuing treatment authorizations, concurrent review, screens (often computerized), to performance outcome measures (Austin, Blum and Murtaza, 1995). This documentation of cost and outcome can be used, in addition, to respond to consumer and management concerns. Now consumers (including clients, employers and payers) are beginning to demand accountability for the consumption of resources and the client outcomes in mental health programs. Good managers of mental health programs need to know how well their program and their clients are doing. Information systems (IS) to meet this need should focus on systematic cost reports, indicators to assess clinical outcomes, and analyses of costs and outcomes to evaluate cost-effectiveness. Comparing the costs and outcomes of optional services enables cost-effective choices among services and programs. Today's complex mental health environment gives neither easy nor clear-cut guidelines for these information requirements.

Because the analysis of costs is pursed in a separate Letter to the Field, (No. 12, "Cost Dynamics of Frontier Mental Health Services"), this paper will focus on issues of *measuring outcomes and linking to cost.* Regardless of the programmatic or service strategy taken, assessing the costs and outcomes is a vital first step in managing for cost-effective mental health.

Outcomes

Concern for client outcomes was embedded in the traditional mental health program evaluation literature (Attkisson, Hargreaves, Horowitz and Sorensen, 1978; Ciarlo, Brown, Edwards, Kiresuk and Newman, 1986). Today it is part of a larger quality movement in health care known as Continuous Quality Improvement (or CQI). In the corporate sector the movement is often called Total Quality Management (or TQM) and is associated with improvements in employee morale and productivity, customer satisfaction, and financial viability (General Accounting Office, 1991; Ernst and Young, 1992). The CQI movement complements managed care as both focus on client outcomes. CQI in managed care calls for providing "... the right care ... deliver[ed] to the right patients at the right time in the right way" (Freeman and Trabin, 1994). A significant feature of this quality movement in health care is the reemergence of a concern for the client and how s/he feels about and responds to health care encounters.

Shern (1994, p. 23), described the linkage between CQI and outcomes by observing "... CQI focuses on a recipient and outcomes orientation with an emphasis on understanding how program processes are related to desired outcomes." The application of CQI in mental health, unlike health care, is in an early developmental stage (Rago and Reid, 1991; Evans, Faulkner and Hodo, 1992; Sluyter and Barnett, 1995). As purchasers and providers press prices and costs downward, consumer concern about compromised quality of care surface. Outcome management and practice guidelines programs may be able to deliver consistent and high quality care by reducing practice pattern variation (Freeman and Trabin, 1994).

Research on Outcomes. Outcome can be defined in many ways (Ware, 1997; Bergin and Garfield, 1993; Massey, 1991; Newman, 1980). The McGuirk, Zahniser, Bartsch and Engleby (1994) study, using varying stakeholders, found a general preference for skilled coping, safety, and symptom reduction as measures of outcome. Ranked closely behind were customer involvement and social functioning. All six were ranked higher than customer satisfaction as an outcome by both consumers and providers. Program implementation and demonstration projects offer additional examples of outcome measures. New Mexico (Callahan and Shaening, 1994) has outcome measures focusing on living arrangements, work and related activity, quality of life, and client satisfaction. Oregon (Wachal, 1994) adult community outcomes concentrate on housing, financial supports, daily activities, employment, overall treatment satisfaction and level of functioning. A Unified Services Program (USP) in Pittsburgh, PA (Gould, 1994:63) uses scales covering ". . . symptomatology, levels of functioning, multiple measures of quality of life, substance abuse and treatment participation." Andrews, Peters and Teesson (1994), in Australia's search for mental health outcome measures, conclude with a set dealing with symptoms, functioning, quality of life, burden and satisfaction.

State-level Indicators. The National Association of State Mental Health Program Directors (NASMHPD) Research Institute is currently preparing an inventory of managed care performance indicators *including outcome measures* for state mental health programs (Mazade, 1997; NASMHPD Research Institute, 1997). The database should reflect service structures, levels of resources available, processes and *outcomes* used in developing and monitoring managed care contracts. In a five state feasibility study on state mental health agency performance measures, the NASMHPD Research Institute (1998) examined the feasibility and comparability of state performance indicators on

- outcomes (e.g., improvement of functioning, reduction in symptoms)
- consumer evaluation of care (e.g., outcome, access, appropriateness)
- consumer status (e.g., % employed, % living independently)
- community services (e.g., % contacted within 7 days of hospital discharge, % receiving case management).

In this study a frontier mental health organization could be responsive to state requirements for performance information if it obtained outcome and consumer evaluation of care data and was able to extract consumer status (e.g., % employed) and community services information (% receiving case management) from internal sources such as the client record.

Classifying Outcome Measures. Ciarlo et al. (1986) consolidated knowledge about outcome measures for mental health clients. The authors suggest a useful three-dimensional taxonomy:

- Assessment approach (individualized, partially standardized and standardized methodology)
- Functional area/domain assessed (individual/self, family/interpersonal, and community functioning)
- Respondent (client, collateral, therapist, and other)

Client satisfaction with services is differentiated from client outcome evaluation because ". . . the former measures do not normally address any specified area of client functioning" (Ciarlo et al., 1986:1). In the new thrust of managed care and CQI, however, the satisfaction of the client or an organization (e.g., Medicaid, an employer or a managed care vendor) may be as important as treatment outcome (Ware, Snyder, Wright and Davies, 1983). Competitive advantage accrues to providers who learn about and respond to customer needs. The challenge is to ". . . design an assessment program that provides useful, reliable, and valid data in an easy-to-use and cost-effective manner" (Plante, Couchman and Diaz, 1995:265). Quality for rural areas may be meaningfully addressed through a combination of clinical outcomes and client satisfaction (Bird, Lambert and Hartley, 1995).

Recommendations. Most frontier mental health programs should focus on outcome measures such as

- client functioning or symptomatic psychological distress or quality of life that are appropriate for the age (adult, adolescent, or child) and type (e.g., inpatient or outpatient, severely and persistently mentally ill, alcohol or other drug abuser) of patient, and
- satisfaction of the client.

Standardized methods provide the ideal assessment approach (Ciarlo et al., 1986). Well-standardized measures are needed to maximize the reliability (the extent to which the measure is reproducible) and sensitivity (the extent to which true changes in functional status can be detected). McLellan and Durell (1996) argue that standardized measures permit comparison conditions. Results from a single evaluation can be measured against results from a larger data base of comparable patients samples and treatment conditions. Without comparisons, outcome data from a single treatment or program cannot be interpreted scientifically (McLellan and Durell, 1996). While conver-

gence between multiple respondents creates more valid measures, often client and therapist evaluations alone provide adequate and useful assessments, especially when standardized measures are employed.

The key ingredients are assessment of *client outcomes* and *client satisfaction.* The outcome reports can document program performance for managers, clients, and payers. Satisfaction data can help spot areas where the process can be improved (Nguyen, Attkisson and Stegner, 1983). Recent news reports, for example, reveal an HMO responding to client dissatisfaction with appointment processes (Graham, 1995). Now the HMO offers the same or next-day appointments instead of a delayed visit. Anyone who calls and asks for an appointment that day will get one. "Our approach to a member who called before was, 'are you sure you want to be seen (by a medical provider)?' Now it's 'when do you want to be seen?'" This important change in the service would not have happened without client/customer satisfaction reports.

Client satisfaction information, however, may not be enough. Summaries of satisfaction may not pinpoint what might be wrong with the health care system. By the time the information works its way back to front-line managers and providers, it may be too general to be helpful. A client satisfaction survey may also not help front-line professionals to provide better service or to solve problems that cross departmental or service boundaries. Front-line personnel often need the results of root-cause analysis (Reichheld, 1996). Focus groups, as an example, that converge on dissatisfied customers and those who defect from the system can be rich sources of information about needed adjustments in the health care delivery system—adjustments that may not be clearly revealed in satisfaction surveys.

Criteria for Selecting Outcome Measures. Several authors identify the criteria[1] for selecting outcome measures (Attkisson et al., 1978; Ciarlo et al., 1986; Ciarlo, 1982; Mirin and Namerow, 1991; Vermillion and Pfeiffer, 1993; Burlingame, Lambert, Reisnger, Neff and Mosier, 1995; Sherman and Kaufmann, 1995; Mulkern, Leff, Green and Newman, 1995):

- The measure should meet minimal psychometric standards including reliability, validity, sensitivity, nonreactivity to situations, and minimization of respondent bias. If a measure does not have known reliability or validity, then its use is discouraged. This requirement eliminates most individualized (or homemade) instruments. Internal consistency reliability (coefficient alpha) estimates should be at .80 or above and test-retest should exceed .70. Validity coefficients should be at least .50 and are preferred at .75 or above.
- The measure should be suitable for the population under care. In managed care settings, nearly 75% of all patients present adjustment problems, affective (anxiety or depression) problems and/or problems with daily living (Ludden and Mandell, 1993). Mental health measures should tap symptomatic and psychosocial functions of the client (Russo et al., 1996).

- The measure should be easy to use, score and interpret. While some mental health literature on outcomes suggests multiple instruments (Waskow and Parloff, 1974), practice seems to follow a more simple approach (Lambert and Hill, 1993). Simple methodology and procedures insure uniformity (Ciarlo et al., 1986). To guarantee outcome assessments are integrated into mental health practice, brief and understandable instruments can report client status simply and objectively. If a measure is used frequently and addresses key dimensions of presenting problems and/or relates to treatment goals, then it becomes an easy addition to the clinical record. It can also reduce the effort spent on progress notes.
- The measure should be relatively low cost. If many clients are to be assessed regularly, then expensive instruments will present prohibitive demands on limited resources. Impossible requests for time and money are likely to result in no evaluation at all.
- The measure should be useful in clinical service functions and for evaluation purposes. The measure should be useful in planning treatment, measuring its impact and predicting outcome (American Psychiatric Association, 1994). The measures should reflect meaningful change. Some scales mix broad improvements in symptomatic and functional areas. Others attempt to separate symptom distress, interpersonal relations, and social role performance (Lambert, Lunnen and Umpress, 1994). Sometimes a measure is not used for clinical decisions about individualized client changes, but it is helpful in assessing how groups of clients perform. This aggregated analysis can be powerful in assessing program effectiveness and in documenting client progress to clients, clinicians, program managers, payers and legislative or regulative groups.

While only exploratory solutions are offered on what are good outcome measurements, frontier mental health programs must carefully select from available measures to survive the descending mantle of managed care enveloping all health care programs. The struggle is to balance sound research methods with the demands of a fast-paced market-driven business (Freeman and Trabin, 1994). Ciarlo (1996) suggests outcome for *managed mental health care* in frontier rural areas should focus on one (or more) of the following types of *outcome assessment* for

- ***adults*** using general measures such as global assessment of functioning (GAF), a role functioning scale (RFS) or a composite score from a symptom check-list (SCL-90-R or BSI) or a combination of behavior and symptom identification scale (BASIS-32) or the MOS 36-item short-form health survey (SF-36)
- ***children and adolescents*** using a behavioral and symptom checklist oriented to younger clients (Children Behavioral Checklist or CBCL) since adult scales are usually inappropriate or ineffective for children and adolescents.

- ***seriously and persistently mentally ill (SPMI)***[2] people focusing on the *lower end* of the functioning continuum relative to meeting basic needs, securing self-support via employment, and avoiding inappropriate and/or violent behavior.
- ***alcohol and other substance abuse*** identifying the special impairment arising from alcohol and drug abuse.

Table 2, *Selected Program or Service Outcome Measures,* reviews 12 measures including a client satisfaction scale. The measures, which *tend to be inexpensive,* are assessed for *reliability, validity* and the ability to produce an *overall score that can be linked to costs*. Samples of the instruments can be obtained from the authors, sponsors or through the *Health and Psychosocial Instruments* (HAPI) database[3]. Key work of the primary authors or sponsors is included in the references. In an independent and separate research effort, Sederer and Dickey (1996) concurrently review 10 of the 12 suggested measures.

Costs, Outcomes, and Effectiveness

With increased accountability, service providers of all sizes are being asked to demonstrate their effectiveness with outcome data. Outcome data can provide valuable information for accountability and for the improvement of clinical services and programs (Newman and Sorensen, 1985). Demonstrating effectiveness by itself, however, is usually insufficient. In managed care settings, effectiveness must be linked with costs.

Callahan (1994) suggests outcomes provide a method for evaluating the cost-effectiveness of services. Her approach involves outcomes, effectiveness and cost-effectiveness as evidenced by the questions for varying stakeholders:

Client	How does my progress and length of service compare to the progress made by other persons with similar characteristics? Have my symptoms improved (or changed) as reflected by a valid scale or assessment tool?
Mental Health Staff	How does the progress of this person compare to the progress of my other clients with similar characteristics? Have the client's symptoms improved as reflected by a valid scale or assessment tool?
Program Manager	What was the rate of effectiveness for each type of service and treatment alternative?

	How many clients were served? At what cost? How does our program compare to others with similar services?
Policy Maker	What types of service utilization patterns have the best (most effective) outcomes for specific types of clients? Are these outcomes being achieved in the most cost effective manner?

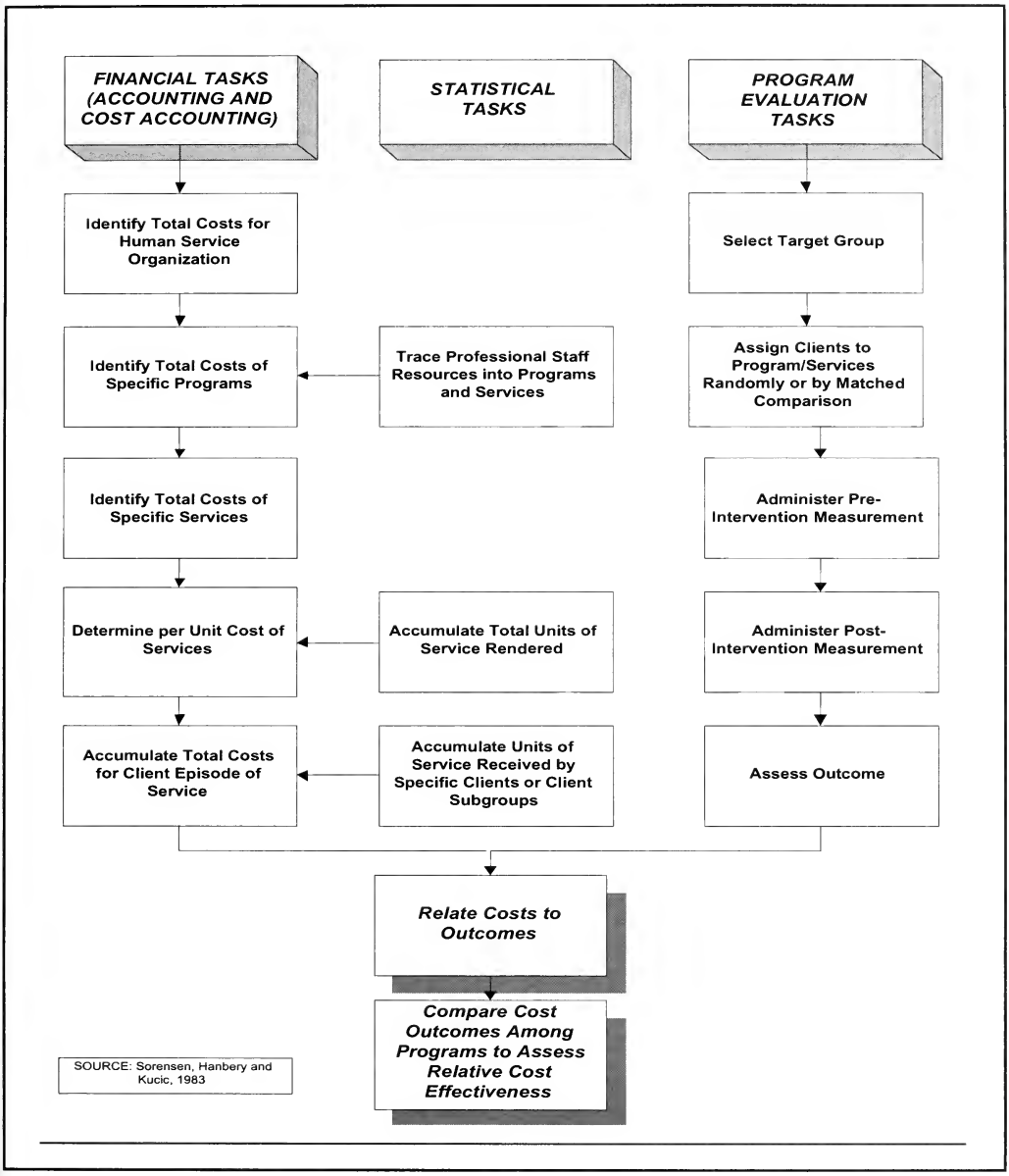
The client and mental health staff questions use outcomes (or comparative outcomes) to assess effectiveness[4]. The client is asking, "Am I getting better?" as a measure of progress or effectiveness while the clinician asks, "Are my clients improving, especially when compared to a relevant comparison group?" When the program manager and policy maker frame their questions, they are asking comparative cost-outcome or cost-effectiveness questions. "How do my costs and outcomes compare to other programs?" and "Are the outcomes most cost-effective" requires comparing costs and outcomes to assess cost-effectiveness[5].

Cost-Outcome and Cost-Effectiveness. Cost-outcome assessment (tying cost to clinical outcome) is one key to building viable cost-effectiveness analyses for program evaluation and accountability (Newman and Sorensen, 1985). Figure 1 identifies the major financial, statistical and evaluation tasks required for cost-outcome and cost-effectiveness analysis.

Starting with total costs of a (public) mental health organization, costs are refined to the per unit cost of service. Statistical data on professional staff activities are required to assign personnel costs, while information about services (e.g., units of service) is necessary to unitize program and service costs. With unitized costs of service and accumulated services received by specific target groups, total costs for an episode of care may be computed. Evaluation tasks then involve the selection of a target group, **pre**intervention assessment, and careful non-experimental assignment of clients to varied treatments or services. Random assignment is ideal, but practical constraints argue for quasi-experimental procedures which try to equate for problem severity and other key characteristics of clients. After **post**intervention measurements, outcomes are assessed. Then costs are related to outcomes for the final cost-outcome report. If cost outcomes are calculated on more than one service and comparatively analyzed, cost-effectiveness can be assessed for optional approaches for specific target groups (Thornton et al., 1990).

Illustrative example of cost-outcome and cost-effectiveness. As measures of human service accountability and program management, cost-outcome and cost-effectiveness are interrelated. Cost-outcome analysis finds the programmatic resources con-

Figure 1. Overview of Major Tasks in Cost-Outcome and Cost-Effectiveness Studies in Human Service Organizations



sumed to achieve a change in a relative measure of client outcome (e.g., functioning). Cost-effectiveness analysis compares beneficial program outcomes to the cost of programs (or modalities or techniques) to identify the most effective programs. *The following example illustrates the basic steps.* The outcome measure used in the illustration identifies the major criteria for client performance (Figure 2) and the scale metrics (Figure 3). The scale is a global assessment of the four criteria scaled into nine levels of measurement (Endicott, Spitzer, Fleiss and Cohen, 1976). Levels 1 to 4 are considered *dysfunctional* while levels 5 to 9 are deemed *functional.* Figure 4 is a basic cost-outcome matrix using only the dysfunctional-functional level of functioning. Level of functioning is assessed at the *start* and *end* of a time period for a specific target group of clients. Combining the two rows and two columns results in four-cells:

cell A	*start:* dysfunctional (1-4 ratings)	*end*: dysfunctional (1-4 ratings)
cell B:	*start:* dysfunctional (1-4 ratings)	*end:* functional (5-9 ratings)
cell C:	*start:* functional (5-9 ratings)	*end:* dysfunctional (1-4 ratings)
cell D:	*start:* functional (5-9 ratings)	*end:* functional (5-9 ratings)

Figure 2. Major Criteria for Performance

- Personal self-care (adjust to age level)
- Social functioning (adjust to age level)
- Vocation and/or educational functioning
  - Working adults
  - Homemakers and/or parents and/or elderly
- Evidence of emotional stability and stress tolerance

Figure 3. Develop Scale Metrics

- **Level 1: Dysfunctional in all four areas**
- **Level 2: Not working; intolerable; minimal self care, requires restrictive setting**
- **Level 3: Not working; strain on others; movement in community restricted**
- **Level 4: Probably not working, but may if in protective setting; can care for self; can interact but avoid stressful situations**
- **Level 5: Working or schooling, but low stability and stress tolerance; barely able to hold on and needs therapeutic intervention**
- **Level 6: Vocational/educational stabilized because of direct therapeutic intervention; symptoms noticeable to client and others**
- **Level 7: Vocational/educational functioning acceptable; therapy needed**
- **Level 8: Functioning well in all areas; may need periodic services (e.g., med check)**
- **Level 9: Functioning well in all area and no contact with Behavioral Health Services is recommended**

Figure 4. Cost-Outcome Matrix (basic)

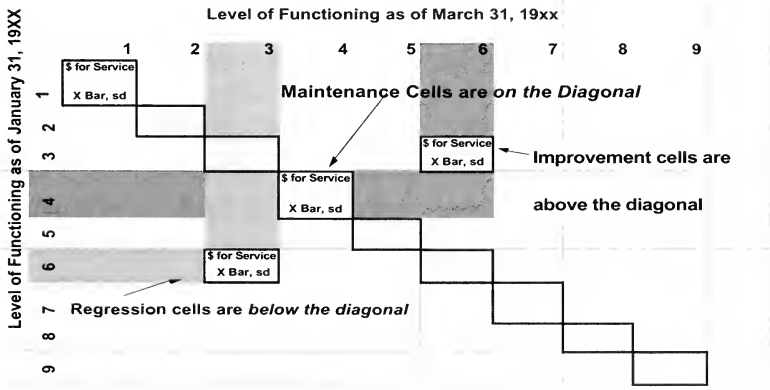
	END dysfunctional	3/31/X functional
START 1/1/X dysfunctional 1-4	$ of Services N X -bar; sd	$ of Services N X-bar; sd
functional 5-9	$ of Services N X-bar; sd	$ of Services N X-bar; sd

n = xxxx

Next, for the clients in each cell, the services received and related unit-of-service costs are multiplied and summed and statistics such as the mean (x-bar) and standard deviation (sd) are computed for each cell. Of special concern is *cell C* since moving from functional to dysfunctional may suggest clinical risk. *Cell A* is of interest since the clients have *not* moved from a dysfunctional status and often represent high consumption of expensive services. *Cell B* is of interest since the clients moved from a dysfunctional to a functional level and this change may prompt questions about the type and cost of services used. Finally *cell D* may deserve a review to assess resource consumption by clients who started and ended the review period as functional.

Figure 5 is an expanded matrix of costs and outcomes using all nine points of the scale developed in Figure 3. Individuals starting and ending at the same level are *on the diagonal* while those showing improvement are *above the diagonal* and those showing

Figure 5. Cost-Outcome Matrix (expanded)



regression are *below the diagonal*. Means and standard deviations are computed for each cell. Client change and costs are aggregated by improvement, maintenance, and regression (as shown conceptually in Figure 6) and illustrated with sample values in

Figure 6. Cost-Outcome Matrix (summary)

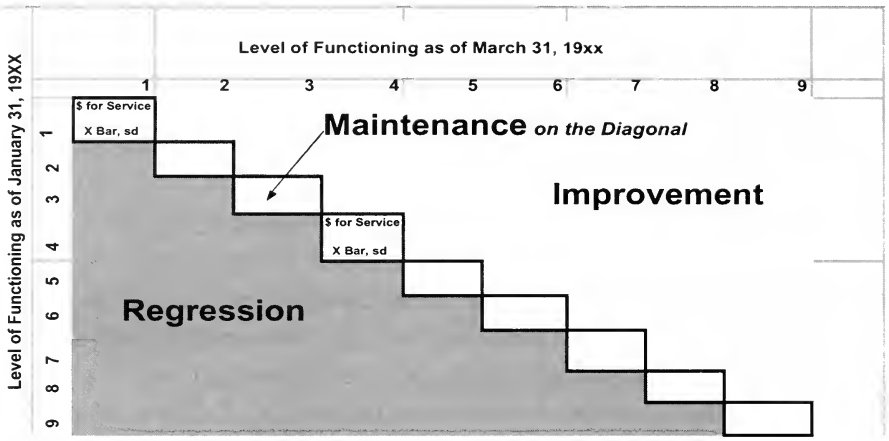


Figure 7. Client outcome (e.g., improvement, maintenance or regression) and the resources used to achieve the outcome are linked in Figure 7. Note in the illustration that 40% are improved (with 19% of the resources), 50% are maintained (by consuming 71% of the resources) and 10% regressed (while receiving 10% of the resources).

Figure 7. Cost-Outcome Matrix (table)

Client Change	N (000)	%	Total $ (000)	%	X-Bar
Improve	**4**	**40%**	**$1,200**	**19%**	**$300**
Maintain	**5**	**50%**	**$4,500**	**71%**	**$900**
Regress	**1**	**10%**	**$ 600**	**10%**	**$600**
	10	100%	$6,300	100%	$630

In cost-outcome analysis, there is no way to document whether change during service is actually caused by the intervention or is simply concurrent with it. Gathering *comparative* cost-outcomes on optional services (e.g., A vs. B) may separate the effects of service strategy and cost differences. Potential intervening variables, such as history, selection bias, practice effects, maturation and other factors unrelated to the service can be controlled by random assignment to alternative services or by less desirable quasi-experimental methods such as matched comparisons. The purpose of the analysis is to reach conclusions about the relative cost and effectiveness of the services. Figure 8 reviews the logical relationships and choice points about two services (A and B). Seven of the choice points are self-explanatory (e.g., A is as effective and A costs less, therefore choose A) while the cells with question marks (?) are not clear conclusions (e.g., A is less effective and A costs less).

Figure 8. Cost-Effectiveness Matrix

		COST: A vs. B		
		A < B	**A = B**	**A > B**
EFFECT: A vs. B	**A < B**	*?*	***B***	***B***
	A = B	*A*	***A or B***	***B***
	A > B	*A*	*A*	*?*

Effect of Capitation. Cost-effective care with limited resources can be reinforced by capitation (Lehman, 1987). The Monroe-Livingston demonstration project, as an illustration, evaluated capitated funding of mental health care in contrast to fee-for-service in a seriously mentally ill population. After a two-year follow-up, Cole, Reed, Babigian, Brown and Fray (1994) found patients in the capitation had fewer hospital inpatients days than the fee-for-service group, while both groups were similar in their functioning and level of symptoms. This report evaluated effectiveness using outcomes. Reed, Hennessy, Mitchell and Babigian (1994) evaluated total costs and benefits in the same demonstration and concluded, ". . . capitation funding can promote care of seriously mentally ill persons in community settings at lower overall costs." This report then linked costs to outcomes to assess cost-effectiveness.

Implications for Behavioral Health Services

With respect to behavioral health services, frontier mental health programs need to document costs and outcomes at a minimum. Armed with cost and outcome data, a cost-outcome report is possible. Medicaid (and Medicare) purchasing authorities, state mental health authorities, managed care vendors, HMOs and business coalitions are likely to respond positively to cost-outcome information. Cost-outcome can also *continuously* assess, plan and improve services. Where comparative cost-outcome information is available, cost-effectiveness reports may be possible, but in frontier mental health environments these opportunities may be limited.

Cost-effectiveness as a strategy for the design and deployment of frontier mental health services is reflected in several applications reviewed or proposed. In some instances, highly acceptable approaches (in theory) must by tempered by the realities faced in deployment (in practice.)

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Notes

[1] For an advanced discussion of measurement, measurement error, reliability and validity, the reader is referred to Bohrnstedt, G.W. (1983). Measurement. In P.H. Rossi, J.D. Wright, and A. B. Anderson (Eds.), *Handbook of Survey Research.* San Diego: Academic Press, Inc.

[2] Measures under consideration include the Quality of Life Interview (QOLI) and other scales contained in A Lehman, *Evaluating Quality of Life for Persons with Severe Mental Illness,* Evaluation Center @ HSRI, Cambridge, MA. The QOLI, with eight (8) life domains, is not easily connected to costs since the scales are not additive and there is no overall summary score. Costs *might* be associated with primary program goals such as social contacts or family/social relations (e.g., an *objective* measure such as frequency of social contacts or a *subjective* measure such as satisfaction with family or social relations), but the linkage of costs to the QOLI is ill defined. The paper by Bigelow, McFarland, and Olson (1991) is also useful.

[3] For information contact Behavioral Measurement Database Services, PO Box 110287, Pittsburgh, PA 15232-0787; telephone 412.687.6850 or fax 412.687.5213.

[4] Statistical assessment of outcomes can be a complex issue. Simple gain scores (viz., time 1 - time 2) are subject to much deserved criticism. If pre- and post-scores are correlated at reasonable levels (e.g., .3 to .4) and are linear, then analysis of co-variance (ANCOVA) with time 1 as the covariate may be explored. The results have to be interpreted with caution, however, since those with higher initial scores can be expected to improve at a higher rate than those with lower scores. By relating the actual gain to a potential gain and analyzing the percentages with ANCOVA is somewhat more defensible. The analysis uses the form: Time 2-Time 1/ Ideal -Time 1= %. ANCOVA is problematic in any event. First, the statistical assumption that the treatment and the covariate do not interact systematically is not met since entry levels of a mental health condition (e.g., depression) and treatment approaches do have a systematic interaction. Second, since the interaction of treatment and entry level is of concern along with the main effect of treatment, any statistical control procedure to partition or subtract out information typically used in clinical decision-making should be viewed with caution. Analysis of variance with repeated measures poses similar problems.

[5] Most parametric statistical analyses pose problems in comparing the effectiveness of two approaches to mental health treatment. The ((Theta) technique (with a x^2 statistic) can analyze two outcome matrices by comparing the two approaches against an ideal matrix. The test is sensitive to the magnitude of differences in treatment effects and represents a measure of the differences in patterns of client outcomes for two treatments at measured levels of intake functioning ... relative to a hypothesized pattern of outcomes. See Newman and Sorensen (1985) and Ross and Klein (1979). Other approaches include structural equations that are beyond the scope of this paper

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Effective Management Strategies for Frontier Mental Health Organizations

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Abstract

This report focuses on how integrated primary and mental health services should aid the manager of frontier mental health programs in the developing managed care environment by increasing effectiveness. Also discussed are how the integration *actually* works, how to improve the reintegration of the client into the community, and how to increase the yields from limited resources. In addition to literature reviews, this paper reports the results of several focus groups conducted by the Frontier Mental Health Services Resource Network with mental health executives. The focus group attendees were able to provide "on the scene" perspective and to document many of the operating examples described in this paper.

Introduction

Managers of mental health organizations need to acquire and use resources to create effective and efficient mental health services. The fast emerging managed care environment now requires even more than just efficient cost management. Managed behavioral health care seeks to reduce or eliminate unnecessary services, reduce and control the costs of care, and maintain or increase outcomes and effectiveness. Serving frontier areas offers a greater challenge because of limited resources. This *Letter* is the third installment of a three-part series on cost, outcomes, and effective management strategies for frontier mental health organizations. This report focuses on how integrated primary and mental health services should aid the manager of frontier mental health programs in the developing managed care environment by increasing effectiveness. Also discussed will be how the integration *actually* works, how to improve the reintegration of the client into the community, and how to increase the yields from limited resources. In addition to literature reviews, this paper reports the results of several focus groups conducted by the Frontier Mental Health Services Resource Network with mental health executives. The focus group attendees were able to provide "on the scene" perspective and to document many of the operating examples described in this paper[1].

Integration of Caregivers. Rural primary care providers have strong incentives and significant opportunities to form linkages with mental health providers. They include large and diverse caseloads, severe time constraints, changing mental health treat-

ment modalities and medications, fluid Medicare and Medicaid reimbursement, and vertically integrated health networks (Lambert, Bird, Hartley, and Genova, 1996). While arguments for the integration of services emerged during the 1970's (Borus et al., 1985) and 1980's (Goldman, Burns and Burke, 1980), the development of health care networks and managed care has stimulated renewed interest in integration (Zimmerman and Wienckowski, 1991; Mechanic, 1994).

What can happen when primary and mental health care are integrated? When clients access comprehensive health services that include mental health care, the demand for medical and surgical services may decrease as much as 72 percent (Mumford, Shlesinger, Glass, Patrick and Cuerdon, 1984). Because this reduction in demand significantly reduces net medical costs, the result is labeled the *medical cost offset effect.* These dramatic savings in medical and surgical services costs could finance cost reductions and expanded services for *all* health care. Another major implication is integrated treatment through *teamwork.* The integrated team of both health and behavioral health care providers can not only reduce the cost of health care, but also improve its effectiveness (Sloan and Chmel, 1991). This integrated approach is especially appealing in frontier mental health environments where resources are nearly always limited. Alliances and collaborations between health care and behavioral health care providers can restore physical and psychological health and also establish healthy habits in their clients. Frontier mental health leaders should be encouraged to take the initiative in *integrating* behavioral health with other health care to develop world-class health care.

Medical Cost Offset Effect. Table 1 offers a practical way to see how medical cost-offset works. Total health care expenditures are assumed to be $100 million with 90% for medical care, 6% for behavioral care and 4% for other types of health care. The model examines the introduction of behavioral health care over a five year time period. All health care costs are assumed to increase at 10% over the prior year (including inflation) and new additional behavioral health care costs are added yearly at 5% over the prior year to accommodate increased behavioral health services. The medical cost-offset is assumed to have a first year reduction of 20% and graduated increases up to 50% by the end of the fourth year and subsequent years. The offset percentages are estimates derived from the cost-offset literature (Mumford et al., 1984; Holder and Blose, 1987).

Integration of services reduces the ***combined costs*** of medical and behavioral care dramatically. In the first year, the cost reduction in Table 1 is almost 19% (20/106 = 18.9%) while in year five the cost reduction is 46% (72/157 = 46%). In each year the *combined* medical and behavioral costs are *reduced* until year five when the costs in total begin to rise. (See Figure 1.) Even after five years, the total combined costs in year 5 ($85 million) are still lower than the year one combined costs before offset ($106 million) by 20% ($106-$85/$106 = 20%). During years four and five, the percentage distribution between medical and behavioral costs begins to stabilize at 86% and 14%,

respectively, as shown in Figure 2. The results, while illustrative, provide a powerful insight into how behavioral health care introduced before medical health care can improve the total cost picture. The cost-offset percentages can be lowered (or increased), but the patterns are generally similar. When people have access to comprehensive mental health services, the demand for medical and surgical services decreases. The alliance between mental health and primary care can become a strategic one for survival and success as both areas face limited resources and pressure for quality outcomes.

Current arguments against requiring insurance coverage for mental illness to be in parity with coverage for other illnesses (Pear, 1996) seem not to take into account the cost-offset research (Suinn, 1996). If funding comprehensive mental health services can reduce total health care costs, there should be an eagerness to fund mental health services. Efforts to limit the funding of mental health services will only increase total health care costs not decrease them.

The resources in behavioral health are often inadequate and one way to argue for an increase in resources is to show its impact on other health care systems through the medical cost offset. However, some mental health administrators suggest that while savings from offsets to physical health may accrue to society; integration often leads to *unfavorable outcomes for mental health.* The end result can be a reduction in the costs of other health care systems, but not an increase in behavioral health resources. The fear of losing resources is part of the *choice* to carve-out mental health and alcohol and other drugs of abuse services rather than integrating behavioral health into an HMO managed care system. As one mental health executive explains: "The choice to carve-out behavioral health stems, in part, from the experience that behavioral health suffers when it is included in a physical health HMO. HMOs may serve the mildly ill adequately, but those who have traditionally been the purview of the state mental health agency tend to get the worst care. It is a matter of time before the client goes from the HMO to the mental health center. The clients exhaust their benefits with the HMO, get transferred to the public system, and there is no symptom change from the time they entered the HMO until they came to the public system. HMOs do not know how to deal with serious and persistent mental illness, but they know how to deal with mild depression."

Carve-in models may work better if you retain a specialization (e.g., mental health, substance abuse). A subcontract with a specialty program (as opposed to a total carve-out) is another possible option for integrating physical health and mental health. Outsourcing the mental health component (which is a small piece of the general health care costs) can reduce threats to both medical/surgical and mental health professionals. Co-location offers yet another possible solution for physical and behavioral health care integration. In a building in a Midwestern state, a new health care clinic occupied one wing, behavioral health occupied the other, and space in the middle was used by both.

Table 1. Simulation of Behavioral Health Cost-Offset on Total Health Care Costs

		(millions)
Health Care Expenditures--Baseline		$100
% health	90.00%	$ 90
% behavioral health	6.00%	$ 6
% other health	4.00%	$ 4
Total	100.00%	$ 100

Model Assumptions:

Number of time periods	5
% of overall health care increase (including inflation)	10%
% of new behavioral care costs (over prior year)	5%
% of overall health care decrease related to cost-offset:	
1st year	-20%
2nd year	-30%
3rd year	-40%
4th year and thereafter	-50%

Dynamic Cost Estimation: Medical and Behavioral only

Model Results:

	Year 1	Year 2	Year 3	Year 4	Year 5
Medical Health	$ 99	$ 109	$ 120	$ 132	$ 145
Behavioral Health	$ 7	$ 8	$ 9	$ 11	$ 12
Total--before offset	$ 106	$ 117	$ 129	$ 142	$ 157
Cost-Offset	$ (20)	$ (33)	$ (48)	$ (66)	$ (72)
Total--after offset	$ 86	$ 84	$ 81	$ 77	$ 85

Selected Results: Costs

Revised Medical Health	$ 79	$ 76	$ 72	$ 66	$ 72
Behavioral Health	$ 7	$ 8	$ 9	$ 11	$ 12
Total	$ 86	$ 84	$ 81	$ 77	$ 85

Selected Results: %

Revised Medical					
Revised Medical	92%	90%	89%	86%	85%
Behavioral Health	8%	10%	11%	14%	15%
Total	100%	100%	100%	100%	100%

Figure 1. Simulation of Behavioral Health Cost-Offset on Combined Health Care Costs

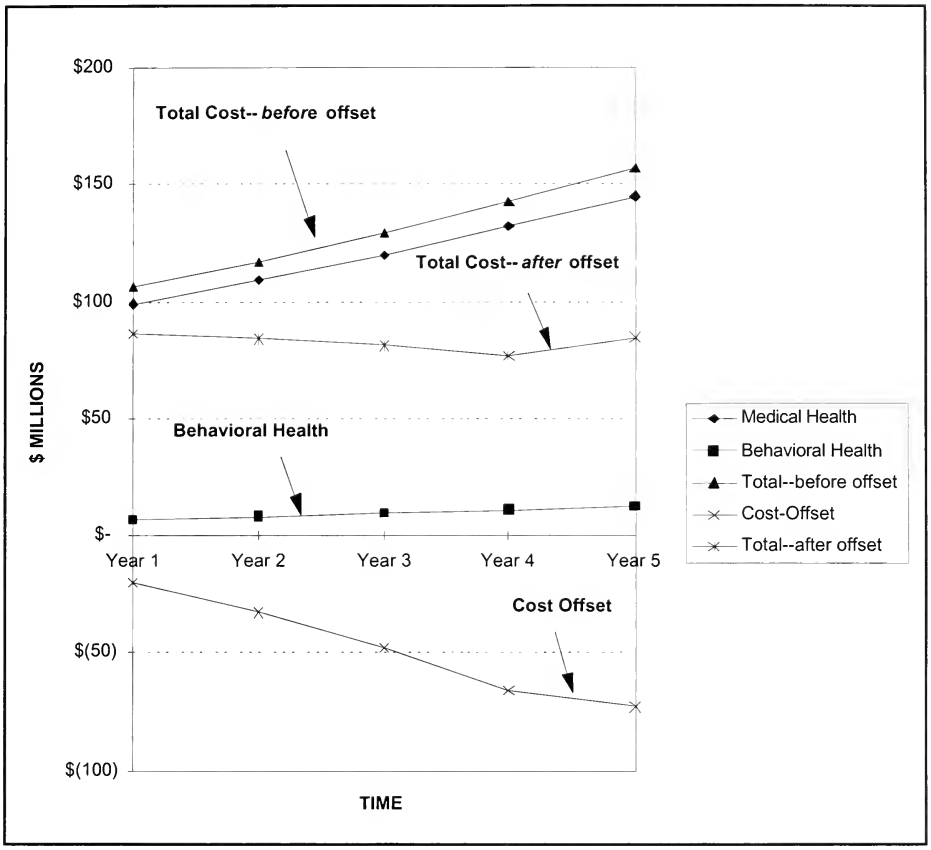
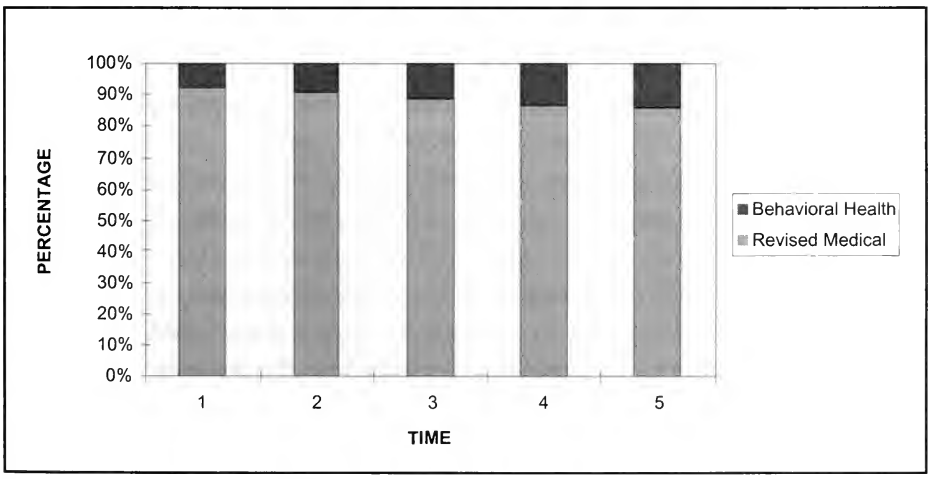


Figure 2. Simulation of Behavioral Health Cost-Offset on Combined Health Care Costs: % Allocation Between Medical and Behavioral Costs



"It was beneficial to combine these two functions in a rural community and it helped to de-stigmatize the behavioral health part," observed a mental health executive who visited the center's open-house ceremony.

Other Integration Options. Some states are now pushing integration, collaboration and partnerships between mental health systems and *other human services organizations* such as social services, child welfare, but not physical health. *Co-locations, joint sites, joint assessments and joint treatment plans* are examples of this new collaboration. "Co-location in child welfare can place mental health assessment staff and child welfare personnel can do front-end assessments as opposed to a referral three or six months later when the child is being reviewed for an out-of-home placement," noted another seasoned administrator.

Front-end partnerships can achieve cost-offsets and cost savings while maintaining the specialization of both the mental health professional and the partner professionals. *Out-stationing* mental health professionals in the emergency rooms in hospitals can integrate the behavioral health care and physical medical care. Psychiatric nurses in the city jail performing pre-arraignment screenings can divert individuals into the mental health system as opposed to the correctional system. Counselors stationed at the desk of social services in high schools solves the problem of contacting potential clients. "If they are unlikely to come to you, then you go to them," commented one provider. "Frequently the first warning signs of a child with severe emotional disturbance appears in the schools. By getting the clinician [at school] instead of downstream, they can front-end services and avoid later and more costly services" he concluded. Mental health can *join with other public agencies* in *site visits* to migrant populations. "It is easy for mental health to tag along with the other services that are being done and are more acceptable than mental health," stated one focus group member.

Some examples that work include *using existing facilities,* with minor changes and using night staff as necessary—not necessarily 24 hours. Mental health and mental retardation in one program shared after-hours location and staff, where mental health was using someone else's building and a staff person paid for by two different agencies. In another example, a large nursing home is now used for brain injury cases while one of the houses is a children's unit with 24 hour staff on campus.

Unfortunately, existing programs and staff are often resistant to integration. In one Rocky Mountain state, counties were given the opportunity by the state legislature to restructure at the local level. As one executive summarized the effort: "We were going to *combine* all of our behavioral health or all of our human services under a single service authority. We were going to combine the health department and human services. However, nearly all of the counties came back with the decision *to keep all of the organizations the same as they were!* The most dramatic change was using a common *database and computer screen. Bureaucratic inertia overwhelms change!"*

Reintegration of the Client into the Community. Focus group members offered On the other hand, there may be greater community acceptance for mental health consumers in frontier areas. The different professionals know each other in these areas and are better able to negotiate the best options for the client through integration of services. As an example, when one client in a rural area would take off his clothes and direct traffic on main street, the chief of police would call the director of the mental health center and say "Harold's at it again!" The director would bring clothing and take Harold back to his group home. If someone did the same thing in a large city, the director of mental health would not get the call! While the options may be fewer, the opportunity for integration is greater in a rural environment.

Even with excellent support from health and mental health professionals, clients are often unable to live independently without a support network. Clients want therapy from their therapists, but are also often tired of being told what to do by therapists and advocates. *Consumers supporting consumers* is a growing movement. It behooves the mental health system to locate customers where they can help each other.

All of these efforts to reintegrate clients into the community can be part of "wrap-around" services. These services are often hard to understand and can be defined many ways. As one executive commented, "It is a form of customization and generally goes beyond case management or outreach to include special needs. You are purchasing special services for a special person. Often the goal is to stabilize the client. Maybe it is hiring a buddy to go to school with the kid for three weeks to help them integrate or to enroll them in a soccer league or rent a phone for their home. The classic case example is the state hospital patient, for example, a female who begins to decompensate when she starts discharge planning. In contrast to the clean environment with regular meals and friendly people, her 'back home' involves an alcoholic husband and filthy house filled with roaches. Clearly she needed other special services."

Information Management. Managed care is data-driven in real-time; it is not retrospective. "It has to be current and enable you to forecast so you change directions quickly," concluded one executive. "You have to know on Wednesday how many individuals you have in patient beds on Wednesday. You need a system that generates reports automatically. You a need a daily 'flash report' on available capacity and time spent in service." For example managers need information on:

- Alternative Treatment Units (ATU)—available capacity, where, how many, and when?
- Residential facilities—independent and support—available capacity, where, how many, and when?
- Outpatient—number of units of service provided yesterday and week-to-date, available capacity?

Estimating Out-of-System Costs. Managers also need to know the prospective liability for out-of-system services based on the number of service authorized for people in your service plan. Costs can vary significantly. One executive gave the following scenario: "If you referred 17 people to out-of-network providers and authorized 170 units of service, and if you know based on experience that 53% of the authorized services are consumed and at an estimated $65 per unit, you have a current estimate of your cost and liability of almost $5,900 (170 units x.53 conversion x $65 estimated cost = $ 5,856.50 potential cost and liability). You must follow-up to see if the 53% is true. In mental health, it is more likely to be 90% and the cost and liability would be almost $10,000 (170 x .90 x $65 = $9,945)."

Later a more complete report on actual results (e.g., rolling averages) can be provided to make sure there is clear understanding of what did happen. Budgeted vs. actual unit costs can identify cost or units of service problems early in the process. "If you have to wait for the annual report, that is too late," observed one administrator.

Staffing Options. If you contract with staff on a piece-work basis, one financial specialist felt "you ...rent instead of buying to own. When you hire, you've *adopted* staff to raise them instead of contracting with them. If you hire on a piece-work basis, you have converted a fix cost into a variable one."

Implications for Behavioral Health Services. Being efficient and effective in frontier areas with limited resources is a challenge. This paper focused on a number of areas that are important for the delivery of behavioral health services in frontier areas. Specifically, the paper, the third installment of a three-part series on cost, outcome, and effective management strategies for frontier mental health organizations, provide information on (1). how integrated primary and mental health services should aid the manager of frontier mental health programs in the developing managed care environment by increasing effectiveness, (2). how the integration *actually* works, (3). how to improve the reintegration of the client into the community, and (4). how to increase the yields from limited resources. In addition, the results of several focus groups conducted by the Frontier Mental Health Services Resource Network with mental health executives were reported. The paper indicated that while integrating primary and behavioral health care may be an ideal solution, the more likely response is an integration with *other* human services (e.g., welfare), and using shared facilities or staff and joint activities. Low-cost client reintegration approaches, "flash-reports" on availability of resources, and contracting for delivered units of service are other likely responses.

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Notes

[1] A special note of appreciation to the mental health executives who participated in the focus groups. Because of our confidentiality agreement, we are not permitted to cite individual contributions

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Telemental Health Services In US Frontier Areas

Walter F. LaMendola, Ph.D.

Abstract

This paper provides information about the status of "telemental health," the use of telecommunication technologies to assist in the delivery of mental health services and related activities, in frontier or isolated rural areas. Specifically, the paper provides information about the availability and type of services currently provided in frontier areas as well as the problems that need to be solved if additional services are to be provided to consumers and their families and communication enhanced among service providers. The telemental health services provided include, but are not limited to, prevention, diagnosis, consultation, outreach, case management, education treatment and the transfer of mental health data for use in the provision of services to specific clients.

Introduction

The Frontier Mental Health Services Resource Network, under a contract with the Center for Mental Health Services of the Substance Abuse and Mental Health Services Administration, was created to gather, analyze, and disseminate information about mental health needs and services in "isolated rural areas" in the United States—often called frontier areas (see Ciarlo et al., 1998). These areas, found predominately in the western part of the United States, often struggle to provide appropriate mental health services that are accessible to those in need. This paper looks at telecommunication applications—called "telemental health services"—that may be used to support and enhance communication among mental health providers, administrators, and consumers in frontier rural areas.

The application of telecommunication technologies in health systems has been defined in a number of ways, using terms such as "telemedicine" and "telehealth." Little agreement exists about the meaning of these terms (GAO, 1997). Whatever term is used, however, the common dynamic is always the use of telecommunications as a medium. Telehealth has been used to include the broadest meanings of health—such as community health education or the administration of health services. Telemedicine is usually used to refer to "medical" or "clinical care" events. In specialized areas the notion of telemedicine is advanced by adding "tele" as a prefix to the specialization, such as in "telepsychiatry" or "teleradiology." We have followed that convention here; the term telemental health services is meant to connote all mental health services whose

delivery is assisted by telecommunications technologies, including telepsychiatry. Indeed, mental health services include an array of related social, medical, counseling, and case management services needed by persons suffering acute to severe and sometimes persistent disabilities. Such services could include, but are not limited to, prevention, diagnosis, consultation, outreach, case management, education, and treatment. It also includes the transfer of mental health data for use in the provision of services to specific clients—a service array consistent with what Mechanic (1996) has termed the "key considerations" for managed care in mental health. The telecommunication technologies used to provide these telemental health services can range from telephone and fax to live interactive video.

The Emergence of Telemental Health Services in Rural and Frontier Areas

A true count of the number of rural and frontier telemental health programs in the United States is a moving target. Estimates have ranged anywhere from 6 to 50 programs. One conclusion, however, is consistent—the number and visibility of telemental health services in rural and frontier areas is small. The Joint Working Group on Telemedicine (JWGT) provides a picture of telemental health service activity in the US through reports on the Federal Telemedicine Gateway. They list 28 projects that provide mental health services, of which 6 are located in states with significant frontier populations—Alaska, Colorado, Kansas, Montana, Nebraska, and South Dakota (JWGT, 1997). In two specific surveys of telemental health applications, *Telemedicine Today* (Allen and Allen, 1994) and the Office of Rural Mental Health Research (LaBella, 1995) found few telemental health projects—7 and 20 respectively. A more recent study by Abt Associates (1997) found 159 non-federal rural hospitals and other providers actively using telemedicine; 31% of which reported the use of telepsychiatry. This was the fifth largest group of reported specialty use. This may be an under-representation of telemental health activities. The 18 respondents most likely to be in frontier areas probably reported what the study called telepsychiatry. Though the published study did not define telepsychiatry, it was presumably understood as a service in which at least one participant was a psychiatrist—the list of specialties in the study actually excluded psychology and social work, and listed "substance abuse" as a separate specialty. If these other groups were included, presumably the occurrences of telemental health services would increase. In fact, the Mid-Nebraska Telemedicine Network reported 209 individual mental health consults last year—the largest single specialty use and 40% of the total use. The current on-line Telemedicine Information Exchange (TIE) database lists 33 programs under telepsychiatry and 17 programs under mental health (Telemedicine Research Center, 1997). This also may be an underestimate. For example, the Department of Veteran Affairs uses the listing to indicate that there are a number of VA hospitals that offer telemental health services. They list these separately at their own web site.

The Abt (1997) study went on to estimate that nearly 30% of all rural US hospitals would have telemedicine applications in place in 1996. Interestingly, the survey found the greatest penetration of telemedicine (23% of the reporting hospitals) in the Rocky Mountain area—an area with large numbers of frontier residents. In contrast, however, the JWTG (1997) lists only two states with significant frontier populations, Texas (with 6 projects, ranked 9th) and Colorado (5 projects, ranked 10th), among the ten states with the highest number of telemedicine projects. The Abt survey also found that the smallest hospitals were generally more likely to have telemedicine services. Though it would be sensible to deduce that this phenomena was driven by the hospitals having the highest need for access to specialists, frontier telemedicine programs also constituted 62% of those whom both received and delivered services.

Frontier and Rural Telemental Health Programs

This project identified 30 telemental health programs operating in frontier or rural areas. The services they report providing are organized in Table 1 into four broad categories: education, consultation, therapy, and administration. Education services reported included continuing education and training. Consultative services were made up of medication reviews, assessments, psychiatric supervision and case review, and involuntary commitment appraisals. Also included were varieties of case conferences and supervision between psychiatrists, primary care providers, mental health professionals, and other allied health personnel. The range of administrative services included meetings, record sharing, information transfer, and utilization review. Ninety-three percent of the identified sites offered consultative services, 70% offered education services, 43% offered administrative services, and 17% offered therapy services. Only 2 (7%) offered all four services. Ten (33%) offered three services and 10 (33%) others offered two services. The remaining 8 (27%) offered one service. Three sites reported performing court evaluations. Three sites plan to do discharge monitoring and three plan to do substance abuse counseling.

Almost all of the sites identified are using interactive technologies that involve video conferencing or television. Equipment and telecommunication requirements for these interactive technologies are generally among the most expensive arrangements available today. A majority of the sites are also using "store and forward" technologies. This is less expensive as it does not demand live interaction. Two of the sites list telephone based technologies. These are the least expensive telecommunications technologies. There is a relationship between the type of services offered and the technology in use. For example, live therapy where participants see each other in real time requires different equipment than a therapeutic telephone conversation. Unfortunately, minimum requirements matching equipment to problem to service to outcome do not exist. Indeed, the fundamental question of whether telemental health services increase

access and/or improve outcomes for under-served populations has not been sufficiently studied. Nevertheless, the telemental health service innovation is underway in rural and frontier areas.

A robust example of telemental health services in a frontier area today is the RODEO Net (Rural Options for Development and Educational Opportunities Network). In 1991, the Eastern Oregon Human Services Consortium was awarded a three-year grant of approximately $700,000 by the Rural Health Outreach Grant Program of the Office of Rural Health Policy (Health Resources and Services Administration) to demonstrate an innovative model of mental health care in a rural area. The mission of RODEO Net was to pioneer advances in the delivery of human services by connecting people using appropriate communication technologies. RODEO Net uses three ED-Net networks created by the State of Oregon in 1989. Network 1 provides live, interactive, one-way video and two-way audio services to 45 "receive" sites in eastern Oregon. Network 2 provides two-way video, audio, and data services using digitally compressed video technology in 10 studios. Network 3, COMPASS, is a local "dial-up" computer data network that provides a variety of information services. These include user-friendly access to local, national, and international databases and the Internet; government and academic libraries; bulletin boards; electronic mail; and computer-conferencing services.

RODEO Net currently uses all three networks to train mental health providers in eastern Oregon. For example, both professional and paraprofessional staff, who work with children and adolescents with severe emotional disturbances, participate in a certificate program to upgrade staff qualifications. Individual training is also provided. In addition to training, RODEO Net also provides crisis response. Using Network 2, personnel access the on-call psychiatrist at the Eastern Oregon Psychiatric Center in Pendleton to help deal with persons suffering extreme emotional or behavioral turmoil. Such a response system often saves the time and money required to transport an individual and keeps that person in the community. RODEO Net provides clinics for medication management and case consultations on an ongoing or as needed basis, reducing the number of admissions to acute care facilities. Interviews for pre-admission, pre-discharge, and transfers are now accomplished via Network 2, and pre-commitment and psychiatric review board hearings are conducted using interactive TV. The project also plans to work with consumer groups to help them create their own computer networking conferences within the COMPASS system (Britain, 1996; Telemedicine Research Center, 1997; Witherspoon, Johnstone and Wasem, 1993).

Analysis of RODEO Net and the 29 other frontier and rural programs listed in Table 1 suggests that schools of medicine and hospitals are the primary promoters of frontier and rural telemental health services. Sixteen of the programs are sponsored by hospitals; seven by schools of medicine. Four have been developed by some form of managed care entity. The type of sponsoring organization appears to have important

consequences for the type of telemental health activities undertaken. All of the hospital-sponsored programs were interested in consultative services. The programs sponsored by schools of medicine were interested in educational uses. All of the managed care sponsored programs were interested in administrative applications. Unlike the hospitals and schools of medicine, the four programs developed by the managed care entities did not use federal funds and had systems that tended to use technologies that were not based on full, two-way interactive video. RODEO Net seems to be the only program of the 30 identified evolving from a non-medical, human service perspective, which may explain its broad applications.

It is important to recognize that without the involvement of the federal government it is likely there would be very little public sector provision of telemental health services in frontier areas. Twenty-three of the thirty programs highlighted received money from federal sources. It is highly probable that hospitals would develop such services even without federal funds, but they would most likely be "filler" or "add-ons" to the provision of other telemedicine services. Developing and enlarging a revenue stream for these services will be the paramount preoccupation for those who invest in these services for the next five years. Further, while the Internet holds special promise as a quickly proliferating, locally available and relatively inexpensive network for interconnectivity, none of the projects report using the potentially more cost-effective Internet service providers as intermediary telecommunication providers in their networks.

Cost and Access Problems

After careful examination of the literature and existing telemental health services, it appears that telecommunication services in rural and frontier areas in the United States are severely disadvantaged. Not only are expertise lean and prices high in rural areas, but in many cases service connections are unavailable. For example, it would seem that the telephone could be used to support many mental health services. Indeed it often is in urban areas. Unfortunately, some rural and frontier areas still have relatively low telephone penetration. In fact, a number of rural and frontier areas have no 911 service, which may indicate a lack of digital switches essential for advanced telecommunication services. Further, because of a lack of appropriate switches, in some parts of frontier Colorado it has been cheaper to call Chicago than Denver. Stated differently, geographic distance from mental health services is not the only prevailing determinant of cost; instead, it is the framework of telephone companies serving the local area and their connection to the long distance carriage system. Basically, unlike urban areas—where prices are falling rapidly, in rural and frontier areas the price of telecommunications continues to be high. Equally important, as a consequence of divestiture by major telephone companies, some observers expect the costs to rise under the new telecommunications policies. US West, the regional Bell Operating Company

with the highest amount of frontier territory, has already divested itself of $1.1 billion dollars worth of rural service lines because they are "high cost" and "unprofitable." However, the intent of the new Universal Fund set up by the Federal Communications Commission (FCC) implementation of the E-rate under the Telecommunications Act of 1996 is to reduce overall telecommunication costs for qualifying non-profit rural healthcare providers.

Each of the programs listed in Table 1 uses some combination of audio and video systems at all participating sites. The cost for on-site equipment at each location can range from $30,000 to $150,000 (a subsequent *Letter to the Field* will include a detailed discussions of these costs). These sites are then physically connected to each other by different levels of service provided by telephone companies. The costs for connecting lines vary due to individual circumstances and bargaining power. Costs are also related to carrying capacity and sometimes to the distance to a switching device capable of moving the signal on to the next connection. Carrying capacity is directly related to the speed of transmission. Though costs are changing, generally the faster the transmission time the higher the costs. If a user is interested in seeing the other person's movements and talking interactively, higher transmission rates are required so that images look natural and movements are relatively smooth. A cost effective solution used by the Southwest Montana Telepsychiatry Network is achieved by combining pairs of switched 56k or ISDN (Integrated Services Digital Network) lines (N. Cobble, personal communication, June 18 1997).

At the moment, telemental health service development is strongly related to the ability to see and talk to the consumer as though the service provider was there. One can expect that telemental health service providers will also prefer high quality audio and specialized camera capabilities, such as zoom and pan. This is because service providers will want to use the technology at first to replicate—as much as possible—the manner in which they do their work today. To mimic face to face interactions, they will want as many technological tools as possible to replicate that context, which will require the highest line types available today. This can make telemental health services a natural complement to hospital-based teleradiology services that use high bandwidth and can support interactive video. Rare but important use in telemental health services is being made of technologies that do not require anything more than a telephone connection. Additionally, new, less demanding devices are now available.

One example of costs and line connections in frontier counties can be found in the Telemedicine Alliance of Healthcare Organizations (TAHO) project of the Office of Rural Health Policy. Six telephone companies needed to be involved in the beginning phase of this project because of significant engineering and cost of service issues. The first service bids ranged from $18,000 to $29,000 a month for two urban and six frontier participating sites. After a substantial vendor identification and negotiation process, TAHO was able to reduce their service costs considerably. The service connection

costs, after installation costs and equipment purchases, were about $7543 per month in 1995. In contrast, the monthly service connection costs of an identical system contained entirely in the Denver metro area would be $805.26 a month or roughly 10% of the fee charged in the rural areas. A discussion of the specific costs of each of the telemental health sites identified by the Office of Rural Mental Health Research is contained in their report (LaBella, 1995). Further, each site listed on the TIE exchange gives information about funding and technology in use (Telemedicine Research Center, 1997). In all cases, collaboration was an important key to cost effectively linking computer networks and interactive sites with one another.

Implications for Behavioral Health Services

Mental health services delivered using telecommunications technologies, or telemental health services, are not yet common in most frontier rural areas. Those programs that do exist are primarily supported by federal money and the services provided tend to vary depending on the sponsoring organization. Programs are now placing a high priority on the development of revenue streams beyond federal funding. At the same time prices for rural telecommunication services continue to be high in rural areas and in many cases service connections are unavailable. Even with these availability and cost problems, frontier areas will probably have a much higher adoption rate of telemental health services in the future than other types of rural areas because of a greater lack of local providers. There already seems to be a higher concentration in the largely frontier Rocky Mountain area. In addition, rural areas where managed care approaches are in place or are emerging are likely to be subjected to telemental health services as a matter of course. Managed care providers often see telemental health services as a competitive advantage to consolidate provider resources, to review the work of local providers, or to provide cost-effective expert consultation.

Currently, telemental health service development is strongly related to the ability to see and talk to the consumer as though the service provider was there. The technology is being used at first to replicate—as much as possible—the face to face manner in which service providers work today. This is why current telemental health services frequently use high bandwidth that can support interactive video. Universal access and adequate service to support interactive, mixed video, audio, and text messaging for rural and frontier areas constitute the fundamental telecommunications considerations in developing rural and frontier telemental health services. From a mental health service system point of view, consumer access—particularly for underserved populations, provider use, and service outcome are more fundamental considerations for telemental health service development.

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Telemental Health Services in Frontier Areas: Provider and Consumer Perspectives

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Abstract

The provision of mental health services to frontier, sparsely populated rural areas, is made difficult by the long distances between providers and consumers. However, advances in telecommunication technologies, specifically telemental health, are beginning to provide options for dealing the distance and isolation challenges of frontier areas. Base on two focus groups conducted in frontier areas, this paper provides information about the experiences of non-medical mental health providers and the experiences of consumers with telemental health services.

Introduction

Isolated rural or frontier areas, areas generally found in the western part of the United States, often struggle to provide mental health services and related activities to persons with severe and sometimes persistent mental disabilities because such persons often live far from the population centers where an array of mental health services might be offered. However, with advances in telemental health technologies, mental health services and related activities whose delivery is assisted by telecommunication technologies, these remote areas may have a mechanism to deal with their distance and isolation challenges. The paper "Telemental Health Services in US Frontier Areas" (LaMendola, 2000) defines and describes the current situation in the provision of telemental health in frontier areas. The technologies in use range from telephone and fax to live interactive video. The services provided include, but are not limited to, prevention, diagnosis, consultation, outreach, case management, education and treatment, as well as transfer of mental health data for use in the provision of services to specific clients. Little of the information , however, directly reports the experiences of non-medical mental health services providers or the experience of consumers of telemental mental health services (TMHS). This paper reports the results of two focus groups conducted by the Frontier Mental Health Services Resource Network in the fall of 1997 — one with TMHS service providers. It is the first to provide such information.

Focus Group Site and Composition. The site of the focus groups was a small, remote Community Mental Health Center in a frontier area of the western United States. The Center was a participant in a federal rural health project that connected them — via ISDN lines supporting interactive video — to other rural health settings, hospitals in urban areas, and the state hospital mental health unit. The service provider focus group consisted of eight staff members. Providers' backgrounds ranged from a bachelor degree with experience to a licensed psychologist. The experience of the service provider group members with TMHS ranged from a high of two years to a low of one month.

The consumer focus group consisted of nine consumers who had volunteered to participate. They all were a part of the caseload of a psychiatrist located in an urban area over one hundred miles from the Community Mental Health Center. All had experience with the use of TMHS and all were in active treatment. The consumer with the least amount of experience with TMHS had participated in six TMHS sessions. Each consumer reported a major psychiatric diagnosis and one was also physically disabled. Two of the consumers reported that they had received only medication reviews in TMHS sessions. Six consumers reported on-going, periodic treatment in TMHS sessions, and one consumer related an intensive, crisis oriented psychotherapeutic TMHS intervention.

The Typical TMHS Service Episode. TMHS services involving consumers were usually instituted after an initial face to face visit with the psychiatrist. The sole exception in the focus group was a consumer who was receiving crisis intervention and had not yet met with the psychiatrist face to face. For these sessions, the psychiatrist went to a broadcast booth located in a nearby hospital. Consumers — usually accompanied by their local service provider — went to a multi-purpose room in the mental health center that was set up like an old style classroom. The room was large enough to hold public meetings. In the room, the consumer sat at a table on which there was an operator's panel and a microphone. He or she faced a set of two large monitors that looked like TV sets, one of which had a camera on top of it. When the session was initiated, one monitor would display the remote site and the second monitor would display the picture being captured at the local site. In other words, the consumer would see himself or herself on one of the monitor displays. Functions of the site's interactive video — such as pan, zoom, and switching off displays — could be controlled using an operator's panel. The panels are small, the controls easy to use, and they were located near the participant so that they could control a session without moving from their seat. After a few experiences where consumers had specifically asked to control the environment, the psychiatrist routinely gave each consumer instructions that enabled them to use the operator panel during the session. Consumers describe the interactive video setup as "being on TV," and this seemed to be a good, shorthand manner of describing TMHS sessions for everyone. Because they could place the event in such a familiar landscape as television, very little about the technology of these sessions seemed remarkable to

either the service providers or consumers. Session length was the same as session length face to face. Consumers initiated some of the sessions; however, these were not usually treatment events. Instead, they consisted of consumers visiting with family or relatives, who were, for example, residential patients at the State hospital. TMHS services involving service providers, but with no consumers, consisted of education, case supervision, and case management. Sessions were sometimes conducted ad hoc, or were evoked by consumer needs, but usually they were pre-scheduled.

Evaluation of TMHS: Positive Reactions

Satisfaction. Service providers expressed a high level of satisfaction with the system and mentioned a number of uses and potential uses that the system could accommodate. One person commented that the system broke through much of the isolation that they felt as professionals in a remote community and enabled them to communicate regularly with professionals in other places. Satisfaction of the service providers also seemed to come from the improved continuity of service that they described. For example, a number of the providers commented that they now could participate in discharge planning and have a good sense of the consumer and other members of the case management team. Others mentioned the opportunity to talk with peers and experts at other sites as a source of satisfaction and improved service.

Consumers were quite satisfied with the TMHS services they had received. They expressed the opinion that the services were good and may not have been otherwise available. As one consumer said; "The TV provides access to timely treatment and actually gives me what I think is more quality direct contact with my therapist." Consumers felt satisfied with the arrangement of having their local service provider present. They felt this allowed the local service provider to participate in their treatment and provide insights that they sometimes didn't have or that they might have been unable to express during the session. Service providers reported that they sometimes left the room if the consumer needed either privacy or confidentiality. One service provider was more forceful in describing their participation, saying that they would "...determine the situation as to whether or not I need to be there."

A Needed Service Capacity. Service providers felt that TMHS availability kept everyone in communication in a manner that was different than the telephone. Perhaps this was due to the fact that interactive video meant that everyone needed to be in place at a scheduled time for the event. This most certainly decreased "telephone tag" and increased timeliness. In that manner, they felt that TMHS saved time and discouraged fragmentation of treatment. They also talked about the personal contact TMHS afforded them. By personal contact, they meant the increased sense of presence over telephone contact provided by the combined visual and auditory medium.

Through out the focus group session, consumers emphasized that TMHS helped them cope with problems of daily living. They explained that TMHS provided them access to a psychiatrist or provider, or to family and community, particularly when travel condition were difficult (including weather, poor roads, availability of transportation and long time consuming distances) and when quick access to services was required — such as during a crisis situation. Stated differently, because of TMHS, a consumer was not concerned about problems of access due to geography, particularly when they were acutely ill. Further, they felt they had more direct contact with their provider when TMHS was a part of existing mental health services.

Evaluation of TMHS: Problems and Concerns

Personal contact. Some consumers reported that they did not like TMHS at first, but that after they used them they judged them much more favorably. There was consensus among the consumers that TMHS was much more personal than telephone contact, but not as personal as a face-to-face meeting with their provider. Consumers felt that more attention to "business" and less to socialization characterized TMHS sessions. One consumer pointed out that "some of the fun is gone." They also indicated that they would still like to see their psychiatrist in person from time to time, even if they saw them regularly via TMHS.

Service providers pointed out that TMHS need to be viewed as part of a set of services. They expressed the opinion that TMHS allows service providers to augment or supplement services, but they do not replace face to face services. Service providers reported that consumers who did not have face to face contact with the distant provider seemed to do less well than those who had at least one such session.

Confidentiality and Privacy. Both service providers and consumers expressed some reservation about the ability of TMHS to protect confidentiality. No specific examples of non-confidential behavior were cited, but consumers noted that technicians and other non-professional people were involved in the provision of TMHS services.

Consumers felt that providing TMHS at home may violate privacy rather than support it. They also felt that such services might distress family members, particularly children, who are not ready to accept the fact that a close family member has a mental illness. They noted that having the services at home might preclude the presence of the local therapist, a condition that focus group members felt facilitated effective communication. Further, participants noted that availability of at home services might overload the provider.

Paying for services. Participants of both groups emphasized that because insurance companies are not always willing to pay for TMHS, they have serious concerns about how their TMHS will be funded. A federal grant initially paid for TMHS at this site; unfortunately, the grant has been completed. Medicare and Medicaid generally

pay when other insurance pays, and need to be encouraged to pay for TMHS. Medicare/ Medicaid do not always pay for TMHS. One consumer reported that they had to obtain a court order so that their insurance company would pay for TMHS provided to them.

Computer Access. Most of the consumers had access to personal computers, but not to Internet services. A few mentioned that they used the Internet in the local library. Consumers related the provision of TMHS services to the spread in access to networked computers, but, as a group, they had no opinion about where this might lead in terms of access to support groups, educational information, or other types of computer mediated mental health services.

Scheduling the use of TMHS was the major disadvantage expressed by service providers. Providers also gave diverse reports about the capability of their computing environment. Five of them had computers at home and two of them reported Internet access on those computers. The Center had Internet access, but only two of the service providers had used it. One service provider commented that "...we probably had the network...because everyone had a computer on their desk...but, I mean, I could do virtually everything except word processing stuff...faster with a pen."

TV Appearance. One consumer expressed a strong dislike for seeing " myself on TV," and "didn't appreciate seeing how bad I looked." This consumer felt much better when able to use the operator's panel to turn off the monitor display whenever they were talking.

Service providers reported that the TV appearance was "intimidating, if they are having paranoid delusions." They felt this was a special group that needed more assistance for TMHS to be used successfully. They also reported that consumers seem to get confused by the time delay in the voices and expected it to work "just like TV."

Research

When asked about research topics, consumers and service providers indicated that an investigation of the range of mental health services that could be provided though TMHS should be explored. Both groups were interested in 1) identifying the correct mix of face to face and TMHS; 2) understanding the interaction between control of the TMHS environment and consumer mental illness; 3) investigating the phenomena of having both the therapist and psychiatrist present with the consumer at TMHS sessions; and 4) exploring the effects of having TMHS services available at home.

Tell Your Government

Funding. The consumer group asked a simple question: why would the federal government underwrite such a needed service and then withdraw the funding? Recognizing the importance of finding funds for TMHS, service providers suggested that funds should be transferred from activities that they considered to have low priority

areas (such as administration) to activities they considered to have high priority (such as provision of TMHS to isolated rural areas). In particular, they were concerned about rural communities that have limited access to mental health services.

Outreach. Focus group participants recommended that awareness of both the potential availability and effectiveness TMHS services should be encouraged. They felt that many potential users are unaware that TMHS exist and are useful. They felt the government needs to initiate outreach campaigns. They speculated that such campaigns would facilitate community support for TMHS.

Congress. Focus group participants felt that congress should support keeping TMHS in small isolated communities. Their rationale is that TMHS is a reasonable way of providing essential services to isolated rural persons, particularly those who do not have easily geographic access to providers.

Implications for Behavioral Health Services

When asked what the major benefit of TMHS was, service providers answered that it saved time and money. They thought that a second major benefit was the role TMHS played in what they termed prevention. By prevention they meant the increased ability to provide continuity of care and immediate response to problems. Consumers also felt more secure in their home community knowing that TMHS was available.

Service providers and consumers were remarkably similar in their positive attitudes towards and high level of satisfaction with TMHS. Both groups reported that TMHS increased access and decreased isolation. Both reported that the technology afforded them a different level and type of personal contact that was not previously available. Consumers particularly noted that they felt TMHS supported timely intervention, increased attachment to community and family, and feelings of security in regard to the availability of expert help. Service providers felt that TMHS discouraged fragmentation of treatment, kept people in communication, saved time, and supported more personal contact.

The environment in which the services took place was important to both consumers and service providers. Consumers wanted the psychiatrist to appear in the same office that was used for face to face sessions — not a broadcast room. They disliked the room used locally and wanted one smaller, more comfortable and congenial. Based on comments from focus group participants, providers should generally expect a period of consumer adjustment to the TMHS. Thus, when first exposed to TMHS, some of the consumers did not like the service. After exposure to THMS, consumers began to express much more positive opinions.

Consumers noted that they were nervous the first time they experienced TMHS, "not knowing what to expect." Based on the consumer comments it appears that some type of initial training should be considered before a patient is exposed to TMHS. Consumers did not like being passive in sessions — i.e., seated in a large room and subse-

quently exposed to the provider on the screen. Also, for at least one consumer, lack of control over the situation was distressing. Clearly there is a need to provide orientation and training to both service providers and consumers.

There is no need to present telemental health services as experimental or innovative. Most consumers like the idea of being on TV, and those who did not expressed comfort when they were able to control the environment. While service provider resistance has been a concern nationally, none of these service providers expressed resistance. The use of an initial face to face session seems to be good practice, and certainly intermittent face to face contact appears to increase the consumer's expression of satisfaction with treatment.

Finally, the issue underlined by the conversations in the focus groups is the development of an understanding of the personal and supportive uses of the technology. Both groups personalized the uses of the technology; for example, service providers felt less isolated and more effective in continuity of care, while consumers felt more attached and comfortable that help could be provided when it was needed. Both groups reported supportive uses. For example, one of the unplanned uses of the technology was its use to allow visitation by family members. It is a sign of the strength of the project that this type of use was permitted. It is also a good example of how unanticipated uses of technology are often the most powerful. Still, many unanticipated effects are not as positive and need to be reported, investigated and noted as well. For example, it seems clear that certain types of consumers will not tolerate a TV monitor that pictures them. Fortunately, in this case they were given control of the monitor and could remove their own video images if they wished. In developing a knowledge base about TMHS, we would do well to consider the positive and negative effects of the use of the technology reported by consumers and service providers here; they stand on the frontier of what we now know and understand about TMHS.

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Managed Behavioral Health Care on the Frontier[1]

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Abstract

In its second decade of the development of the behavioral health industry, managed care for mental health has come to many frontier regions and soon may come to others. While frontier residents in private health plans may soon come under managed care due in part to the growth managed care companies, most health care in frontier areas is government funded. Consequently this paper focuses largely on the impact of managed care on public payers such as Medicaid. The potential problems such as the decrease in quality in the interest of decreased costs and the damage to publicly funded safety net of services in rural and frontier areas as well as the benefits such as providing an extensive specialist referral network, telemedicine resources and continuity of care, are reviewed and evaluated. The context of managed care in frontier areas is also explicated.

General Overview

As the behavioral health care industry enters the second decade of the development of care management strategies, managed care for mental health has come to many frontier regions and may soon come to others. It has already come to Medicaid and other public sector recipients in rural and frontier areas of Arizona, Colorado, Montana, New Mexico, Oregon, Utah and Washington. Despite some arguments to the contrary, it seems likely that the residents of these states will soon be joined by many others whose behavioral health care benefits will be managed.

Those frontier residents in private health plans may also come under managed care due to increasing enrollment in health maintenance organizations (HMOs) and other managed plans, as well as continued market growth for companies managing behavioral health. However, since most health care in frontier areas is government funded, this letter will largely focus on the impact of managed care on public payers such as Medicaid. While many of the principles will be applicable to private and other government payers such as Medicare and CHAMPUS, the impact of Medicaid managed care on public systems will be the central focus.

Managed care raises many concerns, including the potential for decreased quality in the interest of decreased costs and damage to the publicly funded safety net of services in rural and frontier communities. Beeson (1994) has described several concerns given the increased incentives to control costs, including: neglect of vulnerable popu-

lations, cost-shifting or "dumping" of high need/cost people from managed to unmanaged systems (e.g., state hospitals, corrections systems), denials of appropriate care, limited access to care, decreased funds overall, a decline in resources for mental health and substance abuse treatment in particular, risks inherent in the privatization of public services (e.g., private systems historically under-serving persons with severe and persistent mental illness, the potential loss of gains in consumer and family involvement), and decreased influence of local communities. Mental health consumers have echoed many of these same concerns. In response to these and other concerns, pressure is building at a federal level and in many states to increase government regulation of managed care plans

Despite increasing public sentiment against managed care, there are still compelling factors arguing for increased care management in frontier areas, particularly for the public sector. First, mental health care costs have risen dramatically, even exceeding the rate for general health expenditures. For example, Medicaid mental health costs in Colorado rose over 80% from 1990 to 1995. Despite these tremendous cost increases, traditional funding approaches (including fee-for-service insurance and prior initiatives by federal and state governments through community mental health centers and state hospitals) have failed to adequately serve frontier and rural areas. The rising tide of mental health care financing has yet to reach rural, let alone frontier, America.

Yet frontier areas tend to be unattractive markets for managed care development. By definition they have small populations that tend to be scattered rather than clustered. There are few providers among whom to foster competitive markets. Finally, there is little room is left for cost-cutting given that health care is more expensive to deliver in frontier areas and reimbursement is already significantly below urban rates. Nevertheless, a recent analysis of managed care trends in rural areas argues for increased prospects for managed care expansion.

System Design Considerations in Frontier Areas

Risk Assignment. When designing care management approaches for frontier areas, policy-makers must look at the full array of financing approaches available to them and the incentives that they create. On the one extreme are fee-for-service arrangements, in which the payer bears all financial risk. The more services provided, the more the payer must spend, regardless of how many services are eventually provided or their outcome. This creates an incentive for providers to provide as many services as possible (the more services provided, the more income generated) and a situation in which payers face essentially unlimited liability for increases in the cost of care. These two factors strongly motivate payers to move to managed care.

On the other extreme is capitation. Capitated health plans achieve their savings and increased accountability largely by transferring the risk of the cost of care from payers (e.g., federal and state government agencies in the case of public plans, insur-

ance companies or self-insured corporations in the case of private plans) to providers (e.g., networks of independent practitioners, community mental health centers, regional governmental entities, managed behavioral health care organizations, etc.). In a capitated health plan, a provider agrees to provide all the health care services required by a specified population in return for a pre-set amount of dollars. If the costs of care are less than the pre-set amount, the provider makes a profit; if the costs exceed the pre-set amount, the provider incurs a loss.

Between these two extremes are a variety of intermediary strategies that offer payers options for managing care short of full capitation, including:

- **Case-rate capitation,** in which payers provide a set dollar amount for each category of client treated. This approach transfers to the provider the risk of the cost of treating each case, but retains for the payer the risk for how many cases will be treated. The first phase of managed behavioral health care in Arizona utilized this approach.
- **Partial capitation,** in which some services are capitated (either fully or through a case-rate) and some are not. Most public managed mental health care approaches are partial capitation approaches (Montana is the only current exception), generally due to the retention of traditional funding for state hospitals and indigent care. This allows a payer to put only part of a system of care under increased financial risk.
- **Managed fee-for-service,** in which, although a fee is still paid for each specific covered service rendered, providers are not free to perform as many services or charge as much for each service as they choose. Fee schedules are used to limit the amount charged for each service. Utilization management strategies such as prior authorization for treatment and concurrent utilization review help control the number of reimbursable services provided.

It is important to keep in mind that a single managed behavioral health care system may employ several of these strategies. For example, a state may award a capitated contract for the entire Medicaid mental health plan to a single managed care organization, but retain traditional funding for its state hospital. The managed care organization may in turn employ managed fee-for-service arrangements (e.g., fee schedules, prior authorization for treatment, and concurrent review) with the providers with whom they sub-contract and perhaps even a case-rate for certain sub-populations (e.g., persons with severe and persistent mental illness).

Integrated vs. Carved Out Approaches. Medicaid managed mental health care developments have primarily centered on full and partial capitation. Here, an important debate has taken place between those advocating that mental health funds be integrated with funds for primary care and those advocating that they be kept separate. Often referred to as the choice between an integrated versus a carved out model, the

debate seems to have ended up largely in favor of carved out models for the present. Integrated plans, while perhaps the ultimate goal of many, nevertheless pose significant risks for behavioral care. Mental health care tends to be overlooked, underutilized, and poorly managed when part of an overall, primary care oriented health plan. In addition, primary care physicians tend to under-diagnose mental health disorders.

Many are now viewing carved out mental health plans as a developmental step toward increased integration. Carved out plans allow for the development and refinement of care delivery and management systems specifically tailored to the realities of mental health care provision. If integrated delivery systems are developed that coordinate all health care beneath a single funding, administrative and clinical umbrella, today's carve outs may become the robust mental health components of these systems. For frontier areas, the question of carve out or integration may be of less interest. Specialty care, including mental health care, is of little concern in areas that are lucky to have any health care capacity at all. Yet, whether mental health care will diminish in importance or evolve into a stronger component of the overall health care picture may depend upon the outcome of the integration/carve out discussion.

Frontier Considerations. Once these larger, structural questions have been addressed, the realities of frontier care delivery systems must be kept in mind as managed care comes to frontier areas. First, health care is more expensive to deliver in frontier areas. Rates in frontier and rural areas may not offer as much room for cost-cutting given their historically lower reimbursement, especially for inpatient care. However, costs can still be controlled through better aligned incentives. For example, an early finding in Iowa's and Colorado's Medicaid capitation pilots has been decreased costs and increased access. Many reason that these seemingly contradictory results have been achieved by increasing access to outpatient and other less costly interventions that save money by decreasing the need for more costly emergency and inpatient care. Inpatient savings have fueled the system, not through fewer episodes but rather through shorter lengths of stay.

In serving frontier areas, it will be important that urban models are not uncritically applied. For example, hospital savings typically achieved in urban areas may not be realistic in the frontier where outpatient supports and inpatient alternatives are often not available. Specifically, the use of hospital step-downs may not be possible if a consumer has to commute two hours each way to the hospital in order to transition from 24-hour care to partial care.

Another unique challenge in the frontier is that of access to services. Geographic distance and the expense incurred in overcoming it, a shortage of providers, and attitudes that stigmatize the seeking of mental health care already pose a barrier to service utilization. This causes many frontier advocates to fear managed care as yet one more impediment to adequate health care. While managed care can increase access, it will be important for payers to ensure that this is the case for frontier people as well as the plan

as a whole. Given that frontier residents often comprise only a small minority of recipients in a plan, access standards governing the plan must ensure, as they should with any minority group, that the impact upon frontier members is examined separately from the overall population average. Otherwise, differential impacts on frontier residents and their communities may be missed.

In fact, managed care in less populous areas may be less focused upon reducing costs and more concerned with improving access to more efficient models of care. While most describe managed care as cost-focused, it can also be viewed as increasing accountability for value from the health care that is purchased. In densely populated areas, value has been increased by holding care providers accountable for cost-efficient services. In these areas, an over-abundance of care providers, both individuals and institutions, chasing fewer and fewer health dollars results in competition to increase efficiency and reduce costs.

The situation is reversed in rural and particularly frontier areas. Here, there are too few providers and too few services provided. In such a context, increased value and accountability to sound health care cuts the other way, calling for increased access to appropriate services. One study of managed primary health care has found that physician availability was the key to successful initiatives. This suggests that mental health care provider availability could be essential to effective managed behavioral health care in rural areas. Some have even argued that Medicaid managed care will create new incentives for providers to come into rural and frontier areas. Although one should not assume that managed care will necessarily lead to increased access to care in frontier areas, managed care does offer the opportunity for payers to revisit the value realized for what they do spend on health care in frontier areas.

In addition to the number and type of health care providers within a reasonable commute, other factors influence the quality of access within a health system. One must also keep in mind that managed care approaches organize the system of care. Currently, the focus of care managers has shifted away from simple cost-cutting to more efficient system design through integration across similar and diverse types of health care providers. System organization is another factor to consider when evaluating the access afforded by a health plan. For example, driving 75 miles to access a physician tied into an extensive specialist referral network, telemedicine resources, and other amenities of a managed health plan might afford access to better care overall than driving 25 miles to a solo physician.

Nevertheless, the fear remains that geographic centralization will pose a threat to access in frontier areas. However, the risk seems to be less that managed care plans will remove frontier providers already on the scene than that plans will fail to improve access for frontier residents that must already rely on providers located far away. While increased inaccessibility through geographic centralization is a threat in managed plans, the situation can also be viewed as an opportunity to use evolving geographic distance-

to-care standards to require plans to improve distance-to-care in frontier areas. Nevertheless, payers must take care that unscrupulous plans not use distance barriers — either preexisting or newly imposed — to lower frontier utilization.

Controlling the Quantity of Care: From Managing Utilization to Managing Care

Most discussions of managed care center on decreasing the costs of care, usually by decreasing the quantity of services provided. For a good overview of managed care techniques and approaches, see Mindon and Hassol (1996); and for the application of these techniques to child and adolescent services, see Lourie, Howe and Roebuck (1996).

It is important to remember, however, that care management strategies evolve over time. Behavioral health care has only been managed at the longest for just over a decade in a few markets. Therefore, to gauge the possible direction of this evolution it may be helpful to consider the evolution of care management approaches for primary health care, which have had significantly more time to develop.

The management of primary health care can be described as having moved through four stages: unmanaged, early management focused upon costs, horizontal integration, and vertical integration. The table on the next page presents each of these stages, describing their care delivery system structure, financial implications, and impact on payers, providers and consumers.

While many markets are still dominated by early managed care approaches, horizontal integration is increasing in many markets and more mature markets are beginning to experiment with vertical integration. With the advent of vertically integrated delivery systems, many have proposed an as-yet untested hope that the management of care toward improved consumer outcomes will usurp crass utilization management, allowing savings to be achieved instead through improved care.

The implication of these developments for behavioral health is the possibility that managed care can offer more than decreased costs and strict utilization controls. As managed care moves into new areas such as frontier mental health, it will be important to remember that strict utilization management is not the only option available. As noted earlier, frontier areas may find it easier to realize increased value for mental health dollars through enhanced access and care coordination rather than simply through decreased rates and shorter inpatient stays. This level of development is more in keeping with stage four integrated delivery system development rather than more primitive cost controls. Perhaps the question most pertinent to rural and frontier residents is whether managed care will ultimately focus upon restricted care or improved access to coordinated and comprehensive services.

	Unmanaged	Early Managed Care	Horizontal Integration	Vertical Integration
Care Delivery System Structure	Care delivered through an uncoordinated array of individual providers and facilities.	Pre-authorization used to control access to care on the front end; concurrent review used to control provider decisions; retrospective review used to ensure acceptable patterns of care delivery across providers.	Market consolidation among providers and payers with little impact on the delivery of care.	Integrated delivery systems seek to provide the full array of health care services beneath a single organizational umbrella, from inpatient to primary to preventative care through alliances between hospitals, practitioners, and managed care organizations.
Financial Impact	Unrestricted fee-for-service reimbursement leads to increased costs.	Competitive rate-setting and utilization review lead to cost reductions.	Modest savings as individual entities join forces for greater economies of scale.	Untested potential through comprehensive disease management approaches.
Impact on Payers	Little control over outcomes or costs.	Increased control of costs through expensive oversight.	Insurance companies and managed care organizations consolidate through affiliations, mergers and acquisitions.	Payers realize increased efficiencies and better outcomes through disease management strategies.
Impact on Providers	Freedom of practice and increased reimbursement.	Reimbursement and clinical autonomy diminish.	Individual providers begin to band together into groups.	Providers enjoy renewed clinical and administrative authority.
Impact on Consumers	With insurance, unrestricted access; without insurance, poor or no access.	Choices among providers and access to specialty services increasingly limited.	Have to cope with frequent changes in the names and sometimes the composition of their health plans.	Consumers enjoy better coordination of care and improved outcomes.

Improved Quality Through Increased Accountability

While the effort to measure the impact of mental health care has reemerged at levels that rival even the hey-day of community mental health in the 1970s, research has yet to shed much light upon the concerns raised by managed care. Managed delivery systems may bring opportunities such as improved quality of care, increased organization and coordination within systems of care, more integrated care (primary and mental health), and renewed attention to the outcomes of care. Case study research has shown that managed care for general health care has worked well in some rural and frontier areas, in particular making health care more affordable. Although the study found managed care's effect upon the quality of care difficult to determine, it reasoned that realigned provider incentives and increased accountability could very well increase quality. Also, studies have found "positive potential" in managed care principles compat-

ible with the development of comprehensive systems of care, especially for children and adolescents. While it seems clear that managed behavioral health care has effectively reduced costs across the board and even improved access in some areas; access has decreased in some locales. Overall, findings regarding the effect of managed behavioral care on quality and the relative strengths of different models of managed care remain inconclusive.

One should not be fooled into thinking, however, that the major, or in many cases even a primary, motivation for proponents of managed care is improved quality. Currently, there are no accepted standardized measures of quality and plans compete primarily on the basis of price. However, the opportunity exists to change this balance. Improved tracking systems and more flexible computer databases offer the potential of increased accountability not simply for cost but also for quality. In particular, this is an opportunity that must not be lost for persons in frontier areas and others who currently receive a disproportionately low share of the behavioral health care dollar. It may be a unique chance to hold health plans accountable for the care they provide in the frontier.

A host of performance indicator and outcome measurement approaches are currently emerging from development into more widespread practice. Performance indicators seem to be gaining wider use than outcome measures, as consensus seems to have been more easily reached about the hallmarks of effective performance as opposed to the measurement of the overarching outcome goals that they seek to achieve. The primary measures are summarized below:

Standardized measures such as these could help frontier health care advocates first identify the differences in service delivery that currently exist for frontier residents and second use the standards over time to hold plans accountable for rectifying these differences. Measures that can help define these differences more clearly could help draw attention to the needs in these locales.

This underscores a key guideline that should govern performance measurement in frontier areas. Specifically, behavioral health plans should analyze utilization and other performance patterns by separating the data for frontier areas from data for more populated areas. Ensuring that sub-populations within plans are examined separately for differential experiences has been put forward in standards for the care of other minority groups. Others have specifically suggested the separate measurement for frontier residents of data pertaining to satisfaction, service utilization, access and grievances. Failure to analyze data from frontier areas separately can lead to various mistaken interpretations. For example, if satisfaction overall is 90%, it may wash out higher rates of dissatisfaction in frontier areas overlooked unless disaggregated.

Challenges for Providers

Managed care developments bring many changes for the mental health care provider. These can be grouped into system level and individual practitioner challenges.

PerformanceMeasure	Key features
Mental Health Statistics Improvement Program (MHSIP) Consumer Oriented Mental Health Report Card	• Jointly developed by under a federal government initiative (CMHS) by a group of mental health consumers, advocates, public sector payers and researchers • Looks at the domains of access, appropriateness, outcomes and prevention • Distinctive in its emphasis on the experience of the consumer of services and consumer related concerns such as negative treatment outcomes, as well as its relevance for public sector issues • Its major drawback lies in its imposition of a significant data collection burden, perhaps as a result of its focus on issues not generally tracked currently
AmericanManaged BehavioralHealthcare Association (AMBHA) PERMS 1.0	• Developed by AMBHA, the industry association for organizations that manage behavioral health plans • Maximizes efficiency in performance indicator measurement through a heavy reliance on data sets already collected by managed care organizations • Measures variables in the domains of access, satisfaction and outcome • Oriented toward the private commercial behavioral health care market; contains little content pertinent to public system concerns
Institute for Behavioral Healthcarperformance indicators.	• Primarily oriented toward payer concerns • While it stipulates indicators to be measured, it does not provide specific methods for their measurement, therefore limiting standardized comparison • Looks at factors pertinent to frontier areas such as geographic convenience, the percent of beneficiaries receiving services, complaints and grievances • Its primary definition of outcome centers on decreased service utilization
National Commission for Quality Assurance (NCQA) HEDIS	• Developed by the organization which has historically accredited managed care organizations such as HMOs and has recently begun to move to accredit managed behavioral health care organizations • Very focused upon the process of care delivery and the development of adequate quality improvement and assurance mechanisms and poised to gain wide acceptance through NCQA's history as an approved accrediting entity

System Level Challenges. Foremost among the system challenges facing care providers in frontier areas are credentialing difficulties. This includes the lack of adequate policies defining just who counts as a mental health professional in managed health care plans, as well as the appropriate uses for those providers who are counted. Managed care plans generally develop credentialing guidelines defining which professionals can be reimbursed by the plan (i.e., which providers can be members of the provider network) and which cannot (i.e., the remaining providers). By restricting the available pool of providers to those that meet the plan's guidelines (which are generally more restrictive than state guidelines for holding a license as a mental health professional), credentialing standards pose the risk of compounding mental health workforce shortages when applied to frontier areas.

The argument that frontier areas and other special needs groups should be excepted from credentialing standards has generally been rejected, perhaps for the better given the concern that frontier areas not be relegated to second-class status. Strategies to respond to this in rural plans include the development of specific reimbursable roles for mid-level providers, more flexible reimbursement for mid-level providers, and compe-

tency-based credentialing procedures. One positive approach has been to grant a grace period to providers that fall below minimum requirements, allowing a period of time in which providers can bring themselves up to par. An alternative approach that might better serve those frontier providers for whom no amount of time would be enough to pass muster would be for health plans to develop alternative credentialing standards. Such standards have already been put forward for mental health providers in other specialized niches such as rehabilitation workers or Washington State's standards for Minority Mental Health Specialists.

Individual Practitioner Challenges. Managed care also changes the work life of the individual practitioner. Advantages for rural physicians include development or preservation of their market share and assistance from managed care organizations in complying with non-clinical requirements. Other advantages include the enhanced back-up provided by the resources of an organized system of care, including referrals, informatics, technology, and managed relationships with other facilities, as well as increased efforts to expand telephonic and other telemedicine capacities as managed care organizations seek to augment the capacity of individual providers.

Disadvantages include loss of control over certain aspects of clinical practice and the feeling of cultural difference from the managed care organization, especially if it is located in an urban location far from the frontier practice. Other challenges include concerns about job security, declines in income, changes in professional identity including loss of status and autonomy, and financial conflicts of interest. Most mental health providers have experienced a loss of autonomy, especially through frequent treatment plan reviews and frugal authorizations, often even for outpatient care. However, plans are increasingly moving away from costly utilization management strategies and toward network management techniques that more closely align the care practices of individual practitioners with the care models of the health plan. This allows, in some cases, for the delegation of outpatient care management responsibility to the individual provider.

In negotiating these new challenges, providers need to avoid several pitfalls often found in managed care contracts. Among the most notorious are gag clauses that seek either to prevent clinicians from disclosing to their clients their financial arrangements with the managed care organization or in some cases from recommending services that the plan does not cover. Related to this and similarly problematic are contracting arrangements that allow the dismissal of clinicians without cause or without appeal to a neutral clinical authority.

Also problematic are the use of incentives that create conflicts with patient care such as bonuses for low utilization or at-risk arrangements that reward clinicians for providing less care. It should be kept in mind, however, that all financing arrangements create financial incentives of some sort for clinicians. Fee-for-service arrangements created the incentive to over-utilize. This fact was not missed by many consumer advo-

cates who see the move away from fee-for-service reimbursement as a way to decrease the use of restrictive interventions such as involuntary hospitalization. It might be pointed out that the necessity for clinicians to put the needs of their clients over their own financial self-interest is a long-standing concern in the fields of medicine and mental health. No matter what the financing arrangement, clinicians should continue to seek support through peer- and self-imposed ethical standards. However, the more egregious managed care practices that reward clinicians for decreased care should be simply avoided.

Also worthy of scrutiny is the bias in most if not all managed care settings toward brief psychotherapy and an accompanying move away from long-term, psychoanalytically- or insight-oriented psychotherapy. Psychotherapy in managed care plans increasingly amounts to little more than brief, focused and supportive psychotherapy, behavioral and cognitive-behavioral therapy, and greater reliance on medication. Such moves seem to be due less to research findings than to the financing practices of the managed care plan. Clinicians would be wise to balance managed care pressures toward briefer treatment with research findings and their own clinical experience.

The role of the frontier mental health provider is also likely to change. It has long been argued that the answer to the shortage of professionals in rural and frontier areas rests in the redesign of the delivery system, not simply in attempts to attract more individual workers. Delivery system reforms such as service integration (between primary and mental health care) have been suggested as the key to the long-term effectiveness of managed care in general and in rural areas in particular, given the shortage of mental health providers in such areas. It is likely that such strategies will also be needed in frontier areas.

Implications for Behavioral Health Services

This paper has demonstrated that managed care has important consequences for the provision of mental health care in frontier areas. Thus, as managed care increasingly moves toward risk-shifting strategies such as capitation, frontier stakeholders must be careful not to allow such risks to be shifted to the consumer through excessively reduced care expenditures. Toward this end, the table below presents some key recommendations for the major stakeholder groups in frontier areas:

State Mental Health Authorities in Frontier States

- Design Requests for Proposals (RFPs - the documents specifying the requirements for public mental health care purchases) with frontier areas in mind. Do not simply look at the state as a whole; remember that there are special populations within the state that merit special consideration.

- Learn to write good contracts. States in general and mental health departments in particular have formerly not had to write contracts governing such large expenditures for such softly defined products.
- Begin to use risk corridors and other strategies to ensure that plans do not unduly profit and that providers do not take on so much risk as to endanger the public mental health safety net. Given the difficulty in separating profit and administrative costs, some states have moved to setting limits for combined profit and administrative expense, creating the twin benefits of limited profit and minimized administrative expenses.
- Ensure a market for frontier health care by pooling funding for frontier areas with that for more populated locales. This will create a population base large enough and inclusive enough of traditional delivery system excesses in urban and suburban areas so as to motivate managed care organizations to come into frontier areas.

Advocates for Frontier Health Care

- Advocate for frontier-sensitive RFPs, sound contracting, risk corridors, limits to profit and administrative expenses and the pooling of funding for frontier areas with more populated suburban and urban areas so that your state governments will be more likely to do the right thing.
- Demand the development of quality standards and advocate for their standardization and application to frontier populations. Also advocate for their relevancy to frontier concerns such as geographic access.
- Support the effective use of these standards by insisting that payers monitor them separately for frontier beneficiaries and hold plans accountable for any deficiencies.
- Advocate for increased use of outcomes in contracting and provider selection. The most important thing is what health care systems accomplish for the people they serve.

Frontier Providers

- Start planning for managed care now, as the "hope" that rural and frontier areas will remain a safe-haven from managed care practices is fast eroding. Knowledge of managed care itself is an important first step.
- Diversify and specialize. The more things that you do well and the better you do them, the more competitive you will be in a managed care market.
- Move into management roles. Why not have care managed by clinicians sensitive to frontier concerns?

- Move toward more efficient models of care. Brief treatments and time-efficient models may not respond to all mental health needs, but they are fast emerging as necessary components of contemporary clinical practice.
- Organize for economies of scale and increased leverage within managed systems of care. Providers should also consider integration across professional boundaries.
- Organize for advocacy through local organizations and the National Association for Rural Mental Health.
- Beware of problematic clauses in managed care contracts and feel free to seek legal advice before signing.

Mental Health Consumers

- Influence the design of managed behavioral health care systems through local and national organizations.
- Advocate for increased emphasis on self-help as a cost-effective way to provide care.
- Expect less restrictive service alternatives and use new grievance and complaint procedures and the incentives tied to them to demand less restrictive care alternatives.
- Be wary of less service and vigilant for the risk that too few services be provided. As with overly restrictive services, the primary means for avoiding under-service are grievance and complaint processes.

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Notes

[1] This Letter to the Field draws upon the work of many other authors and researchers not referenced here. A more comprehensive treatment of this material with citations is available from the Frontier Mental Health Services Resource Network.

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