Muskie School of Public Service

Mental Health Encounters in Critical Access Hospital Emergency Rooms: A National Survey

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David Hartley, PhD
Erika Ziller, MS
Stephenie Loux, MS
John Gale, MS
David Lambert, PhD
Anush Yousefian, MS

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EXECUTIVE SUMMARY

While it is established that rural residents often seek care for mental health problems in primary care settings (Hartley, 2001), or in some cases in a Community Mental Health Center, lack of providers and lack of insurance may lead those with mental illness to the hospital emergency room (ER). Critical Access Hospitals (CAHs) are, by definition, located in small, remote and underserved rural communities and must offer 24-hour emergency services. In such communities, access to local mental health services is more likely to be a problem, and the ER may be a key piece of the mental health "safety net." This study investigates the extent and types of cases that present with mental health problems in CAH ERs, as well as the resources available to ER staff for addressing such problems and what actually happens to such patients.

Emergency department managers in a random sample of 422 CAHs in 44 states completed a telephone survey (response rate 84.7%) responding to questions about prevalence of mental health problems in their ER and what options they had for responding to such problems. In addition, 184 of these hospitals completed ER logs documenting all ER visits in two 24-hour periods, with details about presenting symptoms, treatment, and final disposition.

Key Findings

While respondents to the telephone survey reported that, on average, 6.5% of their average 99 ER visits per week involved a mental health issue (either primary or secondary), the completed ER logs indicated a slightly higher rate of 9.4%.

In 42.9% of these communities, there is no mental health service provider available locally, and only 2.1% had psychiatric inpatient treatment available locally.

Travel times are significant, with a mean travel time of 52 minutes to receive services not available locally and some CAHs reporting travel times of up to 4 hours.

Anxiety (36.8%) and mood swings (32.6%) were the most common presenting problems.

Patients presenting with suicidal symptoms represent 18% of the mental health problems in these ERs, and 2% of all CAH ER visits.

41.3% had a crisis response team available, however, this service was only used for about 26% of suicide cases. It was more common to simply transfer such patients out of the community (50%).

32% of CAHs provide detoxification services and for those that do not, mean travel time for alcohol or drug detoxification is over one hour.

42% left ER with no clear plan for their presenting mental health problem, although this drops to 21% when one considers only those whose mental health issue was primary to their ER visit.

Recommendations

1. Efforts to place mental health practitioners in primary care settings such as Federally Qualified Health Centers and Rural Health Centers should continue, and be monitored to assure that such efforts are successful.
2. Crisis response/intervention teams should be available to all hospital emergency departments. This may require that Community Mental Health Centers be given incentives to create satellite locations to reduce response times to remote emergency rooms.
3. The distribution of crisis response/intervention teams, and their ability to respond to calls from small rural emergency departments, is not well-understood and should be studied further to determine how best to minimize travel times and keep interventions and treatment local where feasible.
4. Where crisis response teams are available, emergency department staff may benefit from standard protocols for identifying patients in need of intervention, and processes for contacting the crisis response team.
5. The role of the emergency department in providing medical detoxification and referral to substance abuse treatment is not well-understood and should be studied further.
6. Emergency departments may also benefit from the development of discharge planning protocols to assure that patients for whom a mental health issue has been identified will be given a referral, where appropriate, even in cases where the primary presenting problem is not a mental health problem.

INTRODUCTION

In its report to the Secretary of Health and Human Services, the National Advisory Committee on Rural Health identified mental health as "a hole in the safety net." The seriousness of this "hole" is apparent when one considers that, although the prevalence of mental illness does not differ between rural and urban areas (Kessler et al., 1994), deaths from suicide increase steadily as counties become more rural (17.3 deaths per 100,000 in rural counties vs. 12.6 in large fringe counties, Eberhardt et al., 2001). Thus, while rural residents face the same likelihood of having the mental illness as urban residents, they face higher risks of adverse outcomes. This may reflect a problem with access to mental health services in rural areas.

A primary factor affecting access for rural residents is the lack of mental health services and mental health specialty providers in many rural areas. Historical shortages of specialty mental health practitioners persist in most rural areas of the U.S. Approximately three-fourths of the mental health professions shortage areas in the nation are in rural areas (Hartley, Bird & Dempsey, 1999). Studies have shown that lower utilization of mental health services is associated with lower provider to population ratios (Lambert and Agger, 1995).

Problems with access to mental health services in rural areas are exacerbated by the disproportionate number of rural, particularly remote rural, residents who are uninsured (Ziller et al., 2003). When Community Mental Health Centers (CMHCs) were created by Congress in 1963, they were entrusted with a safety net role, to help meet the mental health needs of the medically indigent (Hartley et al., 2002). While many CMHCs continue to believe that it is within their mission to act in this capacity, their ability to serve the uninsured depends on their ability to cross-subsidize such services with funds designated for their priority populations, those with more serious mental illness (Hartley et al., 2002). In practice, many of these agencies may not be able to provide adequate routine outpatient mental health services to the uninsured, but often have crisis response teams that will respond to an immediate mental health crisis, including one occurring in the emergency room, regardless of insurance status or diagnosis.

With the erosion of the safety net mission of CMHCs and the widespread lack of mental health practitioners and services in rural America, a large proportion of rural communities do not have access to mental health services for the uninsured. It should be noted that even those who do have health insurance are less likely to have mental health coverage than urban insured

populations, or, if they have it, the coinsurance is so high that they are effectively uninsured for outpatient mental health services (Hartley, Quam and Lurie, 1994). As a result, rural residents with mental health problems that are impairing their ability to function, or those with suicidal ideation, may find their way to the hospital emergency room.

Previous studies have investigated the rural provision of mental health services by FQHCs and CMHCs (Wagenfeld, 1994; Hartley et al., 2002). However, there is little documentation of the extent to which ERs provide mental health services in rural communities. This paper provides new information about the role of rural ER's in the provision of mental health services, gathered from a structured telephone survey of ER managers in a nationally representative sample of Critical Access Hospitals, and from service logs completed by ER staff. Specifically, we have sought to determine 1) what proportion of ER encounters involve mental health pathology; 2) what kinds of mental health problems are most commonly seen in these encounters, and; 3) what resources are available to CAHs to address the problems they encounter.

Background

The "Rural Safety Net" and Mental Health Services

In its report to the Secretary of Health and Human Services, the National Advisory Committee on Rural Health identified mental health as "a hole in the safety net," noting that one of the few mental health safety net programs serving rural areas, the Community Mental Health Center (CMHC), appears to have been diverted from its safety net mission. That diversion was identified and described nearly a decade ago (Wagenfeld, 1994) and confirmed more recently by Hartley et al. (2002).

The "safety net" refers to "those providers that organize and deliver a significant level of health care and other related services to uninsured, Medicaid, and other vulnerable patients (Institute of Medicine, 2000)." A description of the safety net typically begins by describing the populations served and the services delivered by public hospitals and community health centers (CHCs). Included in the latter category are CHCs that receive Public Health 330 grant funds. Such health centers are also designated as Federally Qualified Health Centers (FQHCs) for purposes of receiving cost-based reimbursement from Medicare and enhanced reimbursement from Medicaid. Centers with similar structure and mission that do not receive these grant funds

may qualify as "look-alikes" and receive the same favorable reimbursement. Hospitals and health centers account for a considerable proportion of safety net care in most communities.

Discussions of the rural safety net often give some consideration to Rural Health Clinics (RHCs) as another rural primary care provider that may serve the uninsured, although these entities are quite different in mission, funding and governance from FQHC providers. In a recent survey, a very small proportion of RHCs were found to offer mental health services (Gale & Coburn, 2003). Therefore, we consider RHCs to play a negligible role as rural mental health safety net providers.

Another potential source of mental safety net services for rural residents is the hospital emergency room (ER). Public hospitals are the backbone of the hospital safety net, but they "tend to be located in urban centers and primarily serve Medicaid beneficiaries and uninsured patients (Institute of Medicine, 2000, p. 55)". While this would appear to leave rural areas underserved, the newest entity in the rural safety net is the Critical Access Hospital (CAH). Created by the Medicare Rural Hospital Flexibility Act of 1997, this program (Flex Program) allows very small rural hospitals to obtain a new type of hospital license that allows them greater flexibility in staffing, qualifies them for cost-based Medicare reimbursement (and Medicaid reimbursement in most states), and requires them to restrict their inpatient services to an average length of stay of four days. The CAH designation does not explicitly obligate the hospital to function as a safety net provider. However, CAHs are required to maintain an emergency room. In order to participate in Medicare, this brings them under the requirement of the 1986 Emergency Medical Treatment and Active Labor Act, requiring that they must provide medical screening and stabilizing treatment to anyone who seeks care in their facility.

This study investigates the use of Critical Access Hospital emergency rooms by patients with mental health problems in order to broaden knowledge about the role these facilities play in meeting the mental health needs of their communities, as well as the challenges they face in doing so. We have targeted CAH ERs for several reasons. First, CAHs are, by definition, located in communities where access to care is a potential problem, as defined by distance to the nearest hospital. While this criterion does not apply to mental health access, it is an indicator that a community is geographically isolated. Second, in the first four years of the Flex Program, a number of CAH administrators have identified mental health as a persistent problem in their communities (personal communications with members of Flex monitoring team). We also know

that, initially, no rural hospitals with inpatient psychiatric beds applied for CAH status because the rules of the program counted "distinct part psychiatric units" as part of the complement of inpatient acute care beds, limited to 15 total beds. So, the ability of the hospitals targeted in this study to offer inpatient mental health services is likely quite limited.

Mental Health Encounters in Emergency Rooms

There has been little research regarding the utilization of ERs for mental health services in rural communities. Studies examining the utilization of mental health services in ERs have generally focused on ERs in larger, non-rural hospitals, or have included rural hospitals without explicitly addressing the issue of geography. These studies either summarize mental health statistics for ERs nationwide, or document these statistics for ERs in specific hospitals or for specific mental health-related conditions. Although not conducted in a rural-specific framework, these studies provide useful information in describing what kinds of patients seek mental health services in the ER, as opposed to in primary care settings.

National data demonstrate that mental health visits to the emergency room make up a small, but not inconsequential proportion of all emergency room visits. For example, Hazlett et al. (2004) used the 2000 National Hospital Ambulatory Medical Care Survey sponsored by the National Center for Health Statistics to estimate the number of adult psychiatric-related emergency department visits (defined by psychiatric discharge diagnosis or a suicide attempt). The researchers estimated that in the year 2000, there were 4.3 million such visits in US hospitals, amounting to an annual rate of 21 visits per 1,000 adults and accounting for 5.4% of all emergency department visits. While rural rates among adults have not been explicitly documented, a study of three ERs in the southern region of the country that included a rural hospital found that 5.3% of patients age 15 and older were diagnosed with at least one psychiatric condition (Kunen et al., 2005). One study, which specifically examined the characteristics of youth ages 6-19 who visited a rural Illinois ER, found that 4% (n=266) of the 6,392 youth that visited the ER in 1994 made a total of 347 visits requiring a mental health assessment (Wislar, 1998). This was higher than the national estimate by Sills et al. (2002) who found that mental health visits accounted for 1.6% of all emergency department visits by youth between 1993 and 1999.

The number and proportion of visits to ERs for persons with mental health problems is estimated to have increased in recent years. For example, McAlpine (2002) found that between 1993 and 1999 the number of ER visits by persons with a primary diagnosis of mental illness increased about 20%, from an estimated 2.2 million to 2.7 million. Similarly, Hazlett et al. (2004) noted that the rate of adult ER visits involving a psychiatric diagnosis rose from 18 per 1000 visits to 21/1000. Although a lower volume of ER visits by youth are mental health related (1.6% of visits), this pattern of increase is evident for younger persons as well. Among youth aged 19 and under, the frequency of mental health visits to ERs increased significantly between 1993 and 1999 (Sills et al., 2002). This increase was most evident among nonwhites, females, and adolescents, as well as among patients in the Northeast and Midwest, leading Sills et al. (2002) to posit that geographic differences may reflect regional mental health provider shortages.

Health insurance coverage appears to play an important role in the use of ERs for mental health services. The rate of ER visits by individuals with mental health problems who are covered by Medicaid is twice that of uninsured patients and eight times higher than patients with private insurance (Hazlett et al., 2004). In addition, the uninsured (or those underinsured for mental health) represent a growing proportion of ER visits by individuals with mental health issues. In 1993, 19 percent of mental health visits to emergency rooms were not covered by insurance, compared to 25 percent in 1999 (McAlpine, 2002). Because rural residents are more likely to have Medicaid or to be uninsured than are urban residents (Ziller et al., 2003), visits to ERs by individuals with mental health problems may be particularly pronounced in rural areas.

Presentation and Diagnoses

Studies of the nature and types of mental health disorders that are present in emergency room patients tend to reveal similar patterns. For example, Kunen et al. (2005) report that mood, anxiety, substance abuse, tobacco use, and psychotic disorders account for 88% of all psychiatric diagnoses in emergency rooms, and substance abuse and anxiety disorders are the most frequently diagnosed conditions overall (Kunen et al., 2005). Similarly, in their national analysis Hazlett et al. (2004) found that the most common mental health conditions diagnosed in emergency rooms are alcohol and drug-related problems (27%), neurotic conditions (26%), and psychoses (21%). Youth follow somewhat similar pattern (Sills et al. 2002) with the most

commonly diagnosed disorders being "substance related disorders" (24.2%), "anxiety disorders" (16.6%), and "attention deficit and disruptive disorders" (11.3%).

Elderly patients seeking care in emergency rooms have different patterns of mental health service needs, often experiencing delirium and cognitive dysfunction. Hustey et al. (2002) conducted a prevalence study of mental impairment of elderly patients seeking care from an urban teaching ER and found that 26% had some impairment (10% with delirium, 16% cognitive impairment without delirium, and 6% with both conditions). These findings are comparable to those reported in other studies (Gerson et al., 1994; Naughton et al., 1995). Given that a somewhat higher proportion of rural residents are elderly (U.S. Census Bureau, 2000), these rates of impairment have important implications for the role of rural ERs in addressing mental health care needs. And, since 81% of elderly patients with cognitive impairment were newly discovered cases in the emergency department (Hustey et al., 2002), rural ER personnel may be particularly important frontline mental health providers for seniors.

There is ample evidence that primary care providers play a significant role in treating depression among rural residents (Regier et al., 1993; Hartley et al., 1998). Although not rural-specific, studies have found that a small but not inconsequential number of depressed individuals seek care from hospital ERs. One study estimates that between 1997 and 2000, there were approximately 580,000 visits associated with a primary diagnosis of depression per year in the US, accounting for 0.6% of all ER visits (Harman et al., 2004). And, while a primary diagnosis of depression among ER patients may be relatively rare, depression as a co-morbid condition is common. For example, in a prevalence study of depression in four Boston-area emergency departments, researchers found that 30% of patients seen reported experiencing depression in the past 12 months (Kumar et al., 2004).

In addition to patients with depression, patients suffering from panic attacks are also commonly seen in hospital emergency settings. In a random sample of Texas households (a state with a significant rural population), nine percent of respondents reported experiencing panic attacks (Katerndahl et al., 1995). For those who sought professional assistance for a panic attack, the most commonly used setting was the office of a family or general physician (35%), followed by a hospital emergency department (32%). Forty-three percent (43%) of panic attack sufferers made the initial visit for their condition to a hospital emergency department, more than

any other setting. This provides evidence that emergency physicians are often the first medical or mental health professionals to examine and diagnose patients who suffer from panic attacks.

Treatment Issues

Research into the prevalence of mental health problems among ER patients suggests that these visits are resource-intensive and often require services beyond what is available through the ER. For example, one study found that ER patients that received a psychiatric diagnosis had a higher hospital admission rate than patients without a psychiatric diagnosis (22% versus 15%, Hazlett et al., 2004). Admissions among seniors follow a similar pattern, with 46% of mentally impaired elderly ER patients admitted to the hospital versus 32% of those without impaired mental status (Hustey et al., 2002). Sills et al. (2002) found that 67% of emergency department pediatric mental health visits were considered to be "urgent" and that about 35% were either admitted to the hospital or transferred to another facility. One assessment of a rural hospital's experience with suicidal youth found that suicide-related ER visits among young patients led to average inpatient stays of 7.5 days (Wislar, 1998).

The resource and treatment demands of mental health problems presented in the ER may be particularly challenging for small rural hospitals, including CAHs. First, because of the mental health professional shortages in many rural areas (Hartley et al., 1999), the volume of patients with mental health pathologies may be particularly pronounced if individuals are forced to seek care from the ER because other treatment options are limited. However, Wislar (1998) found that 30% of youth seen in a rural ER for mental health problems were receiving outpatient treatment at the time, so even in areas where other professionals are available, CAH ERs may see a significant number of patients with mental issues.

At the same time that CAHs may be experiencing a disproportionate share of patients with mental health problems in their emergency rooms, these facilities may also face substantial resource challenges in meeting the mental health needs of those that seek their care. Rural hospitals are less likely to have psychiatric units than urban hospitals (Hartley et al., 1999), and thus will face challenges in dealing with patients in need of intensive psychiatric interventions. And, as noted above, rural areas generally have inadequate supplies of mental health professionals, meaning that CAHs may have a particularly difficult time linking patients to community resources. Finally, given CAHs' small sizes, their staffing levels may be inadequate

for addressing the mental health needs of particular patients. For example, if a remote ER has only one direct care provider on staff it would be difficult to provide the intensive monitoring that suicidal, psychotic, or intoxicated patients require, while performing other basic duties. The purpose of this study is to explore these and other issues that small rural hospital emergency rooms face when their patients present with primary or secondary mental health problems.

METHODS

To determine the extent and type of mental health problems presenting in CAH ERs, and the issues these small facilities face in providing treatment to those with mental health pathology, we collected primary data through the combination of a telephone survey and ER visit logs. Among the specific questions we sought to address were:

1. What proportion of all encounters in CAH ERs present with mental health pathology as the primary or secondary concern?
2. What are the most common mental health pathologies presenting in CAH ERs?
3. What resources are available for immediate crisis intervention and treatment of these patients and for follow up treatment?
4. How do patients typically arrive at the ER? Are they brought in by a family member, brought by law enforcement, on do they arrive their own?
5. How do CAH ER staff address the mental health needs of patients that present with mental health symptoms or diagnoses?

Data Collection

Sampling

Our sampling frame was the universe of Critical Access Hospitals (CAHs) at the time the survey was fielded. To qualify for CAH designation, a hospital must be in a rural area, be at least 35 miles from the nearest hospital, or meet other access criteria determined by the state. At the time of our survey there were 882 CAHs in 45 states (Delaware, New Jersey and Rhode Island are not in the program, and Connecticut and Maryland had not had any hospitals convert up to that point). From this frame, we drew a random sample of 498 hospitals that encompassed 44 of the 45 active CAH states (South Carolina's single active CAH at the time of the survey was

not a part of the random draw). Of these, 422 ultimately completed the survey for a response rate of 84.7%.

Survey Design & Fielding

The survey targeted emergency room managers because these individuals have the most complete understanding of cases presenting in the ER. We designed the survey instrument with assistance from three consultants with considerable combined expertise in this area: a CAH ER manager with a mental health background, an ER physician, and a psychiatrist who has practiced in rural areas. Through this instrument we sought to explore what proportion of all CAH ER cases have mental health pathology, what the most common pathologies are, and what resources are available for immediate treatment of these patients and for follow up treatment. For immediate treatment, we are interested in whether the ER has a consulting relationship with a psychiatrist, how hard he or she is to reach, and what backup resources are available, such as crisis intervention/management. For follow up, we sought information on referrals to outpatient mental health providers, psychiatric hospitalization, and medication management. Prior to the full survey, the instruments were field tested at ten different CAH ERs across the country and revised as warranted.

Emergency Room Visit Logs

We augmented our survey with prospective logs of all emergency room encounters that occurred over two different 24-hour periods in a given week. This decision was based on the concern that much of the information on volume, types of pathologies, and patient dispositions would be difficult for an ER manager to quantify accurately during a short telephone encounter. Thus, once a CAH staff person had completed the telephone survey, s/he was asked to participate in the second phase of the research project—the primary collection of ER visit data through these logs. The logs were sent with detailed instructions, including the request that the logs be administered on the next Wednesday and Saturday following their receipt. Of the 422 surveyed CAH staff, 187 completed and returned their visit logs, for a response rate of 44%.

The purpose of the logs was, first, to confirm the estimates of how prevalent mental health problems are in the emergency rooms of CAHs, compared to the estimates provided in our survey of ER Managers in the first part of the project. Beyond confirming that estimate, we

wanted to find out how patients with MH symptoms find their way to the ER, what kinds of symptoms they present, the extent to which ER staff are able to treat them and send them home, and the extent to which ER staff transfer them to another venue, make a referral, or call in a consult. Lacking comparable data from urban ERs or from ERs in hospitals with "full-service" psychiatric services, we are not able to determine if CAH ERs are doing something significantly different from these larger institutions.

In order to assess the possibility of bias in the CAHs that completed the log process, we compared them with the full sample of CAHs that participated in the survey on a series of key characteristics. Although we found no significant difference in total volume of ER visits, those that returned logs had survey-reported estimates of mental health visits as a percent of total visits that were lower than the full sample (5.2% versus 6.5%, $p \leq .05$). There were some descriptive differences between log participants and the full sample by region (i.e. CAHs from the South made up 24% of our total sample but were only 16% of log respondents), however this difference was not statistically significant. We also compared the two groups by the availability of services in their area and found no statistically significant differences between them. Thus, while the our results could be biased if hospitals with higher estimated mental health volume differ substantively in the type of patients they see or their practice patterns, we generally found little cause for concern about systematic bias in the log responses.

FINDINGS

Because of the lack of prior knowledge about the use of CAH ERs as rural mental health providers, this study is exploratory in nature. As a result, our findings are presented principally in descriptive format, although cross-tabulations of certain variables of interest have been tested by chi-square when appropriate.

Survey Results

Respondents (usually the CAH's ER manager) were asked to estimate both the number of visits that are made to the ER in a typical week, as well as the proportion they believed included a person with a mental health problem. The average estimated volume among the CAHs studied was 99 visits per week; of these, respondents estimated that 6.5% were by patients that had mental health pathologies.

In order to better understand the service environments in which CAH ERs must operate, we asked respondents what mental health services were available within their communities (Table 1). The most commonly available mental health service was crisis intervention (41% of communities), and nearly 38% of respondents indicated that there was a psychiatrist and/or a psychologist in the community. Thirty-six percent reported the presence of another type of mental health provider, such as a clinical social worker of licensed professional counselor. Only a very small proportion of CAHs operate in a community where inpatient psychiatric care is available (2.1%). Perhaps most significant, 43% of respondents reported that the community had no mental health services of any kind.

For the 59% of communities where crisis intervention services are unavailable, CAH staff reported that, when necessary, they rely on facilities or providers in distant communities—typically a psychiatric hospital (24%), psychiatric unit of a general hospital (28%), or a mental health center (22%). According to respondents, the average travel time to reach these distant facilities is just under one hour (52 minutes); however, a small but not inconsequential number (4%) indicated that the nearest crisis intervention is more than two hours away.

Table 1: Availability of Local Mental Health Services

Provider or Service Type	*% Reporting Availability*
Psychiatric Inpatient	2.1%
Psychiatrist	22.8%
Psychologist	31.2%
Either Psychiatrist, Psychologist or Both	37.7%
Other Mental Health Provider	36.4%
Crisis Intervention	41.3%
None	42.9%

To better understand how CAH ERs address the mental health issues with which they are presented, we asked respondents how they typically treat or refer for specific types of mental health problems (see Table 2). For patients with suicidal ideation, more than half of respondents report that their facility will most commonly transfer the patient to a psychiatric hospital or psychiatric unit of a general hospital. Just over one-fourth indicate that the CAH will bring in a crisis intervention team, while one-fifth seek a psychiatric consult (typically by telephone). In

some cases the CAH will contact the patient's primary care provider for assistance (16%), while for 11% of CAH ERs the most common treatment involves admission to the CAH itself.

Treatment and referral patterns are similar for patients in psychotic crisis, although this group is more likely to be transferred to inpatient psychiatric care (64%) or to require assistance from law enforcement. Unlike with suicidal ideation, none of the CAH ER staff reported that this type of mental health problem is most commonly addressed through an inpatient admission to the CAH.

Table 2: Most Commonly Used Treatment or Referral Options for ER Patients with Mental Health Issues, by Presenting Problem

Treatment or Referral Option	Presenting Problem			
	Suicidal Ideation	Psychotic Crisis	Intoxication & Mental Health	Secondary Mental Health
Transfer to Psychiatric Unit or Hospital	56%	64%	35%	
Call in Crisis Intervention Unit	27%	24%	18%	
Psychiatric Consult (usually by telephone)	20%	19%		
Contact Primary Care Provider	16%	16%	18%	38%
Admit to CAH for Observation	11%		27%	28%
Do Not Admit, but Keep in CAH ER for Observation			21%	9%
Refer to Community Mental Health Center				22%
Involve Law Enforcement		16%		
Other, or No Further Action				58%

NOTE: As respondents could select more than one option, totals do not equal 100%.

When an individual arrives at the ER intoxicated, and has an underlying mental health problem, transfers to another facility are less common (35%); instead, nearly half admit the patient to the CAH or keep them in the ER for observation. In cases where actual detoxification is needed, however, only 32% of CAHs have the capacity to provide this service themselves (data not shown). For those CAHs that do not have onsite capacity (68% of the facilities we surveyed), the mean travel time for alcohol or drug detoxification is just over one hour.

Log Results

A total of 184 (44%) of the hospitals that participated in the survey successfully completed the emergency room log data collection effort, for a total of 3,289 logs. Roughly 310 (9.4%) of all logged visits were by patients identified as having some type mental health problem, either as a primary (30.4% of identified visits) or secondary diagnosis (69.5%). Table 2 shows that, of those with some mental health issue, about 43% fell within the 19-44 age range, while another 21% were elderly (age 65 or older). Ten percent of the patients with a mental health problem were 18 years or younger.

How patients arrive at the CAH ERs was one of the data elements gathered through the logs. The most common mode of arrival for patients with mental health pathologies was in the company of a friend or family member (43.9%). About 17% arrived alone, while another 13% came by ambulance. Roughly one in ten of all patients were brought to the CAHs ER by a law enforcement officer (10.6%) and a small proportion (2.3%) was accompanied by a nursing home staff person. For 11% of all mental health related visits, the method of arrival was not indicated on the log.

In addition, we used the log data collection process to develop a deeper understanding of the nature and types of mental health problems that are common in the CAH ER setting. As had been found in previous, more general studies, anxiety and mood disorders (including depression) are common symptoms of mental health problems that are presented by CAH ER patients. Thirty-seven percent of those with a mental health problem presented with anxiety, 33% with mood swings and 32% with depression (note that symptoms are not mutually exclusive, and that many patients experience multiple symptoms). Agitation and alcohol or drug intoxication were also commonly logged symptoms, representing 18% and 17% of mental health patients respectively.

Nearly one-tenth (9.4%) of all mental health ER visits involved a patient with suicidal thoughts, while 7% had active suicide ideation and 3% had actually attempted suicide. When taken together, patients with some level of suicidality comprised 18% of all mental health related visits and 2% of all CAH ER visits (data not shown). On 9% of the logs, the ER staff had written in other symptoms, including: drug-seeking behaviors, drug overdose, dementia and/or confusion, disorientation, fear, crying, inappropriate behavior (e.g. nudity and excessive talking) self-mutilation and post-traumatic stress disorder.

Table 3: Description of Mental Health Visits to CAH Emergency Rooms (n = 310)

Characteristic	Percent of Mental Health Visits
Age of Patient	
18 and younger	10.3
19-44 years	42.9
45-64 years	25.6
65 and older	21.3
Mode of Arrival	
Alone	17.4
Family or friend	43.9
Law enforcement	10.6
Ambulance	12.6
Nursing home staff	2.3
Other	2.6
Not specified	10.6
Presenting Symptoms*	
Depressed	32.3
Anxious	36.8
Agitated	17.7
Intoxicated (Alcohol or Drugs)	17.1
Hallucinating	2.9
Delusional	2.9
Flat affect	10.7
Suicidal thoughts	9.4
Suicidal ideation	7.4
Suicide attempt	3.2
Violent	6.1
Mood swings	32.6
Other	9.2

*Due to patients presenting with multiple symptoms, the symptom totals exceed 100%.
Note: these cases include many cases for which the mental health symptom was not the primary presenting problem. Therefore, in many cases, the medical need was treated, either by an admission or a medical transfer, and information on the disposition of the mental health need was incomplete.

As one would expect, the presenting symptoms of patients with mental health problems differed by age group (Table 4). For example, anxiety was much more likely to be a problem for middle-aged and young adults, versus children or seniors. Young adults and children, on the other hand, were two to three times more likely to present with suicidal thoughts than were older adults. All three of the younger age groups were at least ten times as likely to arrive at the ER while intoxicated with drugs or alcohol as elderly patients were. On the other hand, more than half of elderly patients were reportedly demonstrating mood swings (52%), compared to

approximately one-fourth of young adults and children. The elderly were also about three times more likely than younger groups to present with "other" symptoms, including: confusion, behavioral problems, and specific diagnoses such as Alzheimer's disease and schizophrenia.

Table 4: Presenting Mental Health Symptoms, by Age Group

	Age				
	Total	18 and Under	19 to 44	45 to 64	65 and Older
Presenting Symptoms	Percent with Symptom				
Depressed	32.3	32.1	36.8	27.1	29.3
Anxious*	36.8	21.4	36.8	45.7	27.6
Agitated	17.7	17.9	16.2	22.9	15.5
Intoxicated**	17.1	17.9	23.1	18.6	1.7
Hallucinating	2.9	3.6	1.7	2.9	5.2
Delusional	2.9	3.6	1.7	1.4	6.9
Flat affect	10.7	17.9	8.6	12.9	15.5
Suicidal thoughts*	9.4	10.7	13.7	5.7	3.5
Suicidal ideation	7.4	10.7	11.1	4.3	3.5
Suicide attempt	3.2	10.7	2.6	2.9	1.7
Violent	6.1	3.6	4.3	8.6	8.6
Mood swings**	32.6	28.6	23.1	35.7	51.7
Other*	9.2	7.1	6.0	7.1	19.0

*$p \leq .05$ **$p \leq .01$

To better understand the treatment and referral issues that CAHs face when confronted by patients with mental health needs, we asked log participants to specify the ultimate disposition of the patients they identified as having mental health problems (Table 5). Of the 310 patients with apparent mental health issues, the single most common outcome (representing one-fourth of patients) was to be sent home without any specified treatment or referral. Another eight percent were reportedly discharged without any additional information provided. When these categories are grouped with those that did not specify any disposition, approximately 42% of all mental health patients left the emergency room without a clear plan for mental health follow-up. The log collection instrument does not allow us to determine how many of these cases simply did not require follow-up, and how many were not given referrals because there is no available service or provider. However, we found a marked difference between patients whose mental health condition was primary to their visit, and those for whom it was a secondary issue. For those with a primary mental health condition only 21% had no or unknown treatment compared to 51% of

patients whose mental health condition was secondary to their emergent problem (p. ≤.001; data not shown).

Table 5: Disposition of Patients with Presenting Mental Health Problems (N = 310)

Disposition	%
Admitted to CAH	13.6
Placed in observation bed	6.1
Transferred to psychiatric hospital/unit	10.0
Given referral and discharged	15.8
Sent home with referral	1.9
Sent home without referral	25.5
Discharged – unspecified	7.7
Left with police	3.2
To nursing home or assisted living	2.6
Medical transfer	2.6
Treated and discharged	2.6
Left against medical advisement	1.9
Other	1.3
Missing information	5.2

Roughly 17% of the mental health patients seen in CAH ERs were discharged with a referral, and 2% were sent home with a referral. Nearly 3% were treated in the ER and discharged, another 6% remained in a CAH observation bed, and 14% were directly admitted to the CAH. Taken together, the proportion of mental health patients that received treatment and/or referrals in the CAH itself was 40%.

Nearly one-fifth (18.4%) of all mental health encounters in CAH ERs ended with the patient being transferred to another facility. This included the 10% of patients that were transferred to a psychiatric hospital or unit, as well as the nearly 3% that were sent to nursing homes or assisted living facilities. Three percent required medical transfers to another hospital, while an additional 3% left in the custody of law enforcement officials, possibly headed for a correctional facility.

As shown in Table 6, patient dispositions differed by the type of mental health symptom presented in the CAH ER. For example, patients exhibiting suicidal ideation (or those who had actually attempted suicide) were the most likely to be transferred to another facility—a transfer rate of about 50% for each of these symptoms, compared to the overall transfer rate of 18%. In

contrast, patients that appeared anxious to CAH ER staff were the least likely to be transferred (10.5%), and the most likely to be discharged without known treatment or referrals (54%).

Table 6: Aggregate Patient Dispositions, by Symptom (n = 310)

Presenting Symptoms	Disposition		
	MH Issue Addressed on Site	Transfer to Other Facility[a]	MH Issue Not Addressed, or Unknown
Any Symptom	*40.0*	*18.4*	*41.6*
Depressed*	45.0	23.0	32.0
Anxious***	35.1	10.5	54.4
Agitated	36.4	25.5	38.2
Intoxicated*	39.6	30.2	30.2
Hallucinating*	55.6	44.0	0.0
Delusional*	55.6	33.3	11.1
Flat affect	45.5	21.2	33.3
Suicidal thoughts***	48.3	44.8	6.9
Suicidal ideation***	34.8	52.2	13.0
Suicide attempt**	40.0	50.0	10.0
Violent *	47.4	36.8	15.8
Mood swings	45.5	16.8	37.6
Other	46.4	10.7	43.9

[a]Other facilities include psychiatric units or hospitals, nursing homes or assisted living facilities, and correctional facilities.

*p ≤ .05 **p ≤ .01 *** p ≤ .001

As one would expect, the patients with most serious mental health symptoms (including suicidality, hallucinations, delusions, and those that exhibited violence toward others) were the least likely to leave the CAH ER without clearly identified treatment or referral. Of these, those that were hallucinating, delusional, violent or had suicidal thoughts were most likely to be treated within the CAH itself, while (as discussed above) those with more advanced suicidality were most likely to be transferred. Dispositions for those with agitation, flat affect, mood swings, or other symptoms did not differ significantly from the full group of patients with any mental health problem.

DISCUSSION

Our findings indicate that patients with mental health pathologies represent a small but significant proportion of the visits to Critical Access Hospital (CAH) emergency rooms. Over 9% of all tracked visits were by patients who had a mental health problem as a primary or secondary diagnosis. This rate is quite a bit higher than found by prior studies of hospitals in general (5-6% of visits), although we caution against over-interpreting this difference as it could reflect methodological (rather than actual) variations. However, as discussed earlier, log respondents tended to have lower reported survey estimates of mental health volume than non-respondents. This suggests that we may have underestimated the extent to which CAH ER visits are mental health related. Further epidemiologic research comparing the prevalence of mental health-related ER visits in rural and urban hospitals is clearly warranted.

The majority of CAHs that we surveyed reported having some type of mental health provider in the community. An unexpectedly high 38% purportedly have a psychiatrist, psychologist, or both available in the community, and 36% have a community mental health center (CMHC). However, it is important to remember that 43% of survey respondents indicated that there is no mental health provider of any kind at the local level. Thus, for a sizeable minority of CAHs, there are limited resources available to assist with the patient that presents with a mental health problem.

For patients with significant and emergent mental health problems that present in the ER (i.e. those with suicidal ideation or in a psychotic episode) the most common response is for the CAH to transfer the patient to an inpatient psychiatric hospital or unit. Given that most CAHs surveyed do not have inpatient psychiatric care in their communities (only 2.1%), nearly all of these individuals must leave their communities to receive the needed care. Given that some survey respondents reported travel times of four hours to the nearest crisis care (mean of approximately one hour) this travel can have significant impacts on patients and their families. Recent policy initiatives such as letting CAHs maintain psychiatric units as a distinct part of their facility (and not counted in total bed limits) may help expand access to this service, and should be studied in the future.

Forty-one percent of survey respondents reported that there is a crisis intervention unit available within their community. However, when asked how they deal with specific mental health issues such as suicidal ideation, psychotic episodes or intoxication, a relatively small

proportion of CAH staff indicated that they commonly use crisis intervention services (ranging from 18% for intoxication to 26% for suicidal ideation). It is unclear from the survey and log precisely why CAHs do not take greater advantage of this service if it is available, preferring instead to transport patients to another facility. Future research should seek to understand how these service providers could improve coordination and potentially reduce the need for patients to leave their communities.

Roughly one in six of all mental health-related visits to the CAH ERs involved a patient that was intoxicated. According to the survey, intoxicated patients are commonly held in the ER, or admitted to the CAH, for observation. When medical detoxification is needed, however, less than one-third of the CAHs studied have on-site capacity to provide this service. For patients that must travel for detoxification, the mean travel time is over one hour. Thus, as with patients transferred to distant psychiatric units or hospital, obtaining appropriate care for alcohol or drug abuse may involve extensive travel and place strains on family members. In addition, it is unclear what follow-up options exist for patients that have gone through detoxification, and what role the CAH actually plays in the rural substance abuse treatment system. Future studies should consider these issues as they attempt to understand the substance abuse treatment options available to rural residents.

According to ER visit logs, two out of every five mental health encounters in CAH ERs are addressed on site, either through treatment or referrals. Nearly one in five involves a transfer to some other facility such as a psychiatric hospital, nursing home or jail. The remaining two-fifths of visits end without clearly identified treatment or referrals; however, this is likely to be an overestimate because it includes encounters with missing disposition data, some of which may have involved mental health treatment or referral. Because we are unable to differentiate between patients who did not need any follow-up, and those for whom there were no available resources, it is unclear to what extent patients with mental health needs are being sent home without any treatment plan in place. Additionally, where mental health is the primary presenting issue, CAH ERs are significantly more likely to treat or transfer the patient rather than discharging them without a clear plan. However, the high proportion of patients falling into this category (even assuming that we have overestimated) suggests that many rural mental health patients are leaving CAHs without necessary supports in place.

Although survey respondents and the logs indicated that a substantial proportion of visits to CAH ERs are by patients with a mental health problem, the prevalence of mental health disorders throughout society in general has led some researchers to argue that there are significant under-diagnoses of mental health pathology in emergency departments (Kunen et al., 2005). Thus, these experts argue, emergency departments need to expand their staffs to include mental health professionals to help identify and manage patients with psychiatric disorders who may be using the emergency department as their only source of primary care (Ibid, 2005). However, given the lower supply of mental health professionals in rural areas, the marginal financial performance of many rural hospitals, and the lower volume of patients overall, meeting this standard is likely to be particularly challenging for facilities in rural areas.

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Muskie School of Public Service

Muskie School of Public Service
96 Falmouth Street
PO Box 9300
Portland, ME 04104-9300

telephone (207) 780-4430
tty (207) 780-5646
fax (207) 780-4417
www.muskie.usm.maine.edu

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