

# Demographics, Psychiatric Diagnoses, and Other Characteristics of North American Deaf and Hard-of-Hearing Inpatients

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This study examined demographic and clinical data from a specialty deaf inpatient unit so as to better understand characteristics of severely and chronically mentally ill deaf people. The study compares deaf and hearing psychiatric inpatients on demographic variables, psychiatric discharge diagnoses, a language assessment measure, a cognitive ability measure, and a measure of psychosocial functioning and risk of harm to self and others. Overall, findings indicate a broader range of diagnoses than in past studies with post-traumatic stress disorder being the most common diagnosis. Compared with hearing patients in the same hospital, deaf patients were less likely to be diagnosed with a psychotic or substance abuse disorder and more likely to be diagnosed with a mood, anxiety, personality, or developmental disorder. Psychosocial functioning of the deaf patients was generally similar to hearing psychiatric patients. Deaf patients presented significantly higher risks than hearing patients in areas of self-harm and risk of sexual offending. Cognitive scores show that both the deaf and hearing inpatient population is skewed toward persons who are lower functioning. An additional surprising finding was that 75% of deaf individuals fell into the nonfluent range of communication in American Sign Language.

The purpose of this research is to examine demographic and clinical data from a specialty deaf psychiatric inpatient unit so as to better understand characteristics of severely and chronically mentally ill

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deaf people. Using archival data on deaf and hearing inpatients over a 5-year period, the authors examine psychiatric diagnoses, including rates for psychotic disorders, mental retardation (MR), substance abuse, and posttraumatic stress disorder (PTSD); cognitive abilities; psychosocial functioning; and risk of harm to self or others.

To date, there are only six known studies on the deaf inpatient psychiatric population in the United States (Daigle, 1994; Grinker et al., 1969; Pollard, 1994; Rainer & Altshuler, 1966; Rainer, Altshuler, & Kallmann, 1963; Robinson, 1978; Trybus, 1983). In the majority of these studies, deaf patients were mainstreamed in hospital wards with hearing patients. Professionals at these facilities evaluated deaf patients as if they were hearing and communicated with them as if they understood spoken language (Trybus, 1983). A review of the literatures indicated a lack of consistency in diagnostic formulation and raised questions regarding the accuracy of diagnosis. Because of the lack of specialized deafness expertise in the clinical staff, most of the assessments are considered to be of questionable reliability and validity.

## Discrepancies in Diagnosis in Deaf Inpatient Studies

### Commonly Diagnosed Conditions

The first major research on mental health and deafness in the United States was conducted in the late 1950s

and early 1960s by a group of New York psychoanalytically trained psychiatrists who conducted studies on 230 psychotic patients placed at 20 state hospitals (Rainer & Altshuler, 1966; Rainer et al., 1963). They found the diagnosis of schizophrenia fairly equally distributed in deaf (52%) and hearing (56.6%) patients, yet the 56.6% of hearing patients represented 0.43% of the hearing population of New York, whereas the 52% of deaf patients represented 1.16% of the total deaf population of New York. Thus, their findings implied that schizophrenia was more common in deaf people.

Grinker et al. (1969) examined the mental health needs of deaf individuals in the Chicago area. The researchers studied 159 patients (38 inpatients and 121 outpatients) at Michael Reese Hospital, finding that 43% were listed as having psychotic disorders with 27% of these diagnosed with schizophrenia. The remaining 8.2% were listed with diagnoses including paranoid reaction, autism, paranoid state, and psychotic depressive reaction.

In the Rochester, New York, area, Pollard (1994) conducted a study of a combined inpatient and outpatient deaf group ( $n = 343$ ) and found a slightly higher percentage of schizophrenia in the deaf sample (8.2%) as opposed to the hearing sample (7%). On the other hand, Daigle's (1994) study of an inpatient deaf unit at Springfield Hospital Center in Maryland ( $n = 146$ ) showed a higher prevalence of schizophrenia in the hearing group (18%) as opposed to the deaf group (7%). She noted that a redirection of diagnoses from schizophrenia to adjustment disorders and organic problems occurred as the diagnostic process became more accurate and clearly defined.

Deaf patients were often diagnosed with psychotic disorders other than schizophrenia, and residual categories such as "psychosis not otherwise specified" (NOS) were often used (McEntee, 1993). In the study of Rainer and Altshuler (1966), 18.2% of deaf patients were diagnosed with psychosis, as compared to 3.7% of the hearing population. Pollard (1994) found unclassified psychotic disorders present in the 7% of the deaf group but in only 2.7% of the hearing sample. Daigle's (1994) study found that 12% of deaf patients received a diagnosis of nonclassified psychosis as opposed to 14% of the hearing patients.

Mental Retardation (MR) also tended to be commonly diagnosed in the deaf psychiatric population. Trybus (1983) conducted a study of deaf patients in 204 public psychiatric hospitals throughout the United States. They found a 30% rate of MR in deaf patients and a 20% rate in the hard-of-hearing group. Of interest is that only 2% of the general hospital population in this study were diagnosed with MR. In more current research, Daigle (1994) reported that although no hearing patients in her sample were listed as MR, 10.9% of the deaf patients were placed in this category. Pollard's (1994) study also reported a higher rate in the deaf group (3.7%) as opposed to the hearing sample (1.7%). Only one study found a lower rate of MR in deaf patients. Robinson (1978), founder of the Mental Health Program for the Deaf at St. Elizabeth's Hospital in Washington, DC, noted that only four deaf patients out of 173 were diagnosed with MR.

Personality disorders were also commonly diagnosed in the majority of earlier studies. Daigle (1994) found a higher classification in the avoidant/dependent diagnosis in 11.6% of the deaf, with only 5.47% of the hearing patients falling into these classifications. Rainer and Altshuler (1966) reported that 20.4% of deaf patients were diagnosed with passive-aggressive personality disorder, with a preponderance of the passive-dependent type.

Daigle (1994) found that 19.8% of the deaf sample fell into the categories of antisocial/borderline/narcissistic personality disorders as opposed to 6.16% of the hearing group. Pollard (1994) reported that antisocial personality disorder was significantly lower in the deaf (0.3%) group as opposed to the hearing (2.2%). Clinicians have been somewhat baffled by deaf patients with lower levels of intellectual functioning. When the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) criteria did not match the unique features of deaf patients, researchers created diagnoses such as "primitive personality disorder" (Rainer & Altshuler, 1966) and "inadequate personality disorder" (Grinker et al., 1969).

#### Infrequently Diagnosed Conditions

Mood disorders and substance abuse were diagnosed infrequently in past research, and until recently trauma

and its sequelae have hardly been addressed at all (Pollard, 1994). In Robinson's (1978) study, for example, the diagnosis of depression was noticeably absent. Rainer et al. (1963) also reported an absence of endogenous depression, with only one patient presenting with clinical symptoms. On the other hand, Grinker et al. (1969) found cases of severe depression in 6% of the inpatient and outpatient groups. Daigle (1994) reported that an equal percentage of deaf and hearing individuals (13%) received the diagnosis of depression. However, she discovered that bipolar disorder was found far less often in deaf patients (3%) than hearing patients (15%). Pollard's (1994) study did not distinguish depression from mood disorders, but he found that 13.7% of the deaf group and 14.8% of the hearing group were classified with mood disorders.

Little mention was made of substance abuse in early inpatient studies, even though it is presumed to be at least as prevalent among deaf people as among hearing individuals (Lipton & Goldstein, 1997). Rainer and Altshuler (1966) reported that one third of approximately 4,000 hearing patients presented with alcohol psychosis but none of the deaf patients received this diagnosis. Later studies indicated conflicting findings. Pollard (1994) found substance use in only 2.9% of the deaf group as opposed to 11.5% in the total sample. Daigle (1994), in contrast, found that the deaf sample had a higher percentage of substance abuse (17%) compared to the hearing sample (15%).

Although it is suspected that a large number of deaf psychiatric patients have experiences of physical and or sexual abuse and other trauma, PTSD and other trauma-related diagnoses were not a focus in previous studies. However, Grinker et al. (1969) reported that the precipitant causes of the pathology in 50% of the patients revolved around early traumatic physical injuries, operations, or fear of separation from significant relationships. In what they termed "traumatic injury," Grinker et al. (p. 43) noted that 21% of patients displayed "disturbed behavior."

It is possible that previous studies placed trauma or other symptoms under the classification of anxiety disorders. For example, Robinson (1978) found neurosis, with a chief characteristic of anxiety, in 50 of his patients. More recent studies found that anxiety disorders occurred more frequently in deaf individuals.

Pollard (1994) reported a 3.8% rate in the deaf group as opposed to 2.3% in the control group. Daigle (1994) found anxiety disorders present in 4% of deaf patients but only 1% of hearing patients. Additionally, a high percentage of deaf individuals had missing, deferred, or no diagnosis listed. This may be the most obvious testament to lack of preparation of nonspecialist mental health clinicians for assessment of deaf psychiatric patients.

In summary, most studies of deaf psychiatric patients have found high incidents of psychotic disorders and MR and lower incidents of mood disorders. Minimal attention was given to substance abuse and trauma. Personality disorders were commonly diagnosed, but there was also a feeling that many deaf patients did not fit neatly into established diagnostic categories. In a number of cases, new diagnoses were invented, especially in patients with lower levels of intellectual functioning. In addition, large numbers of patients were either undiagnosed or had disorders labeled with the equivalent of "not otherwise specified."

This study compares deaf psychiatric inpatients evaluated and treated in a specialty deaf inpatient setting with hearing psychiatric patients in the same hospital. Our primary interest focused on the nature of assessment profiles for deaf patients when evaluators were mental health specialists familiar with deaf individuals and how those profiles compared to hearing patients in the same hospital.

## Method

### Participants and Procedures

This study utilized archival data obtained from all 64 discharged adult patients at the Deaf Unit of Westborough State Hospital in Westborough, MA, between 1999 and 2004. The diagnostic assessments were all performed by psychiatrists assigned to the Deaf Unit. The psychiatrists all had established or developing expertise in clinical treatment of deaf people. They all worked with interpreters and were part of a clinical team specializing in psychiatric care of deaf people. Participants placed on this unit were either deaf or severely hard-of-hearing individuals, most of whom communicated in some variant of American Sign Language (ASL) and/or visual-gestural communication.

**Table 1** General demographic variables for deaf and hearing patients

Variable	Deaf patients		Hearing patients	
	<i>n</i>	%	<i>n</i>	%
<b>Gender</b>				
Male	35	54.7	122	67.7
Female	29	45.3	58	32.2
<b>Ethnicity</b>				
African American	4	6.3	8	4.4
Asian	2	3.1	3	1.6
Caucasian	47	73.4	157	87.2
Hispanic	11	17.2	4	2.2
Others	0	0	8	4.4
<b>Relationship status</b>				
Single	54	84.4	146	81.1
Married	4	6.3	3	1.6
Divorced	4	6.3	25	13.8
Widowed	1	1.6	2	1.1
Separated	1	1.6	1	0.5
Unknown	0	0	3	1.6
<b>Education</b>				
Some elementary	2	3.1	3	1.6
Graduated elementary	18	28.1	2	1.1
Some HS	21	32.8	32	17.7
Graduated	13	20.3	38	21.1
HS/obtained GED				
Some college	1	1.6	17	9.4
College graduate	1	1.6	12	6.6
Masters degree	1	1.6	2	1.1
Others	0	0	5	2.7
Unknown	6	9.4	60	33.3

There were two hearing comparison groups involved in this study. One consisted of 64 hearing patients selected randomly over the same 5-year period. This sample was used for comparisons of Clinical Evaluation of Risk and Functioning Scale—Revised (CERF-R) scores, presented below. The other sample was of 180 hearing patients served at the hospital on one day in March 2006.

Demographic information for both samples is presented in Table 1. The Deaf Unit is a statewide program and admits some patients from outside Massachusetts. It serves deaf persons with both acute and chronic psychiatric problems. The hospital as a whole serves only people from the Metro Suburban Area of Massachusetts, roughly speaking, the suburbs to the west and south of Boston. As a state psychiatric

hospital, it serves primarily persons with severe and chronic forms of mental illness. The higher percentages of minorities served on the Deaf Unit compared to the hearing units in the hospital are probably due to its drawing patients from urban areas throughout the state and not just from the relatively affluent suburbs. Particularly striking is the much higher percentages of Hispanic patients served in the Deaf Unit (17.2% compared with 2.2% in the hospital as a whole). The Deaf Unit also serves a more balanced mix of male and female patients, whereas patients in the hospital as a whole are much more likely to be male. Both deaf and hearing patients were not likely to have been married in roughly similar proportions.

Comparing educational achievement is trickier because many deaf patients attended residential schools where grade levels are not necessarily equivalent to hearing public schools. There is certainly a higher percentage of hearing patients with some postsecondary education (4.8% deaf compared with 19.8% hearing), though all of the patients tend to have lower levels of educational achievement. Table 2 presents a breakdown of demographic information pertinent to deafness (such as whether patients are audiologically deaf or hard of hearing), etiology of their deafness, hearing status of parents, siblings, and relatives, and family communication skills.

One fourth of the deaf patients had some diagnosed developmental disability, usually MR. This is a striking contrast to the hearing patients where only 6.6% of the patients were so diagnosed (see Table 3).

#### Assessment Tools

*American Psychiatric Association* Diagnostic and Statistical Manual of Mental Disorders *Axis Codes*. The *DSM-IV-TR* (American Psychiatric Association, 2000) is the standard classification system of mental health disorders used by professionals in the United States. Axis I contains clinical syndromes, and Axis II consists of developmental and personality disorders. For this study, Axis I and Axis II discharge diagnoses were obtained on deaf and hearing patients. For the analysis of Axis I diagnostic patterns, diagnoses were grouped under the major *DSM-IV-TR* disorder

**Table 2** Relevant demographic information pertaining to deafness

Variable	<i>n</i>	%
Type of deafness		
Deaf	44	68.8
Hard of hearing	19	29.7
Deaf-blind	1	1.6
Etiology of deafness		
Hereditary/genetic	13	20.4
Rubella	19	29.7
Meningitis	3	4.7
Prematurity/birth weight	4	6.3
Infection/fever	3	4.7
RH factor	1	1.6
Other	3	4.8
Unknown	18	28.1
Hearing status of parents		
None deaf	58	90.6
One deaf parent	4	6.3
Two deaf parents	2	3.1
Hearing status of siblings		
None deaf	56	87.5
One deaf	6	9.4
More than one deaf	2	3.1
Hearing status of relatives		
None deaf	58	90.6
One deaf	1	1.6
More than one deaf	5	7.8
Family communication		
Speech, writing, and gesture	26	43.7
Some sign	17	26.6
Fluent sign	9	14.1
Unknown	10	15.6

categories (i.e., psychotic disorders, mood disorders, etc.). Axis II data were analyzed in a similar fashion.

*The Clinical Evaluation of Risk and Functioning Scale—Revised.* The CERF-R (Lambert et al., 1999) is an assessment tool designed by the clinician administrators of the Metro Suburban Area of the Massachusetts Department of Mental Health (DMH). It has been routinely used in the ongoing assessment of all hospitalized and community-based DMH hearing and deaf patients in east central Massachusetts since October 1999. Statewide release of the CERF-R began in January 2000.

The CERF-R provides a consistent, clear, valid, and reliable measure for recording assessment of patients' current risk levels, functional abilities, and intensity of services provided (Barry, 2002). The instrument is administered by a multidisciplinary team consisting of direct care staff, a nurse, a mental health clinician, the occupational therapist, a psychologist, the primary care physician, and the psychiatrist. In the Deaf Unit, the communication specialist is also a member of the team.

The CERF-R assesses nine functional abilities and seven risk factors, each of which is rated on a six-point anchored Likert scale. (See Appendixes A and B for rating scale and the full list of CERF-R items.) A rating of 1 indicates *no current problem behaviors in the area* and a rating of 6 indicates *a need for total supervision in this area* by staff in order to prevent harmful behaviors. Thus, lower scores reflect higher abilities and lower risk profiles. As the CERF-R is used for this study, a mean summary score of combined risk and functioning factors is given as well as a mean function items summary score and a mean risk items summary score. This breakdown indicates that the CERF-R's functioning and risk scales can be examined independently as well as collectively.

Barry (2002) conducted reliability and validity testing on the CERF-R. He obtained interrater (interteam) reliability, high test-retest reliability, and high interitem reliability. A factor analysis yielded two factors: a functional ability factor and a risk factor. In addition, two clusters within the risk scale were identified: a risk of harm to others index and risk of harm to self index. "This [outcome] suggests that the CERF-R Risk subscale is sensitive to the two primary reasons for commitment of a patient, which adds an additional level of validity in its clinical use" (Barry, 2002, p. 7).

*The Allen Cognitive Levels Scale.* The Allen Cognitive Level (ACL) is an instrument commonly used by occupational therapists in assessing consumers' ability to learn (Allen, Earhart, & Blue, 1992). The test helps obtain information regarding a person's ability to learn, recognize, and correct errors and solve a problem. The ACL provides a measure of cognitive ability that correlates with intelligence. It is used as a standard tool with patients upon admission to the Deaf Unit

**Table 3** Frequency of *DSM-IV* diagnosis for deaf and hearing patients

Diagnosis	Deaf patients		Hearing patients	
	<i>n</i> = 64	%	<i>n</i> = 180	%
Axis I				
Mood disorders				
Bipolar disorder	8	12.5	17	9.4
Depression	17	2.6	15	8.3
Mood disorder NOS	0	0	6	3.3
<i>Total mood disorders</i>	25	39	38	21
Anxiety disorders				
Anxiety disorder	1	1.6	3	1.6
Obsessive compulsive disorder	5	7.8	1	0.5
PTSD	19	29.7	12	6.6
<i>Total anxiety disorders</i>	25	39.1	16	8.8
Somatoform disorder				
Somatization disorder	1	1.6	0	0
Psychotic disorders				
Delusional disorder	1	1.6	3	1.6
Psychosis NOS	1	1	3	1.6
Schizoaffective	13	20.3	68	37.7
Schizophrenia	4	6.3	86	47.7
<i>Total psychotic disorders</i>	18	28	160	88.9
Dementia	0	0	14	7.7
Frontal lobe syndrome	0	0	1	0.5
<i>Total demential and executive functioning disorders</i>	0	0	15	8.2
Eating disorders				
Anorexia nervosa	0	0	3	1.6
Eating disorder NOS	0	0	2	1.1
<i>Total eating disorders</i>	0	0	5	2.7
Impulse control disorders				
Attention deficit disorder	0	0	2	1.1
Impulse control disorder	0	0	2	1.1
Hyperkinetic syndrome NOS	0	0	1	0.5
<i>Total impulse control disorders</i>	0	0	5	2.7
Substance use disorders				
Alcohol abuse	5	7.8	13	7.2
Alcohol dependence	2	3.1	30	16.6
Cocaine abuse	0	0	3	1.6
Cocaine dependence	0	0	3	1.6
Drug abuse unspecified	0	0	8	4.4
Drug dependence NOS	0	0	2	1.1
Marijuana abuse	1	1.6	5	2.7
Marijuana dependence	1	1.6	1	0.5
Polysubstance abuse	6	9.4	8	4.4
Polysubstance dependence	4	6.3	2	1.1
<i>Total substance abuse disorders</i>	21	33	75	41.60
Sexual and gender identity disorders				
Exhibitionism	0	0	1	0.5
Pedophilia	0	0	4	2.2
<i>Total sexual and gender identity disorders</i>			5	2.7

Table 3 Continued

Diagnosis	Deaf patients		Hearing patients	
	<i>n</i> = 64	%	<i>n</i> = 180	%
Axis II				
Disorders first diagnosed in infancy, childhood, or adolescence				
Aspergers	1	1.6	0	0
Mental retardation	11	17.2	8	4.4
Pervasive developmental disorder	4	6.3	4	2.2
<i>Total developmental disorders</i>	16	25	12	6.6
Personality disorders				
Antisocial personality disorder	3	4.7	5	2.7
Antisocial traits	2	3.1	0	0
Borderline personality disorder	9	14.1	12	6.6
Borderline traits	4	6.3	0	0
Dependent personality disorder	1	1.6	1	0.5
Histrionic personality disorder	1	1.6	1	0.5
Narcissistic personality disorder	1	1.6	0	0
Obsessive compulsive traits	1	1.6	0	0
Paranoid traits	1	1.6	0	0
Personality disorder NOS	4	6.3	19	10.5
Schizoid personality disorder	1	1.6	1	0.5
<i>Total personality disorders</i>	28	44	39	21.6

*Note.* As some subjects have multiple diagnoses, total *n* and percentage equals more than 100.

and on all hearing units. A major strength of the ACL is that it is a nonverbal test. It consists of a leather-lacing task in which the person is asked to replicate three stitch patterns of increasing complexity. Individuals' performances are rated on a six-point scale from 0 to 6. The average range for this task falls between 5.4 and 5.8.

The ACL is found to have interrater reliability between 0.90 and 0.99 (Allen et al., 1992). In terms of validity, the ACL has been correlated with cognitive measures such as the Wechsler Adult Intelligence scale (WAIS). Within the WAIS, Allen et al. found that the strongest correlations were between the ACL and Block Design and Object Assembly. Performance IQ also showed a high correlation with the ACL, a helpful finding because most deaf individuals with nonfluent English are tested using only the performance scale of the WAIS. Allen et al. also reports that the ACL correlates significantly with functional abilities such as activities of daily living including independent self-care, ability to live alone, and community functioning including social skills and occupational functioning, similar to the functioning items on the CERF-R.

*Language Rating Scale.* This study also included a measure of language abilities in the deaf patients. Implications of language impoverishment were reported elsewhere (Black, 2005; Black & Glickman, in press). Deaf patients were interviewed by the Unit's communication specialist, a near-native ASL user with linguistic training, and he classified patient communication skills into seven broad categories. In many cases, deaf patients were videotaped signing, and their sign language sample was evaluated by the communication specialist and lead interpreter working together. Because no validated ASL assessment tool was available for this research, these conclusions cannot be considered definitive. Nonetheless, the categories are broad enough and the language deficiencies often obvious enough that we believe these conclusions have overall validity and utility. The seven categories of language skill are as follows:

1. Relies mainly on gesture, drawing, or other nonlinguistic means of communication.
2. Grossly limited or impaired language abilities. Very limited vocabulary, which is likely to include

home signs. Signs using isolate signs or short sign phrases. Signs may be used incorrectly. Almost no grammatical structure.

3. Functional communication skills in a language but nonfluent. Has vocabulary sufficient for everyday conversation but misunderstandings are frequent. Consistent grammatical mistakes. Among these signers, some common errors are lack of topic/comment sentence structure and resulting confusion as to subject and object, poor use of time indicators and poor temporal sequencing, limited vocabulary with signs used incorrectly, unnecessary sign repetition instead of inflection, tendency to use short sign phrases rather than full sentences, and inability to “code-switch” or modify signing to fit different receivers.

4. Fluent user of other spoken languages such as Spanish or French.

5. Fluent user of spoken, written, or signed English. Command of English sufficient so as to affect signing. Signs generally in English word order. Generally lacks ASL grammatical features such as use of space, directionality, locatives, and sign inflection. May use some initialized signs.

6. Fluent user of ASL. Follows grammatical rules for ASL. Clear use of space, directionality, locatives, modifiers, and sign production.

7. Bilingual in ASL and spoken/written/signed English.

Deaf persons can be “language dysfluent” either because of severe social and educational language deprivation or because of mental illness (Pollard, 1998). The communication specialist focused on gaps in language structure and function typically associated with language deprivation. This issue is discussed more fully in Pollard (1998), Gulati (2003), and Black (2005).

## Results

Frequency distributions were conducted to examine demographic variables, including the level of communication for deaf patients. Means and standard deviations were obtained for CERF-R scores, ACL scores, and *DSM-IV* diagnoses. The *t*-tests were conducted to obtain mean differences in CERF-R scores and ACL scores for hearing and deaf patients on admission.

## *DSM-IV-TR* Diagnostic Results

A breakdown of *DSM-IV-TR* diagnoses is presented in Table 3. The most common diagnosis given for deaf patients was PTSD ( $n = 19$ ; 29.7% of patients) followed by Major Depressive Disorder ( $n = 15$ ; 23.4% of patients). Overall, 39% ( $n = 25$ ) of patients were diagnosed with at least one mood disorder. Eighteen patients (28%) were diagnosed with a psychotic disorder. About a third of the patients were diagnosed with at least one substance abuse disorder and a quarter with a developmental disorder first evident in infancy, childhood, or adolescence, including MR. Some individuals were diagnosed with personality traits that were close to meeting the criteria for personality disorders. If these were added along with full personality disorders, 44% ( $n = 28$ ) of the patients were diagnosed as personality disordered. If we only consider patients with full personality disorders, 33% ( $n = 21$ ) meet the criteria. In examining the diagnosis table, it is important to remember that most patients have more than one diagnosis.

Comparing the diagnoses of the 64 deaf patients treated over 5 years with the 180 hearing patients treated at one point in time produces some striking findings. Psychotic disorders were diagnosed in 88.9% of the hearing patients. Only 28% of the deaf patients were given these diagnoses. Hearing patients also had a higher percentage of substance abuse disorders (41.6% hearing vs. 33% deaf). Relative to the hearing patients, the deaf patients were much more likely to be diagnosed with a mood disorder (39% deaf vs. 21% hearing), an anxiety disorder (39.1% deaf vs. 8.8% hearing), a developmental disorder (25% deaf vs. 6.6% hearing), or a personality disorder (44% deaf vs. 21.6% hearing).

With regard to psychological trauma, 52% of the deaf patients have a known history of abuse, as can be observed in Table 4. Fourteen percent of the participants reported or had known physical abuse. Nineteen percent had known sexual abuse. Combined physical and sexual abuse was reported or known in 12 clients (18.7%). Nineteen patients (29.7%) were diagnosed with PTSD. All but 1 of these 19 have a known abuse history. The figures given represent a conservative reporting of trauma and PTSD in the patient population. In many cases, a trauma history was suspected

**Table 4** Frequency of trauma-related events in deaf patients

Deaf patients	Abuse		Suspected		Unknown		PTSD	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Physical abuse only	9	14.1	1	1.5	7	10.8	1	1.5
Sexual abuse only	12	18.7	7	10.8	5	7.8	9	14.1
Combined physical and sexual	12	18.7	1	1.5	6	9.3	8	12.5
Total	33	51.5	9	13.8	18	27.9	18	28.1

but could not be verified. In other cases, the history was simply unknown. This is because so many deaf patients could not provide a clear, coherent narrative about their early life experiences, and in many of these cases, reliable collateral information was not available.

Data on trauma in hearing patients are presented in Table 5. Unfortunately, the way the hospital obtained and organized data changed between the time the data on the deaf and hearing patients were obtained. This means that the deaf and hearing data are not completely comparable. The categories overlap in ways that make direct comparisons difficult. However, a higher percentage of deaf patients (29.7%) were diagnosed with PTSD than the hearing patients (6.6%). In both deaf and hearing groups, there is a significantly higher number of patients with known trauma histories than were diagnosed with PTSD. In the deaf group, 52% had a known history of trauma yet only 29.7% had a PTSD diagnosis. In the hearing sample, 48.8% had a history of trauma and 6.7% had this diagnosis. Because the data on hearing patients were collected in 2006, at a time when trauma information is a formal part of assessment, these data should actually be more reliable than the data on deaf patients collected between 1999 and 2004, with an

**Table 5** Frequency in trauma-related events in hearing patients

Trauma in hearing patients	<i>n</i>	%
Any trauma history	88	48.8
History of emotional trauma	49	27.2
Exposure to acute trauma	23	12.7
History of physical abuse	48	26.6
History of rape	24	13.3
History of sexual abuse	34	18.8
History of sexual assault	25	13.8
Patients diagnosed with PTSD	12	6.66

earlier assessment tool where trauma histories were not always solicited.

An interesting finding is that 11 deaf patients (17.2%) had suffered recent losses from primary caregivers. In many instances, deaf patients are dependent on caregivers, who are often a major source of communication between them and the outside world. In this study, caregivers represented primarily parents, who, through death or illness, were no longer able to care for the patient. Other losses included professional caregivers (i.e., therapists, case managers) who could no longer serve the patients due to job changes or transfers. These professionals often had long-term relationships with the patients. In either case, the significance of these losses may play a role either as a precipitant for hospitalization or as an increase in vulnerability to various forms of psychopathology. However, only 1 of these 11 patients had a diagnosis of PTSD. No comparable data on hearing patients are available.

#### Data From the CERF-R on Risk and Functioning

The CERF-R is a measure of patients' psychosocial functioning and risk profile. It is based on ratings of 1–6 by the patient's treatment team, with 1 representing the best scores (*high functioning, low risk*) and 6 representing the worst scores (*low functioning, high risk*). A measure of 4 is a rough indicator that an area is a clinical problem.

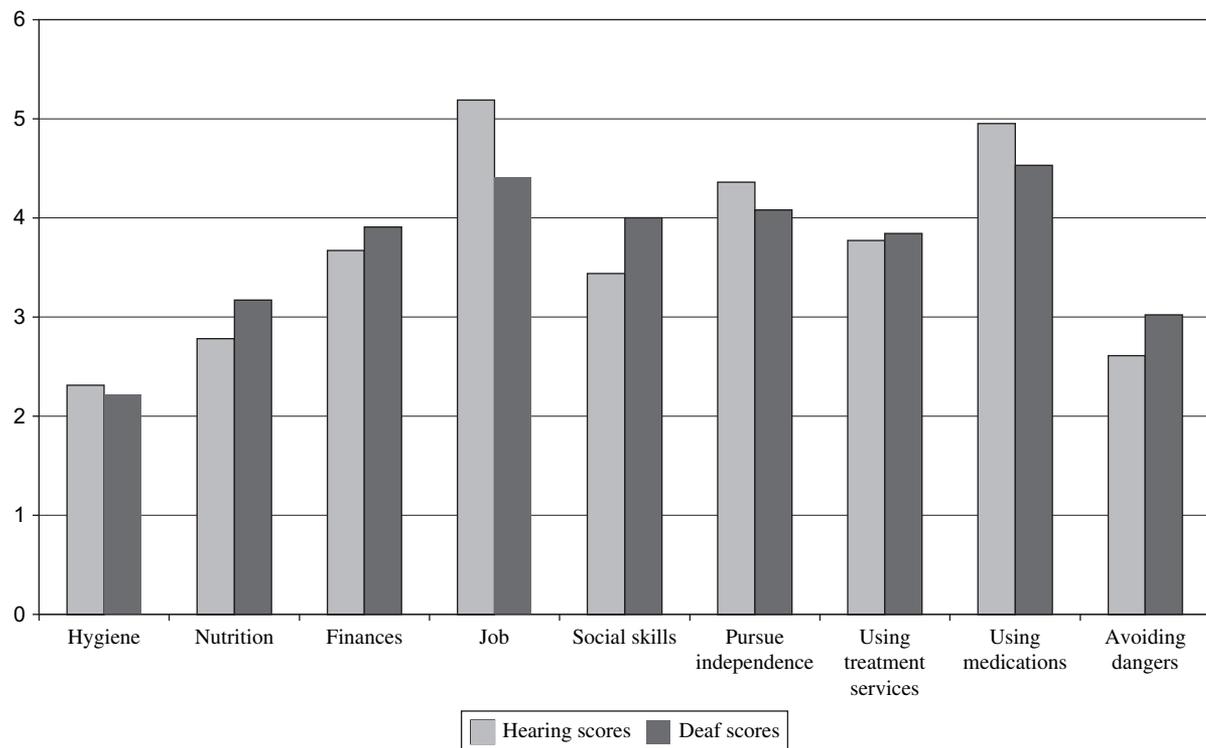
CERF-R admission scores are presented in Table 6. CERF-R scores are broken down into summary scores on admission, functioning scores on admission, and individuals' CERF-R item scores for both deaf patients ( $n = 64$ ) and a comparison group of hearing patients ( $n = 64$ ). Figure 1 presents individual functioning item scores for both groups, and Figure 2 presents risk items scores.

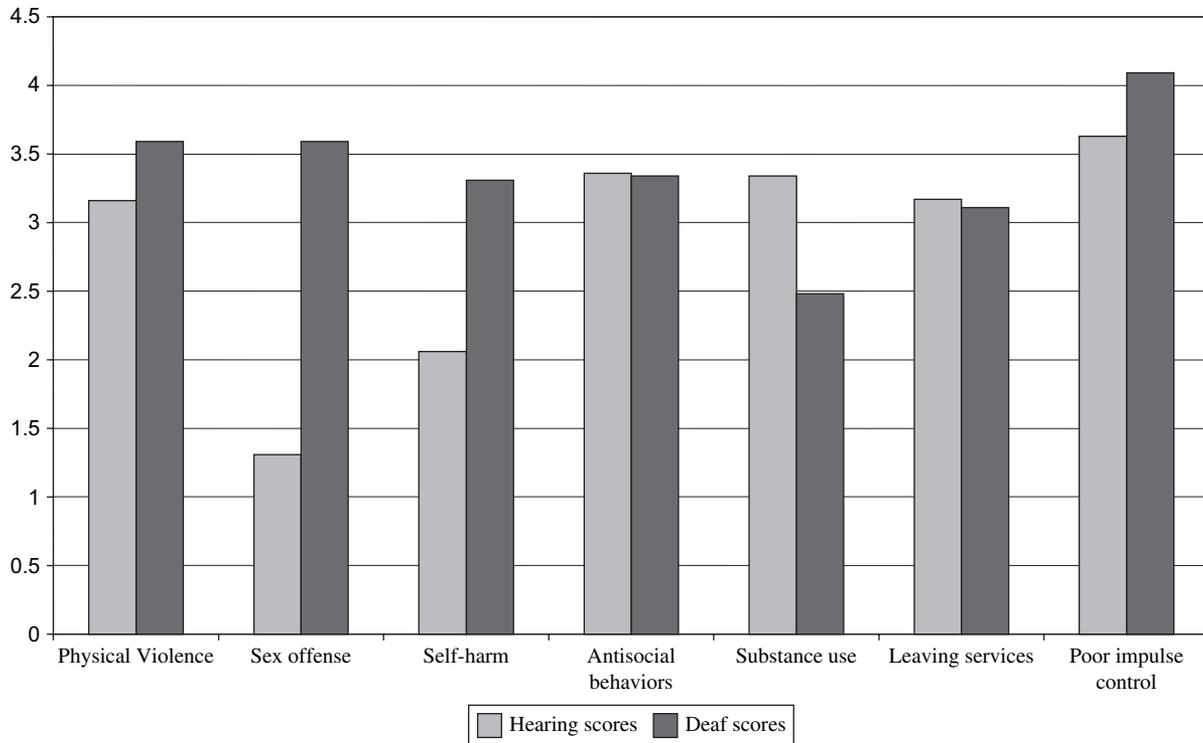
**Table 6** Means and standard deviations of CERF-R admission scores

CERF-R scores	Deaf		Hearing	
	Mean	<i>SD</i>	Mean	<i>SD</i>
Summary score on admission	54.89	8.98	53.11	19.99
Functioning items summary on admission	33.18	5.07	33.08	10.67
Risk items summary on admission	21.81	6.86	20.03	9.32
A. Hygiene	2.22	1.04	2.31	1.28
B. Nutrition	3.17	0.95	2.78	1.25
C. Personal finances	3.91	1.29	3.67	1.56
D. Holding a job	4.41	1.30	5.19	1.11
E. Negotiating a social situation	4.00	0.94	3.44	1.10
F. Pursuing appropriate independence	4.08	0.94	4.36	1.03
G. Using services that promote recovery	3.84	0.94	3.77	1.29
H. Appropriate use of psychiatric medication	4.53	1.05	4.95	0.68
I. Recognizing and avoiding common hazards	3.02	1.20	2.61	1.36
J. Physical violence toward others	3.59	1.33	3.16	1.28
K. Committing sexual offenses	1.89	1.52	1.31	0.83
L. Deliberate self-harm	3.31	1.52	2.06	1.33
M. Significant consequences from other Behaviors	3.34	1.69	3.36	1.38
N. Substance use	2.48	1.69	3.34	1.74
O. Leaving services prematurely	3.11	1.22	3.17	1.58
P. Poor impulse control	4.09	0.92	3.63	1.18

There are two main ways to understand the CERF-R data. The first way is to look at the absolute scores of at admission remembering that these are

scores made by their respective treatment teams and that higher scores show worse functioning or greater risk. The scale for interpreting these ratings is in

**Figure 1** Mean CERF-R functioning scores on admission, deaf versus hearing.



**Figure 2** Mean CERF-R risk scores on admission, deaf versus hearing.

Appendix B. Looking at the Hygiene score on admission, for instance, the mean for deaf patients was 2.22 and the *SD* was 1.04. This indicates that Deaf Unit patients were “mostly able” to be self-sufficient and independent in their hygiene.

The second way to interpret the data is to compare deaf and hearing patients. Do they differ in significant ways on these measures of psychosocial functioning and risk of harm? Comparisons are listed in Table 7. On the psychosocial functioning scale, there is a significant difference in three scales: Deaf patients were significantly more able to find and keep a job than hearing patients, and they were significantly less able to avoid common hazards such as fire safety. Deaf patients were more able to manage psychiatric medications than hearing patients. Otherwise, the psychosocial functioning scores are not significantly different. On the risk scales, deaf patients were rated significantly more likely to commit sexual offenses and harm themselves and significantly less likely to abuse substances (all at the 0.01 level). Otherwise, the ratings on risk of harm are not significantly different.

#### ACL Scores

Means and standard deviations for ACL scores were obtained on all 64 of the deaf patients and on 93 hearing patients. The 93 hearing patients are from the sample of 180 served during March 2006, but there were no ACL scores reported on the other 87 patients. The mean score for deaf patients was 4.7, with a standard deviation of 0.71. The mean score for hearing patients was 4.1 with a standard deviation of 0.76. A *t*-test indicated a significant difference ( $p < .001$ ) between the deaf and hearing patients.

Allen et al. (1992) classified ACLs 5.4–5.8 as within the average range of functioning. Both the hearing and deaf groups scored below average, indicating a lower level of cognitive functioning for both populations. However, hearing patients received a significantly lower score than deaf patients. It is important to remember that the hearing patients are persons with severe and chronic mental illness, whereas the deaf patients include persons with both acute and chronic psychiatric problems. The ACL is also a very visual task. Its use is demonstrated to both deaf and

**Table 7** *T*-test for CERF-R scores for hearing and deaf patients on admission

CERF-R items	Mean hearing score	Mean deaf score	Difference in means	<i>SD</i>	<i>t</i>	<i>df</i>	Significance (two-tailed)
Hygiene	2.31	2.22	-0.06	1.56	-0.32	60	.74
Nutrition	2.78	3.17	0.39	1.60	1.91	60	.06
Personal finances	3.67	3.91	0.22	1.82	0.98	60	.32
Holding a job	5.19	4.41	-0.77	1.74	-3.44	60	.00**
Negotiating a social situation	3.44	4.00	0.63	1.48	3.36	60	.00**
Pursuing appropriate independence	4.36	4.08	-0.29	1.35	-1.69	60	.09
Using services that promote recover	3.77	3.84	0.13	1.63	0.62	60	.53
Appropriate use of psychiatric medications	4.95	4.53	-0.39	1.24	-2.47	60	.01*
Recognizing and avoiding common hazards	2.61	3.02	0.45	1.80	1.98	60	.05*
Physical violence toward others	3.16	3.59	0.40	1.76	1.81	60	.07
Committing sexual offenses	1.31	1.89	0.23	1.85	2.48	60	.01**
Deliberate self-harm	2.06	3.31	1.2	2.11	4.42	60	.00**
Significant consequences from other behaviors	3.36	3.34	-0.02	2.24	-0.05	60	.95
Substance use	3.34	2.48	-0.85	2.57	-2.58	60	.01**
Leaving services prematurely	3.17	3.11	-0.13	2.13	-0.49	60	.63
Poor impulse control	3.63	4.09	0.49	1.55	2.49	60	.016

\* $p < .05$ ; \*\*  $p < .01$ .

hearing patients, but hearing patients also get a spoken explanation. No ACL data were available on 87 of the 180 hearing patients sampled, and the unit occupational therapist reports that many hearing patients find the task unpleasant and refuse it. In contrast, not one Deaf Unit patient in 9 years has refused this task, and most seem to find it interesting and challenging. It is quite possible that the ACL comparison findings would be quite different if we had data on the nearly half of the hearing patients who refused the task.

Among the deaf patients, only 32.9% achieve the minimum ACL needed to drive (5.4). About 60% of deaf patients are below 5.2, a level at which a coach is needed for the patient to succeed in supportive employment. According to the ACL interpretative guidelines, these patients cannot live alone without, at a minimum, someone checking in on them regularly. (Appendix C contains the ACL frequency scores for deaf and hearing patients.)

#### Communication Skills

Communication scores were examined for the deaf patients using the language rating scale (see Table 8).

Scores ranged from 2 to 7. The scores indicated that 75% of participants fell into the nonfluent range of communication. Twenty-eight percent of the participants were in the grossly impaired range, and 46.9% fell in the functional but nonfluent range. Of the 25% of the participants who scored in the fluent range, the majority of these fell into the classification of fluent English (18.8%). As Table 8 shows, one participant (1.6%) was found to be fluent in ASL only. Two participants were fluent in both ASL and English.

The most significant finding on the language assessment is that according to the classifications of the Deaf Unit communication specialist, 75% of Deaf Unit patients could be classified as language deprived

**Table 8** Frequency of degree of communication scores

Degree of communication score	<i>n</i>	%
1. Visual/gestural	0	0
2. Grossly impaired/limited vocabulary	18	28.1
3. Functional but nonfluent	30	46.9
4. Fluent foreign language	1	1.6
5. Fluent English (sign, speech, writing)	12	18.8
6. ASL fluent	1	1.6
7. ASL and English fluent	2	3.1

or language dysfluent due to language deprivation. Their language skills are evaluated in their “best language” even if they do not really have a fully intact language. The largest category had “functional” sign language skills, and the second largest had “grossly impaired” sign communication abilities. Only 4.7% of the patients were judged as either fluent in ASL or bilingual in ASL and English, though 18% were judged to be fluent English users.

## Discussion

Since the earliest studies of deaf persons in psychiatric hospitals, clinicians have noticed that at least some of the patients seemed different than their hearing peers. The most obvious and expected difference is in communication abilities. In an era before public recognition of ASL, the Deaf community, and Deaf culture, and before clinicians could be expected to have any skill in sign communication, it was an all too easy and common mistake to draw conclusions about language skills (and worse, mental status) based on samples of written English. Deaf people were, and in most of the world still are, hospitalized in settings where neither peers nor staff can communicate with them in their language or best communication modality and where staff has no special expertise or sensitivity to deaf people. Conclusions continue to be drawn about deaf psychiatric patients, and from there, about deaf people, without appreciation for the effects of this oppressive context and without appreciation that deaf psychiatric patients are no more representative of deaf people than hearing psychiatric patients are of hearing people.

Conclusions drawn about deaf psychiatric patients must always be taken with some caution, even when conclusions are drawn about patients in established deaf treatment centers because, even there, there is no standard way to guarantee clinical and communication expertise of particular clinicians. We are not yet at the point as a field that we have some credentialing process for deafness mental health professionals that would allow us to be confident of at least minimal levels of specialized knowledge and skills. The earlier studies that found high rates of psychotic disorders and MR thus may have reflected biases or improper

assessments. In the deaf inpatient unit examined here, where staff has expertise in communication with deaf persons, a broader range of psychopathology was found in this study as opposed to previous studies, as well as a relatively lower frequency of psychotic disorders (28%). This finding is consistent with Daigle’s (1994) study of deaf patients in another deaf inpatient unit. These findings suggest that deaf psychiatric patients served in specialized deaf psychiatric programs are far less likely to be diagnosed as having a psychotic disorder. This also suggests that the development of a credentialing process for mental health clinicians who specialize in working with deaf people would be useful, as it would increase the likelihood that deaf persons are evaluated by persons with appropriate training.

The largest category of deaf patients’ Axis I diagnoses pertain to mood disorders and anxiety disorders. Thirty-nine percent of patients were diagnosed with at least one mood or anxiety disorder. PTSD was the most common diagnosis given. A little more than half of the deaf patients (51.5%) had a reported or known history of trauma and about one third (29.7%) received a diagnosis of PTSD. Although PTSD itself was the most common diagnosis given, the unit staff suspected that this number is still an underrepresentation of the problem. Abuse histories are suspected in another 13.8% of patients and an additional 18% have histories that are unknown. In part, this is because so many patients have poor language skills and are poor historians about their own lives; and missing or unclear historical information is very common. It may also be because of lack of consensus, even among clinicians, as to when the PTSD diagnosis is warranted. The data reported here are based on a strict *DSM-IV-TR* definition, but those diagnostic criteria may fail to identify some patients.

Herman (1992) argued that “the existing diagnostic criteria for the disorder are derived mainly from survivors of circumscribed traumatic events . . . (such as) combat, disaster and rape. In survivors of prolonged, repeated trauma, the symptom picture is often far more complex . . . including deformations of relatedness and identity” (p. 119). How might this prolonged, repeated trauma manifest itself in a person without full language skills such as a very young hearing child or a deaf child

or young adult with severe language deprivation? With both deaf and hearing patients reviewed in this study, there was a much higher rate of trauma reported than is reflected in the diagnoses of PTSD. Certainly, not all people experiencing trauma develop PTSD, but might it be, as Herman discussed, that the PTSD diagnosis is just not broad enough to capture the full impact of trauma experiences?

About a third of Deaf Unit patients (33%) were dually diagnosed with a substance abuse disorder. This percentage is significantly higher than in previous studies. However, the data comparing deaf and hearing patients indicate that substance abuse appears to be a more prevalent problem in the hearing inpatient community than in the deaf. One reason for this might be that many deaf patients are involved in residential treatment programs where they are supervised and have less access to drugs and alcohol. About one fourth were developmentally delayed, and most of these persons are also in supervised residential situations.

Between 33% and 44% of the deaf patients were diagnosed with a personality disorder, with the most common being borderline personality disorder (14.1%). The high rate of personality disorders may be related to attachment difficulties in some hearing families with deaf children. It may also be secondary to the difficulties hearing parents sometimes have raising deaf children.

One fourth (25%) of Deaf Unit patients were diagnosed with a developmental disorder, with most of these being diagnosed with MR (17.2%). The high percentage of persons with such developmental disorders is consistent with earlier studies. One might account for this by speculating that the diagnosis of MR was made inappropriately. That is not likely to be the case in the Deaf Unit because in virtually every case, they were already established clients of the Massachusetts Department of Mental Retardation at referral. Typically, the referring problem is that of severe behavioral problems occurring in a school or group treatment residence. Whereas hearing persons with MR will have a larger array of services to draw upon, the resources for deaf persons with MR are much fewer and so they may be more likely to be referred to existing resources such as a specialty inpatient unit.

Probably the most striking findings to emerge from this study come from the comparison of the diagnostic breakdown of the deaf and hearing patients. Whereas the hearing patients in this state hospital were highly likely to have a psychotic disorder (88.9%), a much smaller percentage of deaf patients were so diagnosed (28%). The deaf patients were much more likely to be diagnosed with mood, anxiety, developmental, or personality disorders.

Why might this be so? To begin with, deaf clinical specialists are presumably much less likely to misdiagnose a deaf patient as psychotic because they can communicate effectively and understand the patient's language dynamics. Secondly, state psychiatric hospitals are most likely to serve persons with the most severe forms of mental illness, so it is no surprise to see a high rate of diagnosis of schizophrenia and schizoaffective disorder among the hearing patients. Deaf units, by contrast, may serve a much broader range of clientele because there are few comparable programs in the private mental health sector. Thirdly, the typical deaf unit referral is not a person displaying obvious psychotic symptoms but rather a person with a history of developmental and personality problems displaying dangerous behaviors. These patients often are referred due to incidents of violence to self or others, at least some of which appears due to the inadequate development of language and social skills.

The second most striking finding in this study is the high rate (75%) of deaf patients judged to be language dysfluent related to language deprivation. This finding is not as solid as we would like because it is based on the opinion of one or two language experts and there is no established valid and reliable measure of ASL skills to base this conclusion upon. Nevertheless, as assessed by people who are linguistically informed, fluent signers, the sign language deficits of these patients are quite obvious. The implications of this high rate of language impoverishment and language dysfluency are many. Most importantly, they may contribute to the misdiagnosis of thought disorder by clinicians unfamiliar with this issue. They are also very likely to be a strong factor in the social skill deficits and behavioral problems found in the deaf inpatient population.

The diagnostic breakdown of deaf and hearing patients is dramatically different. However, their

psychosocial functioning was comparable on most measures. Reports of educational achievement, evaluations of language skills, and CERF-R measures point to generally low levels of psychosocial functioning. Such low levels of functioning could, in part, be related to severity of psychiatric diagnoses, such as psychosis. However, the Deaf Unit patients were far less likely than the hearing patients to have a psychotic disorder and far more likely to have a developmental, mood or personality disorder.

The cognitive abilities of patients were measured with the ACL. The ACL scores of the deaf patients were significantly higher. This might be because they were, as a group, less psychotic and more able to attend to the task. It may also be because the highly visual and manual task has more appeal for deaf persons. Nonetheless, both groups were found to have very low levels of cognitive functioning.

Both deaf and hearing inpatients had low levels of psychosocial and cognitive functioning but the cause appears to be different. The cognitive functioning of the hearing patients appeared to be compromised primarily by psychotic disorders, whereas that of deaf patients appeared to be compromised primarily by language and other developmental problems. This is a very important difference.

Deaf psychiatric inpatients are not just like hearing psychiatric inpatients except that they cannot hear and may use sign. Serving them requires more than the provision of sign interpreters. As a whole, the deaf inpatients have a different set of assets and problems. Some will be fluent users of ASL and will have language skills their hearing nonsigning staff will not appreciate. They may also have cultural values, such as the appreciation of signed over spoken communication or the belief that deafness represents a cultural difference, that their hearing staff will be unlikely to validate. Most, however, are likely to be language dysfluent related to experiences of language deprivation, a phenomenon their staff will probably be unfamiliar with. These language issues make these patients particularly vulnerable to being mischaracterized as psychotic, yet, ironically, they are much less likely to have a psychotic disorder than hearing public sector psychiatric patients. Also, the language dysfluency issues make meaningful communication, the heart of mental health treatment,

problematic, even with the provision of sign language interpreters.

Although the Westborough Deaf Unit occasionally admits deaf individuals with a college or even graduate degree, these deaf persons often prefer to be admitted elsewhere. Even with the communication access that a deaf unit provides, higher functioning deaf persons often have concerns about being grouped with lower functioning peers and with the issue of confidentiality. They may know the staff on the unit, and in some cases they may have even worked as counselors with patients who are then on the unit. Higher functioning deaf persons may also have a relatively easier time in hearing settings with interpreters provided, although this may be a myth (see DeVinney, 2003). The lower functioning persons are much harder for nondeaf programs to serve, tend not to stabilize quickly or easily, and so are more likely to get referred to specialized Deaf treatment programs.

In summary, on this specialty deaf inpatient unit, one sees a wide range of severe psychopathology, with PTSD being the most common diagnosis, mood and anxiety disorders being more commonly diagnosed than psychotic disorders, a little more than a third being diagnosed with a personality disorder, and a third being diagnosed with a substance abuse disorder. One quarter of the patients had a diagnosed developmental disorder. The diagnoses of deaf inpatients were dramatically different from those of hearing patients, especially with regard to the lower rate of psychotic and substance abuse disorders and the higher rate of developmental, mood, anxiety, and personality disorders among the deaf patients. Both deaf and hearing patient groups were skewed toward lower functioning people with low levels of educational achievement and functional ability. The majority of Deaf Unit patients, however, had the additional problem of being language dysfluent related to language deprivation, and this appears to be a hugely important factor in their development and functioning. This language deprivation issue is one factor that severely complicates clinical care of deaf people. The different clinical profile is another. Clearly, specialty knowledge base and skills are required to do this work and not just the ability to sign or work with an interpreter.

We have speculated that on a specialty deaf psychiatric unit, where the communication challenges are routine and expected, staff may be less likely to make the kind of gross mistakes cited in the early research literature, in particular, the overdiagnosis of psychotic disorders. Clinicians in Deaf treatment programs would know what “normal deaf people” look like and so may be much less likely to attach diagnostic labels of severe pathology to deaf patients. They should also be more equipped to identify genuine psychopathology when it exists, to appreciate the implications of language deprivation for psychological development, and to possess treatment strategies that fit the abilities and deficits of this special population.

### Appendix A: CERF-R Rating Scale

#### Functional Abilities

- A. Currently able to maintain adequate hygiene (cleanliness of body, clothing, and living space)
- B. Currently able to maintain appropriate nutrition (eating a balanced diet, food shopping, and cooking)
- C. Currently able to manage personal finances
- D. Currently able to hold a job
- E. Currently able to negotiate social situations
- F. Currently able to pursue appropriate independence (including accepting changes)
- G. Currently able to use services that promote recovery (such as housing, employment, substance abuse, and mental health services)
- H. Currently able to use psychiatric medications as needed
- I. Currently able to recognize and avoid common hazards and dangerous interpersonal situations (traffic and smoking safety, being victimized, exposure to elements, etc.)

#### Risk Factors

- J. Current risk for physical violence toward others
- K. Current risk for committing sexual offenses (sexual violence, sexual threats, exposure, stalking, harassment)
- L. Current risk for deliberate self-harm (self-injury, suicide)
- M. Current risk of significant consequences from other unacceptable behavior (illegal or socially

disturbing behavior such as victimizing others, property damage, harassment, theft, or arson)

- N. Current risk of harm due to substance use
- O. Current risk of leaving services prematurely (stop attending needed services, wandering from home or program, escape from secure settings, etc.)
- P. Current risk of harm due to poor impulse control

### Appendix B: CERF-R Rating Scale

#### Ratings of Functional Abilities (Items A–I)

The language of the scale-point anchors for functional abilities is designed to emphasize the client’s strengths. Some items cover more than one skill, and occasionally a client will be stronger with some skills than with others covered by the same item. In such cases, base the rating on the skill where the client needs the most assistance.

1. *Fully able.* The client currently demonstrates complete independence and full personal responsibility for the area of functioning specified. A rating of 1 on any given item is completely independent of ratings on any other item. Therefore, even CERF-R profiles with many 6s almost always contain one or more 1s.
2. *Mostly able.* The client currently demonstrates a willingness and ability to be independent and self-sufficient for the area of functioning specified most of the time, but benefits from occasional assistance such as advice or periodic prompts. Individuals functioning at this level often recognize when assistance is needed and seek the help accordingly. In the general population of all people living in the United States, many persons with no diagnosed serious mental illness would likely receive a rating of 2 on at least one CERF-R item.
3. *Somewhat able.* The client often demonstrates the ability in question, but lapses are frequent enough that regular assistance is desirable. Such a person benefits sufficiently from structure and interpersonal supports that external controls are not needed but shows less initiative than is needed for a rating of 2. Someone living in the general population who was not receiving these services would probably call attention to himself/herself in daily life for this particular functional ability.

4. *Marginally able.* The client may have some skills in this area but frequently needs close supervision and verbal redirection before actually using them. In the absence of such help he/she is unlikely to seek it, which makes it probable that in time they will come to the attention of the authorities for lapses in this particular functional ability. However, this person consistently responds to verbal redirection, unlike the person rated 5.
5. *Rarely able.* Regardless of whether or not this person has any skills in this area, they show such poor judgment or reject help so frequently that verbal redirection or guidance is not always sufficient to maintain well-being in this one area alone. External controls are generally needed to maintain the safety or well-being of the client. However, ratings do not reflect whether the person is currently receiving any specific services. Rather, the rating is an assessment of what would be appropriate to maintain well-being based on current behavior and mental status. It is the person's ability that is being rated, not the caregiver's response to the ability. A person living alone without services may still be rated a 5 or 6.
6. *Not able.* This rating reflects a complete inability to care for oneself in this one particular ability area. As a result, they are completely dependent on others to meet their needs adequately in this area, such as being hand-fed by others (Item B, nutrition), bathed by others (Item A, hygiene), having a financial custodian or guardian (Item C, personal finances), or requiring near-constant visual surveillance to avoid accidental harm (Item I, common hazards). However, it is the ability that is being rated, not the type of services already in place. For example, if you believe a client with Alzheimer's Disease needs constant supervision to prevent wandering, but the client is currently living independently without services, the correct rating is still 6.

#### Ratings of Risk Factors (Items J–P)

1. *Not an issue.* This person does not pose a risk in this one area, and if they have impulses to behave in risky ways they are able to control them without assistance. This may be because they are not prone to this particular type of risky behavior. It may also be because they are only prone to this partic-

ular type of behavior under certain conditions that are not current. For example, someone who shows risky behavior during manic or psychotic episodes, but who is currently stable would receive a rating of 1 if they were able to control their behavior “without any assistance” from others.

Ratings on each item are independent, and it is extremely unusual for an accurate CERF-R rating to have no ratings of 1 for any risk factors, even for extremely dangerous individuals. For example, dangerous sexual predators are rarely suicide risks, and lethally suicidal individuals are rarely rapists (although exceptions surely exist).

2. *Minimal risk.* This person currently demonstrates the ability to use internal controls to prevent risky behavior in this area but may seek occasional help to bolster his/her efforts. The initiative shown in seeking help is important in distinguishing 2 from 3. As with functional abilities, many people in the general population would receive at least one rating of 2 for risk.
3. *Low risk.* This person is usually able to use internal controls, but frequently needs external assistance such as prompts, external structure, or other community or professional help. There is less initiative shown than for 2 but no need for the close supervision that 4 describes to control the risk. Someone in this range who lived independently in the community would be likely to have life difficulties. They might or might not come to the attention of caregivers or the authorities, but in the absence of supports, they might act in extremely risky ways.
4. *Moderate risk.* This person is likely to exhibit risky behavior in the absence of close supervision or redirection as needed. Active intervention by others is needed to maintain safety. The distinction between 4 and 5 is that a person rated 4 will usually respond to verbal redirection and will rarely need any kind of physical intervention for lapses in this one area alone.
5. *High risk.* Regardless of whether or not these individuals have insight in this area, they act in risky ways in spite of external controls. Such controls might be environmental (such as locked doors) or interpersonal (close supervision). Unlike 4, verbal

redirection or guidance is not always sufficient to maintain safety in this one area alone. The types of external controls may include those discussed for 6, but they are generally effective in controlling the risky behavior. What is important is not the person's current level of care but rather that the rater believes that external controls are warranted to maintain safety based on current behavior and mental status. It is the risk to self or others that is being rated, not the caregiver's response to the risk. A person living alone without services may still be rated 5 or 6.

6. *Extreme risk.* This person is an extreme danger to themselves or others for this one type of risky behavior alone and is likely to act in ways that have serious medical or legal consequences in spite of external controls. If receiving care, they are likely to need frequent 1:1 supervision, physical or chemical restraints, restriction to locked care settings, or other similarly intense interventions to maintain safety.

#### Appendix C: Frequency of ACL Scores

ACL score	Deaf		Hearing	
	<i>n</i>	%	<i>n</i>	%
2.5	0	0	3	3.2
2.7	0	0	2	2.2
3.0	0	0	1	1.1
3.1	0	0	1	1.1
3.2	1	1.6	4	4.3
3.3	1	1.6	4	4.3
3.4	0	0	7	7.5
3.5	0	0	3	3.2
3.6	3	4.7	6	6.5
3.7	1	1.6	2	2.2
3.8	2	3.1	4	4.3
4.0	2	3.1	6	6.5
4.1	2	3.1	4	4.3
4.2	5	7.8	9	9.7
4.3	1	1.6	0	0
4.4	7	10.9	7	7.5
4.5	1	1.6	3	3.2
4.6	4	6.3	5	5.4
4.7	1	1.6	2	2.2
4.8	1	1.6	3	3.2
5.0	6	9.4	6	6.5
5.2	5	7.8	5	5.4
5.3	0	0	1	1.1
5.4	12	18.8	3	3.2
5.6	1	1.6	0	0
5.7	0	0	1	1.1
5.8	8	12.5	1	1.1

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