APPENDIX 2. Supplementary Material: Summary of Case Reports or Series.

Psychiatric Assessment and Diagnosis

Several case series describe problems with psychiatric assessment of patients with limited English proficiency in the absence of interpreters (Table A1). For example, two patients evaluated without interpreters had difficulty conveying nuanced concepts in English, which contributed to distortions in the providers' assessments of psychopathology (a mixed as opposed to manic state in one case and the incorrect impression of a somatic delusion in the other) (25). Similarly, when speaking their native language, five patients evidenced their psychotic symptoms (e.g., hallucinations, paranoia, disordered thought process), yet psychosis was overlooked during evaluation in English without an interpreter (19). Together, these cases illustrate that evaluation of patients with limited English proficiency in English without an interpreter may obscure key aspects of mental status and lead to over- or underestimation of the severity of psychopathology or misclassification of the type of disorder.

Case reports also address the effects of ad hoc interpreters on psychiatric assessment and diagnosis. Several types of interpreting errors may occur during encounters mediated by ad hoc interpreters including: omissions, condensations, additions, substitution, and role exchange (Table A2) (23, 27). A variety of potential clinical consequences may occur as a result of interpreting errors. For example, distorted thoughts may be normalized, suicidality may be exaggerated or minimized, the clinician's ability to conduct a thorough patient assessment may be impeded, and treatment planning and the therapeutic process may be disrupted (Table A2). Based on the cases of two patients with limited English proficiency who committed suicide while in treatment, Sabin (20) hypothesized that use of an ad hoc interpreter (a bilingual individual trained in school counseling) led to an under-emphasis on affective symptoms while exaggerating psychotic symptoms, together underestimating the suicide risk of these patients. Moreover, interpreters (type not specified) may interfere with the assessment process, for example, by telling a child patient to sit still, or by instructing a clinician to stop asking a crying patient about trauma (27).

Inadequate language concordance can interfere with the timely identification and treatment of medical causes of psychiatric symptoms. The diagnosis of pituitary tumors was delayed among two Spanish-speaking patients (evaluated without professional interpreters) who presented initially in medical settings with somatic complaints and physical findings suggestive of endocrinopathy alongside psychiatric symptoms (auditory and visual hallucinations in one, depressed mood and suicidality in the other) (26). Both were referred for inpatient psychiatric care rather than medical care despite demonstrating features of delirium (a potentially life-threatening condition). The interpretation procedures were not described in detail. However, the first patient was assessed in three settings over the course of a month (ambulatory medicine, emergency department, and inpatient psychiatry) before an evaluation by a bilingual physician led to appropriate medical evaluation.

Treatment

Patients may be referred to lower intensity psychiatric services than needed, as occurred in the case of a patient who was evaluated with her underage nephew functioning as an ad hoc interpreter (23). He assisted the patient in minimizing her symptoms of a psychotic depression

following an overdose. Consequently, the patient was given an outpatient appointment rather than admitted to the hospital, but attempted suicide within a week.

Patient-Provider Interaction

Cases from the psychoanalytic literature suggest that patients' avoidance of their primary language during therapy may function as a defense mechanism facilitating denial of intrapsychic conflicts (16, 17) and that therapy in a non-primary language may temper feelings of fear or embarrassment (18, 22), thus fostering patients' resistance to therapy (21). The therapist may be able to switch the language of therapy deliberately to facilitate the therapeutic process (e.g., by modulating emotional tone) (18, 21, 22).

Several case reports describe problems that may arise during psychotherapy facilitated by ad hoc interpreters (including family members). For example, the presence of a third party in the session may increase interpersonal distance, thus allowing clinicians to avoid probing into despair (20). Family hierarchy may be undermined when children function as ad hoc interpreters (27). Finally, literal translations may not convey the symbolic meaning of the therapist's communications (24). Together, these cases suggest that psychotherapy with a provider fluent in the patient's primary language may be more flexible than therapy in the patient's non-primary language and that psychotherapeutic interventions mediated by ad hoc interpreters may be feasible yet suboptimal.

Table A1.

Summary of Case Reports and Case Series on the Effects of Language Proficiency and Interpreter Use on Psychiatric Assessment and Diagnosis, Treatment, and Patient-Provider Interaction

Author (Year) Location Setting	N, Sample	Findings	Comments
Buxbaum (1949) Seattle Outpatient (16)	2 bilingual women (native German-speakers)	Two women entering psychoanalysis in English refused to speak German at the outset of therapy. During therapy, translation of select words into German revealed that these words unlocked associations to repressed conflicts and fantasies. The author surmises that avoidance of German functioned as a defense mechanisms and form of resistance to therapy.	Psychoanalyst's language proficiency not described. Two additional cases are not reviewed because language proficiency does not impact care.
Greenson (1950) Santa Monica Outpatient (17)	1 bilingual woman (native German-speaker)	Psychoanalysis initially was conducted in English. When the analyst suggested that the patient speak German, she said that she did not want to speak in German because she would have to remember something she wanted to forget. Switch to German at the analysts' behest unveiled unresolved sexual conflicts, allowing them to be addressed by the therapeutic process.	Psychoanalyst's language proficiency not described.
Krapf (1955) Argentina Outpatient (18)	5 bilingual patients with Spanish as a first (n = 1) or second (n = 4) language	The author posits that use of the second language during psychoanalysis reduces anxiety, and thus may function as a form of resistance for some patients, whereas for others it facilitates addressing conflict-laden material.	Psychoanalyst fluent in English, Spanish, and German. Primary language of treatment: a. English (first language) b. Spanish (second language) c. English (second language) d. German (first language) e. German (first language)
Del Castillo (1970) New Jersey Inpatient (19)	5 patients (2 Spanish-speaking, 2 Italian-speaking, 1 bilingual)	Patients displayed more disturbance of thought process and more delusional and paranoid content when speaking in their native language than when evaluated in English. Patients spoke in their native language either to a bilingual provider or via ad hoc interpreters (patient's relatives or a bilingual patient).	
Sabin (1975) Boston Outpatient (20)	2 Spanish-speaking patients	Two patients committed suicide while in treatment. The author hypothesized that use of an ad hoc interpreter (bilingual individual trained in school counseling) during treatment led to underemphasis on affective symptoms, overemphasis on psychotic symptoms, and underestimation of suicide risk. The presence of the interpreter may have increased interpersonal distance, thus interfering with a complete assessment of affect.	
Pitta et al. (1978) New York Inpatient (21)	1 Spanish-speaking woman	The therapist's intentional use of language switching during inpatient psychotherapy facilitated the therapeutic process by modulating emotional tone (lowering tone by switching from Spanish to English). Patient determination of language of care led to resistances to treatment.	Psychiatrist with basic Spanish proficiency.
Javier (1989) USA Outpatient (22)	2 bilingual patients (native Spanish-speakers)	Patients avoided discussing highly arousing and conflicted feelings and fantasies in Spanish, using English to decrease affective intensity, facilitating defensive denial and emotional detachment. One patient's Spanish language fluency improved as treatment progressed and conflicts were addressed.	Psychologists' Spanish proficiency was not specified.

Vasquez & Javier (1991) New York Emergency Department and Unspecified Setting (23)	2 Spanish-speaking patients	During an initial assessment, a patient's 15-year-old nephew functioned as an ad hoc interpreter. He omitted information about the patient's depression and hearing her deceased mother's voice, condensed and substituted information about an overdose and assisted the patient's minimization of the severity of the overdose. The patient was referred for outpatient care, but attempted suicide within a week and was admitted to an inpatient unit. A therapist aide, functioning as an ad hoc interpreter, assumed the role of interviewer by adding, condensing, and distorting communications.	
Baxter & Cheng (1996) Hong Kong Inpatient (24)	1 Cantonese-speaking adolescent	Inpatient psychodynamic psychotherapy (mediated by a bilingual teacher at the inpatient unit school serving as an ad hoc interpreter) was abruptly discontinued by the patient after 32 sessions with the patient suggesting it was not useful. The symbolic meaning of therapists' reflections was not adequately conveyed by literal translations. Consistent use of the same interpreter facilitated the therapist's assessment of the interpreter's language skills and allowed the therapist to tailor comments accordingly.	
Oquendo (1996) New York Inpatient (25)	2 Spanish-speaking patients	Distortions occurred in the mental status assessment of patients when they were interviewed in English because patients translated words with specific connotations in Spanish to words with less nuanced meanings in English. Misunderstandings by the English-speaking clinicians were discovered when patients were interviewed by a bilingual psychiatrist.	One additional case is not reviewed because language proficiency is not addressed.
Rueda-Lara et al. (2003) USA Primary Care, Emergency, and Inpatient (26)	2 Spanish-speaking patients	Patients presented with a combination of psychiatric and somatic symptoms and had physical findings suggestive of endocrinopathy. They were evaluated without professional interpreters and referred for inpatient psychiatric admission, leading to delay in the diagnosis of pituitary adenoma.	The first patient was seen with no interpreter, then an ad hoc interpreter (Spanish-speaking staff member), then by a bilingual physician. The second patient was seen without a professional interpreter, then with an interpreter of unspecified training.
Bjorn (2005) Sweden Outpatient (27)	4 refugee patients	An interpreter (type not specified) interfered with evaluation by instructing the child undergoing evaluation to sit still. A teenage girl functioning as the interpreter during her own evaluation undermined the therapists' ability to support her parents' authority. Use of a professional interpreter known to a child and family outside the treatment setting undermined the treatment process because the child treated the interpreter as a friend. An interpreter (type not specified) interfered with a session by instructing the clinician to stop asking a crying patient about wartime trauma, ostensibly due to the interpreter's own unresolved grief.	`

Table A2.

Types of Interpretation Errors During Psychiatric Encounters

Type of Error and Definition	Examples	Clinical Impact
Omission: A word or phrase uttered by the speaker is not conveyed by the interpreter.	1. Patient (Hindustani): I don't know why! Since the well dried up I've just stopped doing it. Interpreter (English): I don't know why! I've just stopped doing it. Price 1975, p. 265 (34)	1. Normalization of thought content led to undetected delusional content.
	2. The translator's response to a long rambling answer was simply "He isn't answering the question", yet the patient's answer contained references in English to 'Queen Elizabeth', 'the Prime Minister' and 'the Chief Justice', suggesting delusional or grandiose content. Price 1975, p. 265 (34)	2. The clinician may suspect delusional content but lacks confirmation. The nature and severity of delusions or grandiosity are obscured.
Condensation: A type of omission error whereby a word or phrase uttered by the speaker is shortened by the interpreter.	Patient (Spanish): I know, I know that God is with me, I'm not afraid, they cannot get me [pause] I'm wearing these new pants and I feel protected, I feel good, I don't get headaches anymore." Interpreter (English): He says that he is not afraid, he feels good, he doesn't have headaches anymore. Marcos 1979, p. 173 (33)	Normalization of thought processes and content rendered tangentiality and delusional content undetected.
Addition: A word or phrase that was not uttered by the speaker is added by the interpreter.	Patient (Hindustani): They [voices] just talk. Interpreter (English): They just talk with me. Price 1975 p. 265 (34)	The clinician overlooked a symptom fulfilling Criterion A of schizophrenia.
Substitution: A word or phrase uttered by the speaker is rephrased by the interpreter such that the meaning is altered.	1. A patient was asked "Do you ever feel that you would like to go to sleep and not wake up?" This was interpreted in terms of a desire for good sleep rather than a suicidal idea. Farooq et al. 1997, p. 211 (35)	1. The clinician did not know that patient was not asked about suicidality.
	2. Clinician (English): What about worries, do you have many worries? Interpreter (Spanish): Is it there anything that bothers you? Marcos 1979, p. 173 (33)	2. Patient is not asked about an emotional symptom and instead is asked a vague question.

Role Substitution: A type of addition or substitution error whereby the interpreter introduces a statement not uttered by the speaker or provides a reply without asking the listener for a response, thus assuming the speaker's or listener's role.	1. The son of a patient was asked to inquire about his father's possible suicidal ideation. Without asking his father, he insisted on a negative answer. Marcos 1979, p. 173 (33)	1. The clinician was unable to complete an adequate safety assessment yet may not have known about the inadequacy of the assessment.
	2. An 8-year-old boy came to a child psychiatric clinic with his mother and younger brother because the 8-year-old was showing signs of hyperactivity and anxiety. During the first session, the boy did not sit calmly but moved his legs now and then and interrupted his mother's conversation. The interpreter told the boy not to do this, and he firmly said to the boy that he should sit calmly in his chair. Bjorn 2005, p 517 (27)	2. The clinician may have believed that the child calmed down on his own.
Editorialization: A type of addition or substitution error whereby the interpreter conveys a personal view as the speaker's utterance.	The interpreter expressed to the patient his own negative feelings about the medication the clinician had just suggested. Marcos 1979, p 173 (33)	The clinician was unaware of the interpreter's statement and would have been unable to have a complete dialogue with the patient about the treatment.
Multiple errors: A word or phrase uttered by the speaker is subject to more than one type of error.	1. Clinician (English): She looks very depressed. Interpreter (Spanish): The doctor wants to know if you feel sad. [Substitution, Role substitution] Patient (Spanish): Yes, I feel like crying almost every night. Sometimes I wonder if it is better to be dead. I have not been able to sleep for two nights because of my son. I just need to sleep for a while. Interpreter (English): She said yes and has thought that it was better killing herself. She said that only in this way she was going to be able to rest. [Omission and substitution]. Vasquez & Javier 1991, p 165 (23)	1. The patient's suicidality was exaggerated.
	2. Clinician (English): What kind of moods have you been in recently? Interpreter (Chinese): How have you been feeling? [Substitution] Patient (Chinese): No, I don't have any more pain, my stomach is fine now, and I can eat much better since I take the medication. Interpreter (English): He says that he feels fine, no problems. [Condensation] Marcos 1979, p. 173 (33)	2. The clinician asked about mood and is not aware that the response refers to somatic symptoms. The clinician is unaware of the patient's report of medication effects.