

Guide to Identifying and Correcting Decision Making Errors in Mental Disability Practice

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Presented is a practical and theoretical guide to help practitioners identify and alleviate decision making errors. Common decision making and judgment errors are inventoried and presented as deviations from the scientific method. Also presented is evidence of judgmental inaccuracies in critical areas. A *modus operandi* called the "lab report" method is offered as a way to avoid making some of these errors. The lab report method is a way of conducting forensic evaluations in a more rational and scientific way, in much the same way as a good researcher would conduct a study. Using this method the clinician, like the researcher, uses clearly articulated alternative hypotheses with specifically operationalized measures. Data are collected in a systematic way to test each hypothesis, and consistent feedback is sought. Throughout the paper the scientific method is reviewed; evidence of problems applying it in clinical practice are presented, as are ways of overcoming these problems.

Mistakes in mental health practitioners' judgments can have serious consequences in mental disability cases. People can be given inappropriate treatment, poor custody arrangements, undeserved monetary awards, unjustly lose control of their assets, or be committed to an institution. Such errors can even result in death, e.g., failure to diagnose mental disability in capital punishment cases. Often, mental health practitioners' judgments are accepted unquestioned in court. For example, in com-

petency to stand trial proceedings, forensic psychiatrists' judgments are almost always accepted by judges.¹⁻³ This also appears to be true of competency proceedings for guardianship.⁴ In many states, the state-appointed psychiatrists' opinion of competency to be executed cannot even be challenged.⁵ The burden of practitioners is great.⁶

Problems in judgment have led to injustice. As an example, in cases of child sexual abuse, experts use methods that contribute to finding support for false allegations.^{7,8} Clinicians have used leading questions, relied totally on children's testimony, mistakenly assuming that

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"children never lie" about sexual abuse⁹ or relied on widely debated and problematic techniques like play with anatomically correct dolls.^{10, 11} These problems have raised the issue of admissibility of practitioners as experts in these cases¹²⁻¹⁵; some have made this assertion globally.¹⁶ These problems are illustrative of the need for practitioners to carefully study their practice and the need for methods to correct faulty practices.

This paper is directed at helping practitioners study and improve their practice. Presented is a theoretical and practical guide to helping mental health practitioners (to be referred to as practitioners or clinicians) understand, identify, and alleviate some decision making errors. This paper is *not* intended as a summary of the scientific status of practitioners' work, or as a comprehensive review of mental health practitioners' decision making biases, which has recently been presented.¹⁷ Instead we present a guide to identifying problems relevant to forensic work, and some solutions. A few of the issues discussed here, as they relate to expert testimony, were recently mentioned by Hoge and Grisso.¹⁸ In some areas an alternative perspective to theirs is presented.

We present a *modus operandi* called the "lab report" method, which is offered as a way to reduce the chance of making errors. The lab report method is a way of conducting forensic evaluations in a more rational and scientific way, in much the same way as a good researcher would conduct a study. Using this method the clinician, like the researcher, uses clearly articulated alternative hy-

potheses with specifically operationalized measures. Data are collected in a systematic way to test each hypothesis. Throughout the paper the scientific method is reviewed, and evidence of problems applying it in clinical practice are presented. The relevant parts of the lab report method are elaborated in each section.

We believe that lack of scientific rigor in clinical practice has led to inaccurate judgments. This lack of scientific rigor adds to the inaccuracy inherent in judging people and also undermines clinicians' expert witness status. Science requires observable repeatable facts, adequate hypothesis testing, and consistent feedback of findings. One way that observable repeatable facts are established is by consensus of observers about what is being observed. This is called reliability. If these observations lead to accurate predictions they are valid.

Mental health practice judgements have limited reliability and validity. Practitioners not infrequently disagree with each other and with actuarial methods with respect to diagnosis, disposition, and prediction of outcome. Despite the shift to DSM-III, a system designed to be based on observable repeatable facts, levels of agreement between clinicians judging the same person remain problematic.¹⁹⁻²² In enough studies to cause alarm, clinicians have predicted behavior as inaccurately as lay people. (See section "Role of Experience and Training.")

Inaccuracies in judgment have had severe legal consequences for those being judged. For example, Boxer and

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Garvey²³ found that 57 percent of 109 Cuban refugees, denied immigration to the United States on psychiatric grounds, were allowed to enter after reexamination found them mentally healthy. Reexamining clinicians were not blind with respect to previous diagnosis. Two decades earlier, practitioners apparently misjudged the psychiatric well-being of military recruits. Plag and Arthur²⁴ report that 134 U.S. Naval recruits recommended for psychiatric discharge were not discharged. Two years later they were studied. Seventy-two percent of these "psychiatrically unfit" soldiers remained on active duty, compared to 85.8 percent of the psychiatrically "healthy" group.*

More closely related to mental disability law is that practitioners poorly predict violent behavior.²⁵ Because dangerousness is central to many forensic determinations, this is a critical problem. Ennis and Litwak,²⁶ for example, recommend that clinical predictions not be accepted as evidence in cases of involuntary detainment.

* Matarazzo (1978) argues that this study supports predictive validity. He also cites a follow-up two more years later (See Plag & Goffman, 1966, as cited in Matarazzo) in which there was a difference in attrition rates of "almost 20% greater attrition (46.5% versus 27.6%)." He tends to ignore the high rate of false-positives and skirts the issue of consequences suffered by those individuals incorrectly discharged on psychiatric grounds. Nicholson, Mirin and Schatzberg (1974) elaborate on the severe consequences affecting these recruits, e.g., employer discrimination, ineligibility for disability compensation, and probation and rehabilitation services. Another concern they raise that bears on our topic is that the military psychiatrist acts as both "expert witness" and "judge." This is true in other areas as well, where the high agreement rate of judges with recommendations of court-appointed clinicians renders them both *de facto*.

Scientific Method

Overview Next we present a review of practitioners' decision making errors organized relative to the scientific method. After each section the relevant dimension of the proposed "lab report" method for conducting forensic evaluations in a more scientific way is presented. We believe that following the scientific method is necessary to establish "reasonable medical certainty." The scientific method consists of identifying a problem, collecting relevant data, formulating hypotheses, and empirically testing them. The results are fed back and generate new hypotheses to be tested later.

First Step: Identifying a Problem

Clinicians typically begin forming their impressions about a person by reading a referral note or a case record, or by being told about the person. Next, they interview the person. Their focus is generally to identify a problem. They typically consider interview behavior—a small sample of behavior—as representative of the person's usual behavior, i.e., personality. This can lead to first impressions that are incorrect, because interview behavior is only a small nonrandom sample of a person's behavior, and the interview is a contrived situation. Interview behavior is often not a fair representation of the person's traits and perhaps not even of their state of mind. Further "samples" of behavior can lead to greater misunderstanding. This is because most people's background is rich enough with information supporting both a "healthy" view of them and a "pathological" view.²⁷ Another problem

of the interview is that clinicians tend to find and recall information that is consistent with their mood states.²⁸ The same client looks different when seen under different clinician moods.

Early on, clinicians form first impressions about the person. These are formed sometimes in as little as 30 seconds to three minutes, and appear to change little even in the face of new information.^{29, 30} This may be because the first received "sample" of behavior orients perception. Subsequent "samples" of behavior then have much less affect. First impressions tend to limit the range of possible subsequent judgments. They are also the basis of initial hypotheses.³¹

First impressions have predicted subsequent judgments in many studies.^{32, 33} One study³⁴ found that by varying the order in which positive and negative information is presented clinicians' judgments of severity of clients' condition varied (i.e., "bad" information presented early overshadowed the effects of "good" information presented later). In contrast, two similar studies^{35, 36} found that clinicians changed their view of clients as they received new information.

Clinicians' impressions are influenced by their expectations. One source of expectations is *perceived* (not necessarily actual) prevalence of conditions. As perceived prevalence rises (e.g., through media attention), the expectation of finding the disorder increases. Increased attention to borderline personality disorder and its increased use as a diagnostic label, and the huge increase in profes-

sional reporting of child abuse over the last decade are examples.

Using the lab report method, one carefully plans and documents each stage in the evaluation/study. The first step is for clinicians to write down their first impressions and note the specific information and sources of information. Then they estimate the credibility of this information. Next, they note their hypotheses in specific behavioral terms.

As an example, let us take a case of a competency evaluation of Mrs. W, a 75-year-old widow who is thought to be incompetent and in need of a guardian. In this case, the city welfare department requested the evaluation. The welfare department caseworker told the evaluator that they had been contacted by Mrs. W's landlord, who was concerned about Mrs. W because she recently started to act bizarrely and does not pay her rent. The welfare department caseworker also shared with the evaluator that she had heard that Mrs. W had a "psychiatric history" and that her spouse had recently died.

Using the lab report method, the clinician would document his or her initial impressions and sources of these impressions. This might be that Mrs. W is incompetent based on landlord's report and caseworker's report of "psychiatric history." Then the clinician would estimate the credibility of the information and the reasons for giving the rating that they did. For example, the clinician might have some doubts about the information, because the landlord's view might be tainted by the rent dispute with Mrs. W. Likewise, the information

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about psychiatric history may not be accurate and may not indicate serious chronic disabling mental illness.

Second Step: Hypothesizing We tend to form hypotheses about people's behavior based on first impressions. These hypotheses explain the person's behavior based on available information, and the practitioner's preferred theory. Scientific method requires considering several alternate hypotheses. Yet clinicians appear to generate few hypotheses.³⁷ Alternate hypotheses are important because clinicians tend to "find" support for their preferred theory.³⁸

In the lab report, clinicians write down several alternate and competing hypotheses that could explain the person's behavior. Aside from helping assure a thorough thoughtful examination, it is also good preparation for court, where alternate explanations of behavior are often used to challenge the clinician.

Continuing with the case of Mrs. W, the clinician would write down several competing hypotheses. For example: Mrs. W is incompetent due to a chronic debilitating mental illness, and until his death she had been cared for by her spouse; Mrs. W is competent and is engaged in some dispute with her landlord, who would like to cause her to leave his property; Mrs. W is decompensating and is in need of temporary help to recompensate.

Third Step: Hypotheses Testing In the lab report method, clinicians posit and test competing hypotheses. The result is that they invariably try to disprove one hypothesis while supporting another. In other words, in keeping with

scientific method, they attempt to prove the null hypothesis. As Karl Popper, the renowned philosopher of science said, to be science something must be falsifiable, not merely verifiable. Typically clinicians, like other people, appear to test hypotheses by searching for information to support them. According to many studies, clinicians seek supportive evidence while ignoring counterevidence,^{30, 39, 40} giving a false sense of confidence.^{41, 42} Clinicians also selectively overweigh confirmatory evidence.⁴³

Popper himself noted the difficulty of mental health practitioners in applying the scientific method and the dangers of attempting to verify and not falsify hypotheses. This was after a conversation with Alfred Adler. Popper described a case to Adler in which a child seemed to behave contrary to Adler's theory. Adler, who had "not even seen the child" interpreted the child's behavior according to his theory. Popper⁴⁴ writes that he was "slightly shocked; I asked him how he could be so sure. 'Because of my thousand-fold experience,' he replied; whereupon I could not help saying: And with this new case, I suppose your experience has become thousand-and-one-fold."

Hypothesis testing requires collecting information systematically. Clinicians sometimes use faulty strategies in accepting some information while rejecting other information. Anecdotal information such as case reports are often preferred over systematic (e.g., statistical) information.^{45, 46} This is scientifically incorrect. In a similar way, diagnostic tests that are appealing but have not been

proved to be valid continue to be used, like the Draw-A-Person test.⁴⁷⁻⁴⁹

Because clinicians seek to support hypotheses, they can be easily misled. This was demonstrated by Chapman and Chapman.^{47, 48} They studied the validity of clinical impression by randomly pairing diagnostic signs and test responses with patients' descriptions. In one study,⁴⁷ Draw-A-Person drawings were randomly paired with descriptions of patients. Clinicians and non-clinicians were asked to find connections between symptoms and drawings. Both groups reported the same mistaken connections. Because the drawings and patients were randomly matched, there was no valid connection between the two.

Returning to the lab report method, to contend with these problems, clinicians should construct and note in their lab report adequate tests to disprove their hypotheses. If this is not possible, then at least clinicians should list each observation that confirms and disconfirms each hypothesis. The underlying theoretical links should be spelled out as clearly as possible. If a certain observation confirms a hypothesis because of the meaning that the observed behavior has in a given theory, it should be noted. The strength of the confirmation is only as strong as the theory. Clinicians should look for redundancy in observations. For example, if two teachers and a parent offer the same observation of a child, it is important to determine whether these are independent observations, or if one teacher observed and told the other two parties.

Returning to the case of Mrs. W, tests

to disprove each hypothesis are constructed. The first hypothesis was that she is incompetent due to a chronic debilitating mental illness and that she had been cared for by her spouse until his recent death. This could be disproved by obtaining information about how she has been handling her finances since her spouse's death, e.g., has she been paying her utility bills? Another part of the test of this hypothesis would be to clarify the nature of her "psychiatric history"; this could reveal no known previous debilitating psychiatric condition. It would also be useful to find out how long she is alleged not to have been paying her rent, and to see if it corresponds with the spouse's death. Another test would be to ask her family members and her family doctor about how she appears to manage her affairs, and whether there has been any marked change since the spouse's death. The second hypothesis was that Mrs. W is competent and is engaged in some dispute with her landlord, who would like to cause her to leave his property. Her competency could be questioned by using the same test as above, by seeing if she manages her finances by paying utility bills; if she does not pay her bills, then this would question her competency. The third hypothesis is that Mrs. W is decompensating and is in need of temporary help to recompensate. This could be questioned by interviewing family members and her family doctor to find out whether her behavior has changed markedly. All such evaluations would include interviewing Mrs. W, and the clinician would have the results of this interview to help

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form a conclusion. However, the tests have been constructed independent of the clinician's interview impressions, because the clinician's interview impressions are more easily biased. In this way the clinicians can compare their impressions with the tests that they have designed.

How are Decisions Made?

The next step in the lab report method is for clinicians to use the strongest hypothesis (the one that was not disproved) and supporting data to make a decision. In general, decisions appear to be made simply.⁵⁰ Practitioners' decisions and those of other experts have been optimally modeled with simple linear models.⁵¹⁻⁵⁷ This suggests that decisions are made by something akin to assigning a weight to information cues and adding them to the sum of the previous cues. After adding several cues, a decision is made.

Only a few pieces of information, typically lower than 7, appear to be used in making decisions.⁵⁸⁻⁶⁰ Oskamp⁶⁰ gave psychologists 13 Minnesota Multiphasic Personality Inventory (MMPI) scales, together with the patient's age and education. They used only five pieces of information, and one dominated.

What these findings suggest is that "clinical intuition" alone is not enough to make complex judgments based on many factors. Following the lab report method, clinicians devise criteria that are explicit for making decisions. These criteria can be used to create decision making models that can incorporate multiple attributes. For example, Kroll

and Mackenzie⁶¹ present a decision table that helps integrate facts about patients to help decide on the risk of releasing a patient. Another example is the Interdisciplinary Fitness Interview of Golding and Roesch.⁶² It is a guide to what variables are salient in determining competency to stand trial and helps integrate information in a systematic fashion. Even simple mathematical formulas based on actuarial methods and predefined criteria for making decisions are better than intuition *alone*. Simple mathematical formulas generally predict better than clinicians,⁶³ yet models cannot substitute for the clinician because clinicians are better able to recognize exceptions than are the models.⁶⁴ The nonclinician armed with the formula can often out-predict the clinician not armed with the formula. The court, armed with such a formula, is better equipped than many clinicians to predict the person's behavior.

In the case of Mrs. W, the clinician could construct or adopt a model for determining competency that could be used and refined with other cases. (There is a surprising lack of operational definitions of competency, a legal entity that is often incorrectly viewed as being synonymous with mental illness).^{65,66} Using an operational definition of competency the clinician would need to find ways of testing competency, which the law in New York, similar to many places, defines as inability to take care of one's own person or property.⁶⁷ Such tests would include observable behaviors of competency: for example, paying bills, eating properly, and attending to ade-

quate hygiene. In the case of Mrs. W, the clinician using such a model would probably give much less weight to her alleged mental illness. Without such a model or specific criteria, the clinician's judgement might be more susceptible to the confounding of mental illness and competency.

Adjusting Decisions Clinicians who have made a decision, typically by choosing between alternatives, sometimes adjust their decisions after considering perceived consequences of the decision. For example in a child custody case, the clinician who may favor giving custody to the father may decide on giving mother custody, or partial custody, because of the anticipated consequence that the mother will sabotage the arrangement.

In the lab report, the choices made between alternatives and the adjustments made are documented. Some of the ways in which alternatives are substituted for initial choice may not be incorrect *per se*, for example, considering that one parent might sabotage a custody arrangement. Yet they become problematic when they are not formally considered and weighed. One important step is for clinicians to realize that this type of adjustment based on expected consequences is a legitimate part of the decision making process and to deal with it consciously and conscientiously.

In the case of Mrs. W, the clinician might conclude that she could be legally determined to be incompetent at the present time. However, since one of her children has agreed to move in with her and help her, such a determination is

not necessary. There may be other possible scenarios where an evaluation with a finding of incompetency would be destructive. For example, if the clinician believes that the incompetency is temporary, as in the third hypothesis, having her legally declared incompetent could be destructive, as restoration of competency is unusual.⁶⁸

Faulty Strategies in Using Information Another set of constraints that limit the certainty of clinical judgements is the reliance on common sense strategies in drawing inferences that are not scientifically correct. These faults in human information processing are: 1) reliance on representativeness and availability; 2) conjunction fallacy; 3) inability to incorporate probability into judgements; and 4) reliance on confirmatory cases.

Representativeness and Availability Frequency estimates are often based on representativeness, not on probability.^{41, 69, 70} Representativeness is estimating likelihood of an event occurring by recalling a stereotype that is similar to the current situation. An example of this is the group of clinicians asked to predict choice of graduate school of an aloof student with interpersonal problems. They were given a choice between graduate school in: (A) library science or (B) education. Sixty percent answered "A" despite the fact that most of the group knew that there are many more graduate students in education than in library science.⁴¹

Similar to the concept of representativeness is availability:⁷¹ the tendency to make decisions based on cases that are

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easiest to recall. An example is attempting to predict the likely outcome of a particular custody case by recalling a similar case that comes to mind. The trouble with this is that memory is selective: We tend to remember only certain cases, for example, those we recently dealt with or exceptions. Such cases cannot be assumed to be representative of our experience with a particular class of cases.⁷²

Conjunction Fallacy A related fallacy is the conjunction fallacy.^{69, 70} This occurs when a special case is judged more likely than the initial case. For example, in one study⁷⁰ subjects were given the following case: "Bill is 34 years old. He is intelligent, but unimaginative, compulsive, and generally lifeless. In school, he was strong in mathematics but weak in social studies and humanities." Subjects were given a list of eight occupations and hobbies and asked to estimate the probability of each. Some were simple statements, e.g., "Bill plays jazz for a hobby" and some were conjunctions, e.g., "Bill is an accountant who plays jazz for a hobby." Subjects judged the conjunction (accountant and plays jazz) to be more likely than the simple statement (plays jazz). This result is intuitive but incorrect because the probability of two events occurring is always less than the probability of each event occurring. Similar problems presented to physicians using likelihood estimates of various medical diagnoses have also revealed this information processing shortcoming.⁷⁰

Ignoring Probability Diagnostic signs are often used regardless of base rates.

Sometimes signs are less accurate than guessing.⁴³ For example, a given test may detect dangerousness accurately 60% of the time in a state psychiatric hospital population. However, if 70% of the population are dangerous, the test will be less valuable than using base rates.

Reliance on Confirmatory Cases

Another area where lack of scientific rigor is present is in deducing the relationship between two variables. This is generally done by looking for cases in which the two variables are present, while ignoring cases in which they are not. It is thus misleading. For example, one might observe that 75% of the dangerous psychiatric patients that they have evaluated have a history of depression, and deduce that there is a connection between a history of depression and dangerousness. However such a relationship cannot be established without checking incidence of a history of depression in non-dangerous patients. It is possible that the incidence of depression among non-dangerous patients is as high, suggesting no relationship, or higher, suggesting that there is a negative relationship between depression and dangerousness.

The lab report method can help avoid some of these information processing errors because in the lab report clinicians explicitly define the connections between observations, inferences, and conclusions. The use of representativeness, availability, conjunction fallacy, and reliance on confirmatory cases would probably be more obvious and thus become easier to avoid. Clinicians would also do well to consider whether there is

any relevant probability information that could be incorporated into their judgement. For example, let us imagine that the clinician has ascertained that Mrs. W has no previous psychiatric treatment history and is now psychotic. The clinician, in trying to diagnose the condition, might suspect that Mrs. W is suffering from schizophrenia and is now in the active phase of her first onset. The symptoms fit such a diagnosis. However, the clinician would want to consider the likelihood of onset of schizophrenia at age 75, which is extremely low and according to some, impossible. Therefore the clinician would want to consider other possibilities and to carefully re-check previous psychiatric history and to look for periods in her life that she may have been psychotic even without getting treatment.

Role of Experience and Training

Science progresses by building on experience. As a group clinicians, like many other experts, do not appear to learn from experience. Ironically (in court) amount of experience is presented as a way of establishing expertise and a criterion used in deciding which expert is correct. Yet, training and experience do not seem to relate to judgmental accuracy.⁷³⁻⁸⁶ In some studies, laypersons predicted as well as trained clinicians^{16, 85} or even better.⁸⁴ Secretaries, for example, distinguished between normal and brain damaged individuals' visual-motor productions on a common screening test as accurately as psychologists⁷⁴ and interpreted drawings as well in another.⁸² High school students and clinicians, working from the

same data, fared equally poorly in predicting violent behavior.⁷⁷ Jackson⁸⁷ found that judges, psychiatrists, and lay people made typical forensic psychiatric decisions in a similar fashion. The psychiatric expert did not appear to use specialized knowledge or make better decisions.

The reason for the surprising lack of gain from experience may be that practitioners do not always gain from feedback. Feedback varies in different settings and tends to be limited and misleading. In many diagnostic settings (e.g., custody and competency evaluations) clinicians receive no feedback about the correctness of their decisions. In treatment, feedback obtained from patients can be misleading. Yet another problem is that feedback is limited. Cases in which feedback is available are probably not representative of the universe of cases seen by the clinician. Also, the most recent feedback tends to be disproportionately weighted.

Clinicians should routinely seek uniform feedback and note this in their lab reports. This information with other case information could be computerized and the results routinely analyzed on an aggregate level.⁸⁸ Obtaining uniform feedback may not always be possible. Yet it would certainly be valuable to know how often we are correct or what outcomes were obtained. Having such data could go a long way when one is asked in cross examination: How often are you right, Doctor?

In the case of Mrs. W and other similar cases, the clinician would want to establish routine follow-up intervals for

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cases. This might include contacting family members and the caseworker every six months. Such information would then be stored with other case information.

Biasing Factors Another area that suggests problems in applying the scientific method are findings of bias. Lopez⁸⁹ thoroughly reviewed studies in this area and found evidence for mental retardation bias, social class, race, and gender bias. Brown⁹⁰ reviewed effects of client gender on clinical judgment and concluded that it can lead to inaccurate assessment and diagnosis. For example, clinicians tend to find women as less mentally healthy than men.^{91, 92} Other sources of bias are physical attractiveness, which promotes favorable judgments of clients, self-concept,⁹³ prognosis,⁹⁴ and psychopathology.⁹⁵

Another important source of bias is a colleague's opinion of a person. This can lead to preconceived first impressions. In one study, before viewing a filmed interview of a normal person, clinicians were told that colleagues had said the "person looks normal but is actually psychotic." After viewing the film, they diagnosed serious psychopathology. Clinicians who viewed the film, without being told others' opinions, diagnosed significantly less pathology.^{96, 97}

Blind Spots There are several plausible explanations for behavior that tends to be overlooked in favor of other explanations. This has led to misdiagnoses and concomitant inappropriate treatment. One such overlooked cause of behavior is physical illness. Koranyi⁹⁸ estimates that about 50 percent of psy-

chiatric outpatients have coexisting physical conditions, and about 10 percent may have physical illness that is directly related to the psychiatric complaint. Yet, almost half of these physical problems may remain undiscovered in outpatient mental health treatment.⁹⁹⁻¹⁰³ In some studies the undetected physical illness clearly explained the patient's disturbed behavior.^{103, 104} In other cases, physically disabled people have been inappropriately psychiatrically confined, e.g. *New York Association for Retarded Children vs. Carey*.¹⁰⁵ Substance abuse is another underdiagnosed condition.^{106, 107} This is probably due in no small measure to clinicians' neglecting to inquire about it, since in many studies people reveal their substance abuse when asked.^{108, 109}

The lab report method should help reduce these biases because it lends itself to systematic review of cases to look for differences in disposition based on race, gender, and so forth. The clinician can also systematically review impressions, hypotheses, and inferences in each case before making a final judgment to look for possible influence of biases. Some biases can be noted and controlled for. For example, collegial opinion should be noted as a data source and given an appropriate weight as other pieces of data. For example, in the case of Mrs. W, the clinician would document the impressions of the client shared by the caseworker or some other colleague and consider its influence. The presence of physical illness and drug and alcohol use can be asked routinely in each case. Hypotheses can be constructed to explain

behavior based on these conditions. Effects of clients' physical appearance on the clinician can also be explored introspectively.

Conclusion

This paper reviews problems in the way that clinicians work relative to the scientific method. The lab report method of careful formulation and documentation of the diagnostic process, similar to a lab experiment, is suggested as a way to alleviate some of these problems. Models and procedures for making psychiatric decisions must contend with many cognitive obstacles, so that decision making will be more credible and lead to greater "certainty." As Jackson⁸⁷ notes, improvement requires that clinicians' cognitive processes be examined and adjusted. Yet recent work on ways of making forensic psychiatric decisions has not been sufficiently mindful of these obstacles.^{110, 111}

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