International Guide to the World of Alternative Mental Health

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The following Field Manual was compiled by order of the California legislature. It reveals that 39% of psychiatric patients studied were found to have active medical diseases, many of which caused or worsened their mental condition. The Manual explains the importance of screening patients for disease and lays out a step-by-step process for doing so.

Prepared for the

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MEDICAL EVALUATION FIELD MANUAL

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Ultimate responsibility for the content of this Field Manual rests with

the author, who hopes that it will contribute to better patient care.

INTRODUCTION AND RATIONALE This Field Manual shows California mental health program administrators and staff how to screen their patients for active, important physical diseases. The Manual explains how, where, and when to screen, how to initiate and staff a screening program, and how to maximize its cost-effectiveness. The Manual also includes a list of clinical findings that characterize patients whose mental symptoms are quite likely to be caused by an unrecognized physical disease.

For several reasons, mental health professionals working within a mental health system have a professional and a legal obligation to recognize the presence of physical disease in their patients. First, physical diseases may cause a patient's mental disorder. Second, physical disease may worsen a mental disorder, either by affecting brain function or by giving rise to a psychopathologic reaction. Third, mentally ill patients are often unable or unwilling to seek medical care and may harbor a great deal of undiscovered physical disease. Finally, a patient's visit to a mental health program creates an opportunity to screen for physical disease in a symptomatic population. The yield of disease from such screening is usually higher than the yield in an asymptomatic population.

This Manual was developed from the methods and results of the California Medical Evaluation Study carried out in 1983 and 1984. The study was authorized by Senate Bill 929, (Chapter 208, Statutes of 1982). The methods and results of the SB 929 study have been reported in detail to the California Legislature[30,31] and in several scientific publications[29,32,48] that are included in Appendix B of this Field Manual.

The SB 929 Study team performed complete medical evaluations of 476 patients drawn from 24 county mental health programs spread across four Northern California counties and of 53 patients at Napa State Hospital.

The most important findings of that study are: [31,32] para 1. Nearly two out of five patients (39%) had an active, important physical disease.

2. The mental health system had failed to detect these diseases in nearly half (47.5%) of the affected patients.

3. Of all the patients examined, one in six had a physical disease that was related to his or her mental disorder, either causing or exacerbating that disorder.

4. The mental health system had failed to detect one in six physical diseases that were causing a patient’s mental disorder. (Five of 33 cases of physical disease causing a mental disorder had not been detected.)

5. The mental health system had failed to detect more than half of the physical diseases that were exacerbating a patient’s mental disorder. (Twenty-seven of 49 cases of physical disease exacerbating a mental disorder had not been detected.)

Screening the SB 929 patients cared for in county mental health programs caused neither a net increase nor a net decrease in the state's combined medical and mental health costs for these patients in the year after screening compared to the year before screening.

These results are consistent with those of studies in other mental health settings (Appendix B, Table 1). These studies have reported that from 15% to 93% of mentally ill patients had a concomitant, active, important physical disease. From 4% to 80% of patients had a physical disease that was detected initially through screening carried out by the mental health program. From 4% to 32% of patients had a physical disease that was either causing or exacerbating their mental disorder.

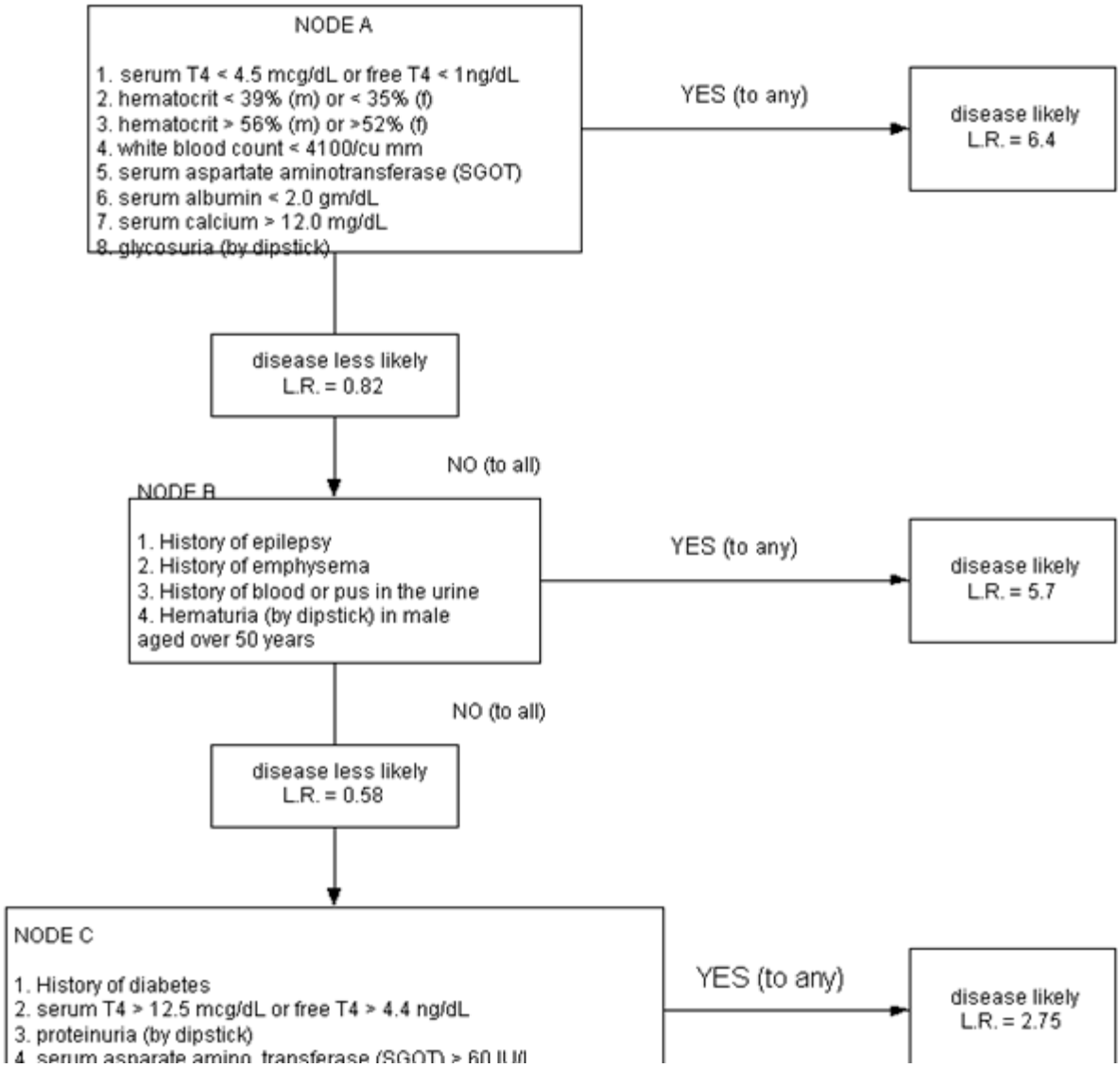
These findings underscore the need to improve screening for physical disease among patients in California's public mental health system. The screening methods now in use, ranging from very limited to moderately complete medical histories and physical examinations, often do not detect important physical disease and are not very cost-effective.

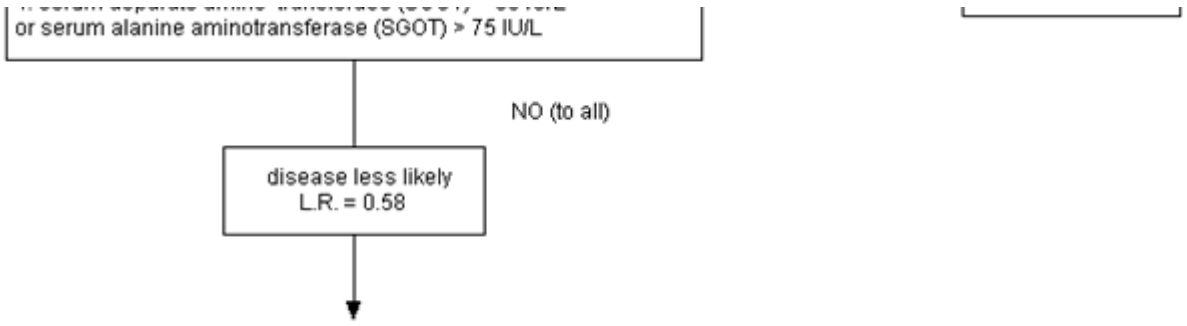
To facilitate improved screening, the SB 929 study team developed a screening algorithm that uses a limited set of items from a patient's medical history, a blood pressure measurement, and selected laboratory tests to detect physical disease. (An algorithm is a set of step-by-step instructions for solving a problem.) The algorithm detected more physical diseases than the mental health programs had detected among the SB 929 patient sample, did so at a lower cost per diagnosed case, and can be performed by mental health personnel after very limited training.

A detailed description of the development and results of the algorithm, including measures of its cost-effectiveness, is included in Appendix B.[48] The body of this Field Manual describes the content of the algorithm, how to set up a screening program, and the procedures for deciding which of the algorithm's six steps to implement.

For mental health programs that wish to screen for physical disease by means of complete medical evaluations, the Appendix to this manual includes a recommended Standard Medical History Form to be completed by patients and a recommended Standard Physical Examination Record Form for recording the results of physical examinations performed by clinical staff. Other medical history and physical examination forms are included as additional sources for mental health program staff who wish to design their own forms.

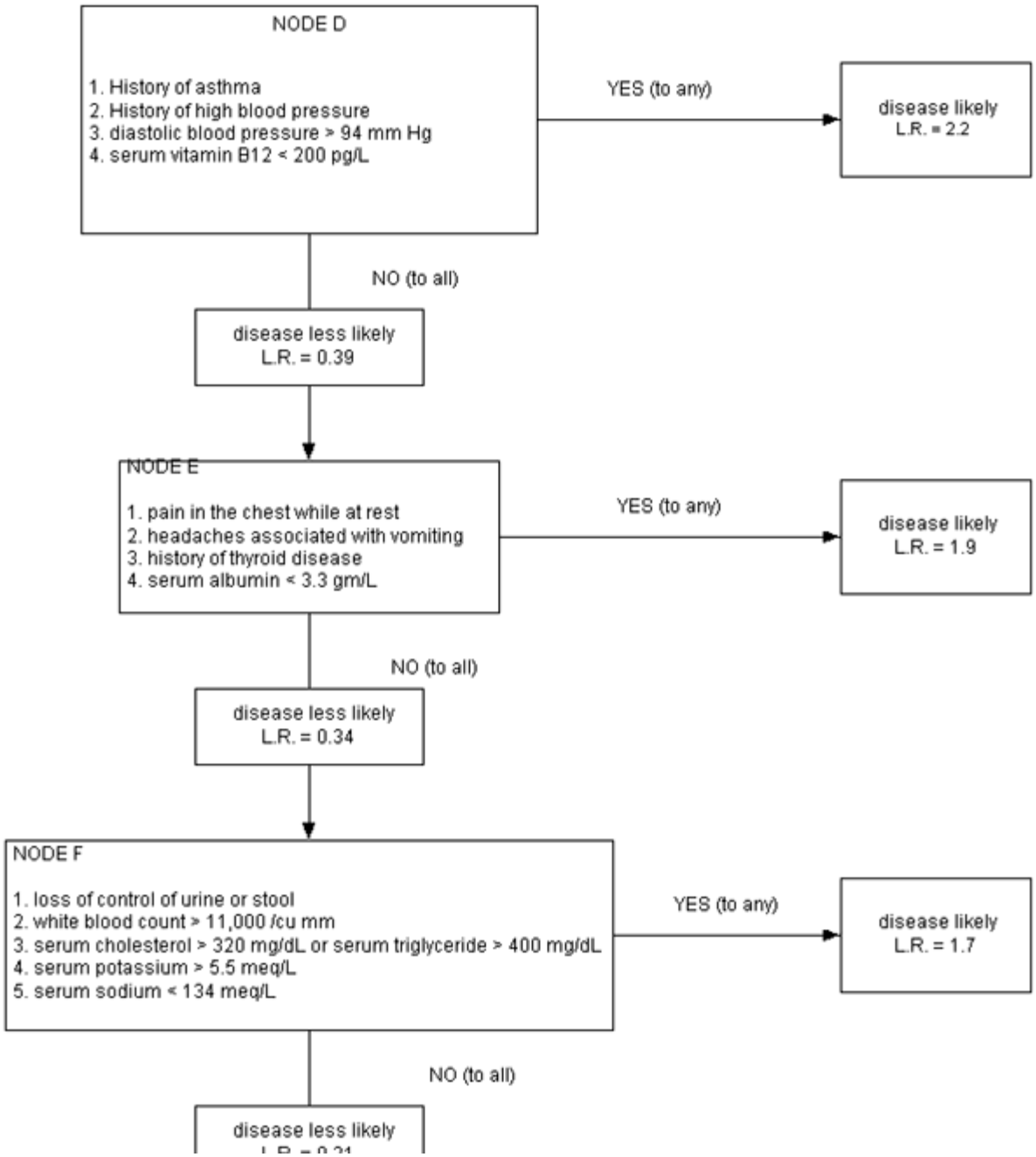
Figure 1

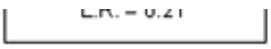




16A

FIGURE 1 {CONT.}





16B

Where to Screen: Recommended Settings for Screening|

Inpatient Settings and Hospital Emergency Rooms

As a matter of law, regulation or policy, screening for physical disease within California's public mental health system already takes place in local hospitals, psychiatric health facilities, state hospitals, skilled nursing facilities and some crisis programs (e.g., in hospital emergency rooms). Unfortunately, the medical evaluations may not be careful or thorough, as indicated by the large number of patients with previously unrecognized physical disease that the SB 929 Study discovered in these settings.

To improve the quality of evaluation in these settings:

1. Require that the clinical staff use the SB 929 Standard Medical History Form, (Appendix A) and a standardized, detailed Physical Examination Record (Appendix A). If the program's physicians do not wish to use standardized forms, evaluate the content and the consistency of their screening procedures through peer review and quality assurance procedures.

2. Teach the clinical staff to obtain a complete medical history from mentally disordered patients and to perform a complete and accurate physical examination.

3. Audit periodically the Standard Medical History Forms and Physical Examination Records to evaluate the percentage of patients with completed forms and the percentage of questions answered on completed forms. Audit the frequency with which

staff follow up the medical problems identified by screening. The facility’s administrative and clinical program chiefs should review the audit reports.

Outpatient Mental Health Programs

Outpatients in mental health settings are seldom evaluated medically. The aim of screening outpatients is to detect physical diseases that can:

- quickly become life threatening
- masquerade as mental disorders
- exacerbate mental disorders
- interact adversely with psychotropic medications
- pose significant long term health consequences, especially if the disease is spread by person-to-person contact (e.g., viral hepatitis).
- expose the mental health program to liability for negligence and malfeasance due to failure to diagnose.

Routine screening for physical disease in these programs should be initiated using the SB 929 medical screening algorithm, described subsequently. Using the SB 929 screening algorithm is much less costly than complete medical evaluations, and can detect up to 90% of the physical disease detected by complete evaluations.[48]

Outpatient programs should consider the pros and cons of performing routine screening for physical disease at the first versus the second or third outpatient visit. At many sites, up to half of outpatients do not return for a second visit and do not, therefore, establish an ongoing therapeutic relationship. Successfully referring such patients for follow-up of suspected physical illness would entail insuperable logistic difficulties. Since detecting physical disease in outpatients is seldom an

emergency, and since disease is easy to detect when it is serious enough to constitute an emergency, routine screening of outpatients might well be delayed until the second or third visit. The choice between screening at the second or the third visit should be guided by the proportion of second visit patients who make third visits. If the proportion is high, screening can be carried out at the second visit. If it is low, screening should be delayed to the third visit so that referrals for complete medical evaluation, when indicated, can be accomplished.

Day Treatment and Community Care Settings

Patients entering day treatment and community care programs may have had a recent medical evaluation in an inpatient setting. Day treatment and community care programs should make arrangements with inpatient programs to receive a copy of this medical evaluation when the patient is transferred for continuing care. Patients who have not had a recent medical evaluation, (i.e., within the past two months), should be screened by means of the SB 929 screening algorithm or a complete medical history and physical examination.

Re-screening Readmitted Patients

Existing regulations and policies govern the medical evaluation of patients readmitted after a brief interval to local hospitals, psychiatric health facilities, state hospitals, skilled nursing facilities and some crisis programs (e.g., hospital emergency rooms). Again, reevaluations should be careful and thorough, since exposure to infectious, toxic, traumatic or other disease-producing agents or processes can have taken place.

In outpatient, day treatment, and community care settings, the extent of screening should depend on the interval since a previous screening evaluation. Obtain the SB 929 screening algorithm's medical history items and blood pressure determination if more than two months have elapsed since the patient's last visit. If less than two months have elapsed, the patient's therapist should inquire about the patient's physical health status and source of medical care, as indicated on the Essential Medical Information Form. If six months have elapsed, obtain the SB 929 screening algorithm's laboratory panel as well.

How to Screen: When A Complete Examination is Used

Screening for important physical diseases may take the form of a complete medical evaluation or of the SB 929 screening algorithm. The choice between these options may depend on the kind of mental health program, e.g., inpatient versus outpatient, and on factors unique to individual facilities.

When the Screening Procedure is a Complete Medical Evaluation

The patient should complete the Standard Medical History Form (Appendix A). Provide the patient with assistance if his or her condition interferes with understanding or attention span. Perform a complete physical examination, including a detailed neurological examination and genital and rectal examinations unless contraindicated by the patient's psychiatric condition. Record the results of the physical examination on a Standard Physical Examination Record (Appendix A) . Obtain a battery of laboratory tests. Programs that employ medical or nursing staff or a physician's assistant can arrange blood drawing on site. Other programs should contract with a local hospital or laboratory for phlebotomy services. The physician carrying out the screening or the consulting internist, when a nurse practitioner or a physician's assistant does the screening examination, should decide which laboratory tests to include.

Mental health programs that employ a nurse practitioner or physician's assistant to perform physical examinations should measure the reliability and validity of their examinations by the program's internal medicine consultant or another physician to observe approximately ten patient examinations and corroborate the findings. The SB 929 Study utilized an extensive battery of laboratory tests in order to minimize the possibility of missing instances of important physical disease.

The tests included:

- a complete blood count,
- a 23-item chemistry panel, (including determinations for glucose, albumin, serum urea nitrogen, creatinine, calcium, phosphate, alkaline phosphatase, aspartate aminotransferase, alanine aminotransferase, gamma-glutamyl transferase, bilirubin, iron, and electrolytes),
- a serum fluorescent treponemal antibody test,
- thyroid tests (a triiodothyronine resin uptake, total serum thyroxine, and a free-thyroxine index),
- serum folate and vitamin B_{12} levels,
- a dipstick urinalysis.

The mental health program could select a somewhat less extensive, but still reasonable, screening battery with the advice of a specialist in internal medicine. For example, the thyroid screening test could be limited to the sensitive thyroid stimulating hormone assay or to a measurement of serum free thyroxin. If the laboratory test panel includes a complete blood count, chemistry panel, thyroid panel, and urinalysis (without microscopic exam), it will lead to new, previously unsuspected diagnoses or to changes in psychiatric treatment in from 1% of patients to as many as 6.4%, 8%, 12%, or 28% of patients.

The benefits of laboratory testing in the context of a screening program include: [51]

- Increasing physician confidence when mental illness impairs the patient's cooperation in providing a reliable history and physical examination.
- Detecting physical diseases that were not suspected on the basis of the history and physical examination.
- Assisting in differential diagnosis.
- Providing reassurance to patients.

A skilled physician should evaluate abnormal test results in the context of other information about the patient. False positive screening tests are common in people with few or no symptoms of physical disease, and the decision to carry out or not carry out further evaluation often requires sophisticated clinical judgment.

How to Screen When The SB 929 Algorithm is Used

The SB 929 screening algorithm has several appealing characteristics:

1. It is limited to those findings that best predicted the presence of physical disease in a sample of patients cared for within the California public mental health system.
2. It saves the effort and expense of gathering data that may not help in detecting physical disease.
3. The data used in the algorithm can be obtained by mental health staff and do not require a physician, nurse or physician’s assistant.

When the Screening Procedure is the SB 929 Screening Algorithm

The SB 929 medical algorithm requires 10 items of medical history, measurement of blood pressure, and 16 laboratory tests (13 blood tests and 3 urine tests). These data were the only strong predictors of physical disease in the SB 929 patients. [48]

The county mental health department must decide whether to gather all of this information or just part of it and whether to add questions that have not been investigated as screening items. (The California SB 929 Study did not ask about the use of alcohol, illicit drugs and prescription drugs) . This decision will be influenced by the trade-offs between maximizing the probability that a patient referred for further evaluation will have an important physical disease, maximizing the proportion of only sick patients that the screening program detects, and the program's budget. These trade-offs, in turn, are influenced by the perceived costs of failing to detect important physical disease, the perceived costs of sending well patients for evaluations, and the perceived value of detecting important physical disease. Fortunately, The SB 929 Study results (Appendix 5) provide much of

the data needed to make these judgments.

To maximize the probability that referred patients will be found to have an important physical disease, one would gather only enough information for algorithm steps A and B in Figure 1. The odds are high that a physical disease is present if any item in step A or step B is abnormal, 6.4 to 1 for step A and 5.7 to 1 for step B in the SB 929 patient sample. That is, if an SB 929 patient had any of the abnormal findings in step A, that individual was 6.4 times as likely to have a physical disease as were individuals who did not have any of the above abnormal findings within step A. This information is conveyed by the likelihood ratio of 6.4, which is shown to the right of NODE A in Figure 1. (An example of how to use the likelihood ratios to estimate the odds of disease being present in patients in different treatment settings is presented in Appendix B. [48,p.1272]

The costs of screening using only steps A and B are low since only inexpensive laboratory tests are required (a serum T4, hematocrit, white blood count, serum aspartate aminotransferase, serum albumin, serum calcium, and urine dipstick tests for glycosuria and hematuria). However, step A detects only 20% of patients with important physical disease, and step A and B together detect only 47% of such patients. To maximize the proportion of truly sick patients detected by the screening program, one would gather all of the information required through step F. Ninety percent of truly sick patients will have at least one of the findings in steps A through F, and will, therefore, be referred for evaluation by a physician.

Methods for estimating the cost and the cost-effectiveness of the six branch nodes, or steps, embedded in the SB 929 screening algorithm are detailed elsewhere [18] (Appendix B). With these data, a mental health program director can calculate the costs of continuing through each step of the algorithm and decide which steps are within the program's budget.

To obtain all the data needed for the SB 929 screening algorithm, the screening program nurse, nurse practitioner or physician's assistant should:

1. ask the patient to complete the 10-item Medical History Checklist, assisting the patient as necessary.
2. Obtain a sitting blood pressure measurement.
3. Request the patient to provide a urine sample, and
4. Draw the blood specimens for the laboratory battery.

The laboratory panel of tests should consist of:

1. a hematocrit

2. white blood cell count

3. serum aspartate aminotransferase

4. serum alanine aminotransferase

5. serum albumin

6. serum calcium

7. serum sodium and potassium

8. serum cholesterol and triglycerides

9. serum T4 and free T4, and

10. serum Vitamin B_{12}

Mental health programs that do not employ medical or nursing staff may prefer to send the patient to a local laboratory for blood drawing. The patient's urine should be examined by dipstick for glucose, blood and protein.

The items of information obtained from this screening procedure should be grouped according to

the six-step algorithm shown in Figure 1. The reason for grouping the information as shown is to help interpret abnormal findings. Abnormal findings listed in the earlier steps of the algorithm more strongly predict the presence of physical disease than those occurring in later steps and hence more urgently require a physician's attention. A patient who has any positive findings from any step in the algorithm should be referred for further evaluation to a physician who specializes in internal medicine or family medicine.

Because further medical evaluation takes place as a result of a physician's judgment (the physician who authorized the screening program or who serves as its consultant), the cost of the further evaluation is billable to third party payers. The clinical staff of the mental health program can arrange the referral, which, for insurance purposes, does not require further review by a physician. The mental health program should provide the evaluating physician with a copy of all medical information available regarding the patient and with information regarding the patient's psychiatric diagnosis, mental status, and psychotropic medications.

The SB 929 screening algorithm was validated by applying it to the clinical findings of the last 166 patients to be enrolled in the SB 929 study. However, it has not been studied in an entirely separate population. Moreover, the SB 929 patients were not completely representative of California's statewide population of public mental health patients. For example, the legislation authorizing the SB 929 study required that the study exclude patients with a primary diagnosis of alcoholism. For these reasons, county mental health policy makers should regard the SB 929 screening algorithm as tentative until it has been validated in their setting. Adding items to screen for alcohol or substance abuse, for example, may be helpful.

A county mental health department that decides to employ the algorithm may wish to evaluate its validity by comparing referral decisions generated by the algorithm with the results of careful, complete medical evaluations of the same patients. This comparison will allow an estimate of the algorithm's false negative rate (missed diagnosis rate). The mental health policy maker should seek a statistician's advice regarding sample size and study design. Several articles are available to guide a validation study.[40,42,47,50]