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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]

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.)[1]

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.)

[1] Superscript numbers refer to references listed on pages 29-32.

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.

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.

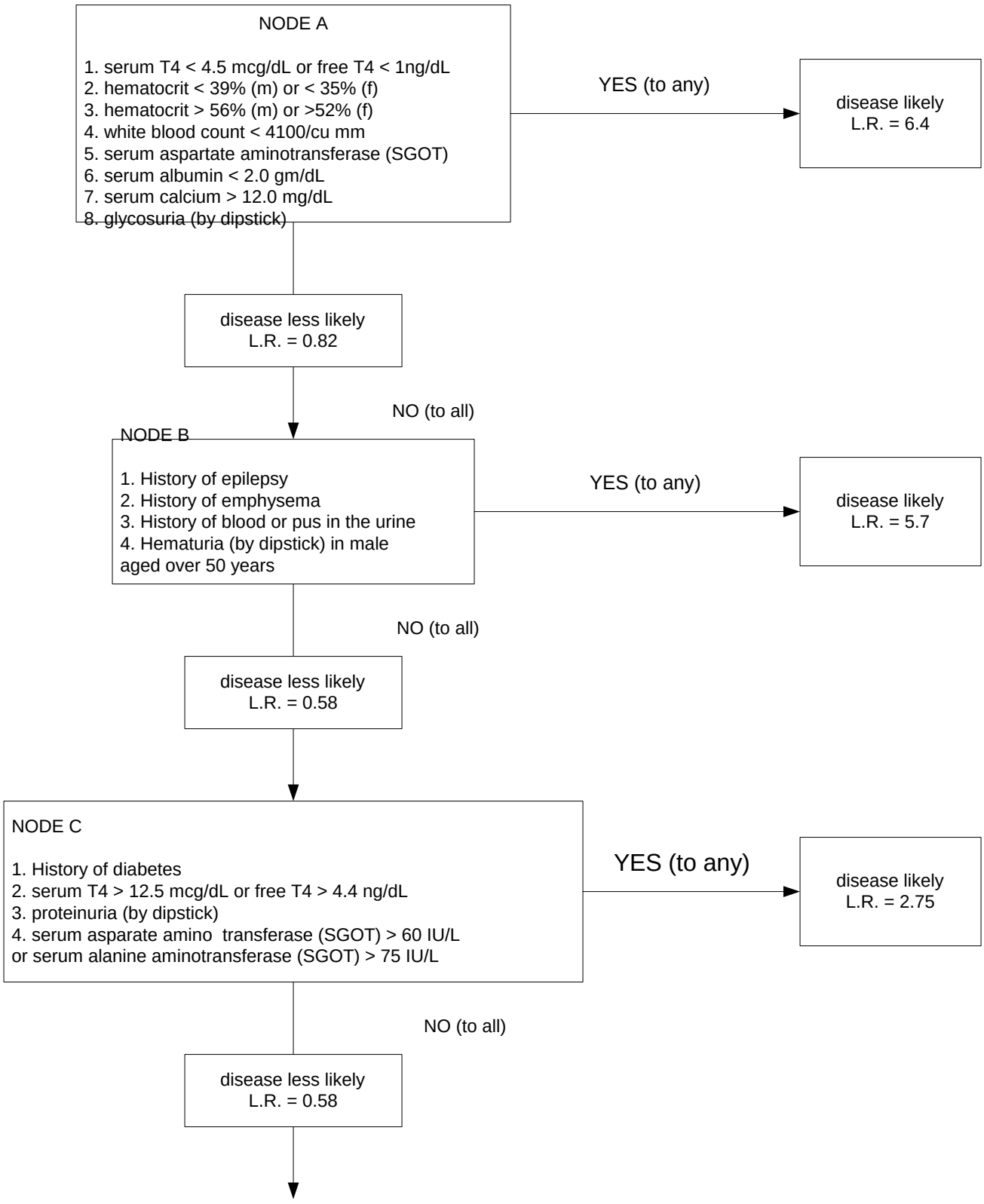
The items of information obtained from this screening procedure should be grouped according to the six-step algorithm shown in Figure 1. The reason for grouping the information as shown is to help interpret abnormal findings. Abnormal findings listed in the earlier steps of the algorithm more strongly 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.

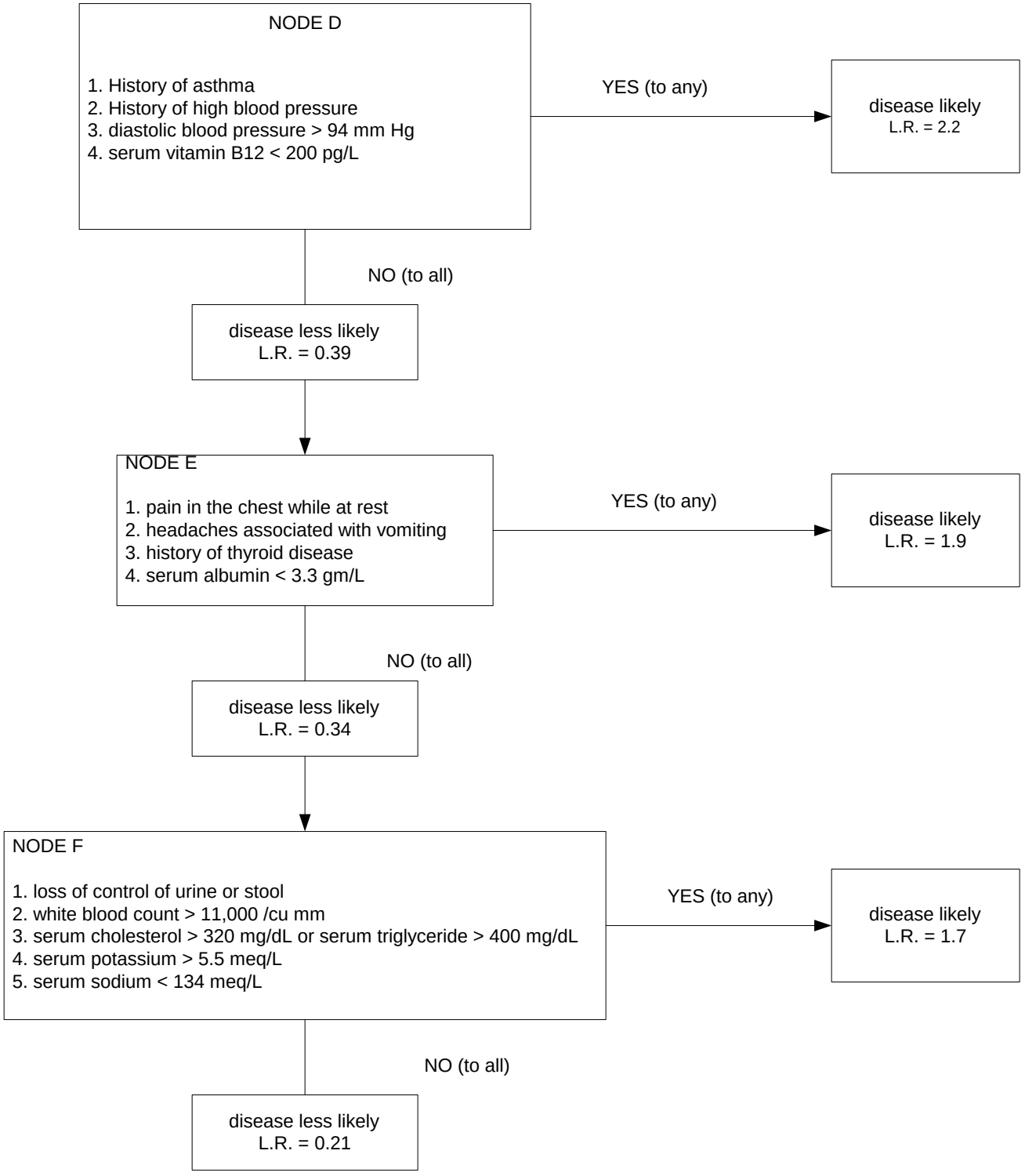
A county mental health department that decides to employ the algorithm may wish to evaluate its validity by comparing referral decisions generated by the algorithm with the results of careful, complete medical evaluations of the same patients. This comparison will allow an estimate of the algorithm's 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]

Figure 1


NODE A
1. serum T4 < 4.5 mcg/dL or free T4 < 1ng/dL
2. hematocrit < 39% (m) or < 35% (f)
3. hematocrit > 56% (m) or >52% (f)
4. white blood count < 4100/cu mm
5. serum aspartate aminotransferase (SGOT)
6. serum albumin < 2.0 gm/dL
7. serum calcium > 12.0 mg/dL
8. glycosuria (by dipstick)
YES (to any)
disease likely
L.R. = 6.4
disease less likely
L.R. = 0.82
NO (to all)
NODE B
1. History of epilepsy
2. History of emphysema
3. History of blood or pus in the urine
4. Hematuria (by dipstick) in male
aged over 50 years
YES (to any)
disease likely
L.R. = 5.7
NO (to all)
disease less likely
L.R. = 0.58
NODE C
1. History of diabetes
2. serum T4 > 12.5 mcg/dL or free T4 > 4.4 ng/dL
3. proteinuria (by dipstick)
4. serum asparate amino transferase (SGOT) > 60 IU/L
or serum alanine aminotransferase (SGOT) > 75 IU/L
YES (to any)
disease likely
L.R. = 2.75
NO (to all)
disease less likely
L.R. = 0.58

16A

FIGURE 1 {CONT.}



16B

How to Screen: Arranging for Follow-up Medical Care

Patients with mental disorders often fail to seek recommended medical care, whether because of inertia related to depression, paranoia related psychotic disorders, or denial or unrealistic fears related to anxiety disorders. Steps should be taken to make it as easy as possible for patients to see the referral physician. These steps include:

1. explaining the reason for the referral,
2. asking the patient about any concerns he or she has about the referral,
3. helping the patient, as necessary, to complete the Statement of Facts for Medi-Cal and the related Rights and Responsibilities Form,
4. helping the patient, as necessary, to make the appointment,
5. giving the patient written confirmation of the telephone number and address of the physician to whom he or she is being referred (if this is not the patient's regular physician),
6. providing the patient with information about the cost of further evaluation,
7. helping the patient arrange transportation, and,
8. establishing a panel of physicians who are willing to carry out these evaluations for mentally disordered patients.

The mental health facility staff, rather than the screening program staff, should bear this responsibility, since the facility staff will have on-going contact with the patient and can help resolve any referral-related problems.

Mental health facility staff should check with the patient to be sure that the consultation has been completed and should arrange to receive results of the consultation. The staff need these results because newly diagnosed illnesses or newly prescribed medications may influence the mental health treatment plan, (e.g., illnesses and non-psychiatric medications can interact with the patient's psychotropic medications).

In view of the constraints affecting public funding of health and mental health care, county programs should strive to exchange services. If the county operates a medical clinic, the mental health program director should negotiate an arrangement for patients enrolled in the mental health program to receive medical evaluations and continuing care at the medical clinic. In exchange, the mental health program can offer mental health consultations for patients under care at the medical clinic. The health and mental health departments could even agree to share clinical staff or arrange other linkages.

Written agreements describing linkages should detail joint authorities, responsibilities and benefits.[37] The agreements should address who pays which costs, who collects and retains fees, whose personnel policies determine staff roles and financial arrangements, and who collects, stores and reports which information. Smooth relationships between county health and mental health programs are particularly important for patients who receive medical care under county auspices (medically indigent adults) and for those funded by Medi-Cal.

The screening program will generate a steady stream of patients needing medical evaluation. In counties without county-operated health programs, the mental health program director should negotiate an agreement with a panel of primary care physicians to

evaluate a limited number of Medi-Cal or indigent patients each month. Setting a limit can prevent the primary care physicians from feeling overwhelmed by the potential for a large volume of low-fee or indigent patients.

Does the county mental health department, in mounting a screening program, become legally liable when a patient is unable to obtain recommended follow-up care? The answer is unclear, but is probably, "No."[5] Mounting a physical disease screening program in settings other than emergency rooms and inpatient facilities is beyond the standard of community mental health care, so that failure of such a screening program to ensure perfect results would not be evidence of negligence. The county's responsibility probably ends with informing legally competent patients and the conservators of incompetent patients who are not receiving emergency or inpatient care that they should seek further evaluation. County counsel's advice should be sought, however, on this point. In emergency room and inpatient settings, inadequate medical evaluation can result in findings of liability. [5]

Recording Screening Results: The Standard Medical History Form

The SB 929 Medical Evaluation Study found that medical histories recorded in patients' clinical records, even in inpatient settings where physicians were employed, were often inadequate, exceedingly brief, and omitted much important information. Therefore, The Study team recommended that this manual include a Standard Medical History Form to be used in facilities where medical evaluation already takes place (inpatient units, psychiatric health facilities, state mental hospitals and skilled nursing facilities).

Recommendations Regarding the Standard Medical History Form

1. Adopt the SB 929 Medical History Form. County mental health departments should adopt as their Standard Medical History Form, the form developed for the SB 929 Study (Appendix A), with modifications needed for recording administrative data, demographic data, and the history of any current physical illness. The caregiver should fill out this form, suitably modified to meet local needs, when a patient is admitted to an inpatient unit, psychiatric health facility, or county-funded skilled nursing facility. The State Department of Mental Health should substitute the Standard Medical History Form for forms MF 5705 (11/82) and MH 5705A (686), now used in the state mental hospitals.

2. Carry out periodic audits. The medical records departments in these facilities should carry out periodic audits of the Standard Medical History Forms to measure the percentage of patients for whom a form has been used and the percentage of questions answered on the forms. The facility's quality assurance committees should audit the frequency with which identified problems have been followed up appropriately.

3. Arrange for a physician to review each patient's medical history. During the review of each patient's Initial Treatment Plan, a physician should review the Standard Medical History Form as part of the quality assurance plan required by Medi-Cal.

4. Send a copy of the patient's medical findings with any patient who is transferred. A copy of the Standard Medical History Form, Physical Examination Record and all recent laboratory test results should accompany each patient who is transferred from one mental health program to another. This practice will prevent duplication of effort, raise the quality of care and decrease the costs of care. Mental health programs should also send these records when referring a patient for evaluation of suspected physical disease.

Recommendations Regarding the SB 929 Medical History Checklist

If the screening program uses just the algorithm developed by the SB 929 Medical Evaluation Study, then it needs to collect only ten items of medical history. A Medical History Checklist incorporating these ten items appears in Appendix A. If the patient responds "yes" to <u>any</u> of these items, he or she should be referred for further medical evaluation. The patient can complete the Checklist or the screening program's staff can administer it as a brief questionnaire.

To assist county mental health programs in adapting the SB929 Standard Medical History Form and Physical Examination Record, several other model medical forms are

included in Appendix A. These include the forms used in the Veterans Administration clinics and hospitals, the Northern California Permanente Medical Group, Inc., and several commercially available forms.

Recording Screening Results: The Essential Medical Information Form

Too often, a patient's medical problems, uncovered in earlier treatment episodes, lie buried in unexamined parts of the patient's clinical record. In order to increase staff awareness of patients' medical problems, the county mental health department should develop an Essential Medical Information Form. The Form should include information about any past medical problems. These include problems that might cause or exacerbate the patient's mental disorder, require on-going treatment or interact with psychotropic drug treatments. Placing the Form directly behind the clinical record's Face Sheet at the mental health facility would bring the information to staff attention. The Form should be brightly colored for easy recognition and printed on heavy stock (e.g., 65 pound cover stock) for durability.

The Essential Medical Information Form should include:

1. identifying data.
2. active physical diseases and problems as confirmed by a physician.
3. currently suspected physical diseases and problems that have not been confirmed by a physician.
4. prescribed drugs currently taken, including drug name, unit dose, total daily dose and date this information was noted.
5. current alcohol, illicit drug, tobacco and caffeine use.
6. past history of alcohol or other substance abuse or dependence with approximate date of last episode.
7. current regular use of any over-the-counter medications, sleeping remedies, cold preparations, or pain relievers.
8. past history of physical diseases, injuries, and operations.
9. the name, address and telephone number of the health care provider(s) caring for the patient, if any. If none, record "None.'
10. the name and address of health care providers, including hospitals, that have a written record of the patient's past medical care.
11. the name of the person who entered the data on the Essential Medical Information Form and the date of entry. Space should be provided for adding new information about the patient's active physical diseases, suspected physical diseases, prescribed drugs, alcohol and other substance use, and regular use of over-the-counter medications, since these can change rapidly.

California Department of Mental Health Letter 80-12 (June 30, 1980) states that a non-physician can record a history of physical disease or a suspected medical diagnosis in a patient's clinical record.

Recording Screening Results: The Physical Examination Record

The SB 929 Study found many examples of incompletely recorded physical examinations recorded in patients' clinical records in 24-hour hospitals and psychiatric health facilities. Furthermore, the record often did not contain important signs of physical disease that the SB 929 Study clinical team found in the complete examinations. From 17% to 25% of patients in various 24-hour hospitals and psychiatric health facilities had incomplete physical examinations recorded in their charts. [32] (The absence of a genital or rectal examination did not result in the physical examination being classified as "incomplete".)

A neurologic examination was not recorded in 45% of hospitalized patients. This omission is of particular concern because of the high frequency with which neurologic disorders induce psychiatric signs and symptoms. Fully 80% of the 529 patients examined in the SB 929 study had neurologic abnormalities (many induced by psychotropic medications). Eleven patients (2.2%) had important neurological diseases newly detected by the SB 929 Study team, including three cases of epilepsy.[30]

The physical examination often contributes findings that lead to a change in a psychiatric patient's diagnosis or treatment. Koranyi found that 12% of psychiatric outpatients had an unrevealing medical history, but manifested physical examination findings that changed their psychiatric diagnosis or treatment.[33] Chandler and Gerndt, in a study of 224 consecutive admissions to the University of Iowa Psychiatric Hospital, found that the physical examination contributed to a change in psychiatric diagnosis or treatment in 14 patients (6%).[7] Fitzgerald, in a review of published studies, describes the clinical situations and body systems in which the physical examination is likely to be highly accurate and those in which modern technology has provided a superior means of gathering evidence of abnormality.[14] For example, careful physical examination is accurate in detecting anemia and valvular heart disease, but is inferior to technical studies in detecting obstructive lung disease and abnormal aortic aneurysms. Physical examination reveals which patients should receive computed tomography scans after head trauma or after alcohol withdrawal seizures, and, together with a medical history, physical examination appears to be the best method for evaluating syncope.

Appendix A contains several forms for recording the results of a complete physical examination. Using these forms as models, the county mental health department should design a standard form and mandate its use. The SB 929 Physical Examination Record provides a good model: It lists in check off form many signs of physical diseases that can cause or exacerbate mental symptoms; it includes a very detailed list of neurological findings; it is suitable for use by a nurse practitioner or physician assistant; it allows easy entry of coded findings into a computer data base.

The Veterans Administration physical examination form (VA Form 10-7978e, revised April, 1989) has less explicit description of physical findings than the SB 929 Form. It is more suitable for use by a physician who would record abnormalities briefly in the space provided for each organ or system. The neurological portion of this form should be expanded to include neurological abnormalities that are likely to be encountered in psychiatric patients. The neurological portion of the SB 929 Physical Examination Record can serve as a model.

The forms used to record physical examinations at Napa State Hospital (MH 5731, revised 6/86) and at Agnew's Development Center (DS 5630, revised 12/84) are included for reference purposes. The Napa State Hospital Form, like the SB 929 Physical Examination Record, lists abnormal signs that can be circled to record their presence.

Facilitating Program Staff Acceptance of Screening

Introducing change in an organization is an art. People resist change because it demands attention and energy and because the advantages of new procedures are not always apparent to those who are asked to change their routines. Mental health facility staff may resist the introduction of a medical screening program because it creates additional work, interferes with mental health program activities or represents the threat of uncovering errors in diagnosis (having failed to detect physical diseases masquerading as mental disorders). Program leaders can take several steps to minimize staff resistance.

First, motivate the staff by teaching them about the prevalence of physical disease in patients with mental disorders. The data presented in Appendix B of this Manual may be a helpful starting place. No one wants to perpetuate bad care and these data should motivate the staff. The data can be displayed in poster form, distributed in a memo, and discussed at staff meetings. Non-medical staff need to become aware that physical diseases often cause or exacerbate mental disorders.

Second, state explicitly the mental health program's obligations. Help the staff understand that helping patients, especially chronically mentally ill patients, with their basic health needs is as much a part of community-based mental health care as is helping them with social supports, protection, housing and transportation.

Third, involve the staff in planning. Let them decide how to integrate the screening program into the activities of the mental health program.

Fourth, allay fears. Assure the staff that the discovery of unsuspected physical disease by the screening program will not result in negative staff evaluations.

Fifth, create incentives. Devise a system for rewarding staff members for recognizing physical disease and for taking the presence of physical disease into account in mental health treatment plans.

Sixth, provide feedback about successes. Inform the staff when treatment of a physical disorder leads to improvement in a patient's mental condition. A monthly review of successful medical interventions could help maintain staff support for the screening program.

Seventh, set goals. In an inpatient setting, for example, the goal might be: all patients will receive a complete medical evaluation within 24 hours of admission. In an outpatient clinic, the goal might be: all patients will be evaluated by means of the SB 929 screening algorithm at the time of their second clinic visit. The facility should audit the degree of goal attainment quarterly and review these audits with the county mental health department.

Finally, announce leadership support of the program. Inform the staff that the leadership, both at the facility level and at the level of the county mental health department, support the screening program. Support can take the form of statements mandating a policy of screening patients.

The administrative lines of authority for screening staff must be clear in order to minimize conflict with the staff who are engaged in delivering mental health services. If the screening staff are based full time at a given facility, they should be accountable administratively through the facility's chain of command. If, however, the screening staff visit many sites, they should report administratively to a centrally located administrator of the screening program. To prevent inter-staff conflict, this administrator, who reports to the county mental health director, must negotiate written agreements with the administrators of each screening site.

Who Should Screen: Qualifications for Clinical Staff

The screening program involves both clinical and clerical tasks. In some settings, the screening program's activities can be carried out by existing staff. Their job descriptions should be revised to reflect their screening responsibilities.

Qualifications for Clinical Staff

Anyone can learn to obtain the data required for the screening algorithm described in this manual: the patient's blood pressure, the results of laboratory tests, and ten items of medical history. Nurses or physician's assistants can gather these data, since they are competent to draw and prepare blood for testing. Non-medical staff can be trained to measure blood pressure and to perform a venipuncture, or the patient can be sent to a local laboratory for blood tests. In measuring blood pressure, the staff should attend to those factors that can influence the measurement, including cuff size, arm position, and pressure of the head of the stethoscope on the artery.[14]

If the county wishes to mount an outpatient screening program that includes a complete physical examination, it can employ nurse practitioners or physician's assistants, with an internist providing supervisory consultation.[46]

Screening by Using the SB 929 Screening Algorithm

When the screening program is limited to the SB 929 screening algorithm, the nurse's or physician's assistant's job description should include the following responsibilities:

1. Obtains the patient's signature on a release of information form so that the screening program can release data to health care providers or request data from them.
2. Asks the patient to complete the Medical History checklist and helps the patient if necessary,
3. Obtains the patient's sitting blood pressure.
4. Completes test ordering and billing information on the laboratory test order form, identifying the laboratory tests to be billed to a third party because they are clinically indicated (See pp. 41-42).
5. Draws and prepares a blood sample for screening tests and sends it to a laboratory.
6. Obtains a urine sample, does a dipstick urinalysis, and records the results.
7. Notifies the clerical staff when to order laboratory and other supplies.
8. For patients referred for complete evaluation based on the results of the screening examination, writes a letter to the referral physician indicating the reasons for the referral and sends the results of the screening examination.
9. Maintains a log of patients screened and tests ordered.

Screening by Means of a Complete History, Physical Examination and Diagnostic Test Panel

When the screening program includes a complete examination, the nurse practitioner or physician's assistant should be trained to a high degree of competence in the following skills:

1. Recognizing psychiatric signs and symptoms
2. Eliciting mental status findings that suggest impaired brain function (the Mini-Mental State Examination[15] is an appropriate, structured screening examination.)
3. Performing a complete, accurate, and reliable physical examination. (Depending on the patient's mental state, this examination may omit the genital and rectal examinations.)
4. Performing a neurological examination to detect signs of central nervous system disorder.
5. Maintaining accurate records of examination results.

Whether screening is based on complete examinations or on the SB 929 screening algorithm, the job description of the nurse practitioner or physician's assistant should also include:

1. Reviews the patient's clinical record at the mental health facility, documenting any known physical complaints, disorders, or diseases and all medications taken by the patient.
2. Discusses each patient with the consulting internist, and points out the patient's symptoms, physical findings, mental status findings, and psychiatric diagnosis.

Mounting a Mobile Medical Screening Program

In certain circumstances, the county mental health department may wish to create a mobile screening program. A mobile medical evaluation team staffed by physician's assistants or nurse practitioners can mitigate problems that discourage screening. These problems include lack of space, physicians' lack of interest in medical screening, and too few new patient visits to justify hiring screening personnel for each program. The mobile screening team can use as its examination space a motor home converted into a medical screening facility[29] (Appendix B).

In addition to a motor home's usual features, a mobile medical van requires a copying machine, a computer and printer for word processing and record storage files. A motor home is easily converted into a mobile medical van by converting the bedroom into an examining office and the dining area into clerical space.

If the screening program uses a mobile medical van whose staff includes a medical clerk[29] (Appendix B), the nurse practitioner or physician's assistant's job description should also include:

1. Shares responsibility with the medical clerk for doing all maintenance chores for the mobile van (including interior and exterior structure, equipment and supplies).

2. Shares responsibility with the medical clerk for driving the mobile van to and from the mental health facilities.

3. Maintains good relationships with the staff at all mental health screening sites.

3. Coordinates the medical screening program with the mental health facility's mental health programs.

Who Should Screen: Qualifications for Clerical Staff

The job description of the medical clerk who is responsible for the clerical aspects of the screening program should include:

1. Assists in obtaining the patient's signature on a Release of Information form.
2. Prepares a packet of data collection forms for each patient, places the packet in a binder and gives the binder to the clinical staff.
3. Ensures that all patient data forms are in the patient's clinical record.
4. Obtains screening laboratory results from the local or central contract laboratory and notifies the clinical staff.
5. Submits laboratory test billings to third party payers.
6. Reorders laboratory supplies from the contract laboratory well in advance of need.
7. Prepares and types letters from the clinical staff to referral physicians and to patients' private physicians.
8. Maintains a filing system for the screening program's records.

If the screening program uses a mobile medical van[29] (Appendix B), the job description of the medical clerk should include in addition:

1. Shares responsibility with the nurse practitioner or physician's assistant for doing all maintenance chores for the mobile van (including interior and exterior structure, equipment and supplies).
2. Shares responsibility with the nurse practitioner or physician's assistant for driving the mobile van to and from the mental health facilities.
3. Notifies the contract laboratory regarding times and places for pick-up of laboratory specimens or arranges for shipment of specimens to the laboratory.
4. Maintains good relationships with the staff at all screening sites.
5. Coordinates the medical screening program with the mental health program at the mental health facilities to be visited, including scheduling the times of the van's visits to the mental health facilities.
6. Writes thank you letters to mental health facilities, etc., who have been particularly helpful in coordinating the screening program with the mental health program.
7. If the medical clerk is a woman, she should act as a chaperone when a male physician's assistant or nurse practitioner carries out the physical examination of a female patient.

Who Should Screen: Qualifications of a Medical Consultant

The medical consultant reviews the results of laboratory tests and other medical data to help decide whether or not to refer patients for a complete evaluation of suspected physical disease. The consultant will help the staff differentiate between abnormal laboratory results that are probably false positive results and those that deserve further investigation. Usually this consultation can be carried out by telephone.

If the screening program includes a complete physical examination by a physician's assistant or a nurse practitioner, the consultant should check the clinical staff's physical findings periodically in order to evaluate their skills and help them remain competent.

When a screening program is initiated in a facility that has psychiatric staff, a psychiatrist may feel competent to serve as the medical consultant. However, referral decisions can be difficult, and the psychiatrist may prefer that an internist or family physician make these decisions. In this case, and in facilities that do not employ psychiatrists, the facility should develop a contractual arrangement with a consulting physician.

The reviewing physician should decide which of the screening laboratory tests (included in the SB 929 algorithm or ordered as part of a complete examination) are clinically indicated by the patient's medical history or physical findings (as recorded on the Standard Medical History Form, Standard Physical Examination Record, or Medical History Checklist). All clinically indicated laboratory tests are billable to the patient's third party payer. Submitting these bills and tracking collection will reduce the county's cost for the screening program. The screening program's nurse practitioner or physician's assistant should convey to the medical clerk which tests are billable. The medical clerk submits the bills to third party payers. When the screening program utilizes a contract laboratory, the laboratory can bill third party payers for the clinically indicated tests.

The psychiatrist or medical consultant must be interested in working with nurse practitioners and physician's assistants comfortable with psychiatric patients, and knowledgeable about the relationships between physical diseases and psychiatric symptoms.[18,26,34]

Costs of Screening: Fiscal Aspects of a Screening Program

In settings in which medical evaluation is already in place, improving the quality of these evaluations by the methods suggested in this manual need not increase evaluation costs. In fact, a more thorough approach to medical evaluation will be more cost-effective as measured by the cost-per-case-detected[48] (Appendix B).

New screening programs will incur additional costs for staff, supplies and perhaps the funding source. In order to obtain incremental funding, county medical health departments and the State Department of Mental Health may have to convince the Legislature of the value of screening for physical disease. This manual and the previous reports from the SB 929 Study[30,31] can help in these efforts. Citizens' groups, such as the California Alliance for the Mentally Ill, and professional organizations, such as the California Medical Association and the California Psychiatric Association, can also be persuasive.

The costs of a screening program to the state and to the counties can be reduced in several ways, at least in 1991. First, in mental health programs other than 24-hour hospitals and the state hospitals, clinically indicated laboratory tests can be billed to the patient's third party payer (see pp. 41-42). For Medi-Cal, Medicare and private insurance patients, billing for clinically indicated tests will bring the county mental health program considerable cost savings. Only for uninsured patients will the mental health program need to use state or local mental health funds to pay for all laboratory test costs.

Second, the costs of screening can be reduced by billing third party payers for the further medical evaluations of patients referred through application of the medical screening algorithm. These costs are billable to third party payers regardless of whether or not new physical disease is uncovered.

Third, because the screening program will order a large volume of a standardized panel of laboratory tests, the county mental health department should be able to negotiate a volume discount in the price charged by outside laboratories for this test panel.

Finally, the SB 929 Study found that screening patients for physical disease did not appear to increase the state's combined costs for medical and mental health care in the year after screening compared to the year before screening.[31]

Costs of Screening: Contracting with a Laboratory Service

The screening program will need a formal arrangement with a clinical laboratory to do blood and urine tests. The formal, written agreement should spell out:

1. Which laboratory tests that will be done routinely.
2. Whether the laboratory will provide courier service for blood samples. If the laboratory does provide courier service, the frequency of sample pick-up should be specified (e.g. daily or "will call").
3. The elapsed time between submitting a blood sample and the receiving a report from the laboratory. The turn around time for routine laboratory tests should not exceed 24 hours.
4. How the laboratory will be paid (e.g. by purchase order, with or without a funding cap).
5. The starting and ending dates of the arrangement.
6. Who will bill third parties for billable laboratory tests.
7. Whom to contact for answers to clinical or administrative questions.
8. How to access test results 24 hours a day, 365 days a year.

The SB 929 Study used a national firm that picked up blood samples at the study's screening sites daily, provided all materials needed to draw, collect and prepare samples (including a centrifuge), provided reports within 24 hours of picking up the samples, and billed third parties. The firm could install teleprinters at each study site to report test results. The firm gave the study team a reduced rate for the study's panel of laboratory tests because a standard panel was to be ordered in large volume. County mental health screening programs would order a standard panel in even larger volumes than did the SB 929 Study and should negotiate favorable prices for tests that cannot be billed to third party payers.

County mental health programs that wish to discuss contracting with a large, multi-site laboratory firm that can offer the services described above may contact:

Met West
Attn: Mr. Michael Hughes or Mr. James Pitton
18408 Oxnard Street
Tarzana, CA 91355
Telephone: 812/996-7300 or l-800/339-4299.
This firm worked with the SB 929 Study team.

SmithKline Beecham Clinical Laboratories
Attn: Mr. C. Mitch Morrow (for Northern California)
6511 Golden Gate Drive
Dublin, CA 94558
Telephone: 415/828-2500 or 1-800/228-3008

Attn: Ms. Anna Hutchison (for Southern California)
15243 Vanowen Street
Van Nuys, CA 91405
Telephone: 818/786-3180

Roche Biomedical Laboratories
Attn: Mr. Louis Tzoumbas
383 E. Grand, Suite B
South San Francisco, CA 94080
Telephone: 415/871-4720
This firm has contracts with San Mateo, San Francisco, Alameda
And Contra Costa Counties

Sample test ordering forms produced by these firms are included in Appendix A.

Clues Suggesting that Mental Symptoms have an Organic Cause

A number of findings should make the clinician suspect that an underlying physical disease is causing the signs and symptoms of the patient's "mental" disorder. These clues include[24] (Appendix B):

1. The mental disorder is a first episode.

2. The mental symptoms occur in a patient who is:

    a. age 40 or more

    b. currently ill with a major medical illness

    c. taking prescribed or over-the-counter medications that can cause mental symptoms

    d. experiencing neurological symptoms such as unilateral weakness, numbness, paresthesias, clumsiness, gait problems, headaches of increasing severity, vertigo, visual symptoms, speech or memory difficulties, loss of consciousness, or emotional liability.

    e. experiencing weight loss (10% or more of base line weight), unusual diet (e.g., complete vegetarianism) or self-neglect that could cause vitamin-B deficiencies.

    f. not experiencing serious life stress.

3. The patient has a <u>past history</u> of:

    a. a physical illness that can impair organ function (neurologic, endocrine, renal, hepatic, cardiac, or pulmonary)

    b. recent falls or head trauma with unconsciousness

    c. alcohol or drug abuse

    d. taking several over-the-counter drugs.

4. The patient has a <u>family history</u> of:

    a. inheritable metabolic disease (diabetes, porphyria)

    b. degenerative or inheritable brain disease.

5. Certain <u>mental signs</u> are present:

    a. altered level of consciousness

b. fluctuating mental status

c. any cognitive impairment

d. visual, tactile or olfactory hallucinations

e. episodic, recurrent, or cyclical symptoms interspersed with periods of being well.

6. Certain physical signs are present:

a. signs of major organ impairment, e.g. ascites, edema

b. any focal neurologic deficit

c. diffuse subcortical dysfunction, e.g. slowed speech, mentation or movement, dysarthria, ataxia, incoordination, tremor, chorea, asterixis

d. cortical dysfunction, e.g. dysphasia, apraxia, agnosia, visiospatial deficits, defective cortical sensation.

7. Response to appropriate psychiatric treatment is poor. (Rethink the diagnosis, re-examine the patient, and consider seeking the advice of a consultant).

REFERENCES

1. Barnes RF, Mason JC, Greer C, Ray FT: Medical Illness in Chronic Psychiatric Outpatients, Gen. Hosp. Psychiatry, 1983, 5:191-195

2. Beresford TP, Hall RCW, Wilson, FC, Blow F: Clinical Laboratory Data in Psychiatric Outpatients, Psychosomatics 1985, 25:731-744

3. Brugha TS, Wing JK, Smith BL: Physical Health of the Long Term Mentally Ill in the Community: Is there Unmet Need? Br J Psychiatry 1989, 155: 777-781

4. Burke AW: Physical Disorder Among Day Hospital Patients, Br J Psychiatry 1978, 133: 22-27

5. Busch KA, Cavanaugh JL: Physical Examination of Psychiatric Outpatients: Medical and Legal Issues, Hosp Commun Psychiatry 1985, 36: 958-961

6. Carlson RJ, Nayar N, Suh M: Physical Disorders Among Emergency Psychiatric Patients, Can J Psychiatry 1981, 26: 65-67

7. Chandler JD, Gerndt JE: The Role of the Medical Evaluation in Psychiatric Inpatients, Psvchosomatics 1988, 29: 410-416

8. Colgan J, Philpot M: The Routine Use of Investigations in Elderly Psychiatric Patients, Age, Aging 1985, 14: 163-167

9. Eastwood MR, Mindham RHS, Tennent TG: The Physical Status of Psychiatric Emergencies, Br J Psychiatry 1970, 116: 545-550

10. Eilenberg, MD, Whatmore MB: Physical Disease and Psychiatric Emergencies, Comp Psychiatry 1961, 2: 358-363

11. Farmer S: Medical Problems of Chronic Patients in a Community Support Program, Hosp Commun Psychiatry 1987, 38: 745-749

12. Faulkner LR, Bloom JD, Bray JD, Maricle R: Medical Services in Community Mental Health Programs, Hosp Commun Psychiatry 1986, 37: 1045 -1047

13. Ferguson B, Dudleston K: Detection of Physical Disorder in Newly Admitted Psychiatric Patients, Acta Psychiatry Scand 1986, 74: 485-489

14. Fitzgerald FT: Physical Diagnosis Versus Modern Technology: A Review, West J Med 1990, 152: 377-382

15. Folstein MF, Folstein SE, McHugh PR: "Mini-Mental State, 'A Practical Method for Grading the Cognitive State of Patients for the Clinician, J Psychiatric Res 1975, 12:189-198

16. Forsyther RJ, Ilk CR, Bard J, Wolford JA: Primary Medical Care in Psychiatry, Current Psychiatric Therapies, 1977, 17: 91-97

17. Gjesdal K, Stromme JH: Multiphasic Screening Programme for Somatic Diseases Among Elderly Long-Term Psychiatric Patients, Br J Psychiatry 1974, 124: 564-572

18. Hales RE, Yudofsky SC: The American Psychiatric Press Textbook of Neuropsychiatry, American Psychiatric Press, Inc., Washington, DC, 1987

19. Hall RCW, Gardner ER, Stickney SK, Le Cann AF, Popkin MK: Physical Illness Manifesting as Psychiatric Disease, Arch Gen Psychiatry, 1980, 37: 989-995

20. Hall RCW, Gardner ER, Popkin MK, Le Cann AF, Stickney SK: Unrecognized Physical Illness Prompting Psychiatric Admission: A Prospective Study, Am J Psychiatry

21. Hall RCW, Popkin MK, Devaul RA, Faillace LA, Stickney SK: Physical Illness Presenting
As Psychiatric Disease, Arch Gen Psychiatry, 1978, 35: 1315-1320

22. Handel M: Deferred Pelvic Examination: A Purposeful Omission in the Care of Mentally Ill
Women, Hosp Commun Psychiatry, 1985, 36: 1070-1074

23. Herridge CF: Physical Disorders in Psychiatric Illness, Lancet, 1960, 2: 949-951

24. Hoffman RS and Koran LM: Detecting physical illness in patients with mental disorders, Psychosomatics, 1984, 25: 654-660

25. Honig A, Pop P, Tan ES, Philipsen H, Romme MAJ: Physical Illness in Chronic Psychiatric Patients from a Community Psychiatric Unit: The Implications for Daily Practice, Br J Psychiatry 1989, 155: 58-64

26. Jefferson JW< Marshall JR: Neuropsychiatric Features of Medical Disorders, Plenum, New York, 1981

27. Johnson DAW: The Evaluation of Routine Physical Examination in Psychiatric Cases, Practitioner, 1968, 200: 686-691

28. Kolman PBR: The Value of Laboratory Investigations of Elderly Psychiatric Patients, J Clin Psychiatry 1984, 45: 112-116

29. Koran LM, Sox HC, Marton KI, Moltzen S: Mobile Medical Screening Teams for Public Programs, Hosp Community Psychiatry

30. Koran LM, Sax MC, Marton KI: A Medical Evaluation Study of Mental Health Service Clients: State Contract #82-73009 A-l, Final Report, Sacramento, 1984

31. Koran LM: The Cost Effect of Screening for Physical Disease in California's Public Mental Health Care System: A Report from the California Medical Evaluation Study to the Legislature in Response to Chapter 208, statutes of 1982, Contract # 85-76249 A-1, Sacramento, California, 1987

32. Koran £21, Sex MC, Marton KI, Moltzen S. Sex CM, Kraemer MC, Imai K, Kelsey, TG, Rose TG, Levin LC, Chandra 5: Medical Evaluation of Psychiatric Patients: I. Results in a State Mental Health System, Arch Gen Psychiatry 1989, 45:733-740

33. Koranyi DC; Morbidity and Rate of Undiagnosed Physical Illnesses in a Psychiatric Clinic Population, Arch Gen Psychiatry 1979, 36: 414-419

34. Lishman WA: Organic Psychiatry: The Psychological Consequences of Cerebral Disorder,
Second Edition, Blackwell, Oxford, England,1987

35. Maguire GP and Granville-Crossman KL: Physical Illness in Psychiatric Patients, Br J Psychiatry 1968,114: 1365 -1369

36. Maricle RA, Hoffman WF, Bloom SD, Faulkner LR, Keepers CA: The Prevalence and Significance of Medical Illness Among Chronically Mentally Ill Outpatients, Commun Ment Health J 1987, 23: 81-90

37. Marks E and Broskowski A: Community Mental Health and Organized Health Care Linkages, in Broskowski A, Marks E, and Budman SM (eds.): Linking Health and Mental Health, Sage Annual Reviews of Community Mental Health, Vol. 2, Sage Publications, Beverly Hills, CA, 1981

38. Marshall HES: Incidence of Physical Disorders Among Psychiatric In-Patients, Br Med J, 1949, 2: 468-470

39. Muecke LN and Krueger DW: Physical Findings in a Psychiatric Outpatient Clinic, Am J Psychiatry, 1981, 128:1241 -1242

40. Murphy JM, Berwick DM, Weinstein MC, Borus 37, Budman SH, Klerman JL: Performance of Screening and Diagnostic Tests, Arch Gen Psychiatry 1987, 44: 550-555

41. Roca R, Breakey WR, Fischer PJ: Medical Care of Chronic Psychiatric Outpatients, Hosp Commun Psychiatry 1987, 38: 741-745

42. Rogan WJ, Gladen B: Estimating Prevalence from the Results of a Screening Test, Am J Epidemiol 1978, 107: 71-76

43. Shatin L. Kymissis P, Brown W: Clinical Laboratory Abnormalities and Their Follow-up in a Mental Hygiene Clinic, Br J Psychiatry 1978, 133: 150-155

44. Sheline &: High Prevalence of Physical Illness in a Geriatric Psychiatric Inpatient Population, Gen Hosp Psychiatry 1990, 12: 396-400

45. Snaith RP and Jacobson S: The Observation Ward and the Psychiatric Emergency, Br J Psychiatry 1979, 135: 67-72

46. Sox HC: Quality of Patient Care by Nurse Practitioners and Physician's Assistants: a Ten Year Perspective, Ann Int Med 1979, 91: 459-468

47. Sox HC: Probability Theory in the Use of Diagnostic Tests: An Introduction to Critical Study of the Literature, Ann Int Med 1986, 104: 60-66

48. Sox HC, Koran LM, Sox CH, Marton KI, Dugger F, Smith T: A Medical Algorithm for Detecting Physical Disease in Psychiatric Patients, Hosp Commun Psychiatry 1989, 40: 1270-1276

49. Thomas CJ: The Use of Screening Investigations in Psychiatry, Br J Psychiatry 1979, 115: 67-72

50. Wasson JH, Sox HC, Neff RK, et al: Clinical Prediction Rules: Applications and Methodologic Standards. NEJM 1985, 313: 793-799

51. White AJ, Barraclough B: Benefits and Problems of Routine Laboratory Investigations in Adult Psychiatric Admissions, Br J Psychiatry 1989, 155: 65-72

52. White AJ, Barraclough B: Thyroid Disease and Mental Illness: A Study of Thyroid Disease in Psychiatric Admissions, J Psychosom Res 1988, 32: 99-106

53. Wynne-Davies D: Physical Illness in Psychiatric Out-Patients, Br J Psychiatry 1965, 111: 27-
33

Standard Medical History Form

Patient Name_____ Date_____

Age_____ Date of Birth_____ Occupation_____

Home Address_____City_____

Telephone #_____ MR#_____

We are asking the questions below to find out if you have had any very bothersome physical problems in the last two months. Please circle the number for any symptom that has been very noticeable or worrisome to you. For each group of symptoms, please circle the number for "none of the above" if none of these symptoms has troubled you. Please do not circle any symptom number if the symptom has been minor or very mild.

HAVE YOU HAD ANY OF THESE SYMPTOMS IN THE PAST TWO MONTHS?

General symptoms:

1 - severe loss of appetite
2 - unusual hunger
3 - loss of more than ten pounds without trying
4 – excessive thirst
5 – fever over 100 degrees for more than a day
6 – night sweats
7 – difficulty tolerating hot or cold weather
8 – a change in the way you sleep
9 – none of the above

Problems with your head:

Have you had any of these in the past two months?

10 – severe dizziness lasting more than five minutes
11 – unusually severe or different headaches
12 – headaches that wake you from sleep
13 – headaches associated with vomiting
14 – none of the above

HAVE YOU HAD ANY OF THESE SYMPTOMS IN THE PAST TWO MONTHS?

Problems with your eyes:

15 – pain in your eyes
16 – a sudden need for new glasses
17 – seeing double
18 – loss of part of your vision

19 – seeing flashing lights or forms
20 – things becoming small
21 – none of the above

Problems with your nose:

22 – nose bleeds that start by themselves
23 – stuffiness in your nose almost every day
24 – unusual smells
25 – none of the above

Problems with your mouth:

26 – soreness in your mouth, lips, gums, or tongue
27 – bleeding gums
28 – strange tastes from familiar foods
29 – none of the above

Problems with your throat:

30 – a hoarse voice that did not get better
31 – trouble swallowing food
32 – none of the above

Problems with your ears:

33 – ringing in your ears
34 – a sudden change in your hearing
35 – trouble understanding or hearing people in crowded or noisy situations
36 – none of the above

Unusual lumps:

37 – swollen glands in your neck, under your arms
38 – lumps in your breasts
39 – discharge from your breasts (women); or, increase in breast size (men)
40 – none of the above

<u>HAVE YOU HAD ANY OF THESE SYMPTOMS IN THE PAST TWO MONTHS?</u>

Skin Problems:

41 – unusually itchy skin
42 – unusually easy bruising
43 – skin rashes
44 – rapid loss of hair
45 – unusual dryness of your skin
46 – hair that has become coarse and brittle
47 – hair that has become fine and silky
48 – skin burning easily with sun exposure

49 – a change in skin color or tanning
50 – none of the above

Problems in your chest:

51 – coughing that would not go away
52 – coughing up blood
53 – shortness of breath while walking or upon awakening at night
54 – pain in your chest when resting
55 – chest pain when you walk fast or uphill
56 – very fast or irregular heart beat (palpitations)
57 – a lightheaded feeling when you stand up
58 – cramps in your legs during walking
59 – swelling of your ankles or feet
60 – none of the above

Problems with digestions or bowels:

61 – persistent heartburn
62 – swelling in your abdomen
63 – abdominal pain for more than one day
64 – a change in your bowel movements (size, shape or frequency)
65 – vomiting for more than one day
66 – black or bloody stools
67 – getting full quickly while eating
68 – none of the above

Trouble with urination:

69 – decreased frequency or amount of urination
70 – difficulty stopping or starting urination
71 – blood or pus in your urine
72 – burning when you urinate
73 – getting up more than once
74 – loss of control of urine or stool
75 – pain or swelling in the testicles
76 – none of the above

<u>HAVE YOU HAD ANY OF THESE SYMPTOMS IN THE PAST TWO MONTHS?</u>

Problems with joints or back:

77 – hot, painful or swollen joints
78 – pain in your back that was so bad that you had to stay in bed
79 – none of the above

Exposure to toxic chemicals in the past two months:

80 – toxic chemicals/fumes at work
81 – toxic chemicals/fumes in your hobbies

82 – toxic chemicals/pesticides in your garden
83 – radioactive substances (exposure ever)
84 – none of the above

Problems with your nervous system:

85 – fainting spells
86 – a lot of trouble with thinking or speech for brief periods
87 – convulsions or fits
88 – weakness in your arms or legs
89 – a loss of coordination – bumping into things frequently
90 – numbness or tingling in your body
91 – shaking that you could not control
92 – difficulty with speaking
93 – a change in your handwriting
94 – repeated muscle cramps
95 – recent head injury
96 - none of the above

Habits:

97 – smoke cigarettes?	Yes	No	If yes, how many packs/day? _____
98 – Drink coffee?	Yes	No	If yes, how many cups/day? _____
99 – Drink alcohol?	Yes	No	If yes, how many oz./day? _____
100- Drink wine?	Yes	No	If yes, how many glasses/day?_____
101- Drink beer?	Yes	No	If yes, how many oz./day? _____

>>>>>>>>>>>Next Question For Women Only<<<<<<<<<<

Problems with menstruation:

102 – a sudden change in your menstrual periods (discomfort, regularity, or amount of flow)
103 – bleeding or spotting between your periods
104 – excessive bleeding with your periods
105 – none of the above

Past History

Have you had any of these illnesses? (Circle the number for any illness that you have had)

106 – Asthma
107 – Bladder Infection
108 – Cancer
109 – Diabetes
110 – Emphysema
` 111 – Fits/Convulsions/Epilepsy
112 – Gallstones
113 – Glaucoma
114 – Gout
115 – Heart Attack
116 – Hepatitis
117 – High Blood Pressure
118 – Jaundice
119 – Kidney Infection
120 – Kidney Stone
121 – Liver Disease
122 – Meningitis
123 – Pneumonia
124 – Rheumatic Fever
125 – Syphilis
126 – Thyroid disease
127 – Tuberculosis
128 – Ulcers
129 – Venereal Disease
130 – Others_____

List any diseases that have required hospital treatment: Year:

131 - _____

List any operations you have had: Year:

132 -_____

List any serious injuries you have had: Year:

133 -_____

List any serious allergies you have to foods or medicines: Year:

Drug or food Describe reaction

134 -_____

Medical History Checklist

Date_____

Patient Name:_____

Medical Record Number:_____

Interviewer Name:_____

Please Check “yes” or “no” for each of the following conditioned:

Have you ever had:	YES	NO
Fits, Convulsions or Epilepsy	_____	_____
Emphysema	_____	_____
Diabetes	_____	_____
Asthma	_____	_____
High Blood Pressure	_____	_____
Thyroid Disease	_____	_____

Please check “yes” is any of the following symptoms has been very noticeable or worrisome to you: Otherwise, check “no”.

In the past two months, have you noticed:	YES	NO
Blood or pus in your urine	_____	_____
Pain in your chest when resting	_____	_____

In the past two months, have your had:

Headaches associated with vomiting	_____	_____
Loss of control of urine or stools (bowels)	_____	_____

Physical Examination Record

Patient Name_____ Date_____
Medical Record #_____
Vital signs:
BP: (sit) _____mm Hg Pulse: _____/min. (____reg ___irreg) Temp:_____F

General Appearance:
_____normal
1 abnormal

Skin:
2 cyanosis
3 rash
4 jaundice
5 spider angioma
6 other abnormality:

Head:
_____normal
7 abnormal

Extraocular muscles:
_____normal
8 abnormal

Pupils:
_____normal
9 Argyl-Robertson Pupil
10 other abnormality:

Visual Fields:
_____normal
11 abnormal

Eyelids:
_____normal
12 lid lag
13 lid retraction
14 other abnormality:

Sclerae:
_____normal
15 icteric
16 other abnormality

Fundi:
_____normal

Mouth:
_____normal
10 abnormal

Neck:
21 thyroid enlarged
22 thyroid bruit
23 thyroid nodule
24 other neck abnormality

Lymph Nodes:
_____normal
25 enlarged
26 abnormal

Breasts:
_____normal
27 abnormal
28 not done

Thorax:
_____normal

29 increased AP diameter
30 decreased breath sounds
31 wheezes/prolonged expir.

32 rales >=1/3 up lung fields
33 other abnormalities

Heart:
_____normal
34 abnormal

Peripheral Pulses:
_____normal
35 abnormal

Abdomen:
_____normal
36 liver enlarged

17 abnormal

Ears:
_____normal
18 abnormal

Nose:
_____normal
19 abnormal

37 ascites

Extremities & Joints:
_____normal
39 tremor
40 clubbing
41 other abnormalities:

Spine:
_____normal
42 abnormal

Neurological Examination

Level of consciousness
_____normal
43 diminished
44 hypervigilant
45 inattentive
46 other abnormality
47 dysarthria
48 delayed answers

Speech
_____normal
49 word-finding difficulty
50 word substitutions
51 disrupted grammar
52 nonsense syllables
53 perseveration
54 loose associations
55 other abnormalities

Cranial Nerves
_____all cranial nerves normal
56 CN1 abnormal
57 CN2 abnormal
58 CN3 abnormal
59 CN4 abnormal
60 CN5 abnormal
61 CN6 abnormal
62 CN7 abnormal
63 CN8 abnormal
64 CN9, 10 abnormal
65 CN 12 abnormal

Sensory Examination
_____vibration sense normal
66 vibration sense decreased
_____position sense normal
67 position sense decreased
_____Romberg test normal
68 Romberg test positive

Motor System
_____gait normal
69 diminished arm swing
70 broad-based gait
71 spastic gait
72 bizarre gait
73 ataxic gait
74 steppage gait
75 other abnormalities

_____no movement disorder
76 akathisia
77 resting tremor
78 intention tremor
79 tic:
80 bradykinesia
81 asterixis
82 other abnormal involuntary movements

_____normal upper extremity muscle strength
83 symmetric distal weakness
84 asymmetric distal weakness
85 symmetric proximal weakness
86 asymmetric proximal weakness

_____normal lower extremity muscle strength
87 symmetric distal weakness
88 asymmetric distal weakness
89 symmetric proximal weakness
90 asymmetric proximal weakness

_____upper extremity deep tendon reflexes all 1-2+ and symmetric
91 hyperactive and symmetric
92 hyperactive and symmetric
93 bilaterally absent
94 unilaterally absent
95 abnormally slow relaxation phase

_____lower extremity deep tendon reflexes all 1-2+ and symmetric
96 hyperactive and symmetric
97 hyperactive and asymmetric
98 bilaterally absent
99 unilaterally absent
100 abnormally slow relaxation phase

_____no pathologic reflexes
101 symmetric Babinski response
102 asymmetric Babinski response
103 glabellar reflex

_____no cerebellar signs
104 finger-to-nose abnormal
105 abnormal RRAM
106 abnormal heel-to-shin