A detailed account is offered of plans, procedures, and design of analysis for a large study of the validity of determinations concerning the disability and rehabilitation potential of applicants for OASI benefits and to minimize the recurrence of errors that may exist.

A STUDY IN THE EVALUATION OF DISABILITY AND REHABILITATION POTENTIAL

CONCEPTS, METHODS, AND PROCEDURES

Saad Z. Nagi, Ph.D.

THE great developments in public and private programs of disability insurance, workmen's compensation, and rehabilitation of the disabled have forcefully emphasized the importance of valid and reliable evaluations of disability and potential for rehabilitation. In administering one such program, the Bureau of Old Age and Survivors Insurance (BOASI), under the disability provisions of the Social Security Act Amendments of 1954, is engaged in processing applications for disability benefits at the rate of about 300,000 annually. The collection and evaluation of evidence are carried out at three operational levels:[1]

Applications are submitted to local OASI district offices (there are several district offices within each state) along with a statement from the attending physician about the applicant's condition and limitations. The applicants themselves, or with the assistance of OASI district offices, are asked to secure additional medical information from hospitals and facilities where they have been recently treated. The OASI interviewer develops a narrative report of the social and vocational history and the daily activities of the applicant. These data are transmitted to the State Agency for evaluation and a determination of disability and rehabilitation potential.

As applicants' files are received in the State Agency, they are assigned to disability examiners who have medical consultation available to them. If a file appears to lack sufficient medical documentation, in some cases nonmedical, further details may be secured from the original sources of medical data or by purchase of examinations by medical specialists. When cases are sufficiently developed a determination is made as to whether or not the applicant is under disability in accordance with the standards and guides set forth by the BOASI. The decision reached represents the disability examiner and the medical consultant of the State Agency, and is referred to as the "initial determination." At this point the disability examiner makes a "gross initial screening" for rehabilitation purposes. Those screened as having potential are referred to agencies of vocational rehabilitation.

After completion of the disability de-

terminations applicants' files including the initial determinations are forwarded to the BOASI national offices in Baltimore where the State Agency's determinations are subject to formal review. Initial decisions to award benefits can be reversed by BOASI but not so with respect to denials. The BOASI issues the formal statements to applicants of the award or denial of benefits.

Although drawing considerably upon previously existing programs, methods of evaluation and operational procedures utilized by the BOASI have evolved in a unique way. With no similar precedent in purposes and scope, these methods and procedures have not been subjected to rigorous testing. The validity of determinations based on such methods and procedures is therefore not established. Concern over the estimation of possible inaccuracies in evaluations and decisions and the development of methods to minimize their occurrence has resulted in the conception and organization of this study. The research is being carried out in three states: Louisiana, at Tulane University Medical School; Minnesota, at Elizabeth Kenny Foundation; and Ohio, at Ohio State University Rehabilitation Center.

Research Objectives

The general objectives of this research can be outlined as follows:

1. To assess the validity of determinations regarding the disability and rehabilitation potential of applicants for OASI benefits.
2. To delineate the important sources of errors in these determinations.

The most direct method of testing the degree of validity of certain information is to compare it with other information of more established validity. Such a comparison should also lead to the identification of cases for whom, and conditions under which, errors are more frequent. In order to provide a standard for comparison it was necessary:

3. To provide for comprehensive live evaluations of disability and rehabilitation potential.
4. To develop means for minimizing the occurrence of errors, if any, found to exist under the current methods of evaluation.

Before turning to the discussion of methods of implementing these objectives, it will be well to examine the important dimensions of the concepts of disability and rehabilitation potential.

The Concept of Disability

The terms "impairment," "disability," and "handicap" have been used in the literature in many and varied ways.[2] The established conceptions and misconceptions about these terms make their usage often subject to semantic entanglements. Since all of these terms are actually used in reference to abilities and limitations, this discussion will be based directly upon the concepts "ability" and "inability." Every individual lives within an environment in which he is called upon to perform certain roles and tasks. The ability and inability of people can be meaningfully understood and estimated only in terms of the degree of their fulfillment of these roles and tasks. When an individual is described as being "unable" the description is incomplete till it answers the question, "unable to do what?" In this sense, ability-inability constitutes an assessment of the individual's level of functioning within an environment.

Two categories of inability can be delineated on the basis of the time of onset. First are congenital inabilities. These are inborn limitations that are the result of anatomical malformations, physiological abnormalities, mental deficiencies, and/or general constitutional inadequacies. To be sure, abilities of all humans are subject to limitations. Furthermore, people differ greatly in de-

gree of ability-inability without necessarily suffering from an active disorder or a residual impairment. It is difficult to establish a cutting point, on this continuum, that would clearly distinguish between the able and the unable. However, the more severe conditions are usually recognized.

Second are what will be called here, for the lack of better terms, consequent inabilities. These are inabilities that take place during the course of life and represent a decline in the functional level once attained by the individual. In other words, these inabilities occur as a result of change. Such inabilities can be of short or long duration. It should be pointed out that inabilities included in this study are primarily of this type. An individual who qualifies for benefits must have once attained a higher level of functioning, at least during the period of his contribution to social security insurance.

Viewing the individual within an environmental context, that is, a web of role and task relationships to other individuals as well as to objects, two types of change can be responsible for the precipitation of an inability. The first type is an *individual* change that occurs within the person. Such change can be of anatomical, physiological, mental, and/or psychological nature. It can also be in other characteristics, such as age, that are culturally important in regard to the performance of certain functions.

The second type of change is one of an *environmental* nature that occurs within the milieu. Such change can follow upon alterations in the structure and definitions of roles and tasks or from their discontinuation. For example, an individual may become unable to fulfill his family roles because of changes in the family rather than in himself. Applied to vocational activities it can be said that inability to perform the functions of a job can be the result of their modification to include some unfamiliar or more difficult tasks, or the elimination of the original functions entirely. A flier has the *potential* or *capability* to fly but he is *unable* to do so because technical changes in aircraft made his skills obsolete or because he has lost access to planes altogether.

Combining the two types of change would indicate that inability can occur as a result of: (1) individual change; (2) individual and environmental changes; or (3) environmental change. Although distinction between individual and environmental can be made for analytical purposes, the relationships between the two groups of variables are close and dynamic. There is considerable evidence, for example, that environmental changes that interfere with the individual's adjustment in his roles and tasks also influence his health condition.[3] This emphasizes the need to take both types of variables into account in any meaningful discussion or assessment of inability.

Disability was defined for the purposes of the OASI program as "inability to engage in any substantial gainful activity by reason of a medically determinable impairment that is expected to be of long-continued and indefinite duration or to result in death."[4] Through emphasizing the presence of a medically determinable impairment this definition encompasses inabilities resulting from the first two types, (1) and (2), of the above mentioned changes. In other words, there must be a change in the anatomical, physiological, mental, and/or personality systems connected with the inability. The definition also points out the need for evaluating the remediability of the disabling conditions through specifying that the expected duration must be of long-continued and indefinite nature or to result in death.

Rehabilitation Potential

Potential for rehabilitation indicates a prognostic evaluation of the levels of

functioning the individual is capable of reaching under certain circumstances. The assessment of ability-inability is obviously a necessary step toward the evaluation of rehabilitation potential. Both classes of variables discussed under disability, the individual and the environmental, need to be considered also in the evaluation of potential for rehabilitation. Individual variables of nonclinical nature, such as age, sex, education, and skills, may assume greater importance in the evaluation of potential. Greater emphasis is placed also upon the assessment of capacities as compared to that placed upon limitations in evaluating inabilities. It should be pointed out also that the environmental variables play a more prominent role in the evaluation of rehabilitation potential.

Among the key environmental factors in rehabilitation is the nature of services available. These services vary from one center or agency to another in comprehensiveness, staff competence, and financial resources, often setting the practical limits of rehabilitation potential. It is the contention of the writer that more often than not the limitations imposed upon rehabilitation stem from the environmental rather than the individual factors.

Types of Evaluations

As pointed out in the conceptual discussion of disability and rehabilitation potential, a comprehensive evaluation of these phenomena requires information about a great number of factors characteristic of the individual being evaluated and his situation. Five areas of evaluation are included in this study: social (including economic), medical, psychological, occupational, and vocational. Also included is a panel evaluation which is in part a synthesis of the separate evaluations.

Social and Economic Evaluations

These evaluations provide an understanding of the individual's background as well as the social-relational and economic characteristics of his situation. Such factors are of particular importance in assessing rehabilitation potential. They can also provide explanations for the psychological components of disability. These evaluations are made by means of interviews conducted partly at the applicant's home during the initial contact and completed at the center. Data obtained include the following information:

A demographic description of the applicant.
The household composition and characteristics of family organization (parental and immediate.)
Impacts of claimant's disability upon the working status of the family members.
The degree of geographic mobility.
Type of housing and home ownership.
Amounts and sources of income before and after disability.
Amounts and types of economic obligations.
Socioeconomic status of the applicant measured along several status hierarchies.
An evaluation of the types and degrees of severity of claimant's problems in the following areas: (a) relations with family of orientation; (b) relations with family of procreation; (c) other interpersonal relations; (d) economic situation; (e) health of dependents and other family members.
An evaluation of any social and economic factor limiting the claimant's potential for rehabilitation.

Medical Evaluation

The medical evaluation includes the following steps:

Medical history and physical examination.
Laboratory and radiological tests as needed.
A battery of tests was agreed upon, by physicians on the projects as well as those attending the planning sessions, as a minimum to be administered routinely. Tests included in that battery are as follows: urinalysis; complete blood count; blood urea nitrogen; fasting blood sugar; sedimentation rate; serology; x-ray of chest; and electrocardiogram.
Consultations as needed, including psychiatric.
A synthesis of the accumulated evidence into a final medical report.

Among the more important data yielded through the medical evaluation are those related to:

Types of disorders, their etiologies and the systems involved. The disorders are ranked according to the degree of contribution to the disability.
The course of pathology of the disorders as well as the current and/or potential residuals.
The diagnostic evidence used in the diagnosis of the different disorders.
Prognosis for remediability of disorders.
An evaluation of the *physical* capacities and limitations in performing: (a) work activities; (b) physical activities of daily living; (c) communication activities of daily living.
An evaluation of the potential in *physical* capacities for performing the above-listed activities.

Psychological Evaluation

The psychological evaluation is performed by a clinical psychologist and is carried out by means of clinical interviews and psychometric testing. Data resulting from this evaluation include:

The diagnosis of mental and personality disorders, the identification of symptoms exhibited, and the evaluation of severity of disorders.
Prognosis for disorders.
An evaluation of certain mental and psychological traits such as the level of intellectual functioning, aptitudes, interests, the degree of adjustment in significant contexts of interpersonal relations.
An evaluation of the claimant's conceptions of and reactions toward his disability, returning to work, and disability benefits.
An evaluation of the degree to which mental and psychological components are represented in the disability.
An evaluation of the mental and psychological limitations of the claimant's potential for rehabilitation.

A number of psychometric tests are used routinely in this evaluation except in cases where the IQ is 80 or below. For cases of low IQ the selection of tests and other means of clinical evaluations is left to the individual psychologists on the projects. The routine tests include: Wechsler Adult Intelligence Scale; Minnesota Multiphasic Personality Inventory; Gates Reading Survey; Mechanical Reasoning; Kuder Preference Record; and Incomplete Sentences Blank.

Occupational Evaluation

The term occupational is used here since this evaluation is performed by occupational therapists. However, it is an evaluation of capacities, limitations, and skills under work conditions. Claimants are asked to perform a variety of tasks that would require the use of different types of tools and equipment. Information sought in this evaluation includes an assessment of the following attributes:

The quality and quantity of work done.
Physical and interpersonal work adjustment.
Experience and skills.
The degree to which the impairment handicaps the individual in the performance of certain tasks.
The rehabilitation potential of the claimant.

Occupational therapists are informed by the physician when the risk to a claimant's health precludes certain tasks or the whole occupational evaluation.

Vocational Evaluation

This evaluation is performed by a vocational counselor and is carried out by means of interviews with the claimant. It yields the following information:

A vocational history of the claimant indicating types of work, tenures, levels of supervision, and pay for jobs engaged.
Reasons for changes in jobs, if any, and satisfaction and dissatisfaction with work undertaken.
Work-status before and after disability.
Work attitudes and aspirations.
Vocational training, skills, and experiences.
An analysis of the local and national labor market for the claimant's skills.
An evaluation of the degree to which the lack of skills contributes to the claimant's vocational disability.
An evaluation of the claimant's potential for vocational rehabilitation and the prospects for his employability and placeability.

Panel Evaluation

A panel representing members of the clinical team meet every week to discuss the evidence and findings of their evaluations and arrive at assessments of the following:

Current capacities and limitations of the claimant in work, travel, and self-care activities.
The claimant's attitudes toward returning to work.
The claimant's potential capacities and limitations in work, travel, and self-care activities. The claimant's present and potential prospects for placement.
Prognosis for improvement in the claimant's condition and means recommended to attain such improvements.
The advisability of referring the claimant to the Bureau of Vocational Rehabilitation.

An attempt is made to arrive at a consensus of opinions. However, irreconcilable disagreements are recorded in the panel report.

Operational Procedures

Although the three cooperating centers carry out the same types of evaluations, they differ to some extent in the operational procedures employed. Perhaps the most important difference lies in the fact that evaluations are performed on an inpatient basis in Ohio and an outpatient basis in Louisiana and Minnesota. The main procedural steps employed in this study can be summarized as follows:

The State Agency makes initial determinations of claimants' disabilities and screens all cases for rehabilitation referral. The regular procedures of collecting evidence are used in this step. Disability examiners are not expected to know the probability of inclusion of any particular case in the study.
Cases are screened for inclusion in the study population according to certain criteria that will be mentioned later. This step is carried out by examiners and other personnel from the State Agency.
Samples are selected weekly by a member of the project research staff. The number selected is based upon a plan to maintain a fairly consistent case load that ranges among the centers from four to six claimants to be evaluated each week.
Copies of all the material included in the files of claimants selected are forwarded to the project. Also included is a feed-back form filled out for each case selected, indicating the basis for allowance or denial of benefits.
A letter is sent to applicants selected informing them about the evaluation and asking their cooperation. A letter is also sent to the attending or family physicians informing them of the purpose of the study.
The member of the project clinical team responsible for the social evaluations visits the claimants at home, there conducts the initial interviews and discusses the forthcoming evaluations. In Minnesota these home visits are made after the center's evaluations have been completed.
A schedule of activities is worked out for each patient upon their admission for evaluation whether on inpatient or outpatient basis.
A panel meeting is held weekly for review and discussion of findings of the team members. On the basis of the evidence and other information presented, the team as a group arrives at certain evaluations as pointed out before.
Narrative reports are submitted during the following week by members of the clinical team in their respective areas. The medical reports include all the evidence accumulated during the evaluation: medical records, test results, and consultation reports. The other reports include a narrative presentation of the findings obtained.

  Reports about the different areas of evaluation are limited to presentation of evidence and *do not* include statements about the applicants abilities, inabilities, or rehabilitation potential. Such statements are excluded in order to avoid undue influence upon the examiners' redeterminations. All of these reports are forwarded to the State Agency for redetermination.

  Copies of the panel narrative reports, which include the teams' evaluations of capacities, limitations, and potentials are forwarded directly from the project to the Baltimore office of the BOASI.
Research forms recording information collected in each evaluation are completed and forwarded to research personnel on the project. These forms, along with others including the feed-back and follow-up information, are further prepared for data processing and analysis.
A second feed-back form for each case is received from the State Agency. The form records the redetermination, the basis for al-

lowance or denial and the impacts of the results of the comprehensive work-up upon case determinations.

A referral is made to agencies of vocational rehabilitation for claimants recommended by the State Agency, the study group, or by both. Copies of all reports accumulated through the study evaluations including those of the panel accompany letters of referrals.

A follow-up form is mailed periodically to agencies of vocational rehabilitation seeking information about the current status of project referrals.

A general follow-up is contemplated to study the status of all claimants participating in the evaluation regardless of the decisions made concerning their disabilities or potentials for rehabilitation.

In order to insure that the study evaluations are kept fairly independent of those made by the State Agency, research personnel on the projects maintain certain controls:

Copies of applicant's files received from the State Agency after selection of sample cases are kept by research personnel. No clinical staff members have access to the material included.

The information released is limited to: (a) identifying information, namely the claimant's name, address, social security number, and type of impairment, which are made available to the person making the home contact; (b) reports from family physicians, hospitals, and/or other institutions; and (c) reports on tests, the performance of which would cause considerable discomfort or exposure to certain hazards. When available in the applicant's file, the last two items are released only upon request from the study physician. The reason for making reports from family physicians and hospitals available is to avoid the time loss involved in attempting to obtain them directly from their sources. Furthermore, since most of the impairments included are of chronic nature, such reports are important for studying their history and for arriving at accurate diagnosis. No evidence resulting from medical examinations procured by the State Agency is released to physicians on the study teams.

The Evaluation Process

The process of evaluation generally includes collection of information, application of criteria, and decision-making.[5] The three activities are very closely interrelated. For example, the collection of information is generally guided by certain criteria and decisions are based upon both. Before attempting to assess the validity of the State Agency determinations and delineate the possible sources of errors in the above-mentioned activities it will be useful to review briefly the types of approaches used in evaluation.

Approaches to Evaluation

Two major approaches can be used in studies of this nature. The first is an a priori approach which implies the establishment of criteria defining the characteristics that differentiate between ability and inability before any data collection can be undertaken. The more exact models under this approach do not only require an identification of the variables relevant to evaluation but also a specification of the relative weights to be accorded these variables. It would not be sufficient, for example, to indicate that muscle strength is an important variable in the assessment of ability—inability. It would be necessary to specify the degrees of muscle strength to be regarded as indicative of ability and those of inability under different conditions. In the evaluation of phenomena for which such models can be constructed only data relevant to the established criteria need to be collected.

The other approach to evaluation is an a posteriori one in which broad categories of data are suggested as rele-

vant and need to be gathered and then examined for:

> ". . . signs, trends, syndromes, clues, etc., which upon further review of the data, would be shown to have substance or not. The extent to which we would derive 'meaning' from the data would rest more on the artfulness of the interpreter than on the nature or extent of the data."[6]

It is evident that the great hazard inherent in this approach is the subjective influence in evaluations. The use of this approach may also lead to the collection of irrelevant data.

Actually the two approaches discussed above are not mutually exclusive, but may be viewed rather as two ends of a continuum. As phenomena become better understood and their indicators more clearly delineated, the construction of a priori models for their evaluation becomes more feasible. The approach used in this study for evaluating disability and rehabilitation potential comprises both a priori and a posteriori features. The phenomena of disability and potential for rehabilitation are too comprehensive and complex to lend themselves to the exactness of highly structured a priori models. Furthermore, the nature and weights of many relevant variables are yet to be determined. On the other hand, criteria of evaluation are not entirely lacking. A major portion of the evaluations, especially those of medical, psychological, and occupational nature, are based upon objective tests and diagnostic procedures for which criteria of assessment are established. Although many of the variables can be identified and some can be measured with a fair degree of validity and reliability, a major problem is still faced in combining and synthesizing the multiple components of disability and rehabilitation potential. For accomplishing this step, the study relies upon the composite judgments made by members of the clinical teams during their weekly panel sessions. This process should contribute to the comprehensiveness and validity of evaluations. It is hoped, of course that results obtained through this study will contribute to the refinement of criteria of assessment of disability and potential for rehabilitation.

Validity of Determinations and Possible Sources of Errors

The primary objectives of this research, as pointed out previously, are to assess the degree of validity of State Agency determinations concerning disability and screening for vocational rehabilitation as well as the delineation of sources of errors in these determinations. A general assessment of validity can be obtained from an estimate of the magnitude of errors stemming from the different possible sources. The three aspects of the evaluation process provide a systematic basis for the delineation of the sources of errors: information, criteria, and/or decision-making.

Errors attributable to information or criteria can be the result of misinterpretation or lack of utility of the available information or criteria employed. The utility of information is a function of its accuracy, adequacy, and timeliness. The utility of a set of criteria is dependent upon its comprehensiveness, validity, precision, and clarity. The feasibility of criteria is also an important factor in their utility. For example, response to rehabilitation services constitutes an important criterion for assessing rehabilitation potential that was not feasible in view of the time limitations imposed upon the evaluation period. If information and criteria are of high utility and are interpreted correctly, errors in decisions would be reduced to subjective biases on the part of decision makers.

Some of these sources of errors are intertwined and will be very hard to unravel. However, the study design provides a basis for identifying the important sources and measuring the mag-

nitude of errors occurring in disability determinations and in screening for vocational rehabilitation.

In Disability Determinations

Four types of determinations are important for this analysis:

The initial determination which is made by State Agency Examiners on the basis of evidence collected through the regular BOASI procedures.

The redetermination which is made also by State Agency examiners on the basis of the evidence submitted by the study's clinical teams.

A final determination which is made by reviewers in BOASI offices at Baltimore.

An evaluation of work capacities and limitations made by the study's clinical teams collectively.

It should be pointed out that the first three determinations utilize the same criteria which are derived from the BOASI definitions of disability. The study's evaluations differ in criteria. Comparisons among these determinations can lead to the delineation of the sources of errors and the measurement of their magnitude as follows:

The initial and the redeterminations are made through the use of the same criteria but on the basis of different information. A comparison between these two determinations should provide an estimate of the rates of errors stemming from the lack of utility of information collected through the regular BOASI procedures. Comparisons between the two sets of information, especially for cases with decision changes, should reveal the nature of the problem and whether it lies in the adequacy, accuracy, or timeliness. An estimate of the utility of the study's information can also be obtained in terms of the types of extra evidence sought in addition to that submitted by the study, as well as the frequency with which additional evidence was required.

Although the redeterminations in the majority of cases are made by the same examiners who made the initial ones, different examiners have made redeterminations in a sizeable proportion of cases due to turnover in examiners. Differences in rates of decision changes in redeterminations made by the same and by different examiners may be attributed to subjective bias of examiners reluctant to change their initial decisions. It might be said also that examiners who left their jobs were less competent and have committed a greater number of errors that showed up in the redeterminations, which are by necessity made by other examiners.

The redeterminations and the final determinations are made on the basis of the same evidence and according to the same criteria but by different people. The final determinations are generally accepted as more authoritative. The rates of decision changes in the final determinations should constitute a measure of the size of error resulting from misinterpretation of information and/or criteria on the part of State Agencies' examiners. Misinterpretation of information would be very hard to distinguish from misinterpretation of criteria.

The final determinations and the teams' evaluations of work capacities and limitations are based upon the same information but through the use of different criteria. Comparisons between the two can provide an estimate of the influence of differences in criteria. It should be noted that the BOASI determinations are reported in a dichotomous form: allowed or denied disability benefits. On the other hand, the teams' evaluations report levels of work the individual can perform on a scale ranging from heavy-manual to none. As suggested by the study findings, this difference in reporting does not lessen the value of the comparison.

In Screening for Vocational Rehabilitation

A specific problem faced in the planning of this study was to establish a common frame of reference for clinicians from the three different states in re-

spect to the conditions of rehabilitation to be used in evaluating applicants' potentials. It was felt that optimal conditions under which effective services can be made available regardless of the cost can provide a more stable frame of reference. What is measured in this way may be referred to as the "maximum rehabilitation potential."[7] This evaluation is reported in terms of the levels of work activities applicants are found to have the potential for reaching. These levels range from heavy-manual work to none. Decisions are also made by the panel as to whether or not applicants would be referred to State Agencies of Vocational Rehabilitation. Such decisions take into account the practical limitations of the agencies' operations and are dichotomous determinations by which cases are screened in or out. In effect there are four decisions concerning screening for, and evaluation of, potentials for rehabilitation:

1. A screening decision made by State Agency examiners on the basis of information collected through the regular BOASI procedures.
2. A screening decision made by the study's clinical teams on the basis of the information they have collected.
3. An evaluation of the maximum rehabilitation potential made by the study's clinical teams.
4. A screening decision made by counselors of State Agencies of Vocational Rehabilitation.

Comparisons between screening decisions made by the State Agency examiners with those made by the study team should indicate the influence of differences in both information and criteria. A rescreening by the examiners on the basis of the study evidence would have provided the basis for a distinction between the two sources of errors. This is an important feature that should be added to the study. Since screening for rehabilitation requires more attention to the extra-medical evaluations than usually given for the purposes of disability determinations, a rescreening on the basis of the study evidence should serve a significant function. It would be necessary for examiners to give more careful consideration to extra-medical factors characteristic of the applicants and their situations. It is important to point out also that comparisons should not be concerned only with differences in the over-all rates of referrals but with the rates of agreement and disagreement in decisions as well.

Screening decisions made by counselors of vocational rehabilitation agencies and the referral decisions made by the study group utilize the same information but different criteria. Differences between these two decisions should reveal the influence of these differences in criteria. It should be pointed out in this regard that applicants for disability benefits are viewed by vocational rehabilitation counselors as people who have already defined themselves as disabled. They are generally categorized as poor risks for rehabilitation because of their attitudes toward returning to employment. In view of the budgetary limitations of counselors and since their work records are influenced by the ratio of cases successfully rehabilitated, they tend to avoid doubtful cases.

Since these limitations are expected to result into a high rate of rejection among applicants referred for vocational rehabilitation by the study group, it would be of considerable value to follow up such applicants with comprehensive rehabilitation services in order to determine the degree of validity in the study teams' evaluations of potential. This step can also provide estimates of needs for rehabilitation among OASI applicants.

Further Analysis

In addition to the comparisons outlined above, information yielded through the study evaluations will be analyzed

with the purposes of: (a) identifying the important evidence materials and criteria that are found to be of high utility in formulating clinical judgments, and (b) delineating the factors, individual and environmental, that are most closely related to disability and rehabilitation potential and achievement.

Population and Sample

Population

The study population is composed of applicants for disability benefits under the Social Security program. It is further delineated according to certain criteria specifying that applicants included in the study are also required to be individuals:

Who are below 65 years of age and whose cases are currently being processed by the state agency. It should be pointed out that applicants would be eligible for retirement benefits at age 65. Although they become eligible for reduced benefits at age 62, it was decided to leave age 64 as an upper limit in order to determine the influence of the new provision of reduced benefits upon applications for disability benefits.

For whom the state agency has made an initial determination of disability to the effect that they are, or are not, under disability in accordance with OASI standards.

Whose date of onset of disability occurred after January 1, 1956. This time limitation is updated one year at the beginning of each year of study operation.

Whose primary disability falls within the following categories of disability: (a) diseases of the circulatory system (ISC codes 400-468); (b) diseases of the nervous system (ISC codes 330-369); (c) diseases of the respiratory system (ISC codes 470-528), active tuberculosis is excluded from this group; and (d) diseases of the bones and organs of movement (ISC 720-749).

Who do not have communicable diseases.

Who at the time of the initial determination were not receiving rehabilitation services under the state agency's vocational rehabilitation program.

Who are not institutionalized or if institutionalized, the indications are that they will be discharged within a year's time.

Who are not applicants for childhood disability benefits.

Who do not have a terminal illness.

Who are not engaged in substantial gainful activity (SGA).

Sample

In addition to the adequacy and representativeness as criteria for planning methods of sampling, several practical considerations had to be taken into account such as feasibility of cost and time. The sampling area in Louisiana and Minnesota are limited to the Metropolitan Areas of New Orleans and the Twin Cities (Minneapolis and St. Paul), respectively. Since the numbers of cases processed in the Columbus Metropolitan Area are not sufficient for study purposes, sampling in Ohio is extended to include the area falling within a radius of about 75 miles from Columbus. This area includes six Disability Determination Districts.

Age was assumed to be an important factor in this study, particularly in the evaluation of rehabilitation potential. It was also assumed that the study population will be more concentrated in the older age brackets. For these reasons it was decided to stratify the sample according to age into two strata: (a) those less than 52 years of age, and (b) those 52 years of age or over at the time of sample selection. The sampling methods call for equal representation of the two categories. The selection of cases within each stratum is at random. A tally is kept for population numbers in each stratum for the purpose of projecting the study findings to the population.

During the period covered in this report, 567 cases were selected in the three centers from a population of 1,678 applicants who qualified for inclusion in the study population. Comprehensive work-up was completed for 466 applicants: 168 in Louisiana; 168 in Minnesota; and 130 in Ohio. Partial work-up was performed for 34 applicants while 67 dropped out of the study without any work-up. The highest numbers in both

categories, partial and no work-up, were reported in Minnesota followed by Ohio with Tulane having the least numbers. The most frequently reported reason for drop-out and incomplete work-up was applicants' refusals to cooperate which accounts for 53 out of 101 cases. The second reason in frequency of mention was hospitalization which was reported in 16 cases.

It should be pointed out that a number of cases not meeting the population criteria were screened in error for sample selection. This of course raises the question of whether or not a certain proportion of eligible cases are also screened out in error and at what rates.

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Dr. Nagi is director, Social Research, Ohio Rehabilitation Center, and professor of sociology, Ohio State University, Columbus, Ohio.

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