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plan and operation of a Health Examination Survey of U.S. Youths 12-17 Years of Age

A description of the Health Examination Survey's third cycle-examinations of a probability sample of United States youths 12-17 years of age.

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PREFACE

This report presents a detailed descriptionof the "third cycle" plan and operation of the Health Examination Survey. It is intended primarily to serve as a necessary foundation for understanding and use of the substantive findings to be published later in the *Vital and Health* Statistics, Series 11 reports of the National Center for Health Statistics. It is hoped that it will also serve as a useful guide or aid to others in the planning of health examination surveys.

In the planning and operation of the "third cycle," valuable assistance was received from many individuals and groups. Space does not permit the recognition of all who participated in the planning, development, and conduct of the many and varied aspects of the survey. Their assistance is, however, gratefully acknowledged. Mention should be made, however, of the important role played by the U.S. Bureau of the Census. Under a contractual arrangement they have participated in certain aspects of the sample selection, conduct of initial household interviews, and in most of the processing of the data. The overall responsibility for planning the program was that of Mr. Arthur J. McDowell, Director, Division of Health Examination Statistics. The primary responsibility for the content and coordination of the various parts of the examination was that of Dr. Peter V, V. Hamill, Medical Advisor for the children and youth programs of the Division of Health Examination Statistics (DHES). Other members of the DHES staff who had responsibility in specific areas were Dr. James E. Kelly, Dental Advisor to the National Center for Health Statistics; Dr. Lawrence E. Van Kirk, Jr., formerly Dental Advisor to DHES; Miss Jean Roberts, Supervisory Statistician (DHES); and Dr. Lois R. Chatham, formerly Psychological Advisor to DHES. This report was prepared by Henry W. Miller.

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THIS REPORT IS a detailed description of the third program of the Health Examination Survey. The actual collection of data for this program began in March 1966 and will be completed early in calendar year 1970. It involves the selection and examination of a nationwide probability sample of the civilian, noninstitutionalized population of the United States between the ages of 12 and 17 years. The examination focuses primarily on factors relating to growth and development. It includes examination by a physician-, a dental examination, a variety of tests, procedures, measurements, and a battery of psychological tests. This report describes the development of the survey plan, the examination content, the logistics of operations, and procedures employed to assure the quality of the data.

During the course of the survey, 40 locations throughout the United States will be visited. Approximately 7,500 youths will be in the sample; of this number 90.0 percent aye expected to be examined. A unique feature of the present program is the sample design whichutilixes the same sample areas and housing units as the previous survey program. That program conducted during 1963-65, examined 7,119 children between the ages of 6 and 11 years. As a result of this feature, examination data of a longitudinal nature will also be available for approximately 2,200 youths.

PLAN AND OPERATION OF A HEALTH EXAMINATION SURVEY OF U.S. YOUTHS 12-17 YEARS OF AGE

INTRODUCTION

The Health Examination Survey is one of the major programs of the National Center for Health Statistics (NCHS). It is a part of the National Health Survey, authorized in 1956 by the 84th Congress as a continuing Public Health Service activity,

The National Health Survey employs three different programs to accomplish its objectives.[1] One of these is the Health Interview Survey which collects information about health and disability of the civilian, noninstitutionalized population through a continuous sampling and interviewing program. The second program, Health Resources, obtains health data and health resource and utilization information through surveys of hospitals, nursing homes, clinics, physicians' offices, laboratories, related facilities, and the entire range of personnel in the health occupations. The third major program of the National Health Survey is the Health Examination Survey (HES).

The Health Examination Survey collects data by drawing samples of the civilian, noninstitutionalized population of the United States and, by means of medical and dental examinations and various tests and measurements, undertakes to characterize the population under study. This is the most accurate way to obtain definite diagnostic data on the prevalence of certain medically defined illnesses. It is the only way to obtain information on un.recognized and undiagnosed conditions - in some cases, even nonsymptomatic conditions, It is also the only way to obtain distributions of the population by a variety of physical, physiological, and psychological measurements.

In addition to the data collected by the examining, measuring, and testing procedures, a wide range of other data is collected concerning each of the sample persons examined. Therefore, it is not only possible to study the many potential relationships of the examination findings to one another, but also to investigate the relationships of the examination findings to demographic and socioeconomic factors.

HES GENERAL PROGRAM

Basic Characteristics

The overall plan of the Health Examination Survey is to conduct successive, separate programs of medical and dental examinations, tests, and measurements in specific age segments of the civilian, noninstitutionalized U.S. population. These successive programs are referred to as "cycles" and as such, each has a specific age segment for the target population and is concerned with certain specified health aspects of that subpopulation.

All HES cycles make use of a nationwide probability sample of the population. This makes it possible to obtain the desired information efficiently and in such a manner that the statistical reliability of results is determinable, These factors, together with the fact that the examination and measurement processes are highly standardized and closely controlled, enable the results of the surveys to describe the entire population of the United States on the basis of relatively small samples.

The approach to each cycle is necessarily multidisciplinary in nature. Each draws on and combines the talents of statisticans, physicians of various specialties, dentists, psychologists, nurses, educators, sociologists, management specialists, and others. In addition, each cycle involves interagency collaboration. The Bureau of the Census is a partner in several phases of the survey. Other Federal agencies such as the National Institutes of Health, the Office of Education, and the Children's Bureau, as well as nongovernment agencies such as schools of public health, medical research centers, and survey research agencies, also advise and assist the survey.

The data collected are a cross section of a national sample of the civilian, noninstitutionalized population. The size of the sample permits some analysis of the data by broad geographic region, population density groups, or other major subgroups of the total sample, but it does not permit analysis by smaller breakdowns, such as by State, The data are analyzed and the findings are made available to interested persons as rapidly as possible. This is done primarily through the publication of reports prepared in a form usable by large numbers of consumers of health statistics. The reports are limited to objective, scientific presentation of the particular findings, including estimated levels of prevalence and relevant discussion of various observed relationships. They do not include discussion of program implications of these findings, nor do they present value judgments concerning their implications to public health. The principal reports are published in the various *Vital and Health Statistics* series of the National Center for Health Statistics.

Any information which permits the identification of an examinee is held in strict confidence, is not disclosed or released to others, and is used only by persons engaged in the survey for the purposes of the survey,

Programs to Date

The first program, or "cycle," of the Health Examination Survey was conducted between November 1959 and December 1962 and was directed toward the civilian, noninstitutionalized U.S. population between the ages of 18 and79 years inclusive. The examination was focused primarily on certain chronic diseases, cardiovascular disease, arthritis and rheumatism, and diabetes. Also included were a dental examination, tests for visual and auditory acuity, X-ray, electrocardiographic tracings, blood chemistry tests, and numerous body measurements. The sample size of that cycle was 7,710 persons of which 6,672 (86.5 percent) were examined. Details of the plan of that program are described in an earlier report." Reports of various methodological studies [3-11] and of the findings [12-43] are also available.

The target population of the second cycle of the Health Examination Survey consisted of children between the ages of 6 and 11 years inclusive. That cycle became operational in July 1963 and was concluded in December 1965, The primary focus of the examination was on various parameters of growth and development, but it also screened for heart disease, congenital abnormalities, ENT diseases, and neuromusculoskeletal abnormalities. The size of the sample was 7,417 of which 7,119 (96.0 percent) were examined. A detailed report of the plan, operation, and response results, as well as several methodological reports, have been published.[44-48] Reports of findings are becoming available and will increase rapidly now that the analysis of the first cycle data is virtually completed.

The third cycle,. which is described in this report, is concerned with youths .12-17 years of age inclusive. This survey was begun in March 1966 and will be concluded early in calendar year 1970.

The operation of the Health Examination Survey at this time, therefore, is actually proceeding on three different levels. First, data are being collected in Cycle III. Second, analysis and publication of data from Cycle11 is being performed, Third, plans and preparations for Cycle IV are being made so that when Cycle III data collection is completed, Cycle IV examinations can be started. There are a number of reasons for this three-level concept of operation, but the principal one is to avoid complete dismantling and rebuilding of the field organization between examining phases of successive cycles. It also avoids the loss of highly trained field and headquarters personnel whose skills are unique and difficult to replace.

DEVELOPMENT OF CYCLE III

The Target Population

The age segment to be examined in Cycle III had been fairly well defined at the time the target population of Cycle II was determined. The original concept of the second cycle was that the sample would consist of persons between the ages of 6 and 17 years inclusive. As the detailed planning proceeded, it became apparent that the differences in the health, mental, and behavioral characteristics of the youths within this age range were great enough to warrant separate programs. Such matters as feasibility of self-administered tests, motivational approaches to be used, sizes of certain supplies and equipment, and adverse effect on participation on the part of teenagers in a program that seemed to be a "children's" examination led to a decision to limit the age range. It was then decided that the target population for Cycle II would be children between the ages of 6 and 11 years inclusive and the subsequent Cycle III program would include youths between the ages of 12 and 17 years.

Aside from age, the other specifications of the Cycle III target population are quite similar to those in Cycle II. Specifications for Cycle III include the following:

1. Be between the ages of 12 and 17 years inclusive, regardless of whether they were attending school.
2. Married youths of eligible age are to be included.
3. Not confined to an institution.
4. Be a resident of the United States (including Alaska and Hawaii).
5. Not residing upon any of the reservation lands set aside for use of American Indians.

Determination of General Objectives

It was clear early in the planning stages that the general objectives of the third cycle should be similar to those of Cycle II. Measures of growth and development as well as statistics on other health characteristics needed to be made available for the entire continuum of childhood through adolescence. However, for reasons mentioned previously and from the experience of the previous cycle, some modifications and refinements of the Cycle II collection techniques and procedures were indicated. In addition, data related specifically to adolescent health were desired. It was very important, therefore, that all reasonable items for inclusion in Cycle III be fully investigated and appraised as to their importance and feasibility.

The determination of these refinements and the specific data desired which was obtainable by the HES type of examination was made only after extensive consultation and evaluation. Four distinct types of consultation were involved. Planning the general aspects involved a continuing advisory panel of experts from various institutions across the country who were noted for their expertise on problems related to adolescent medicine and to the examination of children and youths. These individuals were recognized authorities in the fields of pediatrics, maternal and child health, anatomy, child psychology, epidemiology and biostatistics, preventive medicine, and growth and development. It was the function of this panel to examine each proposed item for inclusion or exclusion in the examination portion of the survey; the final responsibility, of course, remained with the Division of Health Examination Statistics. The persons who constituted this panel are:

Dr. Peter V. V. Hamill, Chief Medical Advisor, Health Examination Survey, U.S. Public Health Service, *Chairman*

Dr. Forrest H. Adams, Professor, Pediatrics (Cardiology), University of California at Los Angeles

Dr. Nicholas G. Alexiou, Associate Professor, Maternal and Child Health, Johns Hopkins School of Hygiene and Public Health

Dr. Robert Haggerty, Chairman, Department of Pediatrics, University of Rochester

Dr. Paul Harper, Chairman, Department of Maternal and Child Health, Johns Hopkins. University

Dr. Felix Heald, Chairman, Department of Pediatrics (Adolescent Medicine), George Washington University

Dr. Robert W. McCammon, Director of Child Research Council, University of Colorado

Dr. Sarah Idell Pyle, Anatomy (Brush Foundation), Case Western Reserve University

Dr. Robert Reed, Professor of Biostatistics (Harvard Growth Study), Harvard University School of Public Health

Dr. Kenneth Rogers, Professor of Preventive Medicine, University of Pittsburgh

Dr. Carl S. Shultz, U.S. Public Health Service (School Health)

The second type of consultation involved a series of ad hoc meetings on the more specialized aspects of the examination. Included were one or more meetings on examinations of vision, endocrine assay, body architecture, nutritional appraisal, and exercise capacity. These meetings generally involved one or more of the experts on the continuing panel with numbers of other experts in connection with specific fields. These persons were drawn from other parts of the Public Health Service and other government agencies, as well as from universities, and research institutes throughout the country.

The third type of consultation involved many visits by individual HES staff members to specific individuals and institutes across the country in order to discuss problems with regard to particular, proposed parts of the examination.

The fourth type of consultation was with the Advisory Committee to the Surgeon General on the National Health Survey. This is a formally constituted body, represented by a wide range of interests in the health field.

Development of Specific Areas

In the consideration of items for inclusion or exclusion in the physician's examination and other specific areas, certain guidelines were established. These were as follows:

1. Procedures should be included which will identify youths who are not physically qualified to participate in certain parts of the overall examination.
2. Diseases or deformities with an expected frequency of less than 1 percent should not be included. An item of such a small expected frequency would be subject to too great a sampling error and, in addition, would not return a yield justifying the money and effort.
3. All items should be judged from the practical side with respect to time required for administration; personnel requirements with respect to type, number, and special training required; space; equipment maintenance and service; impact on the examinee; and cost.
4. The item should be of specialinterest and applicable to the entire sample.
5. Proposed items should be evaluated to identify those which may affect or be related to other data included in the examination.

Many items were suggested for inclusion. Those that met the above criteria were subjected to further consultation and to preliminary studies and tests, some of which were quite involved and others, fairly limited. In a few instances, it was possible to take advantage of work that had already been done in some other connection. Thus, one of the important areas of interest concerned the levels of auditory acuity. It had been recognized that there was need for new standards with respect to hearing levels in youths just as there was for younger children. The American Academy of Ophthalmology and Otolaryngology Subcommittee on Hearing in Children, under the Chairmanship of Dr. Raymond E. Jordan, continued to work on the development of such new standards. This group had carried out a series of studies of school children and youths in the Pittsburgh area, had developed the detailed content and form of the examination and kinds of equipment required, and had acquired considerable experience in measuring auditory acuity in children and youths. This group continued their interest in the survey because of the opportunity to establish norms for the total national population.

From the viewpoint of the Health Examination Survey, the work which this subcommittee had completed provided extremely valuable developmental work. Arrangements were continued from Cycle II for the executive director of the Sub-

committee on Hearing in Children, Dr. Eldon Eagles, and later for Dr. Jordan, to serve as consultant to the Health Examination Survey. The audiometric portion of the third cycle, as well as the second cycle examination, was based on the work done in the Pittsburgh studies. Dr. Leo Doerfler, working with the Subcommittee on Hearing in Children in this study, supervised the training of technicians for the Health Examination Survey. Mr. Kenneth Stewart, in charge of the Acoustics Laboratories, University of Pittsburgh, agreed to continue, as in Cycle II, the calibration of the instruments to be used and to do the field sound pressure level surveys as needed. Various other benefits have accrued to the program as a result of the cooperative arrangement. In this instance the survey had essentially no developmental work to do because this had been done in connection with the subcommittee activity.

Because of reportedly large increase in the incidence of myopia at or around puberty, it was decided to enlarge the visual acuity test used in Cycle II, to include the use of a set of trial lenses to obtain estimates of the prevalence and severity of myopia and to test for both uncorrected acuity and acuity with the existing correction (for which the prescription is obtained objectively by a lensometer). This new battery of tests was worked out with the help and counsel of Dr. J. Theodore Schwartz, ophthalmologist-epidemiologist at the National Institute of Neurologic Disease and Blindness, and Dr. Herbert A. Urweider of George Washington University School of Medicine. A feasibility study of this new battery of tests was done at the National Training School for Boys in Washington, D.C. under Dr. Urweider's direction. Also under Dr. Urweider's direction, validation studies of both the trial lens test for myopia and the lateral phoria tests were done midway in Cycle III, in Chicago, Illinois. Each of the approximately 100 youths in the study was given the regular Cycle III examination and then a thorough clinical examination for lateral phoria and myopia, the latter under cycloplegics, to' determine the extent of agreement between a regular clinical examination and the survey tests.

It was decided to continue for adolescents the measures relevant to intellectual and personality growth and development that were comparable to those used in the children's examinations of Cycle II with only slight modifications for the difference in age. Hence, much of the developmental work started in Cycle II was applicable or could be continued in Cycle III. For example, the contract study to develop recommended methods of evaluating and analyzing the results of the modified Thematic Apperception Test started in Cycle II was continued. This study is being done under the direction of Dr. S. B. Sells of the Institute of Behavioral Research, Texas Christian University. A contract study to further validate the Wide Range Achievement Test for children 6-17 years of age was completed under the direction of Dr. K. Warner Schaie of West Virginia University. Results of the study have been published in the methodological series of reports from the NCHS.[47]

Because of the interest indicated indetermination of the level of illiteracy in various sections of this country and the lack of an instrument suitable for survey use, a special brief reading and writing test of literacy was developed by Thomas F. Donlon and W. Miles McPeek of the Education Testing Service at Princeton, New Jersey under contract with the HES. This test is described in another publication in the methodological series of the Center.[49]

In 1962, with the national interest in physical fitness of U.S. children, it was decided to try to measure the physical fitness of the Cycle II subjects utilizing a bicycle ergometer.[46] For a variety of reasons, this test did not prove to be entirely satisfactory for use in Cycle III. Under a contract from the HES, Dr. Henry Taylor and his staff at the University of Minnesota Laboratory of Physiologic Hygiene, developed a new "submaximal exercise tolerance test" involving walking on a treadmill at a 10 percent grade at 3.5 miles per hour, with the subject's pulse rate and electrocardiographic response continuously monitored by a cardiotachometer connected to the subject by precordial leads. Further calibration and validation of this test is continuing at the present time.

The body measurements chosen for Cycles I and II were mostly determined by those interested in human engineering data. However, it was decided for Cycle III that accurate biologic data on growth and development in U.S. children had a higher priority than human engineering data, so the battery of body measurements is basicallythe

traditional anthropometry used in the longitudinal studies of growth and development conducted in this country over the past 40 years. This new battery was constructed after several ad hoc meetings of those most experienced in the field of anthropometry and growth and development with the advice of Dr. Francis E. Johnston, Department of Anthropology, University of Texas. After some feasibility and validation studies undertaken by Dr. Johnston as consultant to the survey in anthropometry, Dr. Johnston also trained the technicians and periodically supervises their performance.

Altering the primary objective of the body measurements created a conflict of interest because it was also desired to maintain continuity of data from ages 6 through 79 years. The compromise reached was to develop regression equations to predict the human engineering parameters used in Cycles I and II from the new set of more biologically oriented measurements. A few of those which defied good prediction were carried on in the Cycle III battery.

Investigations were conducted regarding the problem of developing a satisfactory blood collection technique for this age group and examination setting. The optimum amount which would not have an emotional impact upon the examinee and which would not affect his performance in any of the procedures to follow, was desired. The amount of usable blood that could be drawn posed a limiting factor on the number of blood chemistry tests that could be performed and made a difference in accepting or rejecting an entire possible area of the examination such as the nutritional assessment. Logistical problems also had to be resolved involving the handling, separating, and packaging of drawn blood so that there would be a minimum of blood loss and packaging error. For the refrigerated but unfrozen bloods, time from shipment to delivery was critical, so that arrangements had to be made with postal authorities to assure prompt delivery to the laboratories in order to avoid spoilage.

Drs. Bernice Cohen and Wilma Bias of the Johns Hopkins Immunogenetics Laboratory and Dr. Gerald Cooper at the Communicable Disease Center, Atlanta, Georgia, assisted the HES by advising and participating in feasibility studies and providing their laboratory facilities under contract for the subsequent determinations.

Early in the planning and development of Cycle III, it was recognized that an accurate nutritional appraisal would be a valuable and useful piece of information to develop. Consequently an extensive series of ad hoc meetings, consultations, and pilot studies of feasibility and validation was undertaken. The uniqueness of this adolescent age group added a special interest to the undertaking because of the increased nutritional demands associated with the rapid growth of adolescents coupled with the legendary poor dietary habits and erratic sleep and energy expenditure patterns of adolescents. On the other hand, however, the great physiologic and maturational heterogeneity of this group would greatly multiply the problems arising from sample size in subsequent analysis of the data.

A full nutritional profile would have three main parts: a biochemical appraisal, of blood and urine specimens, a clinical appraisal, and a dietary intake survey. The first two constitute the assessment of the subject's current nutritional status, while the latter attempts to reconstruct the dietary pattern of the individual for the past x months or years. After extensive study and exploration of all available leads it was finally decided to drop the full nutritional profile from the Cycle III examination for reasons both logistical and technical. Although rejecting the full appraisal as neither precise enough nor workable on our sample size, a variety of items are obtained in the examination which more or less impinge upon this question and which can eventually be drawn into a unified report: namely, hemoglobin and hematocrit; skeletal age and bone density; extensive anthropometry (especially height, weight, and skinfolds); general assessment by a trained physician looking especially for stigmata of malnutrition; total serum cholesterol, protein bound iodine, and special evaluation for goiter; and a general clinical assessment of stage of maturation and general growth.

Because of the problem in silent urinary tract infections in women and the greatly increasing frequency at puberty, a screening test for girls was devised with consultation and assistance from Dr. Calvin M. Kunin, University of Virginia. Dr.

Kunin also provides the necessary continuing supervision and his laboratory facilities are used for identifying and typing the resultant organisms.

Another area of considerable interest, which after considerable study had to be limited in scope, was a full endocrine profile, Because of the cost, difficulty in ensuring adequate laboratory determinations, and several severe logistical obstacles, this was reduced to determination of protein bound iodine and the future determination of plasma testosterone in boys. The principal logistical stumbling block was obtaining a 24-hour or even a 6- or 8-hour urine specimen of reliable quality in our operation.

A final example of "failure" after much study was an exercise tolerance test which would provide a direct measure of maximum oxygen consumption and production of carbon dioxide in order to obtain the respiratory quotient as an index of the metabolic load placed on the subject. This procedure had to be dropped from inclusion in the examination because the testing equipment proved to be too bulky for the trailers, too complex to maintain, and too delicate to withstand the rigors of transportation.

The areas of health information and attitudes, behavior standards, educational goals, and opinions of self are but a few amongmany'areas pertinent to any study of adolescent health,, A set of three questionnaires to obtain these and other data was developed by the HES staff along with consultation and advice of the advisory panel to the survey and others, such as persons from the National Institute of Mental Health. The resulting questionnaires were the Medical History of Youth-Parent (appendix I B) , Health Habits and History-Youth (appendix IC), and Health Behavior (appendix TE). The key factors leading to the decision to utilize three questionnaires was the realization that for some items of information. the parent would be the best provider of information, while for others it would be the youth. In addition, certain items asked of the youth would 'be better answered at the examination center. It would also be possible to provide for study, similarities and differences between youth and parent on certain "comparison" items such as educational goals and behavior standards . Following the pretest at Detroit, Michigan, discussed in the following section, a contract was entered into for further testing and developmental work of these forms.

Pilot Testing

In July 1964, the first of three separate pilot test operations was conducted in the New York area, the nineteenth location in Cycle II. It was acknowledged by this time that the tests, procedures, and forms for the third cycle would be similar, in many respects, to those of Cycle II. One purpose of this first pretest was to determine particular Cycle II procedures or tests which might be inappropriate or require further investigation or development and modification prior to a later and more formal pretest when the other examination elements were more firm. An additional purpose was to obtain a rough indication of what might be expected in the Cycle III age group with respect to response and cooperativeness. Information from this would indicate the desirability of initiating methodological research into factors affecting motivation of teenage youths in participating in a health examination survey program.

Ninety-three youths were examined in the New York pilot test. Among the procedures that were new from Cycle II .was a venipuncture to determine. the feasibility of this operation in the 12-17 year age group; a revised medical history form; a group of questions in the area of personal health habits and behavior to determine the reaction of youths to these questions and to establish whether any such set of questions should be included in the third cycle; and a brief (2 to 3 minutes) exit interview, conducted by a consultant on adolescent behavior, which consisted of asking the examinee his or her reaction to the tests administered and what portions of the examination the examinee felt should be eliminated or modified to make it generally acceptable to the Cycle III age group.

The objectives of this pretest were fully realized. In addition, other important aspects relative to planning the third cycle which had not been anticipated were also brought to light.. Important among these was need for changes in furniture, equipment, and space requirements within the examination center; changes in the wearing ap-

parel for the examination; desirable scheduling arrangements; and optimal conditions for obtaining cooperation.

In April and May 1965, a second pretest of the survey was carried out in Detroit, Michigan. The examination in the trailers had two main objectives: to solve internal logistics problems such as length and sequence of different items of the examination (and the effect of one procedure on a subsequent one, for example, the exercise and the psychological tests) and to field test various examination procedures. First among these were various procedures for the collection of a urine specimens for bacteruria among the girls; the attempted collection of an accurate timed and reliable 6-hour urine specimen for nutritional and endocrine determinations; various parts of the highly structured physician's examination such as nutritional appraisal, acne grading, and objective assessment of stage of sexual maturation; field testing the new treadmill and cardiotachometer (the instrument aspect and also varying duration and intensity of the test); and the testing of a variety of techniques for optimal blood collection and handling and packaging. A complete testing was conducted of all field procedures relating to sample identification, Bureau of the Census household interviewing, followup interviewing and persuasion by Health Examination Representatives (HER's), administrative records control,? transportation, and collection of data from schools. A medical history questionnaire to be completed by the parent and two questionnaires involving health history and behavior to be completed by the youth were also tested. A total of 131 youths were examined during this pretest,

Following completion of the developmental work, indicated as a result of the first two pretests, a full-scale pretest was conducted in Wilmington, Delaware, during January and February 1966, at which time 163 youths were examined, As will be discussed in a later section, the sample design of Cycle III for various reasons called for the utilization of the same sample areas and housing units of the previous cycle, Wilmington, which in March and April 1963 had been the final pretest area for Cycle II, was therefore ideally suited for the final pretest of Cycle III. As such, it was possible to obtain some insight into problems of response associated with persons subjected to both surveys; an estimate of the number of Cycle II sample youths who would fall into Cycle III; the reaction of local societies and school officials to a second survey after about 3 years; and an estimate of the number of sample youths that could be produced from the Cycle II sample design. The conditions under which this pretest was conducted attempted to simulate the operation of a regular Cycle III location.

Between this pretest and the first location of the actual Cycle III data collection, the technicians received further training in the areas of body measurements and audiometry and in techniques of the use of special equipment to record on magnetic tape the results of electrocardiograms and spirograms. The nurse also received further training in the collection and culturing procedures of the urine specimen. A "dress rehearsal" of examination procedures was held at the first stand of Cycle III, Charleston, South Carolina; at this time, 46 youths were examined. Members of the advisory panel visited the examination center to observe and give their final approval to the operation.

THE SAMPLE DESIGN

Similarity to Cycle II

The sample design of Cycle III is similar to that of Cycle II in that it utilizes the same 40 sample areas and the same segments. The decision to incorporate this feature into Cycle XII was not made prior to the selection of the second cycle sample although it is consistent with the early concept of a single program for 6-17 year olds. The final decision to utilize this identical sampling frame was made during the operation of the second cycle program. This decision was based on the following considerations:

1. There would be an increase of information, since some of the children examined in Cycle II would also be examined in Cycle III. The graup of examinees included in the overlap would provide longitudinal data which would add greatly to the study of growth changes, It was recognized that the loss of some individuals through population mobility would keep the subset examined in both cycles from being a com-

pletely unbiased sample, but it was felt the advantages outweighed this.

2. Cost of selecting a new sample would be eliminated.

3. An expected high correlation within the segments between the expected number of youths in Cycle III and the number of sample children in Cycle II,

4. Gains would be produced in the case of field operations. Addresses would be known, a large number of the sites used for examination centers in Cycle II would be available, and contacts with State and local officials, to explain our program and obtain their approval, could be made by mail rather than by personal visit.

The sample design has been essentially similar for all three cycles in that each has been a multistage, stratified probability sample of clusters of households in land-based segments. The successive elements for this sample design are primary sampling unit, census enumeration district, segment (a cluster of households), household, eligible youths and finally, the sample youth. Every eligible youth within the defined population has a known and approximately equal chance for selection into the sample,

A description of the Cycle II sampledesign is presented in another report."* It also discusses the problems of and consideration given to other types of sampling frames, cluster versus random sampling, and whether or not to control the selection of siblings. It is felt, therefore, that an abbreviated discussion of the Cycle II sample design and the minor modifications required for Cycle III is- sufficient for the purpose of this report.

The Cycle II sample. design was developed from a set of specifications which described the requirements and limitations placed on it. The general factors dictating the design specifications were those relevant to the specific survey objectives and operational considerations. Those of primary importance and relevant to both Cycles II and Ill included the following:

1. The target population will be defined as the civilian, noninstitutional population of the United States, including Alaska and Hawaii, between the ages of 6 and 11 years for Cycle. II, 12 and 17 years for Cycle III, with the special exclusion of children residing on any reservation lands set aside for the use of American Indians. This exclusion is due to operational problems encountered in Cycle I.

2. The time period of data collection should be limited to about 3 years.

3. The examination objectives will be primarily concerned with factors of physical and intellectual growth and development.

4. The length of an individual examination will be between 2 and 3 hours. Approximately 12 examinations will be done each day.

5. Examinations will be conducted in a specially constructed mobile examination center.

6. Ancillary data will be collected through the use of questionnaires and other records. These will consist of a household questionnaire, medical history questionnaire, school questionnaire, and copy of the birth certificate.

7. The size of the sample must be sufficiently large to yield reliable survey findings. The numbers involved will permit a general analysis by broad geographic region, population density groups, and other major subgroups such as age, sex, and limited sociodemographic factors of the total sample.

8. The size of the sample will also be influenced by certain administrative considerations and by the available budget which, in addition to conducting collection activities, must permit simultaneous activity in analysis and publication of findings from other cycles and preliminary planning for the next cycle.

The steps of drawing the sample were carried out jointly with the Bureau of the Census. The starting points were the 1960 decennial census lists of addresses and the nearly 1,900 primary sampling units (PSU's) into which the entire United

States was divided. Each PSU is either a standard metropolitan statistical area (SMSA), a county, or a group of two or three contiguous counties. These PSU's were grouped into 40 strata so that each stratum had an average size of about 4.5 million persons. This grouping was done in a manner which maximized the degree of homogeneity within strata with regard to the population size of the PSU's, degree of urbanization, geographic proximity, and degree of industrialization, The 40 strata were then classified into,4 broad geographic regions of 10 strata each and then within each region, cross-classified by four population density classes and rates of population change from 1950 to 1960. Using a modified Goodman-Kish controlled-selection technique, one PSU was drawn from each of the 40 strata.

The sampling within PSU's was carried out in several steps, The first was the selection of census enumeration districts (ED's). These ED's are small, well-defined areas of about 250 housing units into which the entire Nation was divided for the 1960 population census. Each ED was assigned a "measure of size" equal to the rounded whole number resulting from a "division by nine" of the number of children, aged 5-9, in the ED at the time of the 1960 census. A sample of 20 ED's in the sample PSU were selected according to a systematic sampling technique with each ED having a probability of selection proportional to the population of children 5-9 years at the time of the 1960 census date. From each ED a random selection of one measure of size (segment) was taken.

Minor changes required in the Cycle III design were that it be supplemented for new construction to a greater extent than had been necessary in Cycle II, and that reserve segments be added. Although it was the plan for Cycle III to use the Cycle II segments, it was recognized that within several PSU's additional reserve segments would be needed to avoid the risk of having an insufficient number of examinees. This was prompted by the fact that four of the PSU's in Cycle II had yields of less than 165 eligible children and several others were marginal in their yield. In addition, there was a 3-year interval between Cycle II and Cycle III, so that it was quite possible for some segments to have been completely demolished to make room for highway construction or urban redevelopment.

Subsampling

The time available for examinations at a particular location, or stand as they have been designated, is necessarily set far in advance of any preliminary field work at the stand. Therefore, the number of examinations that can be performed at a particular location is dependent upon the number of examining days available. At the majority of locations the number of days available, excluding Saturdays, is 17. At the rate of 12 examinations each day, this provides for 204 examination slots. Examinations are conducted on Saturdays if, for some reason, it is necessary. Because of rescheduling for cancellations or no-shows the maximum number of youths that is considered for inclusion in the sample is 200. When the number of eligible youths exceeds this number, subsampling is performed to reduce the number to manageable limits. This is accomplished through the use of a master list which is a listing of all eligible youths in order by segment, serial (household order within segment), and column number (order in the household by age). After the subsampling rate has been determined, every n th name on the list is deleted, starting with the y th name, y being a number between 1 and n selected randomly, Youths who are deleted from the Cycle III sample but who were examined in Cycle II as well as' any twin who may have been deleted are, if time permits, scheduled for an examination for inclusion in the longitudinal study portion or twin study portion of the survey.

OTHER SAMPLING ASPECTS

Sampling Features of the Examination

The sampling aspects of the survey are not restricted to choosing the sample persons and having them participate in the examination. The conduct of the examination itself has numerous sampling features which should be mentioned here.

Examinations will be conducted in 40 different locations throughout the United States by approximately 35 different physicians and five dentists. There will be approximately 12 technicians performing various procedures and 12 psycholo-

Table 1. Cycle III schedule of stand operations, HES, 1966-70

Stand number	Location	Date of field operations	
1	Charleston, South Carolina	March-April	1966
2	Ashtabula, Ohio	April-May	
3	Poughkeepsie, New York	May-June	
4	Portland, Maine	June-July	
5	Boston, Massachusetts	July-August	
6	Philadelphia, Pennsylvania	August-September	
7	Ottumwa, Iowa	September-October	
8	Denver, Colorado	October-November	
9	Lamar, Colorado	November-December	
10	Los Angeles, California	December-January-February	1967
11	Los Angeles, California	January-February-March	
12	San Francisco, California	February-March-April	
13	Mariposa, California	March-April-May	
14	Moses Lake, Washington	April-May-June	
15	Minneapolis, Minnesota	M&y-June-July	
16	Neillsville, Wisconsin	June-July-August	
17	New York, New York	August-September-October	
18	New York, New York	September-October-November	
19	Baltimore, Maryland	November-December	
20	Sarasota , Florida	January-February	1968
21	Atlanta, Georgia	February-March	
22	Birmingham, Alabama	March-April	
23	Barbourville, Kentucky	April-May	
24	Cleveland, Ohio	May-June	
25	Chicago, Illinois	June-July-August	
26	Grand Rapids, Michigan	August-September	
27	Des Moins, Iowa	September-October	
28	Wichita Kansas	October-November	
29	Mark& Tree, Arkansas	November-December	
30	San Benito, Texas	January-February	1969
31	Houston, Texas	January-February-March	
32	Detroit, Michigan	March-April	
33	Port Huron, Michigan	April-May	
34	Beattyville and West Liberty, Kentucky	May-June-July	
35	Allentown, Pennsylvania	July-August	
36	Manchester and Bristol, Connecticut	August-September-October	
37	Newark, New Jersey	September-October-November	
38	Jersey City, New Jersey	October-November-December	
39	Georgetown, Delaware	January-February	1970
40	Columbia, South Carolina	February-March	

'Stand locations are cities or towns in which trailers were located. Sample areas from which examinees are drawn for the stand consisted of the PSU's which may have included several counties.

gists administering psychometric tests. Ideally, each examinee should be assigned to the particular parts of the examination on a random basis with respect to time, place, and examiner, This is obviously impossible. Therefore, if there are any peculiarities in the conduct of a part or parts of the examination procedures, difficulties with equipment, or changes in the standards of the laboratories doing blood chemistry analysis, they may be reflected in the examination findings as a place peculiarity.

Stand Sequencing and Scheduling

In all+ cycles of the Health Examination Survey , the scheduling of stands has been deliberately arranged so that the North is avoided in winter and the South in summer. This is a fairly obvious operational necessity as it would be quite impractical to conduct a mobile examination survey such as this in the northern States in the middle of the winter. The schedule of stands for the third cycle is shown in table 1.

While this type of scheduling is desirable from an operational point of view, it can produce certain limitations on the examination data. Any characteristic under study which may have a seasonal variation will be difficult to interpret by geographic region. For example, if persons in all parts of the country weigh more in winter than in summer, the mean weight of northerners would be underestimated and that of southerners overestimated. Possibilities such as these must be taken into account in analysis of the data. The seriousness invoked by such a scheduling arrangement, however, is not considered to be too serious a limitation in either Cycle II or Cycle III. Most of the characteristics of the examination in the 6-17 age group are not likely to exhibit any marked seasonal variation, Even in Cycle I, where the focus of the examination was on chronic conditions in the adult population, this was not considered to be too serious a problem. This would not be true if the examination, in any of the cycles, attempted to obtain estimates of acute conditions such as respiratory disorders.

An important consideration in sequencing stands was economy of operation. Efforts were made to follow the seasonal pattern described above, with a minimal amount of travel necessary in moving from one stand to the next by sequencing with regard to geographic proximity. Another consideration was to minimize the range of the time interval between the collection of Cycle II and the Cycle III data at each location. The map (fig. 1) shows the sample areas and itinerary of Cycle III. Individual stand time schedules, featuring the various operational aspects involved in conducting the examinations at a particular stand, were also re-

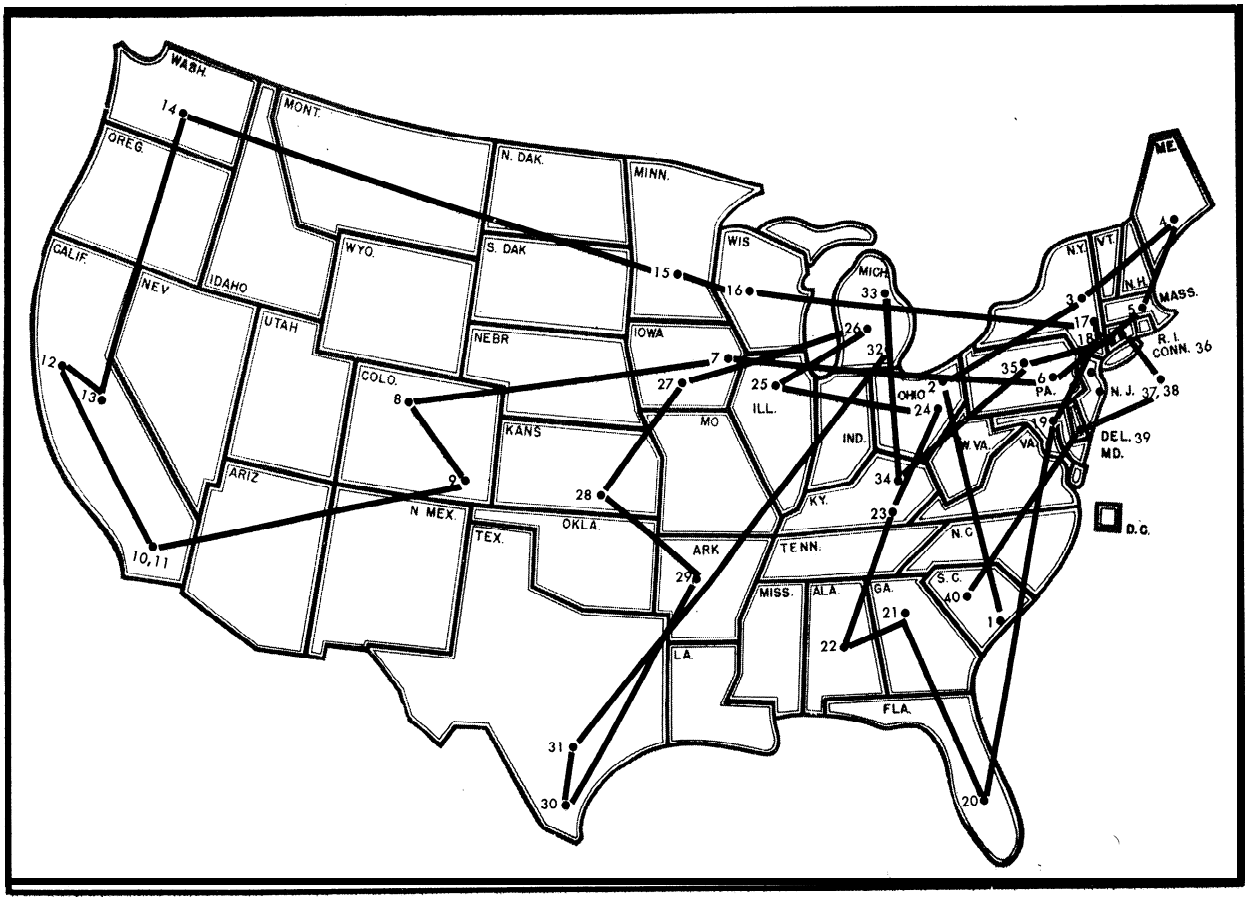


Figure 1. Map showing sample areas and itinerary: Health Examination Survey Cycle III.

quired in the development of the sequencing. Time allowances were based on the distance between stands and therefore the time required for movement of the trailers and personnel between stands, the time required for Census interviewing, HER followup, trailer setup, staff setup and dry runs, staff vacation periods, and at most stands, 17 days for examinations, Schedules for three of the stands are shown in table 2.

ADVANCE ARRANGEMENTS

Professional Relations

Before the interviewing or examination procedures of the Health Examination Survey can be started in a sample area, certain types of advance arrangements are necessary. Essentially, they are of three different types involving professional relations, public relations, and arrangements for the logistical requirements of the survey.

The conduct of the survey in any specific area is the responsibility of the U.S. Public Health Service, as distinct from the State or local health authorities, or others in the area. In all three cycles, however, it has been our policy to fully acquaint the State and local health departments, and the medical, dental, and osteopathic professional organizations in the States and in the communities with the HES objectives and method of operation. In addition, since both Cycles II and III involve the examination of school children, the State and local officials concerned with public schools are also contacted, as are the appropriate local and diocesan officials of the parochial schools.

In Cycle II, contacts were made initially by letter or telephone giving some information about the program and arranging for a personal visit to discuss the plan in detail. A senior medical advisor to the survey visited the State medical societies, health authorities, and educational officials, The dental advisor informed the officials of the dental association by mail and frequently arranged a personal visit as well. The visits to the State school officials were always preceded by a general information and introductory letter from the U.S. Office of Education, which had been kept informed throughout the planning of the program.

Table 2. Excerpt from HES—III schedule of stands

Stand #30 - San Benito, Texas (944 miles)	**1/3-2/14**
Office setup	1/3 Friday
Census interviewing	1/6 Monday
HER followup	1/13 Monday
Trailer arrival	1/14 Tuesday
Trailer setup	1/15 Wednesday
Staff setup and training	1/20 Monday
Dry runs	1/21 Tuesday
Examinations	1/22 Wednesday-2/13 Thursday
Dismantle	2/14 Friday
In transit	2/14 Friday
Stand #31 - Houston, Texas (353 miles)	**1/31-3/19**
Office setup	1/31 Friday
Census interviewing	2/3 Monday
HER followup	2/10 Monday
Trailer arrival	2/17 Monday
Trailer setup	2/18 Tuesday
Staff setup and training	2/19 Wednesday
Dry runs	2/20 Thursday
Examinations	2/24 Monday-3/18 Tuesday
Dismantle	3/19 Wednesday
In transit	3/19 Wednesday
Stand #32 - Detroit, Michigan (1,274 miles)	**3/7-4/21**
Office setup	3/7 Friday
Census interviewing	3/10 Monday
HER followup	3/17 Monday
Trailer arrival	3/24 Monday
Trailer setup	3/24 Monday
Staff setup and training	3/25 Tuesday
Dry runs	3/26 Wednesday
Examinations	3/27 Thursday-4/18 Friday
Dismantle	4/21 Monday
In transit	4/21 Monday

It has been mentioned previously that the sample areas in Cycle II are also being used in Cycle III, In the present cycle, therefore, it was felt that personal visits to the above officials were not required in all cases. Instead, letters are

mailed approximately 8 weeks before interviewing procedures are to begin, explaining the program and reminding them that the HES hadvisited the sample area several years before to collect similar information on the health of children ages 6-11 years. Also included is a copy of a resolution passed by the American Medical Association House of Delegates expressing their approval of the survey and recommending cooperation, A second followup letter with supplemental information about the survey is mailed about 1 week before interviewing begins. At this time, letters and literature describing the survey are also mailed to local officials such as the mayor, the Chamber of Commerce, and law enforcement officers.

At the State and local levels, support of the survey has been manifested in the cooperation obtained in informing physicians of the survey. Frequently this is done by means of an article in a professional publication distributed to all physicians in the area such as the monthly bulletin of the county medical society. Correspondingly, communications from the dental society are usually sent to its members, and the superintendent of schools will usually send letters to school officials who will be contacted later by a representative of the survey.

Public Relations

General news releases explaining the program are prepared for each sample area and are distributed to local news media. The release is timed to coincide with the start of Census interviewing. As a result, local newspapers at most of the locations publish items concerning the program. No special effort is made tohaveradio and television stations publicize the survey, but at some locations, members of the staff have been, interviewed by these media and film has been taken to be shown on television. Under no circumstances, however, are pictures or films taken of any sample examinee since this would be a breach of our promise of confidentiality.

Sample households having a mailable address (house or post office box number) are sent an "advance" postcard by the Bureau of the Census several days before the Census personnel begin interviewing. This card informs the household members that a Bureau of the Census interviewer will be calling at their home within the next few days in connection with a survey being conducted in the area for the U.S. Public Health Service.

Logistical Arrangements

Four to 6 weeks prior to the. start of a stand a member of the HES field staff, the Field Operations Manager (FOM), visits the sample area to make physical arrangements for the Mobile Examination Center and -the administrative office, to personally contact local health and school officials, and to initiate the many logistical actions required for the survey. The selection of locations for the examination center and administrative office are considerably simplified in Cycle III, since in most sample areas the same sites used in Cycle II are available. If for some reason the previous examination site is not suitable, the following items are considered in the selection of a new one:

1. Location of sample households and transportation arteries.
2. Community attitude (if any) toward the location.
3. Proximity to power, water, and sewer connection.
4. Reasonably free from noise and/or excessive vibration.
5. Availability of living accommodations for the staff within a reasonable distance.
6. Adequate space to accommodate trailers and cars of staff.
7. Availability of office space for the administrative office in close proximity to the examination site.

During this visit to the sample area, the FOM also arranges for power hookup and services for electricity, water, sewerage, telephone, transportation, and laundry. Any other logistical arrangements required before the arrival of the mobile examination center and the staff, are also taken care of at this time. Within the time allowed, he visits as many as possible of the city and county school superintendents whose authority extends over schools which the sample youths attend.

HOUSEHOLD INTERVEWING PROCEDURES

Census Interviewing

Trained Bureau of the Census personnel call on all housing units contained in the segments of the sample area to determine their household composition and to obtain demographic and other data if the household contains any eligible youths between 12 and 17 years inclusive. They pave the way for the HES interviewers who subsequently visit the household. Each of the households should have received the advance postcard from the Bureau of the Census informing th-em of this visit. The front of the household questionnaire, shown as appendix IA, contains standard Census identification entries related to the housing unit, space for recording information on calls, and a section concerning a Medical History Form which is left if the household contains any eligible youths. On the inside of the questionnaire, questions 1-6 identify all persons living in the household, their relationship -to the head of the household, and their age, race, and sex. If the household does not contain any youths between the ages of 12 and 17 inclusive, the interview-is concluded;

If the household does contain a youth eligible for inclusion in the survey, the remaining questions are asked only of the parent or guardian of the youth. A callback is made by the Census interviewer if a parent or guardian is not present initially. At the end of the interview, the interviewer leaves a medical history form with the parent or guardian to be completed for each eligible youth. This form is shown as appendix IB. The interviewer explains that a representative of the U.S. Public Health Service will come to the house in a week or so to pick up the completed form. The interviewer also inquires as to the best time of day for the representative to pick up the form.

Occasionally the Census interviewer will interview a household which contains an eligible youth 12 through 17 years of age but in which there are no parents or guardians, e.g., a 16 or 17 year old who is married and living with his/her spouse. In such instances, only the identification items of the housing unit are completed on the front of the questionnaire (question 14 is omitted), and on the inside and back of the form only questions 1-7, items C and E, and questions 13-16. It is explained that the Public Health Service would like to send the medical history form to the parents of the eligible youth concerning his medical history and some questions concerning his mother. The eligible youth is asked for his parent's name, complete address, and telephone number. This information is then given to the HES staff to followup and mail the questionnaire. The role of the Census interviewers is ended after all household questionnaires have been edited by the Census supervisor for omissions or inconsistencies and then turned over to the HES field management office.

HES Interviewing

From the household questionnaires a master list is prepared which lists the name, age, sex, and household identification of each eligible youth. An eligible number (1, 2, 3, 4, etc.) is assigned to each youth. If the number of eligible youths does not exceed the maximum number allowable, then sample numbers are assigned beginning with the first youth on the list. If the number of eligible youths exceeds the number allowable, then the subsampling procedure described in an earlier section is performed. Youths remaining after subsampling are then given Cycle III sample numbers. If examination time allows, as many as possible of the youths deleted from the sample through the subsampling procedure who were (a) examined in Cycle 11 or (b) are a twin whose twin sibling is a sample youth, are also given sample numbers but in a different series from the Cycle III numbers. The former group of youths (a) are examined as part of the longitudinal study aspect which Cycle III presents, and the latter group (b) as part of a smaller study of twin characteristics,

A few days after all Census interviewing is completed and the master list prepared, HES representatives (HER's) visit all households containing eligible youths. This visit is designed to accomplish several things. The medical history form which was left by the Census interviewer to be completed is carefully reviewed for completeness and-consistency. If the form is not completed, the HER attempts, with the parent's help, to complete it at that time. Except to answer any questions that the parent might have about the

survey, there is no further responsibility placed upon the HER with respect to the youths deleted from the Cycle III sample and not included in the longitudinal or twin studies. For the sample youths in Cycle III, deleted youths who were examined in Cycle II, and deleted twins, there is much more involved in this visit. At an appropriate point in the visit, the HER explains the program to the parent. She must be able to answer many questions about the survey such as the purpose of the survey, how the sample was selected, examination content, value of the examination to the individual, and others. Obtaining agreement to cooperate by participation in the examination has not been a great problem in either Cycles II or III. Signed consents of the parent are obtained for the youth's participation in the survey, for the survey to transport the youth to and from the rnobile examination center, and for the survey to obtain additional information from school personnel, from a physician's, dentist's, or hospital's records, and from other official sources such as State registrars. A school excuse form is also signed by the parent. The HER indicates to the parent that the Public Health Service will be glad to forward to the youth's physician or dentist the findings of the medical and dental examination if the parents so wish. ,A marital history of the parents is obtained and a Health Habits and History form is left with instructions that it becompleted by the youth and be returned to the survey in the envelope provided before he arrives for the examination. This form is shown as appendix IC, The characterization of twins as identical or fraternal is also established, Scheduling restrictions are determined and recorded for later use by the administrative office in setting up appointments. Finally, it is explained to the parent that he will be notified by the survey of the **date** and time of the examination. Also a leaflet is left which describes the program (fig. 2).

APPOINTMENT AND TRANSPORTATION PROCEDURES

After all Census questionnaires have been received, the schools attended by the sample **youths are** identified and grouped. **The Field Operations Manager contact8 the School Superintendents either in person** or **by telephone** depending on whether a contact was made during advance arrangements. They are informed that the program is underway in the area, which of the schools under their jurisdiction are involved, and the number of youths. If the Superintendent has not previously informed the school principals under his jurisdiction of the survey, he is asked at this time to contact those principals of the schools which contain sample youths.

The scheduling and notifications of examination are worked out by the field management office. In preparing the schedule of youths to be examined on **any** particular day, consideration is given to any restrictions determined at the time of the HER interview, the distance to the examination center, the school groupings, and any considerations the school officials may have introduced with regard to particular days or times. Efforts are made to minimize the transportation workload. At least 3 days before the date of the examination, an appointment slip and covering letter are mailed to the home. Entered on the appointment slip is the time, day, and date of the examination, where and when the youth will be picked up, and when he will be returned. Youths examined in the morning are usually scheduled to be picked up at home and then taken to school after the examination and a light lunch at the **center. Those** examined in the afternoon are scheduled to be picked up at school and taken home after completion of the examination. Escorts are provided for all youths. Usually these are carefully selected persons residing in the sample area with transportation secured from taxi, limousine, or small bus companies, or HER's or other HES administrative staff using government cars.

There are **always** a number of youths who for one reason or another cancel their appointments or are not available at the time they are to be brought to the center. Those who cancel are fairly easily rescheduled for another time. Those who fail to appear without any notice of their intention to do so or change their mind about participating are **followed** up as **soon** as possible, preferably the same **day.** Immediate followup of these youths helps to reinforce **in** the sample youth's mind the importance placed on his participation. In many cases, the youth can thus be brought to the **examination center** only a little **later than the other examinees.**

YOU and the Health Examination Survey

BACKGROUND

The Health Examination Survey is part of the U.S. National Health Survey authorized by Congress in 1956 to collect information about the health of Americans, Some information is collected by asking people questions about themselves and their health. Other needed data can only be obtained by an actual health examination.

All information obtained from individual6 by interview and through the examination is held strictly confidential.. A report of the significant medical and dental findings is sent to the examinee's physician and dentist on request. Reports of overall findings are published for use by medical researchers, educators, physicians, dentists, and many public and private agencies.

In 1962, the Health Examination Survey completed a study of health conditions of persons 18-79 years of age. About 7,000 adults throughout the United States participated in the special health examination which was a part of that survey. In a second cycle of the Health Examination Survey,, some 8,000 children aged 6-11 year6 participated in a health examination designed to provide information about growth and development during these years. This was completed in December 1965.

In this cycle, we will be concentrating on you young people from 12-17 years of age. Some of you who were examined as 6-11 year olds may now be eligible for reexamination as part of this older group. In any event we are concerned with the health aspects of your growth and development during these important years.

HOW YOU WERE CHOSEN

The U.S. Bureau of the Census, working with the Health Examination Survey, has selected 40 areas in the United States which, taken altogether, represent the entire Nation. Each of these areas consists of one or more counties located in the northern, eastern, southern, and western parts of the country. Some are urban and some are rural.

Within each of these 40 areas, about 600 houses are selected by scientific sampling methods. This is how we 'happened to come to your home. Every person 12-17 years old, living in one of these houses, automatically becomes a part of the national sample. This consists of some 9,000 young persons on whom we will obtain medical histories. This figure will then be reduced by another sampling procedure to give us a sample of about 8,000 persons to be examined.

Both you and your parents have been asked PO fill out a questionnaire concerning YOUR health. If you are one of those chosen, you have also been asked -to participate in the examination. For this, of course, we need the written consent of your parents since, legally, you are a minor.

CONTENTS OF THE EXAMINATION

The examination, which should be an interesting and enjoyable experience for you, consists of the following:

A special examination by a physician of the eyes, ears, nose and throat, heart, and nerve and muscle systems.

An electrocardiogram and a phonocardiogram of the heart. (Tape recordings of electrical impulses in the heart and of the heart sounds)

An examination by a dentist of the teeth and mouth.

Recordings of blood pressure.

Measurements of verbal, perceptual, and social skill6 by a psychologist.

Audiometric tests for hearing performed in a specially constructed soundproof room.

Tests of vision and visual acuity.

An X-ray of the chest and one of the hand and wrist.

An exercise test walking on a treadmill, and a grip strength test.

Biological and biochemical tests on a blood sample.

Measurement of breathing capacity.

Height, weight, and other measurements of growth and development.

The examination lasts about 3½ hours. There are two examining periods each day, morning and afternoon. Occasionally there will be an evening session scheduled. Six youths will be examined during each period. Ordinarily, there will be other young people from your-neighborhoodor school in your group.

The examination is given in our mobile "Health Examination Center" which consists of foyr specially built trailers. Transportation to and from the Center will be provided by -the Public Health Service. There is no cost to you for any part of this. If you are scheduled for the examination during school hours, arrangements will have been made with the proper school officials in advance.

WHY YOU ARE SO IMPORTANT

There are some 22 million young-people between the ages of 12 and 17 in the United States. Naturally we cannot examine all of them. As a participant, therefore, you represent about 3,000 youths in your age group. Whether you have been asked simply to complete the medical history or whether you have been asked to participate in the health examination as well,, you play an essential part in the success of the survey.

Figure 2. Pamphlet describing the program.

At the time sample youths are picked up or returned to the schools, the escorts leave with the school principal a form, Supplemental Information From School, for each sample youth in the school. The principal has been notified of this aspect of the survey before delivery of the forms and has been asked to have the form completed by the youth's teacher or whoever he believes to be the best informed respondent. Each form has the name and address of the sample youth already entered, and a preaddressed envelope is provided for its return to the survey. This form is shown as appendix ID. In those locations visited during the summer months, when school is not in session, the questionnaires are mailed to the school in the early fall with a request that they be completed and returned.

EXAMINATION CENTER AND FIELD STAFF

As in the previous two cycles, examinations are carried out in a specially constructed mobile examination center. The center used for Cycle II required some modifications and renovations to be performed between cycles to adapt for changes in examination procedures, but the basic scheme is the same. Four large trailers are used, two are 35 feet long by 8 feet wide and two are 45 feet in length by 8 feet wide. The individual trailers are drawn by detachable truck tractors when making moves from one area to another. These trailers are set up side by side and connected by covered passageways to make the examination center. Figure 3 shows the four trailers and the floor plan of each. A minimum space of 60 feet by 60 feet is required to accommodate the trailers. The sites on which the trailers are located must be as level as possible to avoid any effect on certain examination procedures and must also be accessible to the truck tractors. Heating and air conditioning units have been installed to help provide a standardized environment for conduct of the examinations.

The field staff necessary to carry out the operations of the survey may be considered to consist of three elements. The first is the team of Census interviewers (usually five to seven persons) and a supervisor. Their work, which is described elsewhere in this report, begins on a Monday, takes about 5 days to complete, and is usually 2 to 3 weeks in advance of the examinations. The second element consists of the administrative and management personnel and the HES interviewers. The administrative staff arrive at the location and set up their office on the Friday before Census interviewing, with the HES interviewers arriving 1 week later. The administrative staff consists of two field office managers and two administrative assistants. The administrative staff includes duplicate positions since their operations at a new sample area begin before all examinations at a preceding area are completed. This period of overlap is in most cases 2 or 3 weeks. The third element is the examining staff operating within the mobile examination center. These include a physician, a nurse, a dentist, two psychologists, four laboratory X-ray technicians (one with supervisory responsibilities), and a clerical assistant.

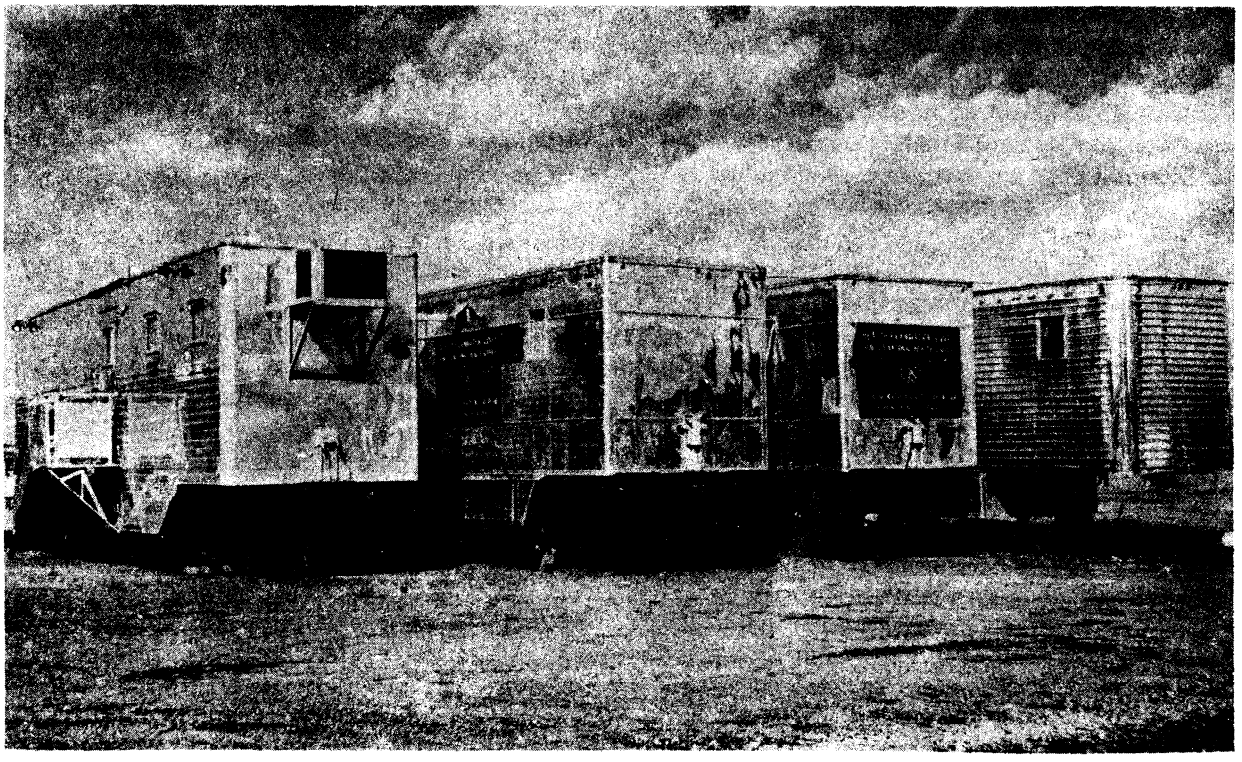
With the exception of the physician, all other members of the field staff are Civil Service employees or Commissioned Officers of the Public Health Service. The examining physician is either a senior resident or a fellow in pediatrics recruited from selected medical centers, medical schools, or hospitals and is generally employed only for a single sample area.

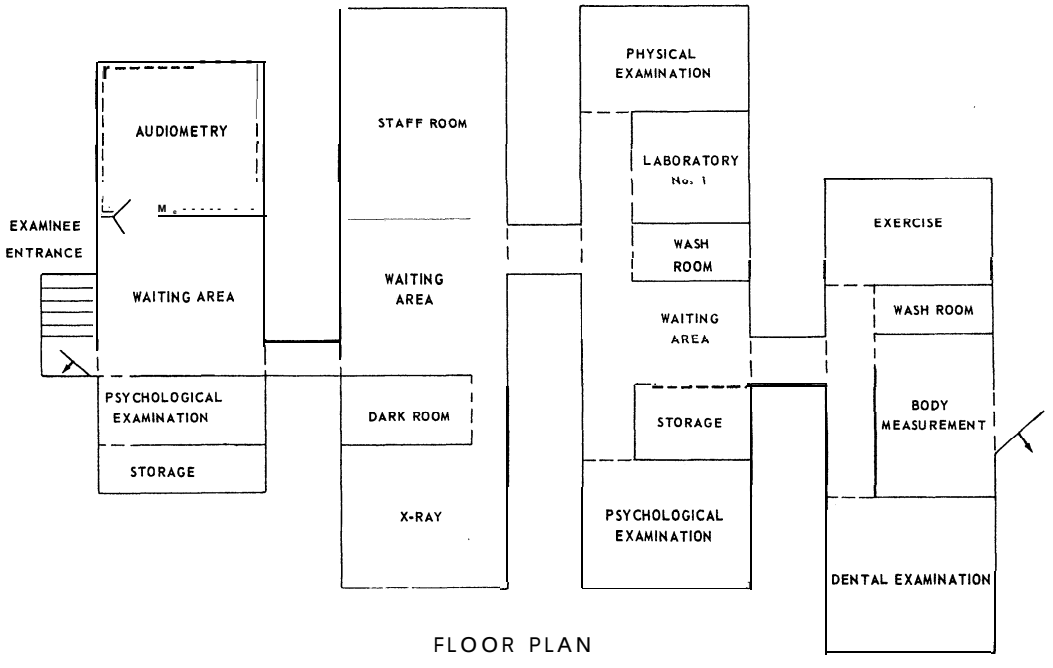
A medical advisor to the survey, a Public Health Service commissioned officer, is present during the first few days of each stand to supervise examinations by the new physician and to provide consultation on any of the other various medical aspects of the examination.

EXAMINATION PROCEDURES

General

As discussed previously, the content of the examination was developed after extensive planning , consultation, and methodologic and pilot studies. As such, it is a special examination tailored to the objectives and limitations of the survey and is not intended to be a complete medical examination. The fact that the examination is not a substitute for a visit to one's own physician and dentist is explained to the parents of each sample youth. The findings of the physical examination are not disclosed to the youth or parent but, with the





FLOOR PLAN

Figure 3. Mobile examination center.

parent's signed' consent, a report i.s sent to the physician named by the parent. A report of the dental examination is likewise sent to their dentist. The reports make no specific treatment recommendations except to suggest, when it appears desirable, that the youth be seen Before his next regular appointment. All forms being. used in the examination, with the exception of those in the psychological area, are shown as appendix IF.

Flow of Examinees

The pattern of scheduling examinees in Cycle III is very similar- to th-at. of Cycle II, In the early pilot test work of Cycle II it was observed that the children. were more at ease if a number of them came in for the examination at the same time., Another advantage of this type of scheduling was the fact that since most: of the children were attending school, the problem of transportation would be facilitated if a number could be picked up at school or transported back to school at the same time. Individual scheduling of examinations would greatly complicate the problem of transportation.

Six examination slots are available in the morning and six in the afternoon. Because of this it is necessary to vary the sequence of examinations, for example, the six could not be examined by one physician at the samepointinthe sequence of examination elements if all examinees started together . After screening all history forms, the' physician sees and examines beforehand any examinee whose history for cardiac or other reasons indicates he may be unable to tolerate the exercise test, and will exclude him from the test if necessary. Equally important is the fact that pregnancies among females be identified so they will be omitted from the treadmill test and from the chest X-ray.

When the examinees arrive at the mobile units, the nurse and the clerical assistant provide a short resume' of the examination to assure the examinees that no internal or painful tests are involved and to place them at ease as much as possible, Temperatures are then taken and any examinee with a temperature of 100° or over is seen immediately by the physician and may be sent home at the physician's discretion. These will be rescheduled for another date. Name cards showing the examinee's name and sample number are worn during the entire examination. Special clothes are also provided. These consist of gymnasium-type shorts, a terry cloth robe, andcotton socks. Girls are also provided with a specially designed blouse. These uniforms were designed to facilitate and standardize various elements of the examination such as the physician's examination, the body measurements, and the X-rays.

The flow of examinees is controlled by the daily flow chart which is designed for efficient utilization of staff time by specifying the sequence in which the youths are examined. The daily flow charts, one for morning and one for afternoon, are made up by the clerical assistant. In the preparation of these charts, numbers I through VI are assigned to the examinees. These numbers, as can be seen from the chart (fig. 4), determine the sequence of examination procedures for each examinee. In the event there are fewer than six examinees, any of the six numbers may be omitted to obtain the examination sequence which permits best utilization of staff members. The clerical assistant has the responsibility to insure that the flow chart is followed.

In addition to those discussed above, other responsibilities of the clerical assistant which should be mentioned here include recording data from the dental examination, maintaining a daily log of unusual events, reviewing completed case records for completeness and consistency, preparing examinee lunches and snacks, and seeing that each examinee completes a self-administered Health Behavior form (appendix IE) during some free time in the examination if it has not been completed during the psychological testing.

The Examination by Physician and Nurse

Prior to joining the field staff, each examining physician receives brief training in special areas, especially in adolescent medicine (including maturation grading), otolaryngology , and dermatology. A medical advisor of the survey conducts this training with the aid of consultants in medical institutions in the Washington, D.C. area.

Each Medical History of Youth form (appendix IB) and Health Habits and History-Youth form (appendix IC) is reviewed by the examining physician on the day before the scheduled exami-

HEALTH EXAMINATION SURVEY-CYCLE III

Examinee Flow Chart

Date _____ A. M.☐ P. M.☐

	I[1]	II[1]	III	IV	V	VI
0 hour	2					
1st hour	Psychology	Psychology	Physician and Nurse	Dental and Vision	T-l	T-2
			Dental and Vision	Physician and Nurse	T-2	T-l
2nd hour	T-l	T-2	Psychology	Psychology	Physician and Nurse	Dental and Vision
	T-2	T-l			Dental and Vision	Physician and Nurse
3rd hour	Physician and Nurse	Dental and Vision	T-1	T-2	Psychology	Psychology
	Dental and Vision	Physician and Nurse	T-2	T-1		

[1] I and II will be boys,
[2] Temps., change-clothes (except I and IX who change clothes after the psychological tests).

NOTE: T-1= treadmill, body measurements and grips, X-ray, height-weight.
T-2= audio, spirometer, ECG and phonocardiogram, secretor specimen.

figure 4. Examinee flow chart.

nation. Special attention is paid to any entries which suggest a limitation on the youth's ability to perform any of the tests or procedures and to items which may require further followup in the course of the examination.

It may be argued that a preexamination review of these forms would result in the physician's examination not being quite the same for every examinee. A blind-type design in which the physician did not see a medical history would produce somewhat different results in some cases. It was felt, however, that the advantages of an examination procedure more nearly like that in clinical practice outweighed these disadvantages. The physician's examination includes an eye, ear, nose, and throat examination, check for goiter, musculoskeletal and neurological evaluation, cardiovascular examination, grading of facial acne, assessement of sexual maturation, and an appraisal of nutrition.

The nurse is present during the examination and in addition to drawing a sample of blood and obtaining blood pressure is also responsible for the completion of several procedures for the female examinees. These are the completion of a questionnaire concerning the menses and collection of a urine specimen for culture of bacteriuria. A "repeat" urine collection is indicated if the culture shows 100,000 organisms or more per cc. The examinee is rescheduled for two return visits as soon as possible and on consecutive days if convenient to the examinee.

If the first repeat specimen shows less than 100,000 organisms per cc. the second visit may be cancelled. All cultures having 60,000 organisms or more per cc. are sent to the University of Virginia School of Medicine for organism identification and serotyping.

The eye examination includes a careful, general inspection for evidence of abnormal conditions of the lids, conjunctivae, sclerae, pupils, and irides; a cover test for the presence of any tropia; an inspection of the conjugate gaze; and determination of the focusing or dominant eye.

For a variety of practical reasons a lengthy, highly structured, carefully standardized neurological examination is not part of the physician's examination. Instead, after reviewing the total history, and testing a minimal number of reflexes, the physician performs as many neurological tests as he feels are necessary either to satisfy himself that no significant neurological abnormality exists or to delineate clearly the nature and extent of any such abnormality, much as he would do in a clinical setting. Likewise, he uses a number of simple prescribed procedures to obtain clues about possible musculoskeletal problems, such as loss of range of motion in a joint or muscle weakness. These minimal screening techniques, coupled with the physician's judgment and skill in undertaking and interpreting any further tests, allows him to consider the child as normal in these respects or to obtain with reasonable accuracy and effort a coherent explanation of any neuromuscular or skeletal problem.

The musculoskeletal examination consists of having the examinee put his wrists, elbows, shoulders, hips, knees, and ankles through a full range of motions by a series of actions such as bending forward, abducting legs and arms, and squatting and touching toes. If he is unable to perform any one or more of these procedures, further examination is given. For example, if he is unable to squat or fully abduct his legs, then the hip is investigated by performing the Thomas test. Both tibial tuberosities are palpated for tenderness and swelling as definite evidence of past or present Osgood-Schlatter disease. Hand and foot dominance are determined by having the examinee state and demonstrate the preferred side.

Prior to joining the field staff, the physician is given specific training in performing the ear, nose, and throat examination. This examination is of special interest because of the relevance of these findings to the audiometric data. The examination consists of a general inspection of the external ear, routine otoscopic examination of the external auditory canals and tympanic membranes, pneumatic otoscopy, and examination of anterior nares, tonsils, and oral pharynx.

The breast examination in males is performed by inspection of both areolae and palpation of breast tissue for gynecomastia and tenderness. For females, maturation is graded and the breasts and axillae are palpated for masses.

The genital examination for both sexes consists of evaluation of stage of maturation based on presence and distribution of the pubic hair. Further examination of males involves an inspection of the genitalia for circumcision and grade of ma-

turation, the usual check for hernia, and palpation of the testicles for masses.

The cardiovascular examination is a routine auscultation of the heart. If findings are present which are felt to be significant or even possibly significant, a tentative diagnosis is made. Because there is no recourse to trained cardiologists, all diagnoses based on cardiac auscultatory findings are considered "tentative" or likely but not definite. Three blood pressure readings are taken—the first at the beginning of the physical examination with the youth supine, the second with him supine after the examination, and the third immediately thereafter with the youth sitting on the edge of the examination table.

The blood sample is taken to determine hematocrit and hemoglobin, levels of cholesterol, uric acid, serologic tests for syphilis, testosterone levels (in boys), protein-bound iodine, and to make extensive genotype determinations of the blood groups.

For each youth, the parents are asked to name a physician (or clinic or other health facility) responsible for the youth's medical care. This physician later receives a summary of the youth's examination and many related tests, including a photographic copy of the chest X-ray. The examining physician notes on this summary sheet any condition (such as serious intercurrent illness or new complication of known disease) of which he believes the physician may not be aware. In those few exceptional cases where it is warranted, the examining physician provides for prompt or immediate referral of an acutely ill youth to his physician for indicated care, and may appropriately discuss the problem with the individual's physician.

More directly important to the survey is a parallel summary of findings which the examining physician makes for the survey records. Using his training and clinical judgment, the youth's medical history, his own examination, the hearing and vision tests, and the other data available to him from the other examination procedures, he decides whether or not the adolescent is basically healthy. Excluding from consideration mild, transient problems such as minor cuts or bruises, fractured bones that healed without complication, and colds, he decides whether the youth before him has been and is developing satisfactorily and growing normally. Because of the small size of the survey sample, the number of cases of abnormality traceable to any single given cardiovascular, orthopedic, or other disease will be small. Nevertheless, data are available for adolescents who either are or are not normal and healthy in the opinion of well-trained pediatricians. In addition, he assigns specific medical explanations for those youths who have or have had significant disturbances in health or development. These impressions are useful in studying the prevalences of causes, or at least, groups of causes, of exceptions to the usual patterns of growth in this age group.

Dental Examination

The dental examiners derive their findings on a uniform basis by following, as closely as possible, a written set of objective standards; The standards are guidelines which, in effect, narrow the range of examiner variability by eliminating many of the borderline or questionableconditions that are frequently a source of disagreement. To avoid other sources which might result in systematic bias, the dentist does not dry or isolate teeth during the examination, remove oral debris and calculus, or probe any tooth surface that does not have an overt sign of decay.

The dentist dictates to a. trained recorder the condition of each tooth that is present. Teeth are classified as sound, filled, decayed, filled-defective, or nonfunctional. Missing permanent teeth are also noted and each is classified under one of four groups: unerupted, carious extraction, accidental loss, and orthodontic extraction. The examination form also provides a means of recording the presence of artificial teeth, unshed primary teeth, and root remnants.

The next step of the examination is an assessment of the periodontal structures and-the status of oral hygiene. A periodontal index score is entered for each tooth. The score ranges from O-8, depending on the absence or on the presence and extent of gingival inflammation and pocket formation. An oral hygiene score, ranging from O-6, is recorded for all or any of six predesignatedteeth that are present. The score is an estimate of the amount of debris and the amount of calculus on selected surfaces. Fluoride and nonfluoride opac-

ities and fractures of the anterior are also recorded,

The dental examination ends with a detailed assessment of the occlusion and alignment of teeth. The relationship between upper and lower incisors is described by measuring the vertical and horizontal distance separating them. The occlusal relationship of posterior teeth is described by recording the anteroposterior position of the upper to the lower teeth and the number of upper teeth in crossbite. All displaced and rotated teeth are counted and recorded.

An adjustable examining chair, a standard light source, and a mouth mirror and explorer are used in the examination of the teeth and gums. The examination is usually completed in less than 10 minutes. At the request of parents and with their authorization, the examining dentist fills out a brief report form which is sent to the youth's private dentist.

A saliva sample is collected by the dentist to provide an estimate of the number of youths who secrete blood group antigens, It is collected on all examinees except those who have bleeding gums, Waxes or other substances to stimulate salivation' are not used.

Vision Examination

The vision test battery is administered by the examining dentist, since this member of the examining team has the requisite time available, The result is to have these procedures carried out by a professional person who, once the necessary special training has been given, is highly adept at administering the examination.

Included in the vision examination are tests for color deficiency (Ishihara's screening test followed by Hardy-Rand-Rittler 's test to establish' fact, type, and degree of deficiency); tests for mopocular and binocular visual acuity at distance and near (Bausch and Lomb Master Orthorater with special Armed Forces plates supplemented by Landolt ring charts for illiterates); tests for distance and near lateral phoria; trial lens test for myopia for any examinee scoring less than 20/20 (Snellen notation) at distance; and lensometer readings for the glasses or contact lenses worn by the examinee, Color vision, visual acuity at distance, the trial lens test for myopia, and the lateral phoria tests at distance and near are given both with and without glasses for the youths who normally wear them. Administration of these tests usually requires about 10 minutes.

Psychological Testing

In line with the recommendations made by child psychologists from five universities and the National Institute of Mental Health, it was decided to continue the same test battery used for the children's examination, with slight modifications, to assess the mental health aspects of growth and development, This makes it possible to evaluate intellectual and emotional growth and development on a comparable basis throughout childhood and adolescence,

After the pilot test, it was decided to use the following test battery in the survey,

1. Vocabulary subtest from the Wechsler Intelligence Scale for Children
2. Block design subtest from the Wechsler Scale
3. Human figure drawing administered as a modified Goodenough-Harris Drawing Test with drawings made of a person and a self-drawing of the examinee
4. Selected cards from the Thematic Apperception Test
5. Wide Range Achievement Test-the reading and arithmetic subtests of the 1963 version
6. A brief reading and writing test of literacy

The psychometric battery is administered by psychologists who have been trained at least at the level of the master's degree and who have had some experience in administering tests to adolescents. The time required to test a single youth is approximately 70 minutes. All but the literacy test forms, which were developed under special contract for the Health Examination Suvery, [49] are available commercially, Except for the Thematic Apperception Test, the test forms include space for the required answers or entries. In the case of stories produced on the basis of the Thematic Apperception Test cards, the psychologist makes

tape recordings which are later transcribed and made available for reading and evaluation.

Procedures Performed by Technicians

Four technicians conduct the following operations of the examination: an audiometric test, X-ray of the chest, X-ray of the hand and wrist, measurement of height and weight, spirometry, electrocardiogram, test of grip strength, a series of body and skinfold measurements, and an exercise tolerance test,

The audiometric testing is done in a specially constructed, acoustically treated room large enough for both the technician and the youth being examined, Because of space limitations it was also necessary to install another testing instrument-the Data Acquisition Unit (DAU)—in this room, The hearing tests are always done when the DAU is not in use, Special sound pressure level surveys are conducted to be sure that ambient noise in the test room is sufficiently attenuated to allow for accurate testing.

Each youth is tested at eight different frequencies with the 4,000 c.p.s. frequency repeated a second time, For each frequency the sound is presented separately to each ear in the randomized order prescribed on the recording form. Alternation of presentation to each ear varies between examinees according to whether the examinee's sample number is odd or even. This is arranged so that for half of the youths the first ear tested is the right and for the other youths it is the left. The threshold recorded for each frequency is the lowest decibel level at which 50 percent or more of the responses are obtained, that is, two out of three or three out of five trials (fig. 5). Any condition such as earache, cold, or unusual behavior which may affect the test results is also recorded,

Two X-ray films are taken. One is a 14x17 posterior=-anterior film of the chest at a distance of 72 inches,, and the other is a 8x10 film of the right hand and wrist for the determination of skeletal age and bone density. All recommended precautions to minimize radiation hazard are taken, including the use of a special "no scatter" cone, use of lead-rubber apron shields, and the wearing of radiation badges by the technicians. New radiation badges are provided at the beginning of each location, Periodic dosimetry field surveys are

Figure 5. Audiometric testing.

conducted by the Radiological Health Division of the U.S. Public Health Service.

After the X-ray films are developed, they are reviewed by the physician before the examinees are released from the trailers so that inadequate films can be repeated. No formal readings of the X-rays are done at the mobile examination center. However, the physician does screen the chest X-ray for abnormalities prior to recording his summary of findings. Readings of the hand-wrist X-rays for assessment of bone age are being done by medical students with special training in this area, at Case Western Reserve University under the supervision of Dr. S. Idell Pyle.

The results of a 12-lead electrocardiogram and spirogram are recorded on magnetic tape by use of a Data Acquisition Unit. Under terms of an agreement with the Medical Systems Development Laboratory, National Center for Health Services Research and Development, U.S. Public Health Service, the tapes are fowarded to their facilities for processing. For each examinee, the Health Examination Survey is provided with tabular printouts and digital computer tapes of all basic data. For the electrocardiogram, this consists of the amplitudes and durations of various waves in each of the 12 leads, as well as such data as *QRS* and *T* axes, rates, and so forth. Basic data for the spirogram will consist of measurements from three or four trials of maximal forced expiratory

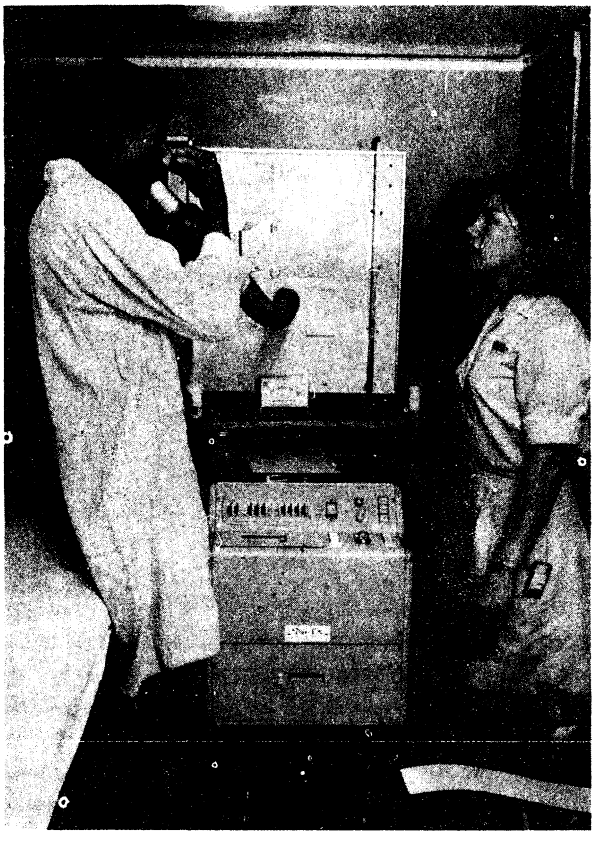


Figure 6. Testing lung capacity.

volume, the forced expiratory volumes at 1, 2, and 3 seconds, the maximum expiratory flow rate, the maximum midexpiratory flow rate, and various peak flow rates (fig. 6).

A test of grip strength is made using a dynamometer —three separate tests for each hand. The examinee is also questioned to determinehis "handedness."

A special self-balancing scale is used to record the examinee's weight directly on the record form. Following this, the examinee steps off the weight scale and stands on the platform of the height scale. The examinee is positioned with his back and heels against a vertical bar to which an adhesive strip wit5 his examination number is fastened. He is asked to stand with feet together and head facing straight ahead in the Frankfort plane. After he has been positioned, a movable horizontal arm is adjusted to fit snugly on top of the examinee's head. The technician then presses a button attached to a camera mounted on the

Figure 7. Measuring standing height.

movable arm which is focused on the scale and a pointer arrow indicating the height. A finished print is available shortly thereafter which becomes a part of the examinee's record (fig. 7).

In addition to the weight and standing height, 36 other body measurements are made. Seventeen of these are similar to measurements taken in Cycle II. Various heights, breadths, and girths

Figure 8. Taking body measurements.

are all taken on the right side of the body with one exception, the medial calf s kinfold. Skinfold thickness measurements are recorded to the nearest half millimeter while other measurements are recorded to the nearest millimeter.

The measurements are made with one of the technicians performing the procedures and another acting as a recorder. A recorder is essential for the recording of anthropometric data to insure the optimum accuracy in the collection of data and to assist in the correct positioning of the examinee. Since the recorder has had the same training as the examining technician, any errors noticed in the measurement procedures are called to the attention of the technician taking the measurements. As a measurement is read, it is reported to the recorder, who repeats the number, records it in the proper space, and gives the name of the next measurement (fig. 8).

The exercise tolerance test is carried out by the use of a treadmill. The test consists of a 5-minute walk at a speed of 3.5 miles per hour. The grade of incline during the first 2 minutes is zero, i.e., treadmill surface is level, after which it is raised to a lo-percent grade for the remaining 3 minutes. The result of the test is the recording of the examinee's pulse rate. This is monitored and recorded by means of precordial leads going to a cardiotachometer which records both the electrocardiogram and instantaneous pulse rate (fig. 9). Since reasonably constant ambient temperature and humidity are a very important part of this procedure, the room in which this test is administered is kept between 70 and 74 degrees Fahrenheit and between 50 and 60 percent relative humidity.

The technicians perform a duplicate hematocrit on each subject and are also responsible for the preparation and packaging of bloods sent to the independent laboratories for analysis. 'Bloods for the serologic tests for syphilis are sent to the Venereal Disease Research Laboratory, Communicable Disease Center, Public Health Service. Each specimen is tested by the VDRL and the FTA-ABS methods. Determinations of total serum cholesterol, uric acid, and protein-bound iodine are made by the Lipid Standardization Laboratory of the Laboratory Branch, Communicable Disease Center, Public Health Service. Hemoglobin content (MCHC) and blood typing are done by the Immunogenetics Laboratory, Johns Hopkins University. A specimen of plasma is frozen and stored for possible future determination of testosterone levels in the boys.

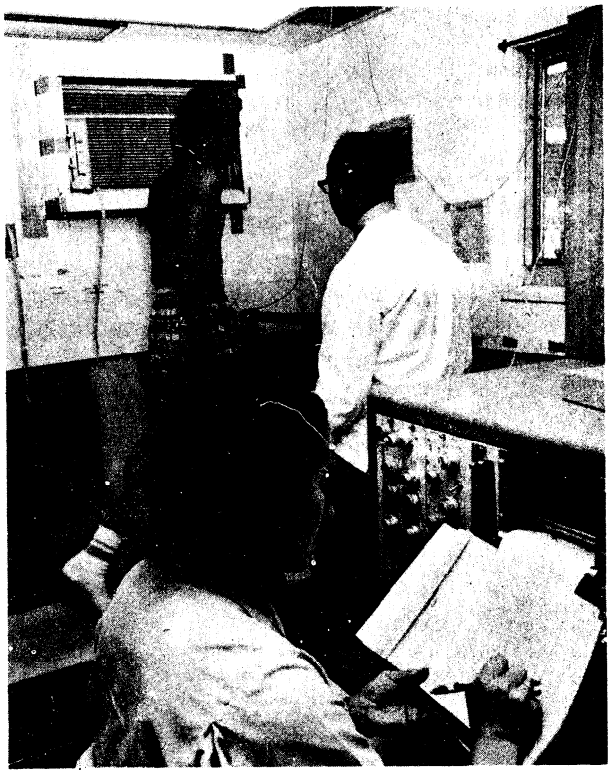


Figure 9. Exercise tolerance test.

SUPPLEMENTAL DATA

Reasons for Collection

In earlier sections of this report, reference has been made to the questionnaires obtained as supplemental data to the examination portion of the survey. Among these were the household questionnaire administered by the Census interviewer, a youth medical history questionnaire completed by the parent and another by the youth, a health behavior questionnaire completed by the youth in the examination center, a marital history questionnaire administered by the HER to the parents, and a questionnaire completed by the youth's school teacher or other school officials acquainted with the school record of the youth. A copy of the

birth certificate of each youth is requested from the appropriate State or city registrar's office.

These supplemental data are collected for various purposes which can essentially be grouped into the following categories:

1. To provide a demographic frame against which the examination findings may be viewed.
2. To assist the physician in his examination of the youth by alerting him to certain conditions necessitating further special examinations or to limitations requiring special handling in one or several of the procedures in the overall examination.
3. To facilitate subsequent survey operations. (An example of this is information on grade and school of the youth.)
4. To relate health history, achievement, behavior, and other questionnaire data to specific findings of the examination.
5. To verify such information as date of birth or grade placement obtained from another source.

Description of Supplemental Documents

The household questionnaire, which was developed jointly by members of the HES staff and Bureau of the Census personnel, is the basic source document of demographic data concerning the population sample; it also serves in the final stage of sample selection. The administration of this form by the Bureau of the Census interviewer has been described previously. In addition to obtaining the age, race, and sex of all household members, a variety of other data is obtained from all households containing an eligible youth. These data include information on the school attended and the grade for each eligible youth, as well as information for each parent or guardian concerning their education, country of birth, handedness, working status, and marital status. Information about the status .of any other children from the present or previous marriage who are not presently living in the household is asked of the parents only. The total family income and whether any language other than English is spoken in the home are also determined, Parents or guardians are also asked three questions concerning the occurrence of certain specified episodes such as death in the family, which might be regarded as potentially traumatic in the life of the youth.

The Medical History of Youth questionnaire (appendix TB) completed by the parent or guardian, is primarily intended, as its name implies, to obtain data on the health history of the youth. In this respect, its value lies in several directions, It alerts the examining physician to certain conditions which may require him to administer further special examinations or to preclude the examinee from participating in certain procedures of the overall examination, It also provides data which can be related to findings of the various procedures in the examination. For example, it provides information concerning injuries or operations to the ear, or earaches and similar items which can be analyzed in relation to the results of the audiometric testing. The greater portion of the last page of the form is applicable to girls only and pertains to their menarche,

The Health Habits and History questionnaire (appendix IC), left at the home to be completed by the youth, contains those items of health information which it is felt are best answered by the youth. For example, while the parent could surely answer whether the youth wears glasses or contact lenses, the youth would be better able to answer questions related to the necessity for glasses and, if glasses are worn but not all day, the occasions when he does use them. As in the case of the medical history completed by the parent, it also alerts the physician to certain conditions for further special examination procedures-or to conditions which may preclude the examinee from participating in certain procedures, Several items are included which are also contained in the history questionnaire completed by the parent. These "comparison" type questions have been included where the agreement or disagreement between parent and youth is of interest, Examples of these are some medical history items, opinions of general health and physical growth, eating habits, and time since last saw a doctor and dentist,

The Health Behavior questionnaire is completed by the youth while in the examination center. The form is shown as appendix IE. Some of the questions on this form parallel those on the health

history completed by the parent. Examples are items concerning educational goals, behavior standards, amount of parental involvement in certain decisions concerning activities of the youth, and the importance attached to certain medical conditions. Other questions concern smoking habits, difficulties with law officials, and the importance of attention to certain dental conditions.

Marital history information of the parents is obtained by the HER during her visitto the household. The data collected is a record of all marriage dates and the reasons for; and dates of termination in the case of broken or multiple marriages of either parent.

Another piece of supplemental information is that obtained from the school at which the youth is a student. This form, Supplemental Information From School, is shown as appendix ID. Mention has been made previously concerning the delivery, completion, and return of the form to the survey. A mail followup is made when the questionnaire is not received within a reasonable time.

The school form serves to provide official information on the youth's grade placement, an item collected from the parent but subject to potential error, It collects other purely objective data such as date of birth, grades skipped or repeated, absenteeism, and disciplinary problems. It obtains the teacher's evaluation of the youth's behavior, ability, and performance. It also identifies any youths whose health problems or differences (including mental ability) have come to the attention of the teachers or other school officials. Thus, for example, the youth who is known to have a vision or hearing problem is identified. It also provides data on the availability and utilizationof special resources needed. Most important, while the battery of psychometric tests provides valuable information on the youth's personality growth and development and on general levels of intellectual ability, the questionnaire will provide some comparative information which will give an indication of the youth's actual accomplishment and performance in his real life situation.

The final piece of supplemental data to be collected is the birth certificate of the youth. This document was also a part of the data collected in Cycle II and therefore will already be available for some of the Cycle III examinees. Data obtained on the household questionnaire and the medical history completed by the parent provide the necessary information to make the request from the appropriate State or city registrar's office, Permission to acquire this information is obtained during the course of the HER interview. A copy of the birth certificate is desired for several reasons. It is important, particularly in connection with the scoring of psychological tests and for the analysis of all the growth and development data, to have the exact and correct age for each child. It is also felt that the mother's age at the birth of the child could be obtained more accurately from this document than from reconstruction from the age reported in the household interview along with the child's age, Finally, the birth certificate provides some information relating to the child at birth (birth weight, congenital conditions noted at that point, and complications of delivery) which can be related to some of the findings of the survey examination.

QUALITY CONTROL

The efforts of the quality control program extend to all phases of the operation-from the beginning of the Census interview until all collected data has been coded, edited, and placed on' magnetic tape for computer use. The goal of the program is to assure that the national estimates of .the various characteristics collected by the survey represent data of the highest attainable accuracy and precision within the limitation imposed by reasonable procedures and costs.

In the Health Examination Survey, as in all sample surveys, there are two sources of error to be considered-sampling error and nonsampling or measurement error. Sampling error, that is, error due to making measurements on a sample rather than on the entire population, can be quantified and is the concern of all statisticians in sample survey design and in analysis. During the data-collection phase, problems due to this type of error are minimal. The nonsampling error is of constant concern during the data-collection phase and considerable attention, time, and effort of the HES personnel are devoted toward minimizing and measuring this type of error.

One type of nonsampling error which occurs in voluntary surveys such as the HES is the bias introduced by nonresponse, The amount of bias

introduced by nonresponse generally, but not necessarily, varies with the amount of nonresponse. Even if the sample is perfectly representative of the population, bias will result if the nonrespondents differ from the respondents with respect to the characteristics being measured. The response rate of a survey such as the HES is, therefore, very critical. Fortunately, the low proportion of sample persons not examined in the various HES programs to date has not produced any serious effects on the validity of the data. Response rates for Cycles I and II were 86.5 and 96.0 percent, respectively. Approximately 90.0 percent of the sample youths in Cycle III will be examined. These high response rates may be attributed to various methodological studies, [4-8] to advance planning and publicity, to much diligent work by the Health Examination Representatives, and to proper handling of examinees by the entire staff.

Another type of nonsampling error which is of great concern in the quality control program is the measurement error which inevitably occurs during the examination procedure. Its importance is easily recognized when one considers that, in the present cycle, each sample youth has a representative sample weight of approximately 3,000. Therefore, any blemish on the survey findings for a particular youth is greatly enlarged in the final analysis of the larger universe. Not only is it important to control and minimize this error but it is also equally important to measure, wherever possible, the amount of error.

In the Health Examination Survey several procedures are relied upon to accomplish these objectives. Prior to the collection of data it was necessary to define precisely what is to bemeasured and to obtain instruction as to how the measurement should be performed. Advisors, both from within the staff of the HES and from outside sources, were instrumental in constructing the necessary definitions and instructions, Intensive specialized training is given to each examination staff member in the specific procedures performed by them in the survey. The special advisors within the HES provide training in their respective areas with additional training in other areas obtained from various outside sources.

Although precise definitions and good initial training are necessary, they are generally not sufficient in a lengthy survey such as the HES. The time factor creates a problem that does not occur when data are gathered in a shortperiod of time. It is important to be consistent throughout the entire survey. In order to accomplish this, detailed written instructions are provided on all aspects of the examination, forms are structured, and retraining is provided. The latter may range from a few minutes for a single item up to several days for an entire area such as body measurements.

In further efforts to attack measurement error, mechanical equipment is employed wherever feasible to obtain a "hard document." These are obtained through the use of such devices as tape recorders, automatic recording of weight, photographs of height, X-rays, and the recording of spirometry and electrocardiograms on magnetic tape. As such, the reading and interpretation of these records can be done independently more than once. The use of instruments for measuring as well as for recording introduces another source of possible variation; thus, systematic calibration is necessary. All instruments are calibrated at the beginning of each stand and also periodically throughout the stand, some before each examination. In some instances, audiometers for example, resources are not available in the examining center and machines must be sent away for calibration. Other instruments also receive periodic maintenance and service through special contract arrangements with the manufacturers.

Environment is also an important factor in achieving valid and standardized data. Good lighting, heating, and air conditioning are essential. For example, it is very important to be able to standardize temperature and humidity in the room where the exercise tolerance test is given. Similarly, it is essential that the room in which the hearing test is given be soundproof.

The subject being examined can also introduce error into the measurement. If the examinee fails to stand up straight for a height measurement, is uncooperative during the psychological examination, or does not understand the directions given for the audiometry test-to give only a few examples-error will occur. It is, therefore, very important that staff members be aware of such possibilities and see that the examinee fully understands what he is to do and that his fullest cooperation is obtained.

Despite all precautions, there is a degree of inherent variable measurement error that cannot be eliminated. Another objective of the quality control program, therefore, is the determination of the extent of this error. In the HES this is determined by replicate measurements. Replicate data are obtained basically in two ways: by re-evaluation or rereading a hard document, or by reproduction of an actual measurement. Although hard documents such as the X-ray or the weight and height measurements are reevaluated, the replicate program is primarily concerned with reproducing actual measurements in a replicate examination.

During the actual operation of the survey, the primary use of replicate data is in indicating areas where retraining or reevaluation of procedures is needed. When the reports of findings of the survey are published, data from the replicates will be used to apprise the reader of the extent to which the data may be affected by measurement error and to call his attention to this problem.

There are several sources of replicate data in the HES. The single most important source is the full-scale replicate examination where a previously examined youth is returned to the examination center for a second examination, complete except for the X-rays, blood sample, and urine culture. The number of youths replicated at a location varies between 12 and 18 depending on the number of examination slots available. These are randomly drawn by segment from thoseexamined during the first 2 weeks of the examinations. Scheduling and other necessary arrangements do not permit sufficient time to select youths for replicates who are examined at a later date. In performing these replicates, the examining staff does not have access to any original records except the medical histories. The examiners have been instructed to use the same techniques as they use in a regular examination and not to try to collect any "better" data than they wouldina routine examination, No efforts are made to assign a particular youth to a particular examiner but as always, the examiner is identified: thus, both intra- and inter-observer variability can be studied. Although for-various reasons it has not been possible to. do full-scale replicate examinations at all stands, the total for the first 31 stands of this cycle is 231, with an estimated number of 325 for all 40 stands.

Aside from the full-scale replicates, replicate data is obtained from several specific areas of the examination. One of these is in body measurements. Replicate body measurements are performed on a systematic basis on "dry runs" day at the beginning of each location. "Dry runs" day is a half day set aside for the examination of four youths not in the sample to check all equipment at the beginning of each stand. The examination content is the same as that for the sample youths and the records of findings are sent to their physician and dentist. During the course of the examinations, two of the dry-run examinees are used for replicate body measurements. Each technician performs measurements on one of the examinees, thereby providing two sets of replicate data. The pairing of technicians alternates from location to location so that after every three locations, each technician will have been paired with the other three. Technicians are not allowed to observethe other technician's procedures or review results of the measurements of the sample youths on whom they are to take replicate measurements. After all replicates have been performed, the supervisory technician compares the two sets of measurements for each youth. If the differences for any measurement are greater than the allowable tolerances, these measurements are repeated on the youth by both technicians in the presence of the supervisory technician who observes theirprocedures and resolves any technical variations. Any changes in a technician's measurements resulting from this procedure are recorded.' However, in the analysis of this replicate data, the original measurements are used since they provide the best estimates of the intertechnician measurement error. Replicate body measurements are also made to obtain estimates of intratechnician error. This is accomplished by having each technician repeat his own measurements on one examinee during the course of a stand.

Although blood is not drawn during replicate examinations, replicate determinations are made for the blood chemistry tests. Replicate readings of hematocrit for all examinees are made in the examining center by using split samples. Replicate determinations on the other blood chemistries performed by independent laboratories are obtained by drawing additional blood samples on 30 regular examinees at each location, splitting each sample, and assigning sample numbers so that the

two cannot be related by the laboratory. In addition, each laboratory also has its own quality control procedures which include the use of replicate determinations.

Several measures are taken to assure completeness and consistency in the recording process. All questionnaires are reviewed for omissions and inconsistencies. With the exception of the Health Behavior questionnaire which is completed in the examining center, all are reviewed by personnel in the field management office. If errors are noted, correct information is obtained by phone or from the examinee when he comes in for the examination. Errors in recording body measurements and results of the dental examination are reduced by having a second person act as a recorder. In addition, all data gathered in the examining center are reviewed by the clerical assistant before the examinees leave.

There are numerous quality control procedures involved in the psychological testing area. Tests are exchanged daily by the psychologists and checked for errors in counting items, computing age, recording scaled scores on the WISC, and recording grade levels on the WRAT. Once each week, six WISC tests, chosen at random from those given by each psychologist during the week, are exchanged and rescored. Scoring disagreements are marked and discussed. If, through discussion, the original scorer decides that his scoring was in error, the score is changed accordingly. All human figure drawings, which are scored by Dr. James L. McCary, University of Houston, are independently scored by two persons. Each week an audit tape on one complete testing session is recorded. This tape serves as a quality control device not only for the psychological advisor at headquarters, but also for the field psychologist who needs to observe his own performance at regular intervals. A list of any unusual occurrences which may affect the validity of the data is also maintained.

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———— ○ ○ ○ ————

APPENDIX I A

NOTICE – All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be disclosed or released to others for any purpose,

BUDGET BUREAU NO. 68-R1 700
APPROVAL EXPIRES JULY 31, 1970

FORM NHS-HES-3 (5-16-66)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. PUBLIC HEALTH SERVICE

HEALTH EXAMINATION SURVEY

1. Questionnaire _____ of Questionnaires

2a. Address or description of location (Number and street, city, State)

2b. Mailing address if not shown in 2a OR ☐ Same as shown in 2a

2c. Name of special dwelling place | Code

3. Identification code	4. PSU number	5. Segment number	6. Serial number

E — *If this questionnaire is for an "EXTRA" unit in a B or NTA Segment, enter;*

Serial number of original Sample Unit	Item number by which found	If in NTA Segment, also enter for FIRST unit listed on property	
		Segment List	
		Sheet No.	Line No.

7. Type of living quarters – *Check one box*
☐ Housing unit ☐ Other unit

L — *Ask Items 8 and 9 only if "Rural" box is marked*
☐ Rural 1 ☐ All other-Skip *to Item 10*

8. Do you own or rent this place?
☐ Own *Ask 9a* ☐ Rent *Ask 9b* ☐ Rent free *Ask 9a*

9a. *If* Own or *Rent free, ask:* Does this place have 10 or more acres?

b. *If* Rent, ask; Does the place you rent hove 10 or more acres?

☐ Yes ☐ No

c. During the past 12 months did soles of crops, livestock, and other form products from the place omount to $50 or more?
2 ☐ Yes 4 ☐ No

d. During the past 12 months did soles of crops, livestock, and other farm products from the place amount to $250 or more?
3 ☐ Yes 5 ☐ No

For questions 10 – 12, ask only the questions checked:
☐ DO NOT ASK QUESTIONS 10 – 12. Go to *question 13.*

10. ☐ Are there any occupied or vacant living quarters BESIDES YOUR OWN in this building?
☐ Yes – S_____ L_____ ☐ No
Fill Table X for each quarters NOT listed.

11. ☐ Are there any occupied or vacant living quarters BESIDES YOUR OWN on this floor?
☐ Yes – S L_____ ☐ No
Fill Table X for each quarters NOT listed.

12. ☐ Is there any other building on this property for people to live in – either occupied or vacant?
☐ Yes – S_____ L_____ ☐ No
Fill Table X for each quarters NOT listed.

13. What is the telephone number here? → Telephone No.
OR ☐ No telephone

14. INTERVIEWER: *If eligible youth in household enter youth's name, Cycle III segment, serial, and column numbers on Medical History Form.*

In addition to the Information you hove olready given me, I would like to leave this form to be filled out about – –. A representativa of the Public Health Service will come by to pick up the form in a week or so. What vould be the best time of day for her to come? →

Column No.(s) of EY(s) for whom Medical History Form(s) were left:

Column No. and relationship of person with whom form(s) were left:

Best time to call:

15. RECORD OF CALLS AT HOUSEHOLD

Item		1	Com.	2	Corn.	3	Corn.	4	Corn.	5	Corn.
Entire household	Date										
	Time										

16. REASON FOR NON-INTERVIEW

TYPE A	B	C	Z *(Partial interview)*
21 ☐ Refusal – *Describe in footnotes* 22 ☐ No one at home – repeated calls 23 ☐ Temporarily absent 24 ☐ Other – Specify Go to *17*	31 ☐ Vacant -s-Non-seasonal 32 ☐ Vacant – seasonal 33 ☐ Usual residence elsewhere 34 ☐ Other – Specify	41 ☐ Demolished 42 ☐ In sample by mistake 43 ☐ Eliminated in sub-sample 44 ☐ Other – Specify	Interview not obtoined for Cols. ____ ____ ____ ____ because:

17a. *For "final" Type A noninterviews enter names and approximate ages of household members.*

Name	Age	Name	Age
1.		4.	
2.		5.	
3.		6.	

b. Who supplied this information? *(Name and address)*

c. Are there any EY's in this Type A household? ☐ Yes ☐ No ☐ DK *(Explain on page 4)*

18. Signature of interviewer

19. Code

WASHINGTON USE ONLY

Persons	EY's	SY's		

		1
1a. What is the name of the head of this household? *Enter name in first column.* b. What are the names of all other persons who live here? *List all persons who live here.* c. I have listed *(read names).* Is there anyone else staying here now such as friends, relatives, or roomers? ☐ Yes* ☐ No d. Have I missed anyone who USUALLY lives here but is now away from home? ☐ Yes* ☐ No e. Do any of the people in this household have a home anywhere else? ☐ Yes* ☐ No **Apply household membership rules*		Last name First name
2. How is -- related to -- *(head of household)*? *Enter relationship to head, for example: wife, daughter, stepson, grandson, mother-in-law, partner, roomers wife, etc.*		Relationship **HEAD**
3. Race — *Mark one box for each person*		1 ☐ White 2 ☐ Negro 3 ☐ Other
4. Sex — *Mark one box for each person*		1 ☐ Male 2 ☐ Female
5. How old were you on your last birthday?		Age ☐ Under 1 year
For each youth age 11 — 18 listed on the questionnaire, ask: 6. What is the month, day, and year of --'s birth?	NOTICE: *Check birth date and age against AGE VERIFICATION TABLE card HES-3b*	Month / Day / Year
ITEM C After completing questions 1 — 6 for all persons, check household composition against Cycle II questionnaire and mark appropriate box. →	☐ SAME household — *Mark one box for each present household member then go to item E.* ☐ DIFFERENT household ☐ No Cycle II questionnaire ☐ Noninterview in Cycle II } *Go to item E*	☐ Same as column ____ on Cycle II questionnaire ☐ New household member
ITEM E *Mark "EY" box for each eligible youth (age 12 — 17) listed on the questionnaire. If no EY, ask coverage questions on Page 1.* *Questions 7 — 16 must be asked only of parent(s) or guardian(s) of EY. If no parent or guardian is at home, arrange to call back when they will be home.*		1 ☐ EY 2 ☐ Not EY
ASK FOR PARENTS (GUARDIANS) OF EY AND FOR EY 70. What is the highest grade -- attended in school?		00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 8 2 High . . . 1 2 3 4 3 College. 1 2 3 4 5 +
b. Did -- finish this grade (year)?		1 ☐ Yes 2 ☐ No
Ask only for EY: c. What is the name and location of the school -- goes to?		Name and location
If "Not in school" ask: d. What is the reason -- is not going to school?		0 ☐ Not in school *Enter reason above.*
ASK FOR PARENTS OR GUARDIANS OF EY 8a. Was -- born in the United States?		1 ☐ Yes - U.S. 2 ☐ No
If "No," ask: b. Where was -- born? *Enter the name of the country.*		Foreign country
9. Is -- primarily right-handed, primarily left-handed, or both?		1 ☐ Right 2 ☐ Left 3 ☐ Both
10a. What was -- doing most of the past THREE months — *(for males)*: working or doing something else? *(for females)*: keeping house, working or doing something else?		☐ Working ☐ Keeping house ☐ Something else
If "Doing something else," ask: b. What was -- doing? *Enter reply verbatim and ask 10c*		
If "Keeping house" OR "Doing something else," ask: c. Did -- work at a job or business at any time during the past THREE months?		☐ Yes ☐ No
If "Working" in 10a OR "Yes" in 10c, ask: d. Did -- work full-time or part-time?		☐ Full-time ☐ Part-time
11a. Are you now married, widowed, divorced, or separated?		1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated
If "Married," ask: b. Have you (your husband) been married more than once?		☐ Yes ☐ No
ASK FOR PARENTS ONLY ☐ *No parent in household — Go to question 13*		Name of child (a)
12a. Besides *(read names of children entered in question 1)* have you and your husband (wife) ever had any other children (in this marriage or in a previous marriage)? ☐ Yes ☐ No		
If "Yes," ask: b. What are their names? *Enter names in column (a).*		
c. How old is --? What is his date of birth? *Enter age AND date of birth. If deceased enter "deceased" in column (c), date of birth in column (d), and month and year of death in column (e).*		
d. Where does he (she) live now? *Enter present whereabouts*		

2	3	4	5	6
Last name	Last name	Last name	Last name	Last name
First name	First name	First name	First name	First name
Relationship	Relationship	Relationship	Relationship	Relationship
1 ☐ White 2 ☐ Negro 3 ☐ Other	1 ☐ White 2 ☐ Negro 3 ☐ Other	1 ☐ White 2 ☐ Negro 3 ☐ Other	1 ☐ White 2 ☐ Negro 3 ☐ Other	1 ☐ White 2 ☐ Negro 3 ☐ Other
1 ☐ Male 2 ☐ Female	1 ☐ Male 2 ☐ Female	1 ☐ Male 2 ☐ Female	1 ☐ Male 2 ☐ Female	1 ☐ Male 2 ☐ Female
Age ☐ Under 1 year	Age ☐ Under 1 year	Age ☐ Under 1 year	Age ☐ Under 1 year	Age ☐ Under 1 year
Month Day Year	Month Day Year	Month Day Year	Month Day Year	Month Day Year
☐ Same as column on Cycle II questionnaire ☐ New household member	☐ Same as column on Cycle II questionnaire ☐ New household member	☐ Same as column on Cycle II questionnaire ☐ New household member	☐ Same as column on Cycle II questionnaire ☐ New household member	☐ Same as column on Cycle II questionnaire ☐ New household member
1 ☐ EY 2 ☐ Not EY	1 ☐ EY 2 ☐ Not EY	1 ☐ EY 2 ☐ Not EY	1 ☐ EY 2 ☐ Not EY	1 ☐ EY 2 ☐ Not EY
00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 8 2 High. . . 1 2 3 4 3 College. 1 2 3 4 5+	00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 8 2 High. . . 1 2 3 4 3 College. 1 2 3 4 5 +	00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 8 2 High. . . 1 2 3 4 3 College. 1 2 3 4 5 +	00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 t 2 High. . . 1 2 3 4 3 College. 1 2 3 4 5 t	00 ☐ None 1 Elem. . . 1 2 3 4 5 6 7 8 2 High. . . 1 2 3 4 3 College. 1 2 3 4 5+
1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No
Name and location	Name and location	Name and location	Name and location	Name and location
0 ☐ Not in school *Enter reason above.*	0 ☐ Not in school *Enter reason above.*	0 ☐ Not in school *Enter reason above.*	0 ☐ Not in school *Enter reason above.*	0 ☐ Not in school *Enter reason above.*
1 ☐ Yes-U.S. 2 ☐ No Foreign country	1 ☐ Yes-U.S. 2 ☐ No Foreign country	1 ☐ Yes-U.S. 2 ☐ No Foreign country	1 ☐ Yes-U.S. 2 ☐ No Foreign country	1 ☐ Yes-U.S. 2 ☐ No Foreign country
1 ☐ Right 2 ☐ Left 3 ☐ Both	1 ☐ Right 2 ☐ Left 3 ☐ Both	1 ☐ Right 2 ☐ Left 3 ☐ Both	1 ☐ Right 2 ☐ Left 3 ☐ Both	1 ☐ Right 2 ☐ Left 3 ☐ Both
☐ Working ☐ Keeping house ☐ Something else	☐ Working ☐ Keeping house ☐ Something else	☐ Working ☐ Keeping house ☐ Something else	☐ Working ☐ Keeping house ☐ Something else	☐ Working ☐ Keeping house ☐ Something else
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
☐ Full-time ☐ Part-time	☐ Full-time ☐ Part-time	☐ Full-time ☐ Part-time	☐ Full-time ☐ Part-time	☐ Full-time ☐ Part-time
1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated	1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated	1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated	1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated	1 ☐ Married 3 ☐ Divorced 2 ☐ Widowed 4 ☐ Separated
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Relationship to both or either parent — *Specify* (b)	Age (c)	Date of birth (d) Month	Day	Year	Present whereabouts (e)

13a. Since (name of oldest EY) was born has anyone in the fomily been in o hospital, an institution, or any similar place for MORE THAN A THREE MONTH PERIOD? . . . . . ☐ Yes ☐ No — Go *to 13b*

If "Yes" ask: Who was this? *Enter name and relationship to parent of EY in cols. (b) and (c).*
When was this? *Enter calendar year in col. (d).*
What is the name of the place he was in? *(Enter in col. (e).*

b. During that period, has anyone in the family been unable to work or carry on his usual activities for MORE THAN A SIX MONTH PERIOD because of ill-health? . . . . . ☐ Yes ☐ No — *Go to 13c*

If "Yes" ask: Who was this? *Enter name and relationship to parent of EY in cols. (b) and (c).*
When was this? *Enter calendar year in col. (d).*

c. Since •• was born has any relative of yours died WHILE LIVING IN YOUR HOUSEHOLD? . . . . . ☐ Yes ☐ No — Go *to 14*

If "Yes" ask: Who was this? *Enter name and relationship to parent of EY in cols. (b) and (c).*
When was this? *Enter calendar year in col. (d).*

Question No. (a)	Name (b)	Relationship to parent of EY (c)	Cal. Year(s) (d)	FILL FOR 13a ONLY Name of the place (e)

14a. Is any language other than English spoken here in your home? . . . . . 1 ☐ Yes 2 ☐ No

If "Yes," ask:

b. What language(s)? Language(s) spoken _____

Fill from item C, page 2: →
☐ SAME household — *Complete question 15*
☐ DIFFERENT household
☐ No Cycle II questionnaire
☐ Noninterview in Cycle II
} *Skip to question 16*

15. If no one has left household, check: ☐ All household members are the same — *Go to question 16*

For each person who was listed originally as a household member but is not listed on this questionnaire, enter his name and column number (from Cycle II questionnaire) and ask:

In the last survey, we had--listed as living here in this household, where is he (she) now?

Name	Col. No. on Cycle II quest.	Present whereabouts *(If deceased, enter "deceased")*

16. Which of these income groups represents your total combined family income for the past 12 months, that is, your's, your--'s, etc? *Show Income Flash Card HES-3b.* Include income from all sources, such as wages, salaries, rents from property, Social Security or retirement benefits, help from relatives, and so forth. → Group

Complete front page of questionnaire

Footnotes and comments: *Include here* any *information which might be useful to the PHS representative when she calls to pick up the Medical History Form.*

TABLE X — LIVING QUARTERS DETERMINATIONS AT LISTED ADDRESS

Line No.	Questionnaire No.	Are these *(Specify location)* quarters for more than one group of people? Yes *(Fill one line for each group)* (3a)	No (3b)	Location of unit (Examples: Basement, 2nd floor, etc.) (4)	USE OF CHARACTERISTICS: Occupied — Do the occupants of these *(Specify location)* quarters live and eat with any other group of people? Yes (5a)	No (5b)	All Quarters — Do these *(Specify location)* quarters have: Direct access from the outside or through a common hall? Yes (6a)	No (6b)	A kitchen or cooking equipment for exclusive use? Yes (7a)	No (7b)	CLASSIFICATION: Not a separate unit *(Add occupants to this questionnaire)* (8)	Fill separate questionnaire and interview HU (9a)	Other unit (9b)	IF HU IN B SEGMENT, ASK: In what year were these *(Specify location)* quarters created? *(If 1959 or 1960, also specify "F" if first half or "L" if last half)* (10)	(If before July 1960) What was the name of the household head of these quarters on April 1, 1960? (11)
(1)	(2)														
1															
2															

APPENDIX I B

CONFIDENTIAL — All information which would permit identification of the Individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to others for any other purposes (22 FR 1687).

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL HEALTH SURVEY

MEDICAL HISTORY OF YOUTH
Parent's Questionnaire

Sample number

NAME OF CHILD *(Last, First, Middle)*	SEGMENT	SERIAL	COL. NO.

NOTE: Please answer the questions by checking the correct boxes or by filling in the blanks, as required. If a question is unclear leave the answer blank and draw a line around the question. A representative of the Public Health Service will collect your filled in questionnaire in a few days and she wili help you answer the unclear questions. Thank you for your cooperation.

1. SEX	2. AGE	3. DATE OF BIRTH *(Month, Day, Year)*
1 ☐ Male 2 ☐ Female		

4. PLACE OF BIRTH *(City or Town, State)*

5. Was this youth born in a hospital? 1 ☐ Yes 2 ☐ No 3 ☐ Don't know

6. Did you (the mother) have unusual medical problems or complications while pregnant or giving birth to this youth? 1 ☐ Yes 2 ☐ No 3 ☐ Don't know

IF YES: What was wrong? _____

7. Was anything wrong with him or her at birth?
1 ☐ Yes 2 ☐ No 3 ☐ Don't know

IF YES:
a. What was it? _____

b. What did the doctor say caused this? _____

8. Was there anything wrong with this child as a baby (that is, *before he or she was one year old)*?
1 ☐ Yes 2 ☐ No 3 ☐ Don't know

IF YES:
a. What was the matter? _____

b. Did you see a doctor about it? 1 ☐ Yes 2 ☐ No 3 ☐ Don't know

FOR PUBLIC HEALTH SERVICE USE ONLY

This form completed by:
1 ☐ Mother
2 ☐ Father
3 ☐ Other *(Specify)* _____

Interviewer _____
Date reviewed _____

9. Has there been any serious health problem since he or she was one year old?
1 ☐ Yes 2 ☐ No 3 ☐ Don't know

IF YES: What and when? _____

10. Is there anything about his or her health that worries you now?
1 ☐ Yes 2 ☐ No

IF YES: What is it? _____

11. How would you describe his or her present health?
1 ☐ Poor 2 ☐ Fair 3 ☐ Good 4 ☐ Very Good 5 ☐ Excellent

IF POOR OR FAIR: What is the matter? _____

12. Does he or she now use any medicine regularly *(not counting vitamins)*?

1 ☐ Yes 2 ☐ 3 a Don't know

IF YES:

a. What is the name of the medicine? _____ 2 c 1 Don't know

b. What is it for? _____ 2 c 1 Don't know

c. Did a doctor say he or she should use it?

1 ☐ 2 c 1 No 3 c 1 Don't know

d. How long has he or she been using it? _____

13. Has he or she evet broken any bones?

1 ☐ Yes 2 c 1 No 3 ☐ Don't know

14. Has he or she ever had any other serious injuries or accident?

1 ☐ Yes x ☐ No (IF NO, SKIP TO QUESTION 15)

IF YES:

a. How many? c 1 One ☐ Two ☐ Three ☐ Four or more

b. As a result of any accident did he or she have to stay in a hospital *(overnight or longer)*?

1 ☐ Yes 2 ☐ No

c. What lasting handicaps or damages, if any, did the accident(s) produce?

_____

_____

_____

15. Has he or she ever been unconscious?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

IF YES: For how long?

1 c 1 One hour ot less 3 c 1 A day or more

2 ☐ More than an hour but less than a day 4 c 1 Don't know

16. Which of the following operations or surgery has he or she had? *(Check all that apply.)*

1 ☐ Tonsils and/or adenoids taken out

2 ☐ Appendix taken out

3 ☐ Hernia *(Rupture)*

4 ☐ Other; what? _____

9 ☐ None

17. Has he or she ever been in a hospital *(overnight or longer)*?

1 ☐ Yes 2 ☐ No (IF NO, SKIP TO QUESTION 18)

IF YES:

a. What was the longest time he or she ever spent in a hospital?

1 ☐ A night to a wee&

2 c 1 Over one week but less than six months

3 c 1 Six months or longer

b. How old was he or she at that time? _____ years

c. Why was he or she there? _____

d. Did an adult family member spend the night with him (her) in the hospital most of the time?

1 ☐ Yes 2 ☐ No

18. Has he or she ever had (CHECK YES OR NO IN EVERY LINE).

a. Measles	1 ☐ Yes	2 ☐ No
b. Mumps	1 ☐ Yes	2 ☐ No
c. Chickenpox	1 ☐ Yes	2 ☐ No
d. Whooping cough	1 ☐ Yes	2 ☐ No
e. Scarlet fever	1 ☐ Yes	2 ☐ No
f. Asthma	1 ☐ Yes	2 ☐ No
g. Hay fever	1 ☐ Yes	2 ☐ No
h. Other allergies	1 ☐ Yes	2 ☐ NO
i. Kidney trouble	1 ☐ Yes	2 ☐ No
j. Heart murmur or anything else wrong with the heart	1 ☐ Yes	2 ☐ No
k. Fit, convulsion, or seizure	1 ☐ Yes	2 ☐ No
1. Pneumonia	1 ☐ Yes	2 ☐ No

19. Below is a list of other diseases. Please read through it carefully and check the YES box if he or she ever had any of the following:

(a) Diabetes or sugar diabetes
(b) Rheumatic fever
(c)' Polio (Infantile Paralysis)
(d) Epilepsy
(e) Chorea or St. Vitus dance
(f) Diphtheria
(g) Tuberculosis (T.B.)
(h) Cerebral palsy
(i) Meningitis or sleeping sickness

1 ☐ Yes ↓ 2 ☐ None of these

IF' YES: Which? _____

_____

20. What is the most serious illness or disease he ot she has ever had?

_____

a. How old was he or she when it started? _____ years

b. What did the doctor say about it?

The doctor said it was:

1 ☐ a mild case
2 ☐ a moderate case
3 ☐ a severe (critical) case
4 ☐ I don't remember what he said
5 ☐ No doctor saw the child

c. Did the illness (disease) leave any lasting effects?

1 ☐ Yes ↓ 2 ☐ No 3 ☐ Hard to say

IF YES: What were or are they? _____

_____

21. Has he or she wet the bed during the past year?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

22. Does he or she wear glasses or contact lenses?

1 ☐ Yes, glasses
2 ☐ No, don't wear either
3 ☐ Yes, contact lenses

IF NO: Do you think he or she needs glasses?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

23. Has he or she ever had eye trouble *(except what is corrected by glasses or contact lenses)*?

1 ☐ Yes 2 ☐ No

IF YES: What was it? _____

24. Has he or she ever had an eye operation?

1 ☐ Yes 2 ☐ No

IF YES: What was it for? _____

_____

25. Have his (her) ears ever been damaged or injured in any way?

1 ☐ Yes 2 ☐ No

IF YES: In what way? _____

_____

26. Have his (her) ear drums ever been opened or lanced?

1 ☐ Yes 2 ☐ No

IF YES:

a. How many times: 1 ☐ Once 2 ☐ More than once

b. In which ear? 1 ☐ Left 2 ☐ Right 3 ☐ Both 4 ☐ I don't remember

27. Has he or she ever had any other kind of ear operation?

1 ☐ Yes 2 ☐ NO

IF YES: a. What was it for? _____

b. Which ear? _____

28. Has he or she ever had a running ear or any discharge from the ears *(except wax in the ears)*?

1 ☐ Yes 2 ☐ No

IF YES:

a. How often? 1 ☐ Once 2 ☐ More than once

b. From which ear? 1 ☐ Left 2 ☐ Right 3 ☐ Both 4 ☐ I don't remember

29. In the past year has he or she had an earache?

1 ☐ Yes 2 ☐ No

30. Does he or she have any difficulty hearing?

1 ☐ Yes 2 ☐

31. Has he or she had any other ear trouble?

1 ☐ Yes 2 ☐ No

IF YES: What? _____

_____

32. Does he or she have any speech defect *(like stuttering, stammering, lisping, etc.)*?

1 ☐ Yes 2 ☐ No

33. Does he or she have a limp or other trouble walking?

1 ☐ Yes 2 ☐ No

34. Is there anything that prevents complete use of his (her) legs?

1 ☐ Yes 2 ☐ No

IF YES: What is it? _____

_____

35. Is there anything that prevents complete use of his (her) arms?

1 ☐ Yes 2 ☐ No

IF YES: What is it?_____

_____

36. Is he or she now prevented for reasons of health from taking part in hard exercise or ?

1 ☐ Yes x ☐ No (IF NC, GO ON TO QUESTION 37)

IF YES:

a. What are the reasons?_____

_____

b. Did the doctor advise this?

1 ☐ Yes 2 ☐ No

37. Was he or she ever prevented for reasons of health from taking part in hard exercise o ay?

1 c 1 Yes 2 ☐ No 3 c 1 Don't know

38. Have his (her) teeth been straightened or have bands been put on them?

1 ☐ Yes 2 ☐ No

IF NO:

a. Do you think they need straightening?

1 c 1 Yes 2 ☐ No

b. Has a dentist said they need straightening?

1 ☐ Yes 2 c 1 No

39. At the present time is he or she:

1 c 1 Underweight 2 ☐ About the right weight 3 ☐ Overweight

40. As far as physical growth is concerned, is he or she coming along:

1 ☐ Too slowly 2 c 1 At about the right rate 3 ☐ Too fast

41. As far as mental development is concerned, is he or she coming along:

1 c 1 Too slowly 2 c 1 At about the right rate 3 ☐ Too fast

42. How often has he or she stayed overnight at a friend's house?

1 ☐ Never 2 c 1 Only once or twice 3 ☐ Quite a few times

HERE ARE SOME QUESTIONS ABOUT SCHOOL:

43. Did this youth go to-nursery school?

1 a Yes 2 ☐ No

44. Did he or she go to kindergarten?

1 ☐ Yes 2 ☐ No

IF YES: Was it: 1 c 1 Compulsory 2 c 1 Voluntary

45, At what age did he or she start first grade?

☐ Five or younger ☐ Six ☐ Seven or older

46, What was his or her reaction to school during the first few weeks of 1st grade?

1 c 1 Was quite happy

2 c 1 Was a little upset

3 c 1 Was quite upset

4 c 1 Was so upset, he or she got sick

5 ☐ I don't remember or don't know

47. In general, how easily does he or she make friends?

1 ☐ Easily

2 E 1 Has a little trouble

3 ☐ Has a lot of trouble

48. How many of his or her friends do you know well?

1 ☐ Most of them

2 ☐ Half or less

3 ☐ Almost none

49. How much trouble was he or she to bring up?

i a None

2 ☐ Just a little

3 ☐ Some

4 ☐ A lot

5 ☐ Don't know

50. Some people are calm, others are nervous *(tense, high-strung).* Which describes him or her best?

1 c 1 Not nervous at all

2 c 1 Somewhat nervous

3 a Very nervous

51. Has this youth ever been to a mental hospital or guidance clinic?

1 c 1 Yes, within past year

2 ☐ Yes, but not within past year

3 ☐ No

4 ☐ Don't know

52. Has he (she) ever seen a psychiatrist, or a psychologist, or have you talked to one about him (her)?

1 ☐ Yes, within past year

2 ☐ Yes, but not within past year

3 ☐ No

4 ☐ Don't know

HERE ARE THREE QUESTIONS ABOUT EATING HABITS:

53. Would you say he or she eats:

1 c 1 Too much

2 1-1 About the right amount

3 c 1 Too little

54. How fussy an eater is he (she):

1 ☐ Not fussy at all

2 ☐ A little fussy

3 ☐ Very fussy

55. On a usual day (that is, school or *work* day), how many meals does he or she eat with adult family members?

1 ☐ Two or more

2 E 1 Only one

3 c 1 None

56. Who makes most of the decisions on the following: *(Check one in each row).*

	Youth alone (1)	Father (2)	Mother (3)	Both parents (4)	Father and youth (5)	Mother and youth (6)	Parents and youth (7)	Other person(s) (8)	Nobody (9)
a. Choosing his/her clothes									
b. How to spend his/her money									
c. Which friends to go out with									
d. How late he/she can stay out									

57. Does he or she get an allowance? (So *much money per week, for example.)*

1 ☐ Yes

IF YES: Who decides how much?

_____

_____

2 ☐ NO

IF NO: Does he or she earn money from work?

2 ☐ Yes 3 ☐ No

58. Looking ahead, what would you like him or her to do about school? *(Check one only.)*

1 ☐ Quit school as soon as possible

2 ☐ Finish high school

3 ☐ Get some college or other training after high school

4 ☐ Finish college and get a college degree

5 ☐ Finish college and take further training *(medical, law, or other professional school, etc.)*

59. What do you think will happen, as far as school goes? *(Check one only.)*

1 ☐ Quit school as soon as possible

2 ☐ Finish high school

3 ☐ Get some college or other training after high school

4 ☐ Finish college and get a college degree

5 ☐ Finish college and take further training *(medical, law, or other professional school, etc.)*

60. How important do you think it is for a young person to have each of the qualities or characteristics listed below? *(Put one check mark in each row.)*

	Extremely Important (1)	Important (2)	Slightly Important (3)	Unimportant (4)
a. To be neat and clean				
b. To be able to defend oneself				
c. To have self-control				
d. To be happy				
e. To obey one's parents				
f. To be dependable				
g. To be considerate of others				
h. To face life's problems calmly				
i. To obey the law				
j. To be ambitious				
k. To know how to keep in good health				

61. If he or she had any of the following conditions, what would you want to do? *(Place one check mark in each row.)*

If my child had this condition I would:

	Definitely want to get in touch with a doctor (1)	Probably want to get in touch with a doctor (2)	Not want to get in touch with a doctor (3)
a. Stomach ache			
b. Sore throat			
c. Hurt all over			
d. Stiff neck or back			
e. Headache			
f. Vomit *(throw up)*			
g. Loss of appetite			
h. Overtiredness			
i. Pain in chest			
j. Lump in stomach or abdomen			
k. Blood in urine or bowel movement			
l. Nervousness			

62. Some people when they are sick talk as if they are sicker than they really are, that is, they exaggerate a little. How often does he or she do this when he is sick?

1 ☐ Pretty often
2 ☐ Not very often
3 ☐ Almost never
4 ☐ Never

63. As far as you are concerned, how often is it ail right for him (her) to exaggerate a little bit when he (she) is sick?

1 ☐ Pretty often
2 ☐ Not very often
3 ☐ Almost never
4 ☐ Never

64. When did a doctor last see him (her) for a check-up *(routine examination)*?

1 ☐ In the last year
2 ☐ One-two years ago
3 ☐ Over two years ago
4 ☐ Never
5 ☐ Don't remember or don't know

65. When did a doctor last see him (her) for treatment?

1 ☐ In the last year
2 ☐ One-two years ago
3 ☐ Over two years ago
4 ☐ Never
5 ☐ Don't remember or don't know

66. What is the name and address of the doctor he/she goes to (or *clinic if there is no regular family doctor)*?

Name _____

Street _____ 2 ☐ None

City and State _____

67. When did he (she) last see a dentist for a check-up *(routine examination)*?

1 ☐ In the last year
2 ☐ One-two years ago
3 ☐ Over two years ago
4 ☐ Never
5 ☐ Don't remember or don't know

68. When did he (she) last see a dentist for treatment?

1 ☐ In the last year
2 ☐ One-two years ago
3 ☐ Over two years ago
4 ☐ Never
5 ☐ Don't remember or don't know

69. What is the name and address of the dentist or dental clinic he/she goes to?

Name _____ ☐ None

Street _____

City and State _____

FOR GIRLS ONLY

70. Have her monthly periods *(menstruation)* started?

1 ☐ Yes 2 ☐ No (IF NO, OMIT QUESTIONS BELOW)

IF YES:

a. Had she been told about them before hers began?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

b. How old was she when they started? ____ Years ____ Months

c. Does she have pain or discomfort?

1 ☐ Yes 2 ☐ No 3 Don't know 4

(IF NO OR DON'T KNOW, OMIT REST OF QUESTIONS)

d. If there is pain or discomfort,

is it:

1 ☐ Very often 2 ☐ Occasionally

is it:

1 ☐ Mild 2 ☐ Moderate 3 ☐ Severe

e. At that time, does she frequently: *(Check all that apply)*

1 ☐ Take medicine
2 ☐ Go to the sick room or nurse
3 ☐ Stay in bed
4 ☐ Stay home. from school
5 ☐ None of these

f. Has she talked to a doctor &out painful menstruation?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

APPENDIX IC

CONFIDENTIAL – Ail information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to others for any other purposes (22 FR 1687).

DEPARTMENTOF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL HEALTH SURVEY

Sample No.

HEALTH HABITS AND HISTORY – Youth

Name (Last, Fitst, Middle)	SEGMENT	SERIAL	COL. NO.

INSTRUCTIONS: On the following pages you will find a set of questions dealing with your health, Since evety person is different, there are no "standard" answers to the questions; just answer them as fully and honestly as you can. Your answers will be kept confidential. Do your best to pick the most likely answer from among the choices given. Only if you really don't know the answer check "Don't know." WHEN YOU HAVE COMPLETED THE QUESTIONNAIRE, PLEASE MAIL IT BACK TO THE SURVEY IN THE ENVELOPE WE LEFT WITH YOU – THERE IS NO POSTAGE NECESSARY IF YOU USE OUR ENVELOPE.

1. SEX	2. AGE	3. DATE OF BIRTH (Month, Day, Year)
1 ☐ Male 2 ☐ Female		

4. How would you describe your present health?
1 ☐ Poor 2 ☐ Fair 3 ☐ Good 4 ☐ Very good 5 ☐ Excellent
IF POOR OR FAIR: What is wrong? _____

5. Do you have any problems you might like to talk over with a doctor?
1 ☐ Yes 2 ☐ No
IF YES: What are they? _____

6. Do you now use any medicine regularly, nut counting vitamins?
1 ☐ Yes 2 ☐ No 3 ☐ Don't know
IF YES:
a. What is its name? _____ 2 ☐ Don't know
b. What is it for? _____ 2 ☐ Don't know
c. Did a doctor say you should use it?
1 ☐ Yes 2 ☐ No 3 ☐ Don't know
d. How long have you been using it? _____

7. Have you ever broken any bones?
1 ☐ Yes 2 ☐ No 30 Don't know
IF YES:
a. How many times? (Several bones broken at the same time count as once .)
1 ☐ Once 2 ☐ Twice 3 ☐ Three times or more
b. How did it happen? _____

iave you ever had any other injuries or accidents?

1 ☐ Yes 2 a No

IF YES: What happened? _____

_____

9. As a result of an accident, a blow, a fall, or other such cause, have you ever been unconscious?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

10. Have you ever stayed in a hospital *(overnight or longer)*?

1 ☐ Yes, just once 3 ☐ No

2 ☐ Yes, more than once 4 ☐ Don't know

IF YES: What was the longest time you ever spent in a hospital, and for what reason?

How long: _____ Reason _____

_____

_____

11. What was the most serious illness or disease you had in your life? _____

_____

a. How old were you when it started? _____ years

b. Did you have to stay in a hospital overnight or longer?

1 ☐ Yes 2 ☐ No 3 ☐ Don't remember

c. What lasting effects did it leave? _____

_____

_____

HERE ARE A FEW QUESTIONS ABOUT YOUR EYES AND EARS.

12. Do you ever wear glasses or contact lenses?

1 ☐ Yes, glasses

2 ☐ Yes, contact lenses

3 ☐ No

IF YES:

a. With your glasses ***(or contact lenses)*** can you see as well as most people?

1 ☐ Yes 2 ☐ No

b. Do you think you need new glasses?

1 ☐ Yes 2 ☐ No

c. When do you wear them?

1 ☐ Not all day 2 ☐ All day

IF NOT ALL DAY:

d. When? (Check *all* ***that apply)***

1 ☐ For seeing at a distance

2 ☐ For reading

3 ☐ For TV

4 ☐ Other (Specify) _____

_____

IF NO:

Do you think you need glasses?

1 ☐ Yes 2 ☐ No

(GO ON TO QUESTION 13)

13. Is there anything wrong with your eyes ***(except what is corrected by your glasses or contact lenses)?***

1 ☐ Yes 2 ☐ No

IF YES: What? _____

_____

14. Do you have any difficulty hearing?

1 ☐ Yes 2 ☐ No

15. Were your ears ever damaged or injured in any way?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

a. IF YES: a. In what way and when? _____

b. Which ear(s)? _____

16. In the past year, how often did you have earaches?

1 ☐ Not at all *(I can't remember any)*

2 ☐ Not very often *(about once a month or less)*

3 ☐ Quite often *(more than once a month)*

17. Have you ever had any other kind of trouble with your ears?

1 ☐ Yes 2 ☐ No

IF YES: What was it? _____

18. Do you think your teeth need straightening?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

19. Do you have any difficulty talking or speaking-(like *stuttering or lisping)?*

1 ☐ Yes 2 ☐ No

20. Is there anything wrong with the way you walk?

1 ☐ Yes 2 ☐ No

IF YES: What? _____

21. Is there anything that prevents your complete use of your legs?

1 ☐ Yes 2 ☐ No

IF YES: What? _____

22. Is there anything that prevents your complete use of your arms?

1 ☐ Yes 2 ☐ No

IF YES: What? _____

23. Have you ever been prevented for reasons of health from taking part in hard (physical) work, exercise, or games?

1 ☐ Yes x ☐ No

IF YES:

a. Why? _____

b. Did a doctor advise this?

1 ☐ Yes 2 ☐ No 3 ☐ Don't know

c. Are you now forbidden to do some of these things?

1 ☐ Yes 2 ☐ No

24. At the present time, do you think you are:

1 c l Underweight

2 a About the right weight

3 c l Overweight

25. Would you say that you appear to be:

1 a Thinner than most persons of your age

2 ☐ About the same as most persons your age

3 c l Heavier than most persons of your age

26. At this time, would you like to be:

1 c l Thinner than you are

2 c l About the same weight as you are

3 c l Heavier than you are

27. At this time, would you like to be:

1 a Less tall than you are

2 ☐ About as tall as you are

3 c l Taller than you are

28. In the last year or two, have you had any backaches?

1 a Yes, quite often

2 a Yes, occasionally

3 ☐ No

29. Do you sleep alone in your own room?

1 ☐ Yes 2 ☐ No

IF NO:

Who else sleeps in the room?

1 ☐ Brother(s) 3a Father

3 ☐ Sister(s) 4 c l Mother

5 a Other person(s)

30, How often do you have trouble getting to sleep or staying asleep?

1 c l Very often 2 ☐ Only from time to time 3 c l Never

31. How often do you have bad dreams or nightmares?

1 ☐ Quite frequently 2 ☐ Only from time to time 3 ☐ Never

32. As far as you know, have you walked in your sleep in the last year or so?

1 a Yss 2 c l No

33. Do you have acne (pimples *or blackheads*)?

1 ☐ Yes x ☐ No

IF YES:

a. At what age did it start?-.-----years

b. Do you use any treatment for it? 1 a Yes 2 ☐ No

c. Have you seen a doctor about it? 1 a Yes 2 ☐ No

d. How much does it bother or worry you?

1 ☐ Quite a lot 2 ☐ Some but not too much 3 ☐ Very little

4 Cl Not at all

34. Have you ever been away from your family *(home)* for at least two months?

1 ☐ Yes, once x ☐

2 ☐ Yes, more than once

IF YES:

a. Where did you stay? *(Check all that apply)*

1 ☐ Camp 4 ☐ With a relative

2 ☐ Boarding school 5 ☐ Elsewhere

3 ☐ Hospital

b. How old were you when this happened for the first time?_____years

35. Are you going to school? *(If you are now on vacation and will return to school, check "Yes.")*

1 ☐ Yes

IF YES:

a. During the school year, how many hours do you work? *(not counting homework for school)*

1 ☐ I don't work (GO TO QUESTION 36).

2 ☐ l-4 hours a week

3 c I 5-9 hours a week

4 c l 10-20 hours a week

5 E I Over 20 hours a week

6 ☐ I work, but can't tell how many hours

b. What kinds of work do you do?

_____

_____

_____

c. Do you get paid for this work?

_____

2 ☐ No

NO:

aa. Do you have a job?

7 ☐ Yes

8 ☐ No, but I am looking far one.

9 ☐ No, and I am not looking for one.

(AFTER THIS ANSWER, GO TO QUESTION 37).

36. Do you work during vacation time?

1 ☐ Yes, full-time 2 ☐ Yes, part-time 3 ☐ No

37. Do you get an allowance from your family *(so much money per week, for example)?*

1 ☐ Yes X ☐ No

IF YES: (IF NO, GO ON TO QUESTION 38)

a. Who decides the amount you are to get?

1 ☐ Father 2 ☐ Mother 3 ☐ Both parents 4 ☐ Someone else *(Specify)* _____

b. Who do you think should decide about it?

1 ☐ Father 2 ☐ Mother 3 ☐ Both parents 4 ☐ Someone else *(Specify)* _____

c. Are there duties or chores you have to perform to get this allowance?

1 ☐ Yes 2 ☐ No

d. Is your allowance ever held back as a punishment?

1 ☐ Yes 2 ☐ No

38. Now about your eating habits, do you think you eat

1 ☐ Too much 2 ☐ About the right amount 3 ☐ Too little

39. When did you last see a doctor for a checkup *(routine examination)?*

1 ☐ In the last year 4 ☐ Never

2 ☐ One-two years ago 5 ☐ I don't remember

3 ☐ Over two years ago

40. When did you last see a doctor for treatment?

1 ☐ In the last year 4 ☐ Never

2 ☐ One-two years ago 5 ☐ I don't remember

3 ☐ Over two years ago

41. When did you last see a dentist for a checkup *(routine examination)?*

1 ☐ In the last year 4 ☐ Never

2 ☐ One-two years ago 5 ☐ I don't remember

3 ☐ Over two years ago

42. When did you last see a dentist for treatment?

1 ☐ In the last year 4 ☐ Never

2 ☐ One-two years ago 5 ☐ I don't remember

3 ☐ Over two years ago

ONE LAST QUESTION

43. About how much time would you guess you spend in the usual day *(enter number of hours or fraction of hours, or zero, as appropriate)?*

a. Watching television _____

b. Listening to radio _____

c. Reading newspapers, comics, magazines _____

d. Reading books *(except comic books)* _____

○ ○ ○

APPENDIX I D

All information which would permit identification of an individual or of an establishment will be held confidential, will be used only by persons engaged in and for the purpose of the survey and will be protected against disclosure in accordance with the provisions of 42 CFR Part I.

PHS-4733-S (PAGE 1)
REv. Q-66

DEPARTMENTOF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS
HEALTH EXAMINATION SURVEY

Form Approved:
Budget Bureau No. 68-R1700

SUPPLEMENTAL INFORMATION FROM SCHOOL

The student whose name appears below is one of the sample of students being studied in the Health Examination Survey. This student's parent or guardian has given us written authorization to obtain information from the school. Please complete this form on the basis of school records and/or information the student's teacher or other school official may have. A pre-addressed envelope, requiring no postage, is furnished for your convenience in returning this form.

NAME OF YOUTH (Last) (First) (Middle) — SAMPLE NUMBER

HOME ADDRESS
(For identification)

1. BIRTH DATE (Month) (Day) (Year)

2. WHAT IS THE PRESENT GRADE PLACEMENT OF THIS STUDENT? _____ grade.

3. HAVE ANY GRADES BEEN SKIPPED OR DOUBLE PROMOTIONS BEEN GIVEN?
2 ☐ NO 3 ☐ DON'T KNOW
1 ☐ YES → IF YES, Which grades were skipped? _____

4. HAVE ANY GRADES BEEN REPEATED FOR ANY REASON?
2 ☐ NO 3 ☐ DON'T KNOW
1 ☐ YES → IF YES, Which grades were repeated? _____

5. IF GRADES WERE REPEATED, WHAT WAS THE MAIN REASON?
(Check only one)
1 ☐ EXCESSIVE ABSENTEEISM (excused)
2 ☐ TRUANCY
3 ☐ MOVED INTO MORE DIFFICULT SCHOOL SYSTEM
4 ☐ SOCIAL IMMATURITY
5 ☐ ACADEMIC FAILURE
6 ☐ OTHER (explain) _____

6. HAS THIS STUDENT BEEN ABSENT FROM SCHOOL AN UNUSUAL NO. OF DAYS DURING THE MOST RECENTLY COMPLETED SCHOOL YEAR?
2 ☐ NO 3 ☐ DON'T KNOW
1 ☐ YES → IF YES, WHAT IS THE MAIN REASON FOR THE ABSENCES? (Check only one)
1 ☐ Student's illness
2 ☐ Illness in student's family
3 ☐ Due to wak (either away from home or at home for reasons other than family illness)
4 0 T - y
5 Cl Other (explain) _____

7. HOW FREQUENTLY IS ANY SPECIFIC DISCIPLINARY ACTION REQUIRED FOR THIS STUDENT?

1 ☐ FREQUENTLY

2 ☐ OCCASIONALLY

3 ☐ NEVER

4 ☐ NO BASIS FOR JUDGING WHICH OF THE ABOVE FITS THIS STUDENT

8. ARE SPECIAL RESOURCES NEEDED OR CURRENTLY BEING USED FOR THIS STUDENT?

2 ☐ NO (SKIP TO QUESTION 9)

1 ☐ YES → IF YES, complete the following only for those special resources needed or currently being used by this youth:

SPECIAL RESOURCE	RESOURCE NEEDED (Check one)			REASON FUR NON-USE (Check primary moron)			
	BEING USED	NOT AVAILABLE	AVAILABLE BUT NOT USED	OVER-CROWDED	STUDENT OBJECTS	PARENTS OBJECT	OTHER (specify)
a. For the gifted							
b. For the mentally retarded							
c. For "slow learners" not classed as mentally retarded							
d. For emotionally disturbed							
e. For orthopedically handicapped							
f. Special facilities for the "hard of hearing"							
g. Special facilities for the visually handicapped							
h. Speech therapy							
i. Remedial reading							
j. English for students from non-english speaking environments							
k. Remedial training in special subject area(s)							
1. Other resources needed (specify)							

9. IN TERMS OF ADJUSTMENT, WHICH OF THE FOLLOWING BEST DESCRIBES THIS STUDENT?

1 ☐ SEEMS WELL ADJUSTED.

2 ☐ SEEMS SOMEWHAT MALADJUSTED.

3 ☐ SEEMS SERIOUSLY MALADJUSTED.

4 ☐ NO BASIS FOR JUDGING WHICH OF THE ABOVE FITS THIS STUDENT.

10. IN TERMS OF INTELLECTUAL ABILITY, WHICH OF THE FOLLOWING BEST DESCRIBES THIS STUDENT?

1 ☐ ABOVE AVERAGE

2 ☐ AVERAGE

3 ☐ BELOW AVERAGE

4 ☐ DON'T KNOW STUDENT WELL ENOUGH TO JUDGE.

11. IN TERMS OF ACADEMIC ACHIEVEMENT, IS THIS STUDENT:

1 ☐ IN THE UPPER THIRD OF HIS CLASS

2 ☐ IN THE MIDDLE THIRD OF HIS CLASS

3 ☐ IN THE LOWER THIRD OF HIS CLASS

4 ☐ DON'T KNOW → IF DON'T KNOW, *Specify reason* _____

12. IN TERMS OF POPULARITY WITH OTHER STUDENTS, IS THIS STUDENT:

1 ☐ ABOVE AVERAGE IN POPULARITY

2 ☐ ABOUT AVERAGE IN POPULARITY

3 ☐ BELOW AVERAGE IN POPULARITY

4 ☐ DON'T KNOW

13. HOW LONG HAVE YOU KNOWN THIS STUDENT?

1 ☐ LESS THAN ONE SEMESTER

2 ☐ MORE THAN ONE SEMESTER BUT LESS THAN ONE YEAR

3 ☐ MORE THAN ONE YEAR BUT LESS THAN TWO YEARS.

4 ☐ MORE THAN TWO YEARS

SIGNATURE OF PERSON COMPLETING THIS FORM

OFFICIAL TITLE	DATE FORM COMPLETED

○ ○ ○

APPENDIX I E

CONFIDENTIAL — All information which would permit identification of the individual will be held strictly confidential, will be used only by persons engaged in and for the purposes of the survey and will not be disclosed or released to others for any other purposes (22 FR 1687).

DEPARTMENTOF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL HEALTH SURVEY

Sample No.

HEALTH BEHAVIOR

NAME OF YOUTH *(Last, First, Middle)* | SEX ☐ Male ☐ Female | AGE

INSTRUCTIONS: On the following pages you will find a set of questions dealing with your health behavior. Since every person is different, there are no "standard" answers to the questions; just answer them as fully and honestly as you can. Your answers will be kept confidential. Do your best to pick the most likely answer from among the choices given. Only if you really don't know the answer check "Don't know."

1. Looking ahead, what would you like to do about school? *(Check one only)*

1 ☐ Quit school as soon as possible

2 ☐ Finish high school

3 ☐ Get some college or other training after high school

4 ☐ Finish college and get a college degree

5 ☐ Finish college and take further training *(medical, law or other professional school, etc.)*

2. What do you think will happen **about** school? (CHECK ONE ONLY)

1 ☐ Quit school as soon as possible

2 ☐ Finish high school

3 ☐ Get some college or other training after high school

4 ☐ Finish college and get a college degree

5 ☐ Finish college and take further training *(medical, law or other professional school, etc.)*

3. Have you ever had a date? *(That is, a boy and girl going out together, whether or not anyone else was along.)*

1 ☐ Yes ☐ No

IF YES: How old were you when you first had a date?_____ years

4. Who makes most of the decisions on the following: *(Check one in each row.)*

	You alone (1)	Father (2)	Mother (3)	Both parents (4)	Father and you (5)	Mother and you (6)	Parents and y (7)	Other person(s) (8)	Nobody (9)
a. Choosing your clothes									
b. How to spend your money									
c. Which friends to go out with									
d. How late you can stay out									

5. How many times have you run away from home? *(That means, leaving or staying away on purpose, knowing you would be missed, intending to stay away from home, at least for a time.)*

1 ☐ Once 2 ☐ More than once 3 ☐ Never

IF ONCE OR MORE:

How old were you the ? _____ years

6. How many times have you had anything to do with police, sheriff, or juvenile officers for something you did or they thought you did?

1 ☐ Once 2 ☐ Twice 3 ☐ More than twice 4 ☐ Never

IF ONCE OR MORE:

a. What was wrong? _____

_____

b. Were you arrested? 1 ☐ Yes 2 ☐ No 3 ☐ Don't know

c. In what way were you punished? _____

_____ 2 ☐ Not at all

7. How old were you when you smoked for the first time?.-Years

☐ Never tried (SKIP TO QUESTION 10)

8. How old were you when you began smoking regularly?-Years

☐ Never have smoked regularly

9. About how many cigarettes do you smoke per day?

1 ☐ I don't smoke at all

2 ☐ I don't smoke cigarettes (but *I smoke a pipe or cigars)*

3 ☐ Less than 1/2 pack

4 ☐ 1/2 pack but less than 1 pack

5 ☐ 1 pack but less than 2 packs

6 ☐ 2 packs or more

10. At what hour do you usually go to bed when the next day is a school or work day? _____

11. **Do** you ever feel tense, nervous, or fidgety?

1 ☐ Yes, often

2 ☐ Yes, sometimes

3 ☐ Yes, but rarely

4 ☐ Never

12. How important do you think it is for a young person to have each of the qualities or characteristics listed below? *(Put one check-mark in each row.)*

	Extremely Important (1)	Important (2)	Slightly Important (3)	Unimportant (4)
a. To be neat and clean				
b..To be able to defend oneself				
c. To have self-control				
d. To be happy				
e. To obey one's parents				
f. To be dependable				
g. To be considerate of others				
h. To face life's problems calmly				
i. To obey the law				
j. To be ambitious				
k. **To** know how to keep in good health				

13. If *you* had *any* of the following conditions, would you want a doctor to know about it? (Includes your seeing him or a telephone call about t.) *(Place one checkmark in each row.)*

If I had this condition, I would:

	Definitely want to see a doctor (1)	Probably want to see a doctor (2)	Not want to see a doctor (3)
a. Stomach ache			
b. Sore throat			
c. Hurt all over			
d. Stiff neck or back			
e. Headache			
f. Vomit *(throw up)*			
g. Loss of appetite			
h. Overtiredness			
i. Pain in chest			
j. Lump in stomach or abdomen			
k. Blood in urine or bowel movement			
1. Nervousness			

14. If you had any of the following conditions, would you want to see a dentist about it? *(Place one checkmark in each row.)*

If I had this condition, I would:

	Definitely want to see a dentist (1)	Probably want to see a dentist (2)	Not want to see a dentist (3)
a. Crooked teeth			
b. Sore gums			
c. Bad breath			
d. A toothache			
e. *Sores* in the mouth			
f. Stains on the teeth that would not brush off			
g. Hole or cavity in a tooth—even though it did not hurt			

APPENDIX I F

Confidentiality has been assured the individual as set forth in 22 FR 1687

TIME IN

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS
WASHINGTON, D.C. 20201

Form Approved.
Budget Bureau No. 68-R1700

HEALTH EXAMINATION SURVEY - III

CONTROL RECORD

IMO Check: ☐ Negative ☐ Special Notes

TIME OUT

PROCEDURE	TIME IN	TIME OUT	STAFF	PROCEDURE, OR PART OF OVERALL PROCEDURE NOT DONE REASON FOR NON-COMPLETION
URINE SPECIMEN				☐ MALE
AUDIOMETRY ECG and PHONO. SPIROMETER				
TREADMILL,				
SECRETOR TEST				
BODY MEASUREMENTS and GRIP STRENGTH				
HEIGHT-WEIGHT				
X-RAYS (CHEST, HAND)				
DENTAL EXAMINATION				
VISION				
PHYSICIAN'S EXAMINATION				
VENIPUNCTURE				
NURSE'S QUESTIONNAIRE				
PSYCHOLOGICAL PROCEDURES BEHAVIORAL QUESTIONNAIRE				

EXAMINATION DATE (mo., day, yr.)	BIRTH DATE (mo., day, yr.)	AGE	SEX	TEMPERATURE
			1 ☐]nm2Ot	

NAME (Last) (first) , (Initial) | SEQUENCE NUMBER

SAMPLE NUMBER

AUDIOMETRY

AUDIOMETER NO. (6–9) | EXAMINER (10–11)

USE THIS SECTION WHEN SAMPLE NO. IS EVEN	CARD COL. NOS.	USE THIS SECTION WHEN SAMPLE NO. IS ODD
CPS		CPS
4000: R ← → L	(12–15)	4000: R → ← L
1000: R → ← L	(16–19)	1000: R ← → L
t		t
6000: R ← → L	(20–23)	6000: R → ← L
500: R → ← L	(24–27)	500: R ← → L
2000: R ← → L	(28–31)	2000: R → ← L
t		t
250: R → ← L	(32–35)	250: R ← → L
4000: R ← → L	(36–39)	4000: R → ← L
t		
8000: R → ← L	(40–43)	8000: R ← → L
3000: R ← → L	(44–47)	3000: R → ← L

CONDITIONS AFFECTING TEST **RESULTS:** *(Check)*

(48) O ☐ NONE

CONDITIONS AFFECTING TEST RESULTS

1 ☐ Cold at present
2 ☐ Ear discharge
3 ☐ Equipment defective*
4 ☐ Cold within post week
5 ☐ Earache within past week
6 ☐ Behavior*
7 ☐ Other*

* *Specify frequency (cps.) if only certain one(s) affected, and describe:* _____

SAMPLE NO. (1–5)

HEALTH EXAMINATION SURVEY—III

BODY MEASUREMENTS

Measurements in cm. unless otherwise specified.

EXAMINER

RECORDER

CARD COL. NO.	STANDING
8-11	CERVICALE HEIGHT
12-15	ACROMIAL HEIGHT
16-19	RADIAL HEIGHT
20-23	STYLION HEIGHT
24-27	ILIAC CREST HEIGHT
28-31	TROCHANTER HEIGHT
32-35	TIBIAL HEIGHT
	SEATED
36-39	SITTING HEIGHT (Erect)
4%43	THIGH CLEARANCE
43-45	SPHYRION HEIGHT
46-48	FOOT BREADTH
49	1st TOE RELATIVE TO 2nd TOE — ☐ Longer ☐ Shorter ☐ Same
50-52	ANKLE BREADTH
53-55	KNEE BREADTH
56-58	ELBOW BREADTH
59-61	WRIST BREADTH
62	2nd (Index) FINGER RELATIVE TO 4th (Ring) FINGER — ☐ Longer ☐ Shorter ☐ Same
63-65	MEDIAL CALF SKINFOLD (mm.)
66-69	STANDING HEIGHT

CARD COL. NO.	SEATED
8-10	BIZYGOMATIC BREADTH
11-13	BIGONIAL BREADTH
14-16	ELBOW-ELBOW BREADTH
17-19	SEAT BREADTH
20-22	FOOT LENGTH
	STANDING
23-25	BIACROMIAL BREADTH
26-28	BICRISTAL BREADTH
29-31	BITROCHANTERIC BREADTH
32-34	UPPER ARM GIRTH
35-37	FOREARM GIRTH
38-41	CHEST GIRTH
42-45	WAIST GIRTH
46-49	HIP GIRTH
50-52	CALF GIRTH
53-55	TRICEPS SKINFOLD (mm.)
56-58	SUBSCAPULAR SKINFOLD (mm.)
59-61	LATERAL CHEST SKINFOLD (mm.)
62-64	SUPRA-ILIAC SKINFOLD (mm.)
65-68	WEIGHT (lbs.)

MEASUREMENTS NOT DONE OR SIDE VARIED—*specify which and give reason:*

SAMPLE NO. (1-5)

TREADMILL

	OBSERVER	ROOM TEMPERATURE (F°)	HUMIDITY

ARE YOU ON A SCHOOL TEAM?

1 ☐ YES → IF YES, What Team? _____

2 ☐ NO

WAS TEST SATISFACTORY?

1 ☐ YES

2 ☐ NO → IF NO, explain _____

SPIROMETER

ROOM TEMPERATURE (C°) _____

WAS TEST SATISFACTORY?

1 ☐ YES 2 ☐ NO → IF NO, explain _____

GRIP STRENGTH

RIGHT	LEFT
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
Max. _____	Max. _____

YOUTH IS:

1 ☐ RIGHT-HANDED

2 ☐ LEFT-HANDED

3 ☐ USES BOTH HANDS ABOUT SAME AMOUNT

WAS TEST SATISFACTORY?

1 ☐ YES

2 ☐ NO → IF NO, explain _____

SAMPLE No. (1–5)

COLOR VISION

EXAMINER

NO REPORT

Wears glasses for test: 1 ☐

Wears contact lenses for test: 2 ☐

Wears neither for test: 3 ☐

COLOR VISION TEST NO, 1 — Irhihara binocular test

PLATE	READ AS	
	☐ 12	☐ Other
2	☐ 8	☐ 3 ☐ Other
4	☐ 5	☐ 2 ☐ Other
8	☐ 6	☐ Other
10	☐ 5	☐ Other
14	☐ Other	☐ 5
17	☐ 42	☐ 2 ☐ 42
		☐ 4 ☐ 42
		☐ Other

SCORE: (If total score for plates 2–17 is 6 skip to page 2 of Vision Form) _____

COLOR VISION TEST NUMBER 2-H-R-R

	PLATE	I	II
B-Y	1		☐ Other
	2		☐ Other
R-G	3		☐ Other
	4		☐ Other
	5		☐ Other
	6		☐ Other

SCORE (I-6): _____

COLOR VISION TEST NO. 2-H-R-R (Continued)

	PLATE	I	II	III	IV
Mi. R-G	7				☐ Other
	8		☐ None		
	9			☐ None	
	10				☐ Other
Mod, R-G	11				☐ Other
	12				☐ Other
	13				☐ Other
	14				☐ Other
Sev. R-G	15				☐ Other
	16				☐ Other

SCORE: (7 through 16) _____ _____

High = ☐ Proton ☐ Deutan

Mod. B–Y	17				☐ Other
	18				☐ Other
Sev. B–Y	19				☐ Other
	20				☐ Other

SCORE: (17 through 20) _____ _____

High = ☐ Triton ☐ Tetorton

SAMPLE NO. (1-5)

DISTANCE VISION—WITHOUT CORRECTION

VISION TESTS

Check tests given first. ☐ Far ☐ Near (Odd numbers distance first; even numbers near first)

DIAL

1. BINOCULAR LATERAL PHORIA-DISTANCE (Check number nearest arrow)

☐ left of 1 ☐ 1 ☐ 2 ☐ 3 0 4 ☐ 5 / ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 / ☐ 17 ☐ 18 ☐ 19 ☐ 20 ☐ 21
☐ Right of 21 ☐ Arrow or number not visible. Code _____

2. MONOCULAR DISTANCE-SMALL'

line	Right eye	Score (Check)	Left eye	Score
5	VHDNS OZKRC	___ 50	CDZNO KSRVH	___ 50
6	DVZNC SRHKO	___ 40	CNRKH ZVSDO	___ 40
7	KNZCO SRDHV	___ 30	DVHCK OZNSR	___ 30
8	KNDRS ZVCOH 2	___ 5	CDKRO SZVNH	___ 25
9	VZCHD KNRSO	___ 20	CVHSZ ORKDN	- 20
10	KZSVN HCRDO	___ 17	DNVHS OKRCZ	___ 17
11	RCSNV KDHOZ	___ 15	ZHODC SVNKR	___ 15
12	ROKHZ NSCVD	___ 12	KHOZD CSNVR	___ 12

3. MONOCULAR DISTANCE-LARGE • *(Omit if score on Dial 2)*

Line	Right eye	Score	left eye	Score
1	SDK	- 4 0 0	V N C	- 4 0 0
2 / 2	RCSZO / KNHDV	___ 200	OZNKS / DRHCV	___ 200
3	HNZOS KRCVD	- 1 0 0	R Z O H C	KSNDV - 100
4	ZHODC SVNKR	___ 70	RKNCZ	HSDVO 70

CODE _____ CODE _____

TRIAL **LENS** FOR MYOPIA (Score in lines I-8, Plates 2, 3-OMIT IF CONTACT LENSES ARE WORN.)

	0	1	1.5	2	3	4	5	N.A.	
Right eye	☐	☐	☐	☐	☐	☐	☐	☐	SCORE _____
left eye	☐	☐	☐	☐	☐	☐	☐	☐	SCORE _____

3A. BINOCULAR DISTANCE-SMALL*

Line	Score
5	OSDNH VKZCR ___ 50
6	RHZCD OSVKN ___ 40
7	SVNHO KCRDZ ___ 30
8	RHSCK OZDVN ___ 25
9	OZRVN HSCKD ___ 20
10	DRHVN ZSKCO ___ 17
11	OSKCV RZHDN ___ 15
12	SKHDN OCVRZ ___ 12

4A. BINOCULAR DISTANCE-LARGE' *(Omit if score on Dial 3A)*

Line	Score
1	KDS ___ 400
2 / 2	ZSKCO / VRHDN ___ 200
3	ZNSKH VDRCO ___ 100
4	OZCRH NSKDV ___ 70

Code _____

*Diagonal line through each letter missed; horizontal line through sections of line not attempted and through top full line not attempted.

SAMPLE NO. (1–5)

NEAR VISION—WITHOUT CORRECTION

6. BINOCULAR LATERAL PHORIA—NEAR (Check number nearest arrow)

☐ Left of 1 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 / ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14
☐ 15 ☐ 16 ☐ 17 ☐ 18 / ☐ 19 ☐ 20 ☐ 21 ☐ 22 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29
☐ 30 ☐ 31 ☐ 32 ☐ 33 ☐ Right of 33 CODE

7. MONOCULAR NEAR-SMALL'

Line	Right eye	Stare (Check)	Left eye	Score
5	CVRZS DKHNO	50	ZKCRV OHSDN	50
6	VZKCO HRSDN	40	SDKVO ZRHNC	40
7	HSZKN OVCDR	30	DHZRV SOKNC	30
8	OVRHS CNDZK	25	DKOSN RVZCH	25
9	ZHCOR VDNSK	20	RKZVD OSNCH	20
10	RHCVN SDKZO	17	OKSRN DHVCZ	17
11	CNZSR OHKDV	15	VRCHN OZKSD	15
12	ODCNH VRSKZ	12	ROHKS VDNCZ	12

8. MONOCULAR NEAR--LARGE' *(Omit if score on Dial 7)*

Line	Right eye	Score	left eye	Score
1	NCV	400	DSK	400
2	HNRCD / VOSZK	200	CRSZO / NDVHK	200
3	NDOCV RSZKH	100	OKZHS NCVRD	100
4	VRCNZ OSDHK	70	RCOVN DHKSZ	70

CODE CODE

9. BINOCULAR NEAR-SMALL •

line		Score
5	OCVKR ZNSDH	50
6	ZHOCV NDRKS	40
7	SDOVK HRNZC	30
8	DNHKO ZSRVC	25
9	DSVKH ZNOCR	20
10	NZHKO RCVDS	17
11	SNCZO RKVHD	15
12	DHNVO SCZKR	12

NS5. BINOCULAR NEAR--LARGE • *(Omit if score on Dial 9)*

Line		Score
1	NVC	400
2	CZHSN / DKORV	200
3	KSDVO NHZCR	100
4	VZOCS HRNKD	70

CODE

*Diagonal line through each letter missed; horizontal line through sections of line not attempted and through top full line not attempted.

NEAR VISION—WITH CORRECTION

6. BINOCULAR LATERAL PHORIA-NEAR (Check number nearest arrow)

☐ Left of 1 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 / ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 13 ☐ 14
☐ 15 ☐ 16 ☐ 17 ☐ 18 / ☐ 19 ☐ 20 ☐ 21 0 2 2 ☐ 23 ☐ 24 ☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29
☐ 30 ☐ 31 ☐ 32 ☐ 33 ☐ Right of 33 ☐ Arrow or number not visible CODE

SAMPLE NO. (1-5)

HEALTH EXAMINATION SURVEY—III

DISTANCE VISION—WITH CORRECTION

CORRECTED VISION
1 ☐ With glasses
2 ☐ With contact lenses

VISION TESTS
DIAL

1. BINOCULAR LATERAL PHORIA—DISTANCE (Check number nearest arrow)

☐ Left of 1 ☐ 1 02 cl3 ☐ 4 05 / ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

❑ II 012 ☐ 13 014 ☐ 15 ☐ 16 / ☐ 17 ☐ 18 a19 020 ☐ 21

☐ Right of 21 ☐ Arrow or number not visible. Code

5A. MONOCULAR DISTANCE—SMALL*

Line	Right eye	Score (Check:	Left eye	Score
5	KDZNV SHROC	50	CRNDO SVZHK	50
6	VKRNŻ CODHS	40	ZVCOH DRSNK	40
7	HSDRZ NCVOK	30	ZKHSÖ VCDRN	30
8	ZOVCS NRKDH	25	HNVŻS CKRDO	25
9	RHSDK ONCVZ	20	RHCVN ODSZK	20
10	KNRZD OHVCS	17	KRNHC OSDVZ	17
11	KZODR HNSCV	15	SCHZD VKNRO	15
12	RVNSZ KCDOH	12	CNDŻK OHRVS	12

3A. BINOCULAR DISTANCE—SMALL*

Line		Score
5	OSDNH VKZCR	50
6	RHZCD OSVKN	40
7	SVNHO KCRDZ	30
8	RHSCK OZDVN	25
9	OZRVN HSCKD	20
10	DRHVN ZSKCO	17
11	OSKCV RZHDN	15
1%	SKHDN OCVRZ	12

3. MONOCULAR DISTANCE—LARGE* *(Omit if Score on Did 5A)*

Line	Right eye	Scare	Left eye	Score
1	SDK	400	VNC	400
2	RCSZO	200	OZNKS	200
2	KNHDV		DRHCV	
3	HNZOS KRCVD	100	RZOHC KSNDV	100
4	ZHODC SVNKR	70	RKNCZ HSDVO	70

CODE CODE

4A. BINOCULAR DISTANCE—LARGE* *(omit if score on Dial 3A)*

Line		Score
1	KDS	400
2	ZSKCO	200
2	VRHDN	
3	ZNŠKH VDRCO	100
4	OZCRH NSKDV	70

CODE

LENSOMETER READINGS

EYE LENS	± FIRST READING	± SECOND READING	AXIS
Right			
Left			

*Diagonal line through each letter missed; horizontal line through sections of line not attempted and through top full line not attempted.

TRIAL LENS TEST FOR MYOPIA (Score in lines 1–8, plates 5A, 3)

Right eye cl ☐ ☐ ❑ ♍● ☐ ☐ ☐ SCORE

0 1 1.5 2 3 4 5 N.A.

Left eye ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ SCORE

SAMPLE NO. (1–5)

VISION—LANDOLT RING TESTS

DISTANCE' (at 10 feet)

WITHOUT CORRECTION

LINE (Code)	RIGHT EYE	LEFT EYE	BINOCULAR
	200 ☐	200 ☐	200 E I ☐
2	100 c l	●□□ ☐	100 ☐
3	71.4 c l	71.4 ☐	71.4 ☐
4	50 ☐	☐ ☐	50 ☐
5	39.3 ☐	39.3 ☐	39.3 ☐
6	28.6 ☐	28.6 ☐	28.6 ☐
7	25 ☐	25 c l	25 E I
8	21.4 ☐	21.4 ☐	21.4 ☐
8	17.9 ☐	17.9 ☐	17.9 ☐
10	14.3 ☐	14.3 c l	14.3 c l
11	10.7 ☐	10.7 a	10.7 c l
C O D E	_____	_____	_____

WITH **CORRECTION**

1 ☐ With Glasses
2 ☐ With Contact lenses

LINE (Code)	RIGHT EYE	LER EYE	BINOCULAR
1	200 ☐	200 c l ☐	200 ☐
2	100 ☐	100 ☐	100 El
3	71.4 c l	71.4 c l	71.4 ☐
4	50 a	50 ☐	50 a
5	39.3 ☐	39.3 c l	39.3 c l
6	28.6 ☐	28.6 ☐	28.6 ☐
7	25 ☐	25 ☐	25 ☐
8	21.4 ☐	21.4 ☐	21.4 ☐
9	17.9 ☐	17.9 c l	17.9 cl
10	14.3 ☐	14.3 ☐	14.3 ☐
11	10.7 ☐	10.7 ☐	10.7 c l
C O D E	_____	_____	_____

TRIAL LENS TEST FOR MYOPIA-without correction (Score in lines I-8 Monocular Distance -Omit if contact lenses are worn)

Right eye	☐	☐	♋	☐	♍●	☐	☐	☐	SCORE _____
	0	1	1.5	2	3	4	5	N.A.	
Left eye	☐	☐	☐	☐	☐	☐	☐	☐	SCORE _____

NEAR' (at 14 inches)

LINE (Code)	RIGHT EYE	LEFT EYE	BINOCULAR
1	200 ☐	200 ☐	200 ☐
a	160 ☐	160 ☐	160 ☐
3	125 ☐	125 ☐	125 ☐
4	100 ☐	100 ☐	100 ☐
5	80 ☐	80 ☐	80 ☐
6	60 ☐	60 ☐	60 ☐
7	50 ☐	50 ☐	50 El
8	40 ☐	40 c l	40 ☐
9	30 cl	30 a	30 ☐
10	25 ☐	25 ☐	25 ☐
11	20 ☐	20 ☐	20 ☐
CODE	_____	_____	_____

Check acuity level reached.

TRIAL LENS TEST FOR MYOPIA-with correction (Score in lines I-8, Monocular Distance)

Right eye	☐	☐	☐	☐	☐
	0	1	1.5	2	3
Left eye	☐	☐	☐	☐	☐

Right eye ☐ ☐ ☐ SCORE _____
5 N.A.

Left eye ☐ Cl Cl SCORE _____

LENSOMETER READINGS (glasses, contact lenses)

EYE LENS	± FIRST READING	± SECOND READING	AXIS
Right			
Left			

SAMPLE NO. (1-S)

HEALTH EXAMINATION SURVEY- III

ENT EXAMINATION

EXTERNAL EAR (Except Canal)

R: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS →

L: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS →

R: 1 ☐ OPERATIVE SCAR; 2 ☐ OTHER (Describe):

L: 1 ☐ OPERATIVE SCAR; 2 ☐ OTHER (Describe):

AUDITORY CANAL

R: 1 ☐ NO FINDING3; 2 ☐ FINDINGS →

L: 1 ☐ NO FINDING3; 2 ☐ FINDINGS →

Occluded:

R: 1 ☐ PARTIALLY; 2 ☐ COMPLETELY

L: 1 ☐ PARTIALLY; 2 ☐ COMPLETELY

Occluded By:

R: 1 ☐ CERUMEN; 2 ☐ OTHER (Describe):

L: 1 ☐ CERUMEN; 2 ☐ OTHER (Describe):

DRUM

R: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS...; 3 ☐ NOT VISIBLE

L: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS...; 3 ☐ NOT VISIBLE

R: 1 ☐ DULL (OPAQUE); 2 ☐ TRANSPARENT

L: 1 ☐ DULL (OPAQUE); 2 ☐ TRANSPARENT

R: 1 ☐ BULGING; 2 ☐ RETRACTED

L: 1 ☐ BULGING; 2 ☐ RETRACTED

R: 1 ☐ CALCIUM PLAQUES

L: 1 ☐ CALCIUM PLAQUES

R: 1 ☐ RED; 2 ☐ OTHER DISCOLORATIONS

L: 1 ☐ RED; 2 ☐ OTHER DISCOLORATIONS

R: 1 ☐ FLUID

L: 1 ☐ FLUID

Perforated:

R: 1 ☐ WITH DISCHARGE; 2 ☐ WITHOUT DISCHARGE

L: 1 ☐ WITH DISCHARGE; 2 ☐ WITHOUT DISCHARGE

R: 1 ☐ SCARS

L: 1 ☐ SCARS

1 ☐ 1 ☐ OTHER FINDINGS (Describe): _____

DRUM MOBILE

R: 1 ☐ YES; 2 ☐ NO; 3 ☐ PNEUMATIC OTOSCOPY UNSATISFACTORY

L: 1 ☐ YES; 2 ☐ NO; 3 ☐ PNEUMATIC OTOSCOPY UNSATISFACTORY

ORAL PHARYNX

1 ☐ NO FINDINGS

2 ☐ FINDINGS *(Describe)*:

TONSILS:

1 ☐ NOT VISIBLE

2 ☐ **TONSILLAR** TAGS PRESENT

3 ☐ TONSILS PRESENT-GRADE I
(Within Tonsillar Pillars)

4 ☐ TONSILS PRESENT-GRADE II
(Outride Tonsillar Pillars but not Meeting in Midline)

5 ☐ TONSILS PRESENT-GRADE III
(Meeting in Midline)

NARES

R: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS-r

L: 1 ☐ NO FINDINGS; 2 ☐ FINDINGS-r

OBSTRUCTION:

R: 1 ☐ ACUTE; 2 ☐ CHRONIC

L: 1 ☐ ACUTE; 2 ☐ CHRONIC

OTHER SIGNIFICANT FINDINGS:

R: 1 ☐ NO; 2 ☐ YES (Describe) _____

L: 1 ☐ NO; 2 ☐ YES (Describe) _____

SAMPLE NUMBER (I-5)

PHYSICAL EXAMINATION

EYES: A, LIDS, CONJUNCTIVAE AND SCLERAE

R L
1 ☐ 1 ☐ NO FINDINGS
2 ☐ 2 ☐ FINDINGS → **Describe:** _____

B. PUPILS AND IRIDES

R L
1 ☐ 1 ☐ NO FINDINGS
2 ☐ 2 ☐ FINDINGS (Describe): _____

C. TROPIA *(indicate direction)*

	NORMAL	IN	OUT	UP	DOWN
R	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
L	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

D. EXTRAOCULAR MUSCLES AND CONJUGATE GAZE

R L
1 ☐ 1 ☐ NORMAL
2 ☐ 2 ☐ ABNORMAL → **Describe:** _____

E. OTHER EYE ABNORMALITIES 1 ☐ NO 2 ☐ YES *(Describe)* _____

THYROID: GOITER CLASSIFICATION
0 ☐ GROUP 0 2 ☐ GROUP 2
1 ☐ GROUP 1 3 ☐ GROUP 3

OTHER THYROID FINDINGS 1 ☐ NO 2 ☐ YES (Describe)

BREAST:

MALE

R L
1 ☐ 1 ☐ NO FINDINGS
2 ☐ 2 ☐ FINDINGS:

GYNECOMASTIA:

	R	L
CLASS I — WITH TENDERNESS	1 ☐	1 ☐
— NO TENDERNESS	2 ☐	2 ☐
CLASS II — WITH TENDERNESS	3 ☐	3 ☐
— NO TENDERNESS	4 ☐	4 ☐

OTHER FINDINGS: R 1 ☐ L 2 ☐

Describe _____

FEMALE

MATURATION STAGE:

	I	II	III	IV	V
R:	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐
L:	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐

OTHER BREAST FINDINGS:
1 ☐ NO FINDINGS
2 ☐ FINDINGS
R L
1 ☐ 1 ☐ MASS
2 ☐ 2 ☐ Other *(Describe)* _____

HEART:

P.M.I. INTERSPACE: 4 ☐ 5 ☐ 6 ☐ 1 ☐ NOT FELT
MIDCLAVICULAR LINE 1 ☐ AT 2 ☐ INSIDE 3 ☐ OUTSIDE 4 ☐ NOT FELT

THRILLS: 1 ☐ ABSENT 2 ☐ PRESENT → 1 ☐ SYSTOLIC 2 ☐ DIASTOLIC; 1 ☐ BASE 2 ☐ APEX

HEART SOUNDS
1st HEART SOUND 1 ☐ NORMAL 2 ☐ OTHER *(Describe)*: _____
2nd HEART SOUND 1 ☐ NORMAL 2 ☐ OTHER *(Describe)*: _____

MURMUR
1 ☐ ABSENT
2 ☐ PRESENT → 1 ☐ SIGNIFICANT; 2 ☐ POSSIBLY SIGNIFICANT; 3 ☐ INNOCENT

Describe Murmur *(Location intensity, pitch, quality, duration, time, transmission)*: _____

OTHER MURMURS: 1 ☐ ABSENT 2 ☐ PRESENT

DESCRIBE (As Before): _____

OTHER CARDIAC OR CARDIOVASCULAR FINDINGS 1 ☐ NO 2 ☐ YES *(Describe)* _____

SAMPLE NO. (1-5)

PHYSICAL EXAMINATION (Continued)

ABDOMINAL:

1 ☐ NO FINDINGS

2 ☐ FINDINGS →

(Check all items that apply)

1 ☐ APPENDECTOMY

2 ☐ OTHER SURGICAL SCARS (Describe): _____

HERNIORRAPHY *(inquinal)* 1 ☐ RIGHT 2 ☐ LEFT

1 ☐ OTHER ABDOMINAL FINDINGS *(Describe)*: _____

GENITALIA:

PUBIC HAIR MATURATION *(Stage)*: 1 ☐ I 2 ☐ II 3 ☐ III 4 ☐ IV 5 ☐ V

MALE: A. GENITAL MATURATION (grade): 1 ☐ I 2 ☐ II 3 ☐ III 4 ☐ IV 5 ☐ V

B. CIRCUMCISION 1 ☐ YES 2 ☐ NO

C. OTHER GENITAL FINDINGS:

1 ☐ NO FINDINGS 2 ☐ FINDINGS →

R L

1 ☐ 1 ☐ UNDESCENDED TESTICLE

2 ☐ 2 ☐ OTHER *(Describe)*: _____

MUSCULO-SKELETAL 1 ☐ NO FINDINGS 2 ☐ FINDINGS *(List and Describe)*: _____

SKIN

FACIAL ACNE-GRADE

O I II III IV

0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐

OTHER SKIN FINDINGS: 1 ☐ NO FINDINGS 2 ☐ FINDINGS (Describe): _____

PREFERENCES:

	RIGHT (PREDOMINANTLY)	LEFT (PREDOMINANTLY)	VARIABLE OR EQUAL	UNSATISFACTORY
HAND	1 ☐	2 ☐	3 ☐	4 ☐
EYE	1 ☐	2 ☐	3 ☐	4 ☐
FOOT	1 ☐	2 ☐	3 ☐	4 ☐

ABNORMAL NEUROLOGICAL FINDINGS 1 ☐ NONE 2 ☐ YES *(Describe)*: _____

OTHER SYSTEMS (**Reticulo** endothelial, G.I., etc.)

1 ☐ NO FINDINGS 2 ☐ FINDINGS (Describe): _____

NUTRITIONAL APPRAISAL (Your own subjective appraisal)

1 ☐ NORMAL 2 ☐ UNDERWEIGHT 3 ☐ MODERATELY OBESE 4 ☐ VERY OBESE

BLOOD PRESSURE

TIME	SYSTOLIC	DIASTOLIC

SAMPLE NO. (1-5)

SUMMARY OF DIAGNOSTIC IMPRESSIONS

× ☐ Esse ally a normal child with none of the findings below.

List all significant findings

CARDIOVASCULAR SYSTEM

1 ☐ NO FINDINGS
2 ☐ FINDINGS → List and Describe *(include ECG and X-ray findings if noted)*:

DIAGNOSTIC IMPRESSION

NEUROLOGICAL CONDITIONS

1 ☐ NO FINDINGS
2 ☐ NEUROLOGICALLY SUSPICIOUS BUT NO DEFINITE ABNORMALITIES (list ***and Describe):***

3 ☐ NEUROLOGICALLY **ABNORMAL** (list and Describe):

MUSCULO-SKELETAL

1 ☐ NO FINDINGS
2 ☐ FINDINGS (fist and Describe):

DIAGNOSTIC IMPRESSION

OTHER SYSTEMS

1 ☐ NO FINDINGS
2 ☐ FINDINGS ***(Describe):***

DIAGNOSTIC IMPRESSION

SAMPLE NO. (1–5)

NURSE'S QUESTIONNAIRE

(To be asked of female examinees only)

1. HAVE YOUR MONTHLY PERIODS STARTED, THAT IS, HAVE YOU BEGUN TO MENSTRUATE:

1 ☐ YES 2 ☐ NO 3 ☐ DON'T KNOW

(If YES, skip to Question 3.) (If NO or DON'T KNOW, ask Question 2 and discontinue interview.)

2. HAVE YOU BEEN TOLD ABOUT MENSTRUATION IN GIRLS? 1 ☐ YES 2 ☐ NO 3 ☐ DON'T KNOW

IF "YES," ask: WHO WAS IT THAT GAVE YOU YOUR FIRST REAL INFORMATION ABOUT THIS?

1 ☐ Your Mother
2 ☐ Older Sister
3 ☐ Other Member of Family
4 ☐ Your Doctor or Nurse
5 ☐ School Program Person
6 ☐ Girl Friend
7 ☐ Other (specify who): _____

3. WERE YOU TOLD ABOUT MENSTRUATION IN GIRLS before the time WHEN YOUR PERIODS BEGAN?

1 ☐ YES 2 ☐ NO 3 ☐ DON'T KNOW.

A. FROM WHOM DID YOU GET YOUR FIRST REAL INFORMATION ABOUT THIS?

1 ☐ Your Mother
2 ☐ Older Sister
3 ☐ Other Member of Family
4 ☐ Your Doctor or Nurse
5 ☐ School Program Person
6 ☐ Girl Friend
7 ☐ Other (Specify who): _____

B. WHOM WOULD YOU PREFER TO HAVE GIVEN YOU THIS INFORMATION?

1 ☐ Your Monther
2 ☐ Older Sister
3 ☐ Your Doctor or Nurse
4 ☐ School Program Person
5 ☐ Girl Friend
6 ☐ Other (Specify who): _____

4. HOW OLD WERE YOU WHEN YOU STARTED? _____ years _____ months

5. WHEN DID YOU HAVE YOUR LAST PERIOD? _____ days ago

6. HOW LONG DOES YOUR PERIOD USUALLY LAST? _____ Days

7. HOW MANY DAYS ARE THERE BETWEEN YOUR PERIODS? _____ Days

8. DO YOU SOMETIMES HAVE DISCOMFORT OR PAIN IN CONNECTION WITH YOUR MENSTRUAL PERIOD?

1 ☐ YES → IF YES, then ask:
2 ☐ NO

A. DO YOU HAVE THIS DISCOMFORT — 1 ☐ Most periods 2 ☐ Occasionally
B. IS THIS DISCOMFORT — 1 ☐ Mild 2 ☐ Moderate 3 ☐ Severe
C. DOES THIS FREQUENTLY CAUSE YOU TO TAKE MEDICINE? — 1 ☐ YES → IF YES, what kind? _____ 2 ☐ NO
D. DOES THIS CAUSE YOU TO GO TO THE SICK ROOM OR NURSE? 1 ☐ YES 2 ☐ NO
E. IS THIS FREQUENTLY SEVERE ENOUGH TO CAUSE YOU TO STAY HOME FROM SCHOOL (OR WORK)? 1 ☐ YES 2 ☐ NO
F. HAVE YOU TALKED TO A DOCTOR ABOUT THIS? 1 ☐ YES 2 ☐ NO

SAMPLE NO. (1-5)

Confidentiality has been assured the parents as set forth in 22 F.R.1687

DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS
WASHINGTON, D.C. 20201

form Approved
Budget Bureau No 68-R1700

HEALTH EXAMINATION SURVEY—III

REPORT OF FINDINGS

EXAMINEE'S NAME AND ADDRESS	AGE	DATE OF EXAMINATION	NAME AND ADDRESS OF PHYSICIAN
	HEIGHT (inch)	WEIGHT (lbs)	

COLOR VISION

☐ No defect ☐ Not tested

DEFICIENCY

TYPE	SEVERITY
☐ Red-Green	☐ Mild
☐ Green-Red	☐ Moderate
☐ Blue-Yellow	☐ Severe

VISUAL ACUITY (Distance)

RESULTS ARE: ☐ WITH GLASSES
☐ WITH CONTACT LENSES
☐ WITHOUT CORRECTION

☐ NOT TESTED

RIGHT EYE	LEFT EYE
20/	20/

HEARING: (audiogram)

Cycles Per Second	Decibels Right	Decibels Left	Cycles Per Second	Decibels Right	Decibels Left
250			3,000		
500			4,000		
1,000			6,000		
2,000			8,000		

CHEST X-RAY

☐ COPY ENCLOSED
☐ NOT PERFORMED

BACTERIURIA (Females only)
(POSITIVE-more than 100,000 colonies/cc)
1 st Specimen
☐ Pos. ☐ Neg. ☐ Not Performed

2nd Specimen (date performed _____)
☐ Pos. ☐ Neg. ☐ Not Performed

See enclosed Form for notes on tests used,

BLOOD **CHEMISTRY**

HEMATOCRIT _____ %

PBI (Serum) _____ micro gms %

CHOLESTEROL (Serum) _____ mgms %

URIC ACID (Serum) _____ mgms %

SEROLOGY:
VDRL ☐ Neg. ☐ WR ☐ Pos.
FTA-ABS ☐ Neg. ☐ WR ☐ Pos.

SIGNIFICANT MEDICAL FINDINGS-f or which parent gave no history and which may require medical follow-up:

EXAMPLE NO (I-5)

Confidentiality has been assured the parents as set forth in 22 F.R. 1687

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PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS
WASHINGTON, D.C. 20201

Form Approved
Budget Bureau No 68-R1700

HEALTH EXAMINATION SURVEY-III

REPORT OF DENTAL FINDINGS

EXAMINEE'S NAME AND ADDRESS	AGE DATE OF EXAM.	DENTIST NAMED BY PARENT

THE INDEX ASSESSMENTS USED IN THE SURVEY REVEAL:

☐ No conditions which suggest that the Examinee should be seen by you before the next regular appointment.

ONE or MORE of the FOLLOWING CONDITIONS that suggest a clinical examination is desirable to determine whether or not treatment is needed before the next regular appointment.

☐ DECAYED TEETH

☐ GINGIVITIS and/or PERIODONTAL DISEASE

☐ ORAL DEBRIS and/or CALCULUS

☐ MALOCCLUSION

☐ OTHER CONDITIONS (specify) _____

COMMENTS

STUDY NO. (1-5)

GPO : 1967 O—237-387

Confidentiality has been assured the individual as set forth in 22 FR 1687

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HEALTH EDUCATION AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL CENTER FOR HEALTH STATISTICS

PHS-4611-5
3-65

Form Approved:
Budget Bureau No. 68-R620-S4.5

DENTAL EXAMINATION — HEALTH EXAMINATION SURVEY

Name _____

Date of Birth: _____ MO DAY YEAR

1. SAMPLE NUMBER →

2. EXAMINER 1 2 3 RECORDER 1 2 3 Stand

3. EDENTULOUS ARCHES - DENTURE STATUS (Absent / Present / Defective)
Upper
Lower
Examinee

4. STATUS OF TOOTH SPACES

5. PERIODONTAL INDEX (P.I.)

Quadrant	Primary Teeth: Present (P)	Primary Teeth: Crown (XP)	Primary Teeth: Root (XR)	Tooth Space	Teeth Present: Normal (N)	Teeth Present: Carious-Defective (D)	Teeth Present: Filled (F)	Teeth Present: Non-Functional Carious: Crown (XD)	Teeth Present: Non-Functional Carious: Root (XR)	Tooth Space	Permanent Teeth Missing: Missing Space Closed (MSC)	Permanent Teeth Missing: Unerupted (0)	Permanent Teeth Missing: Extracted: Caries (C)	Permanent Teeth Missing: Extracted: Orth / Accident / Impaction (S-X)	Permanent Teeth Missing: Replaced (R)	Tooth Space	P.I.: Mild Gingivitis (1)	P.I.: Gingivitis (2)	P.I.: Pocket Formation (6)	P.I.: Advanced Destruction (8)
				3rd Molar	1	1	1	1	1	3rd Molar	1	1	1	1	1	3rd Molar	1	1	1	1
				2nd Molar	2	2	2	2	2	2nd Molar	2	2	2		2	2nd Molar	2	2	2	2
				1st Molar	3	3	3	3	3	1st Molar	3	3	3		3	1st Molar	3	3	3	3
UPPER ARCH RIGHT	4	4	4	2nd Bi	4	4	4	4	4	2nd Bi	4	4	4	4	4	2nd Bi	4	4	4	4
	5	5	5	1st Bi	5	5	5	5	5	1st Bi	5	5	5	5	5	1st Bi	5	5	5	5
	6	6	6	Cuspid	6	6	6	6	6	Cuspid	6	6	6		6	Cuspid	6	6	6	6
	7	7	7	Lateral	7	7	7	7	7	Lateral	7	7	7	7	7	Lateral	7	7	7	7
	8	8	8	Central	8	8	8	8	8	Central	8	8	8	8	8	Central	8	8	8	8
	P	XP	XR		N	D	F	XD	XR		MSC	0	C	S-X	R		1	2	6	8
	9	9	9	Central	9	9	9	9	9	Central	9	9	9	9	9	Central	9	9	9	9
	10	10	10	Lateral	10	10	10	10	10	Lateral	10	10	10	10	10	Loteral	10	10	10	10
	11	11	11	Cuspid	11	11	11	11	11	Cuspid	11	11	11		11	Cuspid	11	11	11	11
UPPER ARCH LEFT	12	12	12	1st Bi	12	12	12	12	12	1st Bi	12	12	12	12	12	1st Bi	12	12	12	12
	13	13	13	2nd Bi	13	13	13	13	13	2nd Bi	13	13	13	13	13	2nd Bi	13	13	13	13
				1st Molar	14	14	14	14	14	1st Molar	14	14	14		14	1st Molar	14	14	14	14
				2nd Molor	15	15	15	15	15	2nd Molar	15	15	15		15	2nd Molar	15	15	15	15
				3rd Molor	16	16	16	16	16	3rd Molar	16	16	16	16	16	3rd Molar	16	16	16	16
	P	XP	XR		N	D	F	XD	XR		MSC	0	C	S-X	R			2	6	8
				3rd Molar	17	17	17	17	17	3rd Molar	17	17	17	17	17	3rd Molar	17	17	17	17
				2nd Molar	18	18	18	18	18	2nd Molar	18	18	18		18	2nd Molar	18	18	18	18
				1st Molar	19	19	19	19	19	1st Molar	19	19	19		19	1st Molar	19	19	19	19
LOWER ARCH LEFT	20	20	20	2nd Bi	20	20	20	20	20	2nd Bi	20	20	20	20	20	2nd Bi	20	20	20	20
	21	21	21	1st Bi	21	21	21	21	21	1st Bi	21	21	21	21	21	1st Bi	21	21	21	21
	22	22	22	Cuspid	22	22	22	22	22	Cuspid	22	22	22		22	Cuspid	22	22	22	22
	23	23	23	Lateral	23	23	23	23	23	Lateral	23	23	23	23	23	Loteral	23	23	23	23
	24	24	24	Central	24	24	24	24	24	Central	24	24	24	24	24	Central	24	24	24	24
	P	XP	XR		N	D	F	XD	XR		MSC	0	C	S-X	R		1	2	6	8
	25	25	25	Central	25	25	25	25	25	Central	25	25	25	25	25	Central	25	25	25	25
	26	26	26	Loteral	26	26	26	26	26	Lateral	26	26	26	26	26	Lateral	26	26	26	26
LOWER ARCH RIGHT	27	27	27	Cuspid	27	27	27	27	27	Cuspid	27	27	27		27	Cuspid	27	27	27	27
	28	28	28	1st Bi	28	28	28	28	28	1st Bi	28	28	28	28	28	1st Bi	28	28	28	28
	29	29	29	2nd Bi	29	29	29	29	29	2nd Bi	29	29	29	29	29	2nd Bi	29	29	29	29
				1st Molar	30	30	30	30	30	1st Molar	30	30	30		30	1st Molar	30	30	30	30
				2nd Molar	31	31	31	31	31	2nd Mola	31	31	31		31	2nd Molar	31	31	31	31
				3rd Molar	32	32	32	32	32	3rd Mola	32	32	32	32	32	3rd Molar	32	32	32	32

DENTAL EXAMINATION — HEALTH EXAMINATION SURVEY

SAMPLE NUMBER →

Stand

Examinee

6. ORAL HYGIENE INDEX

Right Debris	Right Calculus	Upper Arch Anterior Debris	Upper Arch Anterior Calculus	Upper Arch Left Debris	Upper Arch Left Calculus	Lower Arch Right Debris	Lower Arch Right Calculus	Lower Arch Anterior Debris	Lower Arch Anterior Calculu	Lower Arch Left Debris	Lower Arch Left Calculus
0 None	0	0 None	0	0 None	0	0 None	0	0 None	0	0 None	0
1 1/3	1	1 1/3	1	1 1/3	1	1 1/3	1	1 1/3	1	1 1/3	1
2 2/3	2	2 2/3	2	2 2/3	2	2 2/3	2	2 2/3	2	2 2/3	2
3 +2/3	3	3 +2/3	3	3 +2/3	3	3 +2/3	3	3 +2/3	3	3 +2/3	3
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~

7. FRACTURES OF ANTERIOR TEETH

Upper Teeth (None	Dentin	Pulp	Treated	NA	Lower Teeth (None	Dentin	Pulp	Treated	NA
7	7	7	7	7	23	23	23	23	23
8	8	8	8	8	24	24	24	24	24
9	9	9	9	9	25	25	25	25	25
10	10	10	10	10	26	26	26	26	26

8. OPACITIES

Non-fluoride	Fluorosis	
		None
		Mild
		Moderate-severe
		NA

9. BUCCAL SEGMENT RELATION

Right	Left	
1	1	Mesial–Severe
2	2	–Moderate
3	3	Normal
4	4	Distal–Moderate
5	5	–Severe
~~NA~~	~~NA~~	Not Applicable
		Primary Arch

10. POSTERIOR CROSSBITE

Right Buccal	Right Lingua	Left Buccal	Left Lingual
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
~~NA~~	~~NA~~	~~NA~~	~~NA~~

11. INCISOR RELATIONSHIP

Openbite (mm)	
4+	
2	2 - 4
3	0 - 2
	Overbite (mm)
4	Inc 3rd
5	Mid 3rd
6	Gin 3rd
7	Tissue
8	Impinging Overblte
~~NA~~	Not Applicable

12. HLD INDEX (Handicapping Labio–lingual Deviations)

Overjet	Mandibular Protrusion	Overbite	Openbite	Labio-lingua Spread
0	0	0	0	0
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~

Deformity	
	Absent
	Present

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SAMPLE NUMBER →

Stand

Examinee

13. LOWER INCISOR WIDTHS (mm and tenths)

Right Lateral 26	Right Central 25	Left Central 24	Left Lateral 23
0–9, NA	0–9, NA	0–9, NA	0–9, NA

14. INCISAL OVERLAP (mm)

Upper Right	Upper Left	Lower Right	Lower Left
0–7, NA	0–7, NA	0–8, NA	0–8, NA

15. SPACE (mm)

Upper Right	Upper Left	Lower Right	Lower Left
0–8, NA	0–8, NA	0–8, NA	0–8, NA

16. DISTANCE FROM LATERAL TO MOLAR (mm)

Upper Right	Upper Left	Lower Right	Lower Left
0–9, NA	0–9, NA	0–9, NA	0–9, NA

17. MALALIGNED TEETH

Upper Anterior Minor	Upper Anterior Major	Upper Posterior Minor	Upper Posterior Major	Lower Anterior Minor	Lower Anterior Major	Lower Posterior Minor	Lower Posterior Major
0–6	0–6	0–10	0–10	0–6	0–6	0–10	0–10

18. MAXILLARY ARCH WIDTH (mm)

Molar	Cuspid
0–9, NA	0–9, NA

19. ORTHODONTIC APPLIANCES

- None
- Active- Fixed
- Active Removable
- Retainer
- Space Maintainer
- Other (describe)

REMARKS: Present Absent

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