Continuous Health Surveys a Necessity for Health Administration

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THE LIMITATIONS of the usual sources of vital statistics, that is, birth certificates, death certificates, and reports of cases of certain diseases, for the purpose of guiding public health practice, have been a matter of increasing concern for some time.

In the control of common communicable diseases, such as diphtheria, whooping cough, and poliomyelitis, numbers of deaths and cases can no longer be regarded as sensitive indices for vigorous control performance. It is the level of inoculation of the susceptible population that is the necessary element of information which leads to meaningful decision with respect to program planning and evaluation.

Public health departments have had only meager information on the principal causes of morbidity and the extent and distribution of acute respiratory diseases. Gross impressions of the incidence of these diseases can be obtained from data on deaths from pneumonia and influenza, but this procedure is unsatisfactory since estimation of the magnitude as well as of the time distribution of acute respiratory disease is subject to an unknown error when based on mortality data.

In the assessment of community attitude or practice with respect to important public health issues such as attitude toward the relationship of cigarette smoking and cancer, nature of the day care of preschool-age children of working mothers, and extent to which aged persons are covered by health insurance, there has long existed a basic incapacity to develop pertinent information in a timely manner and at a reasonable cost.

It has been customary for health departments, when faced by an urgent problem of estimating inoculation levels or of developing impressions of the level of acute respiratory diseases, to undertake an ad hoc survey. The survey might be based on a probability sample (*1*) or on a sample which is purposively constructed. The experience of recent years has led us to believe that the need for information beyond that provided by the usual vital statistics is now so frequent and demanding that a systematic continuous survey system is necessary, feasible, and extraordinarily useful.

This paper is concerned with the recent experience of the Baltimore City Health Department in the administration of a continuous monthly household survey known as the Baltimore Health Survey. The general features of the survey design, the conduct of the field phase, the costs involved, and the uses made of the survey data will be described. The purpose of the presentation is to demonstrate the practicability and utility of the survey procedure in local health administration.

Survey Design

The necessity for a continuous survey of the population in Baltimore City as perceived by the research and planning staff of the Baltimore City Health Department grew out of (*a*) the need for information on the inoculation status of the child population by major geographic

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areas, (*b*) the desire for more accurate knowledge of the epidemiology of acute respiratory diseases in the community, particularly in the fall and winter, (*c*) the need for data on the mobility and other characteristics of the population, and (*d*) the desire to describe the attitude and practice of the population with respect to such matters as smoking, use of health department services, and day care of the preschool-aged children of working mothers. It was anticipated that the survey would prove to be a procedure with considerable flexibility, and that it could be used to answer questions raised by program directors within the department as well as by other workers in health-related fields.

Determination of the size of sample and frequency of visits was based both on the requirements for precision of information and on the capabilities of the health department staff to absorb this project as an ongoing responsibility. Although some thought was given to obtaining a research grant to accomplish this survey, it was recognized that the survey procedure could not be regarded as a new contribution to public health methods. The essential new element was a demonstration of the feasibility of the survey as a basic function of a local health department.

It was decided that a sample of 100 households could be reached each month. Allowing for nearly 15 percent incompleteness due to nonresidential and vacant units, refusals to be interviewed, and persons not at home, a sample of this size would provide information on about 300 individuals monthly or in a year would yield data on approximately 3,600 individuals from about 1,000 households. This amount of information was considered sufficient for most of the purposes enumerated above.

For example, inoculation levels with a coefficient of variation of about 5 percent for major geographic units (health districts) were required. To achieve this, it was necessary to obtain information for a period of 1 year. Meanwhile, data with this precision with respect to citywide performance could be obtained in a shorter period of 3 months. For the assessment of the prevalence of acute respiratory disease the standard error of estimate when based on monthly data in table 2 was ± 1.4 percent.

The general format of the questionnaire used is similar to that employed by the National

BALTIMORE HEALTH SURVEY

Special Questionnaire 1

Respondent's No. ..... Serial No. .....

CHILD CARE: (Ask in home where there are children *under* six)

1. Does (the mother) work full time? 0( )No 1( )Yes (60)
2. Who takes care of the child while the mother is working?

At Own Home	*At Caretakers Home*	
1. ( ) Father	5. ( ) Relative	7. ( ) Group care
2. ( ) Relative under 18	6. ( ) Nonrelative	8. ( ) Self (child is alone)
3. ( ) Relative, 18 or over		9. ( ) Other.....(61)
4. ( ) Nonrelative		

3. If group care (day nursery) give name and location of nursery .....
.....

REFRIGERATION: (Ask in all homes)

4. Do you have a refrigerator? 0( )No 1( )Yes (62)
5. Is the refrigerator:
   1. ( ) Mechanical (motor)
   2. ( ) Ice box
   3. ( ) Something else (63)
6. When you put leftover foods in your refrigerator, do you cover them? 0( )No 1( )Yes (64)
7. Are most of the meats you buy in the store already wrapped in cellophane? 0( )No 1( )Yes
   (IF YES), do you remove this cover before storing the meat? 0( )No 1( )Yes (65)
8. Do you have a *thermometer that shows temperature* in your refrigerator? 0( )No 1( )Yes
   (TEMPERATURE REGULATOR IS NOT A THERMOMETER) (66)

Health Survey (*2*) and one with which we have had experience locally in a longitudinal survey of the health of residents of economically depressed areas (*3*). In addition to the standard section which is used regularly from month to month, a special section is employed to obtain data on questions for which there is need for information and for which an extended period of data collection is not required. Several examples of this special supplement are shown in the questionnaire forms.

An independent sample of 100 households is chosen monthly by the staff of the bureau of biostatistics of the Baltimore City Health Department, under the instructions and general supervision of its director. During the early planning for the survey, several sampling procedures were considered.

The first two methods were modifications of the plan described by Serfling and associates (*1*), which involved the selection of 25 sampling points after repeated subsampling of cen-

BALTIMORE HEALTH SURVEY

Special Questionnaire 2

Respondent's No. ..... Serial No. .....

CHILD CARE: (Ask in home where there are children *under* six)

1. Does (the mother) work full time? 0( )No 1( )Yes (60)
2. Who takes care of the child while the mother is working?

At Own Home	*At Caretakers Home*	
1. ( ) Father	5. ( ) Relative	7. ( ) Group care
2. ( ) Relative under 18	6. ( ) Nonrelative	8. ( ) Self (child is alone)
3. ( ) Relative, 18 or over		9. ( ) Other.....
4. ( ) Nonrelative		(61)

3. If group care (day nursery) give name and location of nursery.....
.....

HOME CHEMICALS AND MEDICANTS: (All interviews)

4. Where do you keep such things as bleaches, lye, floor wax, kerosene, insecticides? (62)
.....
5. Do you have to reach up to get them? 0( )No 1( )Yes (63)
6. Would a preschool child, that is a child under 6, have much trouble getting to them? 0( )No 1( )Yes (64)
7. Where do you keep aspirin or other headache remedies? Describe briefly..... (65)
.....
8. Do you have to reach up to get them? 0( )No 1( )Yes (66)
9. Would a preschool child have much trouble getting to them? 0( )No 1( )Yes (67)

SMOKING: (All interviews)

10. Do you smoke cigarettes? 0( )No 1( )Yes (68)
11. Do you think that smokers get help from smoking? 0( )No 1( )Yes (69)
12. Smokers give many different reasons for smoking. Do you think:
    1. It helps (them) do (their) work better? 0( )No 1( )Yes (70)
    2. It helps (them) relax? 0( )No 1( )Yes (71)
    3. It improves (their) health? 0( )No 1( )Yes (72)
13. Some people think that cigarettes cause lung cancer; others think this is not the case. What do you think about this?
    0 ( ) Don't believe smoking causes lung cancer
    1 ( ) Smoking probably causes lung cancer
    2 ( ) Smoking definitely causes lung cancer
    3 ( ) Thought about but undecided
    4 ( ) Don't know
    5 ( ) Other..... (73)

    Why do you feel this way about it?.....
    .....

sus tracts. Each of these methods led to a cluster of four dwelling units. A third sampling plan, the one finally selected, involved the use of a city directory (Polk Directory) to provide a list of dwelling places.

Cluster sampling was ruled out for two reasons. First the cost of selecting dwelling units by this method (60 cents) was roughly 10 times the cost (7 cents) of systematically selecting dwelling units from the city directory. Second, the anticipated reduction in travel time due to clustering did not materialize since, because of time limitations, the public health nurse interviewers could not interview all units of the cluster at the same time.

Fieldwork

Following selection of the households to be included in the monthly sample, the address of each designated unit is placed on an index sheet which also gives the street numbers of the households immediately adjacent on the right and left of the sample unit. If the house numbers are not consecutive, this is noted on the questionnaire. If the interviewer finds unlisted dwelling units at this location, interviews are conducted at a specified number of these homes. Special provision is made for multiple-dwelling units listed as single units in the city directory.

The selected households are assembled into health districts and assigned to the public

BALTIMORE HEALTH SURVEY

Special Questionnaire 3

Respondent's No..... Serial No.....

1. Has anyone in the family (all persons listed) had any of these conditions during the PAST 12 MONTHS? (Read this list and mark those who have had one or more of these conditions):

1. Asthma
2. Any allergy
3. Tuberculosis
4. Chronic bronchitis
5. Repeated attacks of sinus trouble
6. Rheumatic fever
7. Hardening of the arteries
8. High blood pressure
9. Heart trouble
10. Stroke
11. Trouble with varicose veins
12. Hemorrhoids or piles
13. Gallbladder or liver trouble
14. Stomach ulcer
15. Any other chronic stomach trouble
16. Kidney stones or other kidney trouble
17. Arthritis or rheumatism
18. Prostate trouble
19. Diabetes
20. Thyroid trouble or goiter
21. Epilepsy or convulsions of any kind
22. Mental or nervous trouble
23. Repeated trouble with back or spine
24. Tumor or cancer
25. Chronic skin trouble
26. Hernia or rupture

(54–59)

Person No.	Condition Nos.

2. Physician visits and X-ray: (Ask respondent about all members of the family. Record answer in years, i.e., less than 1 year, 1 year, 2 years, etc.; "never," "don't know," and "don't remember" are acceptable answers.)

Person No.	(60) How long has it been since (you were) last seen by a doctor?	(61) How long has it been since (you) had a chest X-ray?

Table 1. Percentage distribution of population of Baltimore, according to Baltimore Health Survey estimates and 1960 census, by age

Age (years)	Survey estimate	Census
All ages	100. 0	100. 0
Under 5	11. 9	10. 9
5–9	10. 5	9. 6
10–19	16. 9	15. 6
20–44	33. 6	32. 8
45–64	19. 5	22. 0
65 and over	7. 4	9. 1
Unknown	. 2	

health nursing supervisor thereof for further assignment to individual public health nurses. During the planning phase a series of conferences was arranged jointly by the director of public health nursing and the director of the bureau of biostatistics in order to orient and indoctrinate the participating nurses in the purposes, procedures, and importance of the health survey.

An explanation is required of the choice of public health nurses to carry out the fieldwork. Two other alternatives are generally possible, the employment of sanitarians or of specially hired interviewers. Previous experience with special surveys undertaken within the Eastern Health District of Baltimore had led to the conclusion that, with few exceptions, public health nurses were readily accepted by households scheduled for interview. Public health nurses are accustomed to making home visits and are trained in the procedure of obtaining medical histories, which encourages accuracy of response. Their common educational background and common inservice training program argued for assuring a maximum of precision of response.

In this survey the sample size each month is such that on the average not more than one completed visit per month is required of each staff nurse. Provision had to be made for night or weekend visits to households where no responsible respondent could be interviewed during ordinary working hours. Such special visits are made by a professional part-time interviewer who has had previous experience in health surveys. She is paid on an hourly basis.

As interviews are completed by a staff nurse, the completed survey forms are transmitted, through the appropriate nursing supervisor, to the bureau of biostatistics. Within the bureau one full-time clerk is assigned to (*a*) control the distribution of visits within the several districts, (*b*) receive, edit, and code completed questionnaires, (*c*) initiate suitable followup when delays in returns from the field are apparent, and (*d*) prepare preliminary monthly hand counts of selected data. A punchcard is made for each interviewed person, and monthly, quarterly, and annual tabulations are made from these cards.

Results

On the average, 83 percent of the 100 households selected monthly are successfully contacted and interviewed either by nurses or by the special interviewer. The number of interviews made by the special interviewer varies from 10 to 20 per month. Persons who refuse to be interviewed and those who are not at home account for an average of 7 of the 17 noninterviewed households. Vacant, demolished, or nonresidential units account for the remaining 10 households not interviewed. The overall contact rate of this survey, 83 percent of selected addresses, agrees very well with the 81 percent contact rate reported for the National Health Survey during the period July–December 1957 (*2*). Of the homes eligible for interview, the completion rates are 92 percent for the Baltimore Health Survey and 94 percent for the National Health Survey.

The demographic data collected in the survey include age, race, and sex, mobility information, marital status, and educational attainment of the head of the household. To check the accuracy of the survey findings, the 1960 survey estimates were checked with the 1960 census returns. The age distribution of the population of Baltimore is given in table 1. The survey estimate of the nonwhites was 33.9 percent; the census results showed 35 percent.

Information on mobility of the population is of importance for two purposes. First, it assists in postcensal population estimation when recourse is made to the predicting model $Y_{t+1}=Y_t+b-d+m$, where b=births, d=

Table 2. Percentage of persons in survey sample reported ill with acute respiratory disease, by month, Baltimore Health Survey, 1960 and 1961

Month	1960	1961	Month	1960	1961
January	10	7	July	(1)	3
February	14	6	August	4	2
March	15	10	September	5	3
April	7	8	October	12	11
May	4	5	November	10	6
June	5	3	December	13	11

[1] Not available.

deaths, and m=net migration, all for a stated year, and where Y_t=population in a reference year and Y_{t+1} is the population which it is desired to estimate. Second, data on mobility contribute to an understanding of the social and economic circumstances of the population to be served. To determine m, the net migration, it is required to know the extent of movement into a defined area, or in-migration, and also the extent of out-migration, or movement out of the defined area.

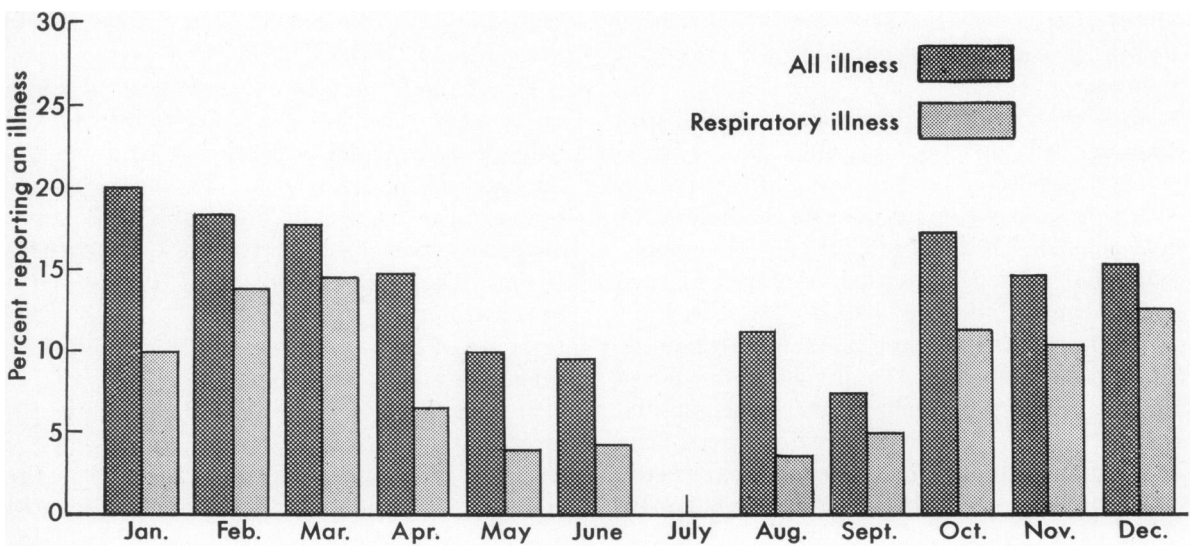
Some interesting methodological problems are encountered in the measurement of out-migration. Persons who have left the jurisdiction for which population estimates are required are not reached by the survey process. Therefore, one cannot measure the relative frequency of completed movement from the area of interest but must depend upon the measurement of intent to move. In this connection, we have developed information on the intent to move within the 2 months subsequent to the interview date, and similar information on the intent to move within a year interval is now being obtained. This is an exploratory item and will require further development to provide suitable estimates of annual net migration rates. To date, however, the mobility data have been used to obtain an age distribution of persons who plan to move out of Baltimore City.

Respiratory Illness

Conditions reported by respondents which fall within section VIII, Diseases of the respiratory system, of the International Classification of Diseases are counted in estimating the prevalence of respiratory illness for a given month. With few exceptions, the conditions reported are given as "cold," "grippe," or "influenza" and fall within the categories 470–481.

Since January 1, 1960, it has been possible to trace the prevalence of respiratory illness in Baltimore City by month on a current basis, and the cyclical pattern experienced is shown in the chart. The survey has been especially useful in determining whether there is substance to the commonly expressed view that

Morbidity as reported in 100 household interviews with 275–325 persons, by month, Baltimore Health Survey, 1960



"there is a lot of respiratory illness in town" and just recently to establish the necessary surveillance for ascertaining whether predicted hyperendemic levels of respiratory disease were being experienced. For example, in the absence of the survey the marked rise in respiratory illness during October 1961 (table 2) would no doubt have been observed by some persons and interpreted as an outbreak of respiratory disease consistent with forecasts. However, the survey results when seen in retrospect indicate that the rise in respiratory illness during October 1961 is not unusual and repeats a similar experience in October 1960 during a period when respiratory disease was not considered hyperendemic.

Inoculation Status

Two common and important questions which a health authority should be able to answer are concerned with the inoculation status of children with respect to diphtheria and pertussis and the inoculation status of the entire population with respect to poliomyelitis. A commonly used technique has been the ad hoc survey, that is, a special survey of the population or a fraction therof in order to make an estimate of the inoculation status of the population. This procedure is practical but relatively inefficient if, during the course of a year, a number of surveys are required to gather information on different subjects.

The estimates which it is possible to make from the Baltimore Health Survey findings for 1 year are shown in table 3. These results can be further broken down geographically to locate "soft" areas with respect to inoculation status and to permit concentration of health education efforts in these areas. A reasonable question may be asked with respect to the accuracy of

Table 3. Poliomyelitis inoculation status, by age and race, Baltimore Health Survey, January–December 1960

Age (years)	Percent								
	Total			White			Nonwhite		
	Not inoculated	1 or 2 inoculations	3 or more inoculations	Not inoculated	1 or 2 inoculations	3 or more inoculations	Not inoculated	1 or 2 inoculations	3 or more inoculations
All ages	45	15	40	47	10	43	41	25	34
Under 10	13	18	69	11	11	78	14	28	58
Under 5	16	22	62	16	17	67	16	34	50
5–9	9	13	78	6	5	89	12	27	61
10–19	10	14	76	8	8	84	15	25	60
20 and over	67	13	20	69	9	22	64	22	14

Table 4. Paralytic poliomyelitis cases and attack rates among children under 10 years of age, Baltimore Health Survey, 1960

	Total	No vaccine	1 or 2 inoculations	3 or more inoculations	Unknown
Number of cases	74	30	18	20	6
Vaccination status (percent) [1]	100	13	18	69	
Number of children [2]	209, 192	27, 195	37, 655	144, 342	
Attack rate [3]	35. 4	110. 3	47. 8	13. 9	

[1] From Baltimore Health Survey, 1960.
[2] Estimated by multiplying the percentage of children with 0, 1 or 2, and 3 or more inoculations by the number of children under 10 years of age.
[3] Per 100,000 children.

response when a household head is queried concerning the inoculation status of children in the home. This question is now under investigation.

A useful byproduct of the survey data was obtained late in 1960 when Baltimore experienced a moderate outbreak of paralytic poliomyelitis during which 96 cases were reported, 74 among children less than 10 years of age. By classifying the latter cases according to inoculation status, information obtained in routine epidemiologic followup of reported cases, and by using the age-specific inoculation rate estimates made possible by the Baltimore Health Survey, the effectiveness of the poliomyelitis vaccine could be ascertained (table 4).

Attitudes and Practices

Suppose a health authority has reached the point of view that cigarette smoking is an important cause of lung cancer. It enunciates this opinion and makes an effort to disseminate this health information. What is the attitude of the public toward this issue? Such a question can be answered by adding to the standard questionnaire form a supplement consisting of special items. In the Baltimore Health Survey the following query was made during a 3-month period: "Some people think that cigarettes cause lung cancer; others think this is not the case. What do you think about this?"

Responses were received from 257 adults, 128 smokers and 129 nonsmokers, with the following results:

Response	*Smokers (percent)*	*Nonsmokers (percent)*
Don't believe it	40	19
Causes lung cancer	22	32
Probably	20	28
Definitely	2	4
Can't decide	12	16
Don't know	26	33

The important elements of information and decision from this survey are: (*a*) half of the respondents are smokers, (*b*) among the smokers, who are of special concern, 40 percent share a hard core of negative opinion concerning smoking as a cause of lung cancer, an opinion which appears unlikely to be easily changed, (*c*) 38 percent express attitudes which suggest that educational efforts may be effective in influencing them to accept the point of view of the health authority, (*d*) 22 percent accept the causal relationship between smoking and lung cancer and should be studied further to determine their motivation for smoking in the face of an understanding of the risks involved.

Several additional examples of surveys of health attitudes or practices are surveys of (*a*) day-care plans of working mothers for their children, (*b*) household practice in respect to storage of home chemicals and medicine with reference to access by children, and (*c*) major health problems as experienced and perceived by respondents.

Costs

Excluding the cost of the original design of the survey and the time expended in the interpretation of data at higher staff levels, the field operation, including selection of sample, editing of returns, preparation of returns for machine analysis, and hand counts of major elements of information, costs $10,000 annually for a survey which produces information for approximately 1,000 families which include 3,600 individuals.

Summary

The requirements of a health authority for medical intelligence on a major population unit cannot be satisfactorily met by traditional methods for collection of data, namely, systems for the collection of information on births, deaths, and selected reportable diseases. The sample survey, when developed as a continuous information collection system, is efficient, remarkably adaptive, practical, and in our opinion necessary for effective management of a comprehensive health program.

The Baltimore Health Survey is an integral part of the work of the Baltimore City Health Department, not a demonstration or research project. The nursing staff is responsible for a major component of the household interviewing work, and the statistical staff is responsible for design and analysis. The commissioner of health and the assistant commissioner of health for research and planning regard the survey technique as a principal source of information necessary to guide progressive planning and assessment.

The continuous health survey contributes to demography, measurement of the prevalence of respiratory illness, determination of inoculation levels, and assessment of health attitudes and practices.

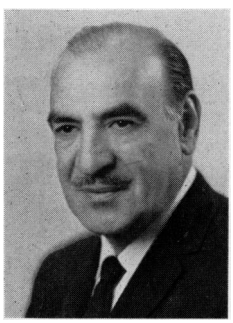
REFERENCES

(1) Serfling, R. E., Cornell, R. G., Sherman, I. D., and Cohen, A.: A manual for conducting a survey of poliomyelitis immunization in an urban area. Polio packet, 1959, pt. V. U.S. Public Health Service, Communicable Disease Center, Atlanta, Ga.

(2) U.S. National Health Survey: The statistical design of the health household-interview. PHS Publication No. 584–A2. U.S. Government Printing Office, Washington, D.C., 1958.

(3) Wilner, D. M., Walkley, R. P., Schram, J. M., Pinkerton, T. C., and Tayback, M.: Housing as an environmental factor in mental health: The Johns Hopkins Longitudinal Study. Am. J. Pub. Health 50: 55–63, January 1960.

New Secretary of Health, Education, and Welfare



President Kennedy's appointment of Anthony J. Celebrezze as Secretary of Health, Education, and Welfare was approved by the Senate on July 20, 1962. Mr. Celebrezze (pronounced sella BREE zi) succeeds Abraham Ribicoff, who resigned to campaign for election to the U.S. Senate.

Mr. Celebrezze was in his fifth term as mayor of Cleveland, Ohio, when he received his appointment. He has been prominent in Ohio public life since 1950, when he was elected to the Ohio State Senate. He was reelected in 1952, and in 1954, while still in the legislature, he was elected mayor of Cleveland.

His tenure of that office was marked by outstanding achievement in urban renewal, health, welfare, traffic engineering, and other programs. Under his leadership, Cleveland's urban renewal program became one of the most extensive in the nation. A unique feature of the program was the development of the University Circle Cultural, Educational, and Medical Center by the city and the Federal Government in cooperation with a private foundation. In carrying out his program of community progress, Mr. Celebrezze was able to obtain a high degree of cooperation from business, labor, civic, welfare, educational, and cultural interests.

Mr. Celebrezze was president of the U.S. Conference of Mayors at the time of his appointment and in 1958–59 was president of the American Municipal Association. Both President Eisenhower and President Kennedy appointed him to serve as a member of the Advisory Commission on Intergovernmental Relations.

The son of naturalized American citizens, Mr. Celebrezze was born in 1910 in Anzi, Italy, while his parents were visiting their homeland. He attended Cleveland schools, John Carroll University, and Ohio Northern University, where he received his law degree in 1936. He was admitted to the Ohio State Bar the same year. After serving as attorney for the Ohio Bureau of Unemployment Compensation from 1936 to 1939, he entered private practice. During World War II, Mr. Celebrezze served in the U.S. Navy as a seaman. He is married to the former Anne Marco of Cleveland. They have three children.

Program Notes

The American Association for the Advancement of Science has established its 19th section: Information and Communication (T). Official affiliates of this section include, among others, the American Chemical Society, American Documentation Institute, American Library Association, American Medical Writers' Association, Linguistic Society of America, National Association of Science Writers, and the National Federation of Science Abstracting and Indexing Services.

« »

Paint sprayers subject the city of New York to 600 to 700 tons of air pollutants each day, according to Arthur J. Benline, commissioner of air pollution control.

« »

One patient in four entering a U.S. mental hospital is admitted at his own request. Voluntary admissions rose from 16 percent to 24 percent between 1956 and 1961. In England more than 70 percent of mental hospital admissions are voluntary.

« »

All motor vehicles manufactured after June 30, 1963, and registered in New York State must be equipped with crankcase ventilating systems approved by the State air pollution board. The requirement is based on studies in California and at the Public Health Service's Sanitary Engineering Center in Cincinnati.

« »

Early detection of lead poisoning so as to initiate treatment before lead causes irreversible damage to the brain has become possible with a technique developed under a Publice Health Service grant to Dr. Jo Anne Whitaker, William Austin, and Dr. John D. Nelson, Southwestern Medical School, Dallas, Tex. The test consists of comparing the amount of lead in the urine before and 24 hours after administration of edathamil calcium disodium.

The experiment and test were described in *Pediatrics*, March 1962.

« »

"An Operational Medical Plan for Natural Disasters Occurring in Baltimore City," was revised by the Baltimore City Civil Defense Health Service as of January 1962.

« »

On February 8, 1962, Kentucky became the first State to sign an agreement with the U.S. Atomic Energy Commission, which on March 26 transferred to the State the responsibility of regulation and licensing of byproduct, source, and special radioactive materials in amounts of less than critical mass. California has signed a similar agreement, effective July 1, 1962.

« »

Transfer of 88 educable students and 20 trainable students from special classes for exceptional children into the regular school system is required by Connecticut State regulations effective May 15. A spokesman for the State department of education believes 90 percent of the children will become self-sufficient adults.

« »

Seven cases of retarded bone growth and arrest resulting from excessive doses of vitamin A have been reported by Dr. Charles M. Pease, Children's Memorial Hospital, Chicago. He says overdoses of vitamins can cause irreparable damage to cells in the cartilage of bones and prevent bones from growing to their full length.

« »

Seat belt anchorages are required by law on all new cars sold in New York State after June 30, 1962. On October 1 seat belt manufacturers will be responsible for producing belts which meet the State's specifications. Belts will be mandatory equipment in all new models sold after January 1, 1965.

« »

Four exhaust control devices are being tested by the California Motor Vehicle Pollution Control Board. Each type will be used by 25 or more cars for 12,000 miles in tests which are expected to take 9 months. Exhaust control devices will become mandatory 1 year after the board formally selects two or more types from those tested; they are expected to cost about $50.

California has 8 million cars, and authorities say vehicles produce more than half the pollution in the State's urban areas.

« »

"Unseen Enemies," a new film on microbes and the diseases they cause, won top honors in its category during the 1962 film festival in New York.

Made with the support of the World Health Organization, the film is a clinical exposition of the effects of leprosy, elephantiasis, yaws, trachoma, malaria, and yellow fever, and of the progress toward eradicating such diseases.

Medical groups and students may borrow the film from the Shell Oil Company, 50 West 50th St., New York 20.

« »

New nutritionist positions have been budgeted in 24 State health departments within the past 2 years. (California, Illinois, and Texas created positions at the local level.) The positions were made possible by formula grants either for nursing home improvement activities or for services to the chronically ill and aged.

« »

Hospitalized in Maryland's psychiatric facilities during 1961 were 153 children under 15 years of age. Of the 77 juvenile patients discharged in 1961, 34 were treated 6 months or less, 21 were in hospitals 7–11 months, and 21 received care for 1 year. One juvenile patient was hospitalized for 2 years.