Variables in Under-reporting of Clefts on Birth Certificates

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ALTHOUGH clefts of the lip and palate are among the more easily diagnosed congenital malformations, there is considerable under-recognition and under-reporting of these defects in the newborn (*1, 2*). A severe cleft involving the lip is obvious even to a lay observer, but an isolated minor cleft of the palate requires careful examination of the mouth to be recognized and may indeed go unnoticed until the child experiences difficulty in eating or until even later, when he experiences difficulty in speaking. Even when a cleft is diagnosed at birth it does not necessarily follow that it will be recorded accurately, if at all, on the infant's hospital chart and his birth certificate. Both records frequently serve as source documents for research in congenital anomalies.

Despite their presumed inadequacies, birth certificates of most States provide researchers interested in the epidemiology of congenital malformations with large numbers of cases for study at a relatively low cost. The certificates also permit the study of relationships between the occurrence or nonoccurrence of malformations and a variety of variables, including age and race of parents, sex, geographic location, birth weight, and date of birth. For these reasons, the Epidemiology Branch of the Public Health Service's Division of Dental Health began its studies of cleft lip and palate with cases ascertained from birth certificates. Results of the analysis of these birth certificates have been published with the knowledge that the source document has, as well as the stated advantages, the disadvantage of being subject to under-reporting (*3–5*).

This study was undertaken to estimate the degree of under-reporting of cleft lip and palate on birth certificates and—more important—to determine whether conclusions based on the analysis of birth certificates might be invalid because of biases in reporting.

Study Design

The design of the study was a simple one. The Crippled Children's Service (CCS) in each of 31 birth registration areas was requested to submit the name, date and place of birth, diagnosis by type of cleft, and other malformations of each child born in that area in 1963 who came to the agency's attention because of cleft lip or cleft palate. These were the areas from which birth certificates mentioning a congenital malformation of any type had been collected previously.

We realized that the CCS agencies might have different sources of referral. Also, some agencies would have records only of patients requiring treatment, thereby eliminating the early neonatal deaths, and other agencies would have records only of those financially eligible for service, eliminating children from higher socioeconomic levels. Any number of other selective factors might be operating as well. Thus,

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although not all cases of clefts recorded on birth certificates would have been reported to the CCS offices, each case known to the CCS offices should have been mentioned on the birth certificate, assuming that there was 100 percent accuracy of reporting on the certificates.

Twenty-six of the 31 birth registration areas participated by providing the requested lists of names of patients. The lists were then checked against those birth certificates with recorded malformations which had been collected previously. In the event that no matching birth certificate was on file, it was obtained through the appropriate State vital statistics office. When the birth certificates of all cleft lip and cleft palate patients on the CCS lists had been received, information from the two sources—birth certificates and CCS reports—was transferred to IBM cards.

Results and Discussion

In comparing the CCS reports with the birth certificates, we assumed that when the diagnoses differed, the one listed by CCS was correct since it was based in most instances on a later and more thorough examination of the child.

As shown in table 1, the CCS offices of the 26 participating States reported a total of 1,039 children born in 1963 with a cleft. Of the 1,039 cases, 231 were not reported on birth certificates—an overall rate of under-reporting of 22.2 percent. For 12 of the 231, lip or palate defects mentioned on the birth certificates were not specified clearly enough to have been considered clefts, for example, "deformed lip" or "palatal defect." Eight additional birth certificates mentioned a malformation such as club foot or syndactyly, but not a cleft. In the remaining 211 of the 231 cases, no malformations of any kind were recorded on the birth certificates.

Conversely, 77.8 percent of the CCS cases were reported on birth certificates. As might be expected, isolated cleft palate was the least well reported; only 65.5 percent of these defects were recorded on birth certificates. Combined cleft lip and palate was the best reported, with 85.7 percent of the cases recorded. Reporting of isolated cleft lip was intermediate, with a rate of reporting of 75.8 percent.

Table 1. Cleft lip and palate reporting on birth certificates compared with Crippled Children's Service records

Diagnosis on CCS records	Total CCS cases	Birth certificate diagnosis						
		Cleft lip or palate reported				Cleft not reported		
		Total	Cleft lip	Cleft lip and palate	Cleft palate	Total	Other lip or palate defects reported	No malformation reported [1]
	Number							
All clefts	1,039	808	220	377	211	231	12	219
Cleft lip	264	200	183	15	2	64	5	59
Cleft lip and palate	497	426	32	355	39	71	0	71
Cleft palate	278	182	5	7	170	96	7	89
	Percent							
All clefts	100	77.8	21.2	36.3	20.3	22.2	1.2	21.1
Cleft lip	100	75.8	69.3	5.7	.8	24.2	1.9	22.3
Cleft lip and palate	100	85.7	6.4	71.4	7.8	14.3	0	14.3
Cleft palate	100	65.5	1.8	2.5	61.2	34.5	2.5	32.0

[1] Includes 8 birth certificates with reports of malformations unrelated to cleft lip or palate.

NOTE: Type of cleft reported vs. not reported: $\chi^2=43.11$, df=2, $P<0.001$.

There also were some disagreements in the type of cleft reported among those cases recorded both on CCS lists and on birth certificates. The rates of precise agreement between the two sources of data were 69.3 percent for isolated cleft lip, 71.4 percent for combined cleft lip and palate, and 61.2 percent for isolated cleft palate.

State of birth. In a previous study (*3*), we arbitrarily divided the United States into six geographic regions and compared regional rates for various congenital malformations reported on birth certificates. The States or cities participating in the current study were assigned to these same regions. Table 2 shows the cleft lip and palate rate derived from birth certificates, the percentage of under-reporting on birth certificates obtained from the comparison of CCS cases and their corresponding birth certificates, and adjusted cleft lip and palate rates arrived at by multiplying the rate derived from birth certificates by the percent of under-reporting plus 100. Marked differences ranging from 0 to 56.5 percent were noted in the rates of under-reporting according to State of birth. However, the regions rank almost the same whether the adjusted or unadjusted rate is used. The overall unadjusted rate of clefts was 105 per 100,000 live births, with a range from 64 to 186, and the overall adjusted rate was 128 per 100,000 live

Table 2. Cleft lip and palate reporting on birth certificates compared with Crippled Children's Service records for selected places of birth, 1963

Region and State or city of birth	Total live births	Clefts reported on birth certificates		Clefts reported by CCS				Adjusted cleft rate per 100,000 live births
		Number of cases	Rate per 100,000 live births	Total cases	Reported on birth certificates	Not reported on birth certificates	Percent not reported	
Total	1, 818, 812	1, 901	105	1, 039	808	231	22. 2	128
Northwest region	119, 430	170	142	75	65	10	13. 3	161
Alaska	7, 594	10	132	6	4	2	33. 3	176
Montana	15, 702	25	159	29	25	4	13. 8	181
Oregon	35, 076	44	125	30	26	4	13. 3	142
Washington	61, 058	91	149	10	10	0	0	149
North-central region	198, 844	315	158	86	76	10	11. 6	176
Iowa	58, 532	99	169	34	29	5	14. 7	194
Nebraska	32, 596	48	147	13	12	1	7. 7	158
South Dakota	16, 646	31	186	20	18	2	10. 0	205
Wisconsin	91, 070	137	150	19	17	2	10. 5	166
Northeast region	587, 500	603	103	462	383	79	17. 1	121
Michigan	177, 744	202	114	192	159	33	17. 2	134
New York City	167, 810	118	70	103	88	15	14. 6	80
Pennsylvania	223, 392	265	119	151	124	27	17. 9	140
Rhode Island	18, 554	18	97	16	12	4	25. 0	121
Southwest region	79, 972	87	109	30	27	3	10. 0	120
Hawaii	17, 790	18	101	6	3	3	50. 0	152
Nevada	9, 452	15	159	9	9	0	0	159
New Mexico	27, 462	22	80	13	13	0	0	80
Utah	25, 268	32	127	2	2	0	0	127
South-central region	459, 856	423	92	207	151	56	27. 1	117
Arkansas	41, 828	55	131	30	27	3	10. 0	144
Louisiana	85, 692	63	74	20	15	5	25. 0	92
Missouri	93, 516	91	97	39	38	1	2. 6	100
Texas	238, 820	214	90	118	71	47	39. 8	126
Southeast region	373, 210	303	81	179	106	73	40. 8	114
Baltimore	36, 124	47	130	14	13	1	7. 1	139
Kentucky	69, 698	54	77	28	14	14	50. 0	116
South Carolina	57, 960	39	67	23	10	13	56. 5	105
Tennessee	81, 450	52	64	60	33	27	45. 0	93
Virginia	91, 582	73	80	31	21	10	32. 3	106
West Virginia	36, 396	38	104	23	15	8	34. 8	140

births, with a range from 80 to 205. The adjusted rates should not be interpreted as the real incidence of clefts among live births, but they are probably closer estimates of the real incidence than those based solely on birth certificates.

Interpretation of the interstate differences and the adjusted rates should take into account that some of the variability may be due to the different casefinding methods employed by the various CCS agencies. For example, if a CCS office uses birth certificates as its sole source of new cases, the agreement between CCS records and birth certificates would be 100 percent. We did not attempt to determine the source of referral in all of the participating States.

Although State-to-State variations in reported incidence of clefts should be interpreted with caution, real geographic differences in incidence of these defects cannot be ruled out. These differences should be the subject of future investigations in which casefinding is more complete than can be expected when birth certificates are the sole source of data.

The implications of general under-reporting and of geographic biases are great, but more important in interpreting data derived from birth certificates is the question of whether or not serious biases exist in reporting malformations according to parental age, sex, and the other variables by which babies with clefts have been distinguished from babies without such malformations.

The following variables were examined for the 1,039 babies included in this study: parental age, race of mother, sex, birth weight, month of birth, place of delivery, and number of associated congenital malformations. Chi-square was used to test the null hypothesis that these two samples (the 808 children with clefts reported on the birth certificates and the 231 for whom clefts were not reported) were selected from the same population with respect to each of these variables.

Age of parents. In our reported studies of birth certificates (*3–5*) and in other investigations using birth certificates and other sources of data (*6–9*), it was observed that the risk of bearing a child with a cleft tends to correlate positively with the age of the mother. Other studies, however, have not revealed such a relation between clefts and maternal age (*10–12*). Similarly, equivocal results have been reported with respect to the age of the father and the incidence of clefts; some studies (*3–6, 13*) show a positive effect of paternal age and others fail to demonstrate such a relation (*8, 10, 11*).

The results of this study (table 3) indicate that birth certificates apparently may serve as the source of an unbiased sample of cleft cases in regard to parental age. No significant difference was found between either the maternal or the paternal age distributions in the cases of cleft reported on birth certificates and those not reported on birth certificates. Although the overall rate of under-reporting of clefts was 22.2 percent, it is interesting that the rate for cases in which age of father was unknown was 36.0 percent. This result probably reflects the general paucity of information about the father on many of the birth certificates of illegitimate children.

Race of mother. It is well documented that, compared with Caucasian groups, the incidence of clefts is lower in American Negroes (*3, 4, 11, 12, 14*) and higher in certain Mongoloid groups, such as American Indians (*15, 16*) and the Japanese (*4, 17*).

In comparing the reported and not reported cases, we found that the rate of under-reporting was greater for Negroes than for all other races (Negro versus all others: $X^2=4.66$, df=1, $0.02<P<0.05$).

Race of mother	*Total cases*	*Clefts reported*	*Clefts not reported*
All races	1,039	808	231
White	940	738	202
Negro	80	54	26
Other nonwhite	19	16	3

The rate of under-reporting was 32.5 percent for Negroes, in contrast to 15.8 percent for other nonwhites and 21.5 percent for whites. In addition, for Negroes, the rate of under-reporting was more for each type of cleft, although the differences were not statistically significant. Almost half (48.1 percent) of the cleft palates in Negroes were not recorded on their birth certificates.

Based on clefts reported on birth certificates from 31 States in 1963, the rates per 100,000 live births were 120 for white babies, 40 for Negro

Table 3. Cases of cleft lip and palate reported and not reported on birth certificates, by age groups of parents of the children

Age group (years)	Total cases	Reported		Not reported	
		Number	Percent	Number	Percent
Mothers [1]					
All ages	1,039	808	77.8	231	22.2
15–19	157	113	72.0	44	28.0
20–24	362	280	77.3	82	22.7
25–29	257	213	82.9	44	17.1
30–34	146	109	74.7	37	25.3
35–39	91	75	82.4	16	17.6
40 and over	26	18	69.2	8	30.8
Fathers [2]					
All ages	1,039	808	77.8	231	22.2
15–19	43	32	74.4	11	25.6
20–24	244	186	76.2	58	23.8
25–29	265	211	79.6	54	20.4
30–34	197	160	81.2	37	18.8
35–39	127	98	77.2	29	22.8
40–44	61	47	77.0	14	23.0
45 and over	52	42	80.8	10	19.2
Unknown	50	32	64.0	18	36.0

[1] $\chi^2 = 9.95$, df $= 5$, $P > 0.05$.
[2] $\chi^2 = 8.33$. df $= 7$, $P > 0.30$.

babies, and 154 for other nonwhite babies. If these rates are adjusted to compensate for the degree of under-reporting found in this study, the rates per 100,000 increase to 146 for white babies, 53 for Negro babies, and 179 for other nonwhite babies. The adjusted rate for Negro babies is still only slightly more than one-third of the rate for white babies.

Thus, although Negro babies are less likely to have existing clefts reported on their birth certificates, the degree of under-reporting is apparently not great enough to account for the frequently observed difference between the incidence of clefts in Negroes and in other racial or ethnic groups.

Sex. It has also been well documented that more males than females are affected by cleft lip, with or without cleft palate, and more females than males are affected by isolated cleft palate (*3*, *4*, *6*, *7*, *10–12*, *18*).

In this study no significant difference was seen in the sex distributions of reported and nonreported cases of isolated cleft palate, cleft lip and palate combined, or all clefts combined (table 4). However, significantly more isolated cleft lip among males was under-reported than among females. An explanation for this observation is not readily apparent. Even though the probability is less than 1 in 100 that it is a chance phenomenon, chance cannot be completely ruled out. Also, isolated cleft lip may possibly tend to be less severe, and therefore less noticeable at birth in males than in females. Unfortunately, a measure of severity of the cases in this study was not obtained.

The results of this study support previous results regarding the unequal sex ratios among persons with different types of clefts. That there may be relatively more under-reporting of isolated cleft lip in males than in females only tends to give further evidence for the preponderance of males with cleft lip.

Birth weight. Babies of low birth weight are more likely to be malformed than babies of normal birth weight (*4*, *6*, *19*). Furthermore, it has been hypothesized that the reporting of malformations may be less accurate for babies in the very lowest weight groups because pediatric examination of these babies may be postponed in order to concentrate on efforts to save their lives (*20*). Birth weights of the CCS children with clefts reported on birth certifi-

cates were compared with birth weights of the children with clefts not recorded. As shown below, the rate of under-reporting was highest (29.4 percent) for babies who weighed 2,000 grams or less.

Birth weight (grams)	*Total cases*	*Clefts reported*	*Clefts not reported*
All birth weights	1,039	808	231
Less than 2,001	34	24	10
2,001–2,500	81	64	17
2,501 and over	918	715	203
Unknown	6	5	1

The rates of under-reporting were similar for babies weighing 2,001 to 2,500 grams (21.0 percent) and for those weighing more than 2,500 grams (22.1 percent). The differences in under-reporting among the three birth weight classifications were not statistically significant ($X^2=1.07$, df=2, $P>0.50$; unknown birth weight excluded).

Month of birth. Evidence in the literature largely indicates that there is no consistent seasonal pattern in births of children with cleft lip and cleft palate (*4, 6, 9, 11, 12*). The results of this study suggest that the reported lack of any demonstrated relationship between the month of birth and the incidence of clefts cannot be attributed to differential reporting on birth certificates as no significant difference according to month of birth was seen between the reported and nonreported cases (table 5).

Place of delivery. Birth certificates for babies born in hospitals are expected to be more accurate than for babies born elsewhere. The reporting of clefts for the 1,039 children according to place of delivery was as follows.

Place of delivery	*Total cases*	*Clefts reported*	*Clefts not reported*
In hospital	1,022	801	221
Not in hospital	17	7	10

Whereas an existing cleft was not recorded on the birth certificates of 21.6 percent of the babies born in hospitals, the rate of under-reporting was 58.8 percent among the nonhospital births, most of which occurred in the rural South and were attended by midwives. The difference in under-reporting between the two groups is highly significant ($X^2=11.32$, df=1, $P<0.001$) and supports the hypothesis that place of delivery is a source of bias in the reporting of clefts, and probably of all other congenital malformations as well. Nevertheless, this bias should be of no great concern in studies of large populations in which the preponderance of deliveries occurs in hospitals. Of course, the bias could be serious if birth certificates were used to study clefts in a selected population in which there were many nonhospital births.

Number of associated malformations. Hypothetically, when one congenital malformation is detected, the likelihood is increased that additional malformations will be discovered. To the extent that under-reporting on birth certificates

Table 4. Cases of cleft lip and palate reported and not reported on birth certificates, by type of cleft and sex of child

Type of cleft and sex of child	Total cases	Reported		Not reported	
		Number	Percent	Number	Percent
All clefts	1,039	808	77.8	231	22.2
Male	602	461	76.6	141	23.4
Female	437	347	79.4	90	20.6
Cleft lip	264	200	75.8	64	24.2
Male	160	111	69.4	49	30.6
Female	104	89	85.6	15	14.4
Cleft lip and cleft palate	497	426	85.7	71	14.3
Male	315	266	84.4	49	15.6
Female	182	160	87.9	22	12.1
Cleft palate	278	182	65.5	96	34.5
Male	127	84	66.1	43	33.9
Female	151	98	64.9	53	35.1

NOTE: All clefts: $\chi^2=1.01$, df=1, $P>0.30$; cleft lip: $\chi^2=8.15$, df=1, $P<0.01$; cleft lip and palate: $\chi^2=0.87$, df=1, $P>0.30$; cleft palate: $\chi^2=0.008$, df=1, $P>0.90$.

is a function of under-recognition of malformations, one might expect that the birth certificates for children with more than one defect would be more accurate than for children with only a cleft. This differential in reporting might be particularly true for isolated cleft palate.

On the other hand, babies with multiple malformations are more likely to be of extremely low birth weight than babies with only one malformation (*4*). Since efforts to save such infants' lives may divert attention from the completion of routine records, the birth certificates of babies with multiple malformations can be expected to have a higher rate of under-reporting.

Twenty of the 26 participating CCS agencies provided information on the presence or absence of other malformations affecting their patients with cleft lip and palate. The proportions of patients with multiple malformations were similar to those reported previously (*3*, *4*, *7*, *10*)—isolated cleft lip, 8.8 percent; cleft lip with cleft palate, 15.9 percent; isolated cleft palate, 24.3 percent.

Table 6 compares reported and nonreported

Table 5. Cases of cleft lip and palate reported and not reported on birth certificates, by month of birth

Month of birth	Total cases	Reported		Not reported	
		Number	Percent	Number	Percent
Total	1, 039	808	77. 8	231	22. 2
January	82	65	79. 3	17	20. 7
February	105	79	75. 2	26	24. 8
March	104	86	82. 7	18	17. 3
April	96	69	71. 9	27	28. 1
May	81	62	76. 5	19	23. 5
June	78	58	74. 4	20	25. 6
July	78	67	85. 9	11	14. 1
August	89	61	68. 5	28	31. 5
September	92	68	73. 9	24	26. 1
October	63	50	79. 4	13	20. 6
November	91	77	84. 6	14	15. 4
December	80	66	82. 5	14	17. 5

NOTE: $\chi^2=16.19$, df$=11$, $P>0.10$.

Table 6. Cases of cleft lip and palate reported and not reported on birth certificates, in selected States, by type of cleft and number of malformations

Type of cleft and number of malformations	Total cases	Reported		Not reported	
		Number	Percent	Number	Percent
All clefts	877	701	79. 9	176	20. 1
One malformation	731	594	81. 3	137	18. 7
Two or more malformations	146	107	73. 3	39	26. 7
Cleft lip	216	176	81. 5	40	18. 5
One malformation	197	161	81. 7	36	18. 3
Two or more malformations	19	15	78. 9	4	21. 1
Cleft lip and palate	402	354	88. 1	48	11. 9
One malformation	338	301	89. 1	37	10. 9
Two or more malformations	64	53	82. 8	11	17. 2
Cleft palate	259	171	66. 0	88	34. 0
One malformation	196	132	67. 3	64	32. 7
Two or more malformations	63	39	61. 9	24	38. 1

NOTE: All clefts: $\chi^2=4.34$, df$=1$, $0.02<P<0.05$; cleft lip: $\chi^2=0.0001$, df$=1$, $P>0.99$; cleft lip and palate: $\chi^2=1.44$, df$=1$, $P>0.20$; cleft palate: $\chi^2=0.41$, df$=1$, $P>0.50$.

cases according to whether CCS records indicated a total of one or more than one malformation. More under-reporting among patients with multiple malformations was observed for each type of cleft, although the differences were not statistically significant. For all clefts combined, however, a significantly higher rate of under-reporting was found among the patients with multiple malformations.

Thus, the use of birth certificates for the study of cleft lip and cleft palate may tend to bias the sample in favor of those cases in which the cleft occurs as an isolated phenomenon. These cases of single malformation may differ etiologically from cases in which clefts occur in conjunction with other congenital defects.

Summary

The birth certificates of 1,039 babies reported by 26 State Crippled Children's Service agencies to have been born in 1963 with a cleft lip or cleft palate, or both, were examined for the completeness and accuracy of reporting of the malformation. The certificates showed that 77.8 percent of the children (808 patients) had some type of cleft; the overall rate of under-reporting was 22.2 percent. The rate of under-reporting was highest for isolated cleft palate and lowest for cleft lip and palate combined. The completeness of reporting among States varied widely.

For the following variables no significant difference was found between the cases reported on birth certificates and those not reported: age of mother, age of father, birth weight, month of birth, and, with the exception of isolated cleft lip, sex of child.

The reported and nonreported cases differed significantly for the following variables: race of mother, with Negroes having the highest rate of under-reporting; place of delivery, with nonhospital births having higher under-reporting rates than hospital births; sex—for cases of isolated cleft lip, with males less well reported; and the number of associated congenital malformations, with a higher rate of under-reporting for cases of multiple malformations than cases in which only a cleft occurred.

The results of the study indicate that despite general under-reporting of cleft lip and cleft palate on birth certificates, results based on analyses of clefts reported on birth certificates may be accepted as valid within certain limitations.

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Affiliation of Mount Sinai School of Medicine With City University

The new Mount Sinai School of Medicine has announced approval of an agreement of affiliation with the City University of New York.

Under the terms of the agreement, responsibility for operating and financing the medical school will remain with its board of trustees. The chief links in the relationship will be in faculty, curriculum, and program.

Dr. George James, former health commissioner of the City of New York, is dean of the medical school. He will have the rank of a college president in the university and will be on its administrative council.

The City University will supply the school with a number of full-time professors in the basic sciences and will conduct doctoral and master's degree programs in physics, mathematics, chemistry, engineering, behavioral and social sciences, economics, computer techniques, and other related subjects. Members of the Mount Sinai faculty will be eligible for membership on the university's doctoral faculty and may participate in the teaching of undergraduate bioscience programs at the university.

The school, which is expected to be known as the Mount Sinai School of Medicine of the City University of New York, is scheduled to admit its first class of 25 first-year students and, simultaneously, a small class of third-year students in September 1968. When additional facilities become available in 1971, entering classes will increase to 100 students.

The following medical-educational developments are called for in the affiliation agreement:

- Realization of a long-advocated team approach to medicine as a result of the location of the university's planned health careers division at or near the medical school and the coordination of the training of physicians, nurses, medical librarians, medical technicians of various kinds, physical therapists, medical social workers, and others in the health professions.
- The contemplated development of an accelerated college and medical school curriculum.
- Establishment of a bio-engineering center at the medical school with the aid of the computer resources of the university.

Public Health Service grants of nearly $26 million together with more than $30 million in private funds already raised and $4 million in expected State construction grants have enabled implementation of construction plans. Construction will begin in 1968 and is expected to be completed by late 1971, at an estimated cost of between $65 million and $70 million.

Program Notes

Device to Detect Heart Disease

Mississippi and the District of Columbia are among the jurisdictions using a computerized instrument, the PhonoCardioScan, to screen school children for abnormal heart sounds.

In Mississippi, after as many as possible of the elementary school children around Jackson had been screened with the device, procedures and results were evaluated and statewide use of the machine programed. Children with suspected heart disease were referred to the regional heart clinic network.

Approximately 1,068 of the 4,500 preschoolers participating in the District of Columbia's health screening program for Head Start enrollees had cardiac readings by means of the PhonoCardioScan, and 17 children were found to be "outside normal limits."

The PhonoCardioScan is an 18-pound device that senses abnormalities by comparing the heart sounds it "hears" with criteria preset into its own circuitry. A cardiac abnormality causes flashing lights to show up on an automatic counter.

Malaria Alert in Pennsylvania

Discovery by public health officials that a nurse in a New York Hospital had contracted falciparum malaria triggered a malaria alert August 17–21, 1967. The nurse had toured Asia with a group sponsored by Gettysburg College, Pa., and had probably been infected by a mosquito in India or Pakistan.

It was quickly determined that 22 of the 46 members of the group were residents of Pennsylvania; the rest were from nine other States. The National Communicable Disease Center of the Public Health Service immediately notified the Pennsylvania Department of Health so that the 22 residents of Pennsylvania and their personal physicians could be warned of the possible exposure, since the incubation period had not yet expired.

The Pennsylvania Department of Health alerted its regional medical directors, and by August 21, all 22 potentially exposed Pennsylvania residents had been found. All are believed to be out of danger, but the health department is prepared should another alert be necessary.

Baltimore's V.D. Program

The Baltimore (Md.) City Health Department used billboards in various locations around the city to publicize a 1967 television program on venereal disease (see photograph).

Generic Drugs in New York City

New York City has no intention of changing a prescription against a physician's wishes [from a brand-name to a generic drug], Dr. Edward O'Rourke, New York City Health Commissioner, recently stated.

"But if there is an equivalent drug and he doesn't indicate any objections to having this prescribed, we like to use the generic drug. We are trying to save the city unnecessary expense and maintain high medical standards," O'Rourke added.—*The week . . . for hospitals* (American Hospital Association) July 28, 1967 (quoting New York *Times*).

New Hospital Responsibility

Hospitals, instead of physicians, will be responsible for preparation of birth and fetal death certificates in New York State after January 1, 1968.

Employee Suggestion Adopted

A law proposed by Mrs. Julia Maloney, a clerical worker of the New York State Department of Health, permits flexibility in the filing of death certificates in the State.

Formerly, some 8,000 certificates were all received in Albany on or about the 10th of the month, creating uneven workloads. Now filing dates may be staggered.

Items for this page: Health departments, health agencies, and others are invited to share their program successes with others by contributing items for brief mention on this page. Flag them for "Program Notes" and address as indicated in masthead.