SOCIAL AND BIOLOGICAL FACTORS IN INFANT MORTALITY*

VI. MOTHERS WHO HAVE THEIR BABIES IN HOSPITALS AND NURSING HOMES

BY

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Surprisingly little has been published on the subject of which women have their babies at home and which in hospital. It is, therefore, the purpose of this paper to indicate some at least of the factors which are related to the place of confinement. The relative importance of these various factors is shown; and the perinatal mortality rate is considered as a possible means of assessing whether the best use is being made of available maternity beds.

MATERIAL

The figures in this paper relate, in the main, to the 645,000 single, legitimate, live births which occurred in England and Wales in 1950. They are based on the national documents of birth registration, and were collected in the course of the Unit's joint inquiry with the General Register Office into social and biological factors in infant mortality. Data about the place of confinement for multiple and illegitimate births (some 7 per cent. of all births) are not available for the whole country, because, in the original study, the main analysis of stillbirths and infant mortality rates was limited to single, legitimate births. These exclusions will have little or no effect on the main results. In order, however, to fill the gap to some extent, data about place of confinement are included for multiple and illegitimate births in the County of London in 1949 and 1950. Data about the place of confinement for stillbirths are also not available, but, again, since stillbirths are less than 3 per cent. of all births, their exclusion will have a barely noticeable effect on the total picture of where mothers have their babies. (This has been verified for London.)

*A series of articles reporting an inquiry made jointly by the Social Medicine Research Unit (Medical Research Council) and the General Register Office. These articles (see References) were prepared by the Unit in collaboration with the General Register Office, and have been approved for publication by the joint working party responsible for the inquiry.

Since 1950 the overall proportion of births occurring in "Institutions" has increased slightly. In 1950 the figure was probably a shade higher than 60 per cent.†, and in 1954 it was 63·2 per cent. It is not felt that this slight difference will have materially affected the topical relevance of the data, though it is possible that within these similar total figures there may have been some change of pattern, especially since 1951, when the Ministry of Health circulated a letter to hospitals on the subject of priorities. The picture presented here relates to 1950 and the state of affairs then existing. In so far as any of the facts which emerge from this analysis may be of practical importance, they will, of course, need to be checked from more up-to-date material—which is not yet available.

Births are classified by the General Register Office into those occurring:

- (i) In hospitals,
- (ii) In nursing homes,
- (iii) In mental hospitals,
- (iv) Elsewhere.

The number classified as occurring in mental hospitals is negligible. Those classified as occurring "Elsewhere" can be regarded as occurring "At home", i.e. as "Domestic" confinements. For simplicity of analysis it seemed better to concentrate on one index, namely the *percentage of births which occurred in institutions*, i.e. in hospitals plus nursing homes. No data are generally available for the whole country on the percentage of births in each of the four categories in 1950, but, in the County of London in that year, the proportions were as follows:

(i) In hospitals	71 per cent.
(ii) In nursing homes	2 per cent.
(iii) In mental hospitals	0·01 per cent.
(iv) Elsewhere ("at home")	27 per cent.

†It is not possible to be more precise about the 1950 figure because of the exclusion of multiple and illegitimate births.

It can be taken that, for the country as a whole, the great majority of births occurring in "Institutions" do in fact occur in hospital. Even in London and in Social Class I, amongst whom the percentage of nursing home births might be expected to be as high as anywhere or in any class, only 16 per cent. of 1950 births occurred in nursing homes, compared with 70 per cent. in hospital.

FACTORS CONSIDERED

In an analysis of this kind, from official sources, it is not possible to be comprehensive and to study all possible factors which might influence the place of birth. The following are the variables which are included:

- (i) Mother's parity*,
 - (ii) Mother's age,
 - (iii) Number of mother's previous children which she has "lost", i.e. those which were stillborn or have died§,
 - (iv) Father's social class,
 - (v) Region or type of area where parents lived,
 - (vi) Multiple or single birth
 - (vii) Legitimacy
- } County of London only

RESULTS

The results of the analysis (Tables I to VII) are discussed in the text. In addition, a more extensive analysis, intended mainly for those interested in

*The number of children she has borne—surviving, dead or stillborn—including the present one.

§It should be noted that it is not possible to tell from the data (a) whether the "previous loss" was a stillborn or a liveborn baby, nor (b) if it was a live born baby, at what age it died.

However, by far the greater part of mortality in early life is within the "perinatal" period.

detailed aspects of the problem, is given in Appendix Tables A to D. A few references are made to these Appendix Tables in the text, but, in order to save space, further comments on them are confined to notes at the foot of each, which draw attention to what are considered to be the salient points.

Table I shows the main results of the analysis for single, legitimate, live births in the whole country in 1950. 60 per cent. of all births occurred in "Institutions", the very great majority in hospital.

Parity.—Most primiparae are confined in hospital and, indeed, the national figure in 1950 was close to 80 per cent. (Column (1), Table I). Multiparae, on the other hand, were much less frequently delivered in hospital. The proportion so confined fell steeply (43 per cent. for third births and 33 per cent for the sixth to tenth child), and even this low figure was higher than that found in some special groups (mothers with more than five children in Social Class IV (29 per cent.) or in the Northern Region (25 per cent.).

This parity pattern, or axis, dominated the picture in England and Wales in 1950, and all that follows in the present discussion depends upon it.

Mother's Age.—As Column (2) of Table I shows, the range was narrow. Almost 70 per cent. of the youngest mothers were confined in "Institutions", and almost 60 per cent. of those aged 25–29. For women of 30 years of age and over the figure was about 55 per cent. That is to say there was a definite

TABLE I
PERCENTAGE OF BIRTHS WHICH OCCURRED IN "INSTITUTIONS"
(Single, legitimate, live births, England and Wales, 1950)

(1) Mother's Parity†		(2) Mother's Age		(3)‡ Number of Previous Children Lost		(4) Father's Social Class		(5) Region	
Parity	Per cent. in Institutions	Age (yrs)	Per cent. in Institutions	Previous Children Lost	Per cent. in Institutions	Social Class	Per cent. in Institutions	"Standard Region" where parents lived	Per cent. in Institutions
1	78	16–19	69	0	60§	I	79	London and S.E.	70
2	57	20–24	65	1	51	II	69	Wales II	
3	43	25–29	59	2	50	III	60	(North and West)	67
4	36	30–34	56	3	53	IV	51	North Western	64
5	33	35–39	55	4	53	V	53	Southern	63
6–10	33	40–44	55	5–9	41			South Western	58
11+	40	45+	56					Wales I (South)	57
								Eastern	56
								East and West Ridings	56
								North Midland	52
								Midland	51
								Northern	48
All Parities	60	All Ages	60	0–9 Children Lost	60	All Classes	60	England and Wales	60

* "Institutions" = Hospitals and Nursing Homes, the very great majority being Hospitals.

† For definitions of parity, etc.—see footnotes to text.

‡ The data in Column (3) exclude women of Parity 11 or more for whom the relevant information was not available.

§ The precise figure for women who had lost no children is, of course, different from that for all women. It appears the same when corrected to the nearest whole number.

tendency for confinement in hospital to become less common with advancing maternal age. This does not mean that no account was taken of mother's age in admission to hospital. Table II (opposite) shows that the admission rates declined simply because the older mothers tended to be those who had already borne children, and they, as has just been seen, were less likely than primiparae to have their babies in "Institutions". If attention is confined to births of a particular parity (say third births), the proportion confined in hospital did in fact increase as the mother's age increased—from 39 and 40 per cent. among mothers in their twenties, to 63 per cent. among mothers in their late forties. A better description of the real relationship between maternal age and hospital admission would therefore be that, *parity for parity*, older mothers did have their babies in "Institutions" more often than younger mothers. This increase, however, was small compared with the dominant tendency for hospitalization to be less common with increasing parity. Since a woman's age must obviously increase with her parity, the net result is that the oldest mothers who are not primiparous have, almost without exception, a far lower hospitalization rate than primiparae, old or young (the very youngest mothers form a minor exception to this trend).

TABLE II

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY MOTHER'S PARITY AND MOTHER'S AGE

(Single, legitimate, live births, England and Wales, 1950)

Mother's Parity	Mother's Age (yrs)							
	16-19	20-24	25-29	30-34	35-39	40-44	45+	All Ages
1	72	75	80	83	88	92	93	78
2	54	53	55	60	65	71	79	57
3	47	40	39	44	51	57	63	43
4	—*	34	31	34	41	48	49	36
5	—*	31	29	31	35	42	48	33
6-10	—*	38	29	30	32	37	46	33
11+	—*	—*	—*	40	37	42	43	40
All Parities	69	65	59	56	55	55	56	60

—* = fewer than ten institutional births.

Previous Loss of a Child.—Column (3) of Table I shows how the proportion of births occurring in "Institutions" varied with the number of previous children a mother had lost. Women who had lost previous children had their babies in institutions *less* frequently (53-41 per cent.) than women who had not (60 per cent.). Once more, however, these simple figures may be misleading if it is inferred that *no*

account was taken of the loss of previous children in hospital admission policy. Closer scrutiny (Table III) shows that, if attention is confined to a single parity, the picture is different. Amongst women having their third child, for instance, the percentage of births occurring in "Institutions" was greater for those who had lost one previous child than for those who had not, and greater again for those who had lost two children. *Parity for parity*, then, women who had lost children did have their babies in "Institutions" more frequently than women who had not. But this effect again, is less, and usually much less, than the general trend for hospital confinement to be less common after the birth of the first child. Since, by definition, women who had already lost a child are not primiparous, the net result is, again, that mothers who had lost a child were delivered in hospitals less often than those who had no such misfortune.

TABLE III

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS*, BY MOTHER'S PARITY AND NUMBER OF PREVIOUS CHILDREN LOST

(Single, legitimate, live births, England and Wales, 1950)

Mother's Parity	Number of Previous Children Lost					
	0	1	2	3	4	5-9
1	78					
2	56	73				
3	42	53	70			
4	34	40	56	67		
5	30	36	47	64	51	
6-10	30	33	39	46	53	41
1-10	60	51	50	53	53	41

* Women of Parity 11 or more are excluded from this Table because the relevant information was not available for them.

Social Class.—Column (4) of Table I shows a quite considerable variation with social class. The percentage of births occurring in institutions was highest at 79 per cent. in Social Class I and fell steadily to 51 per cent. in Social Class IV with a slight rise to 53 per cent. in Social Class V. Table IV (overleaf) shows that the proportion was high for Social Class I and low for Social Classes IV and V whatever the mother's parity. Moreover, as expected, first births were much more likely to occur in institutions than second (90-71 per cent. compared with 76-49 per cent.), second births more likely than third (67-37 per cent.) and so on, whatever the mother's social class. In other words, social class, unlike mother's age and the loss of previous children, appeared to be related to hospital admission independently of the mother's parity. That is to say differences between classes cannot be explained by

the fact that well-to-do families are smaller on the average, for the same class differences are apparent for families of equal size.

TABLE IV

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY MOTHER'S PARITY AND FATHER'S SOCIAL CLASS

(Single, legitimate, live births, England and Wales, 1950)

Mother's Parity	Father's Social Class					
	I	II	III	IV	V	All Classes
1	90	84	78	71	75	78
2	76	66	56	49	52	57
3	67	55	42	37	40	43
4	62	47	35	29	33	36
5	54	44	32	30	33	33
6-10	39	35	33	29	34	33
11+	—*	39	40	41	39	40
All Parities	79	69	60	51	53	60

—* = Fewer than ten institutional births.

Region where Parents Lived.—Fig. 1, corresponding to Column (5) of Table I, shows how much a woman's chance of being confined in hospital varied according

FIG. 1.—Regional variation in proportion of single, legitimate, live births occurring in "Institutions" (England and Wales, 1950).

to where she lived, from 70 per cent. in London and the South-East of England, to 48 per cent. in the Northern Region. The "Regions" shown are the "Standard Regions" commonly used by the Registrar-General*. Each includes a large part of the country within which there is room for much local variation. The true range was, therefore, probably greater than that shown in the Table. Equally it is possible that in some parts of the north, in spite of these figures, a higher proportion of women had their babies in institutions than in some parts of the South-East of England. From Fig. 1 it is apparent that there was no very obvious geographical pattern—certainly no clear North—South trend, though the extremes were found in the North and South. Appendix Table A shows, as might be expected, that institutional confinement was less common in rural areas than in urban areas, and commonest in the large centres of population or "conurbations", though there was considerable variation between such centres.

Table V (opposite) shows how, once again, the parity pattern is dominant inside the Regions. The range for primiparae is between 87 and 65 per cent. confinement in hospital, with a steep decline to 67–46 per cent. for the second birth, and to 44–25 per cent. for the sixth to tenth birth. The same pattern is evident within each region. The Northern Region, which had the lowest overall rate (48 per cent.), had a range from 65 per cent. in first births to 25 per cent. in sixth to tenth births. London and the South-East with the highest overall rate (70 per cent.), shows a range from 87 per cent. in first births to 41 per cent. in sixth to tenth births. Whatever the total hospitalization rate may be, and this will reflect the actual number of beds available and usable, the disposition of these beds is apparently largely determined by the principle that primiparae should if possible be delivered in hospital.

To sum up the main features of Tables I to V: in 1950 there were in different parts of the country and among women classified by different biological and social attributes, large variations in the proportion of mothers whose confinement occurred in hospitals and nursing homes. What has been called the parity effect was dominant—first births more commonly occurred in "Institutions" than later births, and this trend was progressive until about Parity 10. Hospital confinement was commonest in London and the South-East, and least common in the North; it was commoner among young women than older women; among women who had lost no children than among

* A definition of "Standard Regions" is given in the Registrar-General's "Statistical Review for England and Wales".

TABLE V

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY
MOTHER'S PARITY AND "STANDARD REGION" IN WHICH PARENTS LIVED

(Single, legitimate, live births, England and Wales, 1950)

Mother's Parity	"Standard" Region in which Parents Lived											England and Wales
	Northern	East and West Ridings	North Western	North Midland	Midland	Eastern	London and S. East	Southern	South Western	Wales I (South)	Wales II (N. and West)	
1	65	76	84	72	70	74	87	80	75	72	83	78
2	46	51	60	48	49	53	66	61	55	57	67	57
3	34	40	47	35	36	40	52	49	43	45	54	43
4	26	33	39	29	28	35	45	39	37	34	43	36
5	26	32	36	29	26	32	41	38	33	29	42	33
6-10	25	29	36	30	25	33	41	35	36	28	44	33
11+	41	44	44	37	37	40	44	36	43	28	32	40
All Parities	48	56	64	52	51	56	70	63	58	57	67	60

women who had, and among women in Social Class I than among women in Social Classes IV and V.

Parity for parity, the older mothers were hospitalized more commonly than young mothers, and women who had lost a child more commonly than those who had not; but, since mothers who had already lost a child were by definition not primiparae and older mothers also tended not to be so, the higher hospitalization rate of such women was relatively a minor matter compared with the dominant trend for hospitalization to be high in primiparae and lower, often much lower, at other parities. So much so that the net result was that mothers in their 40s (who were not primiparae), and women who had lost a previous child, were in fact delivered in "Institutions" less commonly than the national average, which, in large measure, reflected the high rate among primiparae.

Multiple and Illegitimate Births in London.—To present a more complete picture, the proportions of multiple and illegitimate births in the County of London in 1949 and 1950 which occurred in hospitals and nursing homes are shown in Table VI.

TABLE VI

MULTIPLE AND ILLEGITIMATE BIRTHS
(Live births in the County of London, 1949-50)

Plurality		Legitimacy	
Birth	Per cent. in Institutions	Legitimacy	Per cent. in Institutions
Single ..	71	Legitimate	71
Multiple ..	85	Illegitimate	78
All London Births ..	72	All London Births	72

In London multiple births were more likely than single, and illegitimate births more likely than legitimate, to occur in "Institutions". The difference between legitimate and illegitimate births was, in fact (though this is not shown) apparent at each maternal age (except for the very few births to mothers aged 44 and over). No data are available about the parity of mothers of illegitimate children.

COMPARISON WITH PERINATAL MORTALITY RATES

A direct comparison of the safety to mother and child in hospital delivery as opposed to domiciliary confinement, as at present organized, is vitiated because known difficult cases are normally booked for hospital and emergencies are rushed there. In fact, in any such comparisons, it is usual for the death rates to be higher in hospital than at home, though no informed person would adduce this particular fact as evidence that it is more dangerous to have a baby in hospital. On the contrary, in the present circumstances, there would be general agreement that, from a medical point of view, obstetrical cases which are likely to have material complications should be delivered in hospital.

Following this line of thought, the available evidence has been examined to see whether maternity beds are, in fact, occupied by the women who would most benefit from hospital confinement. In so doing the assumption is made that groups of women whose babies are subject to a high "perinatal" mortality rate—that is to say those who are more than usually likely to lose a baby by still-birth or death in the first week—would benefit from hospital confinement.

FIG. 2.—Comparison of proportion of births occurring in "Institutions" with perinatal mortality rates (single, legitimate births, England and Wales, 1950).

The results in Tables 1 and VI are, therefore, compared in Figs 2 and 3 with the perinatal mortality rates classified in the same way. For instance, the proportion of women in Social Class V who have babies in "Institutions" is compared with the mortality rate for their babies. It is thus possible to see whether, from the point of view of social class, the women with the highest rates are those who most frequently have their babies in hospital. Similar comparisons can be made from the point of view of the other factors considered here—parity, maternal age, the loss of previous children, region of parents' home, multiple birth, and illegitimacy.

It will be seen that the proportion of births occurring in "Institutions" conforms only in part with the risk of foetal or early infant death. In terms of parity the high mortality for the later births in large families (largely a function of maternal age, of course) is not matched by a correspondingly high admission rate to hospitals and nursing homes. This proportion decreases with increasing maternal age, and women who have lost children have a lower admission rate than those who have not. Mortality rates increase as social class declines from I to V; admission rates decrease from Social Class I to IV and V.

In London the overall percentage of institutional confinements is high at 72 per cent. and there is less scope for increase. There is, however, a considerable increase for multiple births (which, of course, carry one of the highest perinatal risks) and a rather smaller one for illegitimate births corresponding to a much smaller increase in the risk. (The reason for admission of mothers of illegitimate babies may, of course, have little to do with the risk of death).

FIG. 3.—Comparison of proportion of births occurring in "Institutions" with perinatal mortality rates (County of London, 1949-50).

Approaching the problem from the opposite point of view, four "vulnerable" or "high-risk" groups of women have been defined whose children are subject to high perinatal mortality rates (Table VII, opposite). These four high-risk groups divide themselves naturally into two groups of two each, according to whether, in 1950, a higher than average or a lower than average proportion of the women concerned had their babies in institutions.

"Elderly primiparae", then, and, probably to a less extent, women expecting multiple births, did have their babies in institutions much more frequently than the average. Two groups of multiparae, on the

TABLE VII

PERINATAL MORTALITY AND PERCENTAGE OF BIRTHS
IN INSTITUTIONS FOR VULNERABLE GROUPS

(England and Wales)

Proportion of Births in Institutions	Vulnerable Group	Perinatal Mortality* Rate, 1950	Percentage of Live Births in Institutions, 1950
Higher than Average	(i) Primiparae aged 35 or more (single, legitimate)	72	88
	(ii) Women with twin and other multiple pregnancies	131	85†
Lower than Average	(iii) Multiparae aged 40 or more (single, legitimate)	65	49
	(iv) Multiparae who had lost a previous child (single, legitimate)	62	51
All single, legitimate births		34	60

* Perinatal mortality = stillbirths and deaths in the first week of life, per 1,000 live and stillbirths.

† London births (1949 and 1950)

other hand, whose babies are subject to a high perinatal mortality rate, those aged 40 years or more and any who had lost previous children (whether they were aged under or over 40), had their babies in institutions *less* frequently than the average.

DISCUSSION

Figures have been given which show how certain factors appeared to influence the place of confinement for mothers in England and Wales in 1950. These figures have been compared with the perinatal mortality rates for the same mothers as a possible index of the degree to which they might have benefited from institutional confinement. Four "vulnerable" groups of mothers whose babies were subject to twice or nearly twice the average risk have been defined. The admission rates by no means corresponded to the mortality rates, and, of the four "vulnerable" groups, there were only two where more than the average number of mothers had their babies in institutions; in the other two less than the average number had their babies in hospital.

It is realized of course that the decision whether a mother has her baby in hospital or not is subject to many influences. The mother herself, her medical adviser, the ante-natal clinic, and the hospital all enter into it. The home commitments of multiparae must be important, and it is clearly significant that

the two "vulnerable" groups who had a low admission rate consisted of multiparae.

Nor must it be assumed too readily that the perinatal mortality rate is the best index of the success or otherwise of the complicated process which finally decides which women should occupy a given number of beds. It does not necessarily follow that, because the perinatal mortality rate is high, women would do better in hospital. Or, again, it may be true that, although the admission rate for an entire group of women may have been low, the minority amongst the group who were most exposed to the high risk may nevertheless have been confined in hospital, without appreciably increasing the admission rate for the whole group. This point cannot be examined by using the data available here.

There are also other factors to be considered. The risk to the mother herself is, of course, a paramount consideration, but the maternal mortality rate is now so low, and the risk to mother and child is so often associated, that there need be no conflict here. Some form of morbidity index for both mother and child might be used, but, however desirable, a satisfactory one has yet to be devised. Nor is it only a question of mortality and morbidity. There are also a host of intangibles which are not necessarily unimportant because they are difficult to measure. Such are: the fact that a first birth is a "trial run" and that in subsequent births there is experience to help form an opinion; the dislocation of the household, for example, the possibly adverse emotional effect of the mother's absence on the other children; the difficulty of maintaining unified medical supervision throughout pregnancy, childbirth, and early infancy unless the birth occurs at home under the general supervision of the family doctor; the freedom from the responsibility of household management which hospital provides for a busy mother, and so on. These are imponderables, and opinion will no doubt continue to differ. Meanwhile Fig. 2 offers comparisons between the recent practice of hospital admission in England and Wales and one index of its success. It shows that, in 1950, there were groups of women whose babies were subject to relatively high risks but who were less likely than the average to have their babies in hospital.

In numerical terms it would be practical for all mothers in the four vulnerable groups to have their babies in hospital. They constitute about 15 per cent of all mothers having babies in a particular period (though contributing twice as many of the perinatal deaths); and since about two-thirds of them did have their babies in hospital in 1950, it would have meant adding some 7 or 8 per cent. to the

existing number of maternity beds, or nearer 1 per cent. to the *total* of hospital beds, to have included them all without excluding anyone else.

SUMMARY

Of the single, legitimate babies born alive in 1950 in England and Wales, 60 per cent. were born in hospitals or nursing homes (the very great majority in hospitals). The proportion ranged from 48 per cent. in the Northern Region to 70 per cent. in London and the South-East; and from 51 per cent. in Social Class IV to 79 per cent. in Social Class I. The main factor, however, in all classes and in all parts of the country, was the parity of the mother. About 80 per cent. of primiparae were confined in hospital and the proportion fell steeply to 43 per cent. for third children and to 33 per cent. for sixth to tenth children. Older mothers had their babies in hospital less often than younger mothers, and women who had lost a previous child or children less often than those who had not. This was mainly because the older mothers were usually multiparae, as, by

definition, were mothers who had lost previous children.

Admission rates were compared with perinatal mortality rates for 1950 and large discrepancies were found between them. In particular, multiparae who were aged 40 or over and women who had lost previous children were subject to twice the perinatal mortality of other mothers; but they had their babies in hospital less often than the average.

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APPENDIX TABLES

All the tables in this appendix refer to single, legitimate, live births in England and Wales in 1950.

— = number of institutional births less than ten. Definitions given in footnotes to text.

APPENDIX TABLE A

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY MOTHER'S PARITY IN CONURBATIONS AND OTHER AREAS

Mother's Parity			1	2	3	4	5	6-10	11+	All Parities
Conurbations	Greater London		90	69	54	47	43	44	51	72
	S. E. Lancs. (<i>i.e.</i> Manchester)		87	57	43	35	33	34	38	64
	West Midland (<i>i.e.</i> Birmingham)		70	48	34	26	23	23	42	50
	West Yorkshire (<i>i.e.</i> Leeds, Bradford, etc.)		86	62	50	42	38	34	48	67
	Merseyside		88	70	56	47	42	42	50	69
	Tyneside		66	45	33	24	23	24	50	47
Density Aggregates	All Conurbations		85	63	48	40	36	36	47	66
	Urban Areas with Population	Over 100,000 ..	76	52	38	30	29	31	38	56
		50,000-100,000 ..	79	60	44	36	35	33	43	61
		Under 50,000 ..	73	55	42	34	31	29	33	56
	Rural Areas		70	50	41	35	32	31	37	53
England and Wales			78	57	43	36	33	33	40	60

Notes (a) Range of variation from 23 for Parity 5-10 in Birmingham and Parity 5 on Tyneside to 90 for Parity 1 in London.

(b) Uniformity of variation with Parity in each area—high for first births and declining to a low figure at high parities.

(c) Relatively low figure for Rural Areas compared with Conurbations.

APPENDIX TABLE B

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY FATHER'S
MOTHER'S PARITY AND MOTHER'S AGE IN DIFFERENT AREAS

Mother's Age (yrs)		Under 25					25-29					30 and Over				
Mother's Parity		1	2 and 3	4 and 5	6+	All Parities	1	2 and 3	4 and 5	6+	All Parities	1	2 and 3	4 and 5	6+	All Parities
Standard Regions ..	Northern	60	39	25	—	52	69	40	23	24	47	75	46	28	26	44
	East and West Ridings	72	46	33	—	63	78	45	29	24	55	83	51	35	31	51
	North Western	82	54	36	—	72	84	53	34	31	62	88	59	40	37	57
	North Midland	69	44	31	—	59	74	42	27	28	51	79	46	29	31	46
	Midland	66	45	27	—	59	72	42	24	26	51	79	46	28	25	45
	Eastern	70	46	36	—	61	76	48	29	28	56	81	51	36	34	52
	London and S.E.	85	59	40	—	76	88	59	38	33	69	91	66	46	42	66
	Southern	77	54	26	—	68	82	55	31	33	62	86	62	43	36	60
	South Western	72	49	37	—	63	76	48	30	34	56	83	55	38	36	55
	Wales I (South)	68	49	32	—	61	75	53	27	21	57	81	56	36	29	52
	Wales II (North and West)	80	58	37	—	71	85	61	34	32	66	88	67	46	44	64
Conurbations	Greater London	88	61	41	—	79	90	62	41	35	71	93	67	48	45	69
	S.E. Lancs.	85	48	24	—	72	88	50	30	26	62	91	57	37	35	58
	West Midland	66	45	27	—	59	73	41	23	22	50	80	44	26	24	43
	West Yorkshire	84	55	37	—	74	86	56	37	30	66	90	62	42	35	61
	Merseyside	87	65	49	—	78	89	63	41	36	68	92	67	47	43	61
	Tyneside	61	35	22	—	51	70	39	21	28	48	78	46	25	26	44
Density Aggregates	All Conurbations	82	55	36	48	73	86	56	34	30	65	90	61	41	37	61
	Urban	Over 100,000	73	46	27	42	63	45	24	28	54	83	50	32	32	50
		50,000-100,000	76	56	37	—	69	81	52	30	35	60	86	57	38	34
		Under 50,000	70	47	31	—	61	76	48	29	26	56	81	54	35	30
	Rural	65	44	35	—	57	72	45	29	28	52	79	51	36	32	51

Notes (a) Range of variation from 21 for mothers aged 25-29 having their sixth and later children in South Wales, or having their fourth or fifth child on Tyneside, to 93 for mothers aged 30 and over having their first birth in London.

(b) Uniformity of variation with Mother's Age and Parity in each area, high for first births and declining steadily with increasing family size in each area at each age.

APPENDIX TABLE C

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY FATHER'S
SOCIAL CLASS IN DIFFERENT AREAS

Social Class		I	II	III	IV	V	All Classes
Standard Regions	Northern	77	63	48	40	40	48
	East and West Ridings	75	68	56	50	50	56
	North Western	80	73	65	56	57	64
	North Midland	72	61	52	44	50	52
	Midland	73	64	50	46	46	51
	Eastern	75	63	56	48	50	56
	London and S.E.	82	76	70	63	62	70
	Southern	83	71	63	55	53	63
	South Western	76	66	58	50	51	58
	Wales I (South)	76	67	57	50	50	57
	Wales II (North and West)	83	72	68	61	57	67
Conurbations	Greater London	83	78	72	67	66	72
	S.E. Lancs.	83	77	64	57	55	64
	West Midland	73	65	49	46	45	50
	West Yorkshire	75	74	66	63	63	67
	Merseyside	84	78	71	63	61	69
	Tyneside	77	65	48	39	37	47
Density Aggregates	All Conurbations	82	76	65	59	59	66
	Urban	Over 100,000	78	67	56	50	47
		50,000-100,000	83	72	61	55	61
		Under 50,000	76	68	56	48	56
	Rural	74	61	53	45	48	53
England and Wales		79	69	60	51	53	60

Notes (a) Range of variation with Social Class is less than that with Parity.

(b) This is mainly because the lowest percentages (in Social Classes IV and V) are not so low as those amongst the high parities.

(c) Uniformity of variation with Social Class in each area—high for Social Class I and declining steadily to a relatively low figure in Social Classes IV and V.

APPENDIX TABLE D

PERCENTAGE OF BIRTHS WHICH OCCURRED IN INSTITUTIONS, BY MOTHER'S PARITY AND FATHER'S SOCIAL CLASS IN DIFFERENT AREAS

Social Class			I and II					III					IV and V				
Mother's Parity			1	2 and 3	4 and 5	6+	All Parities	1	2 and 3	4 and 5	6+	All Parities	1	2 and 3	4 and 5	6+	All Parities
Standard Regions	Northern		78	60	45	33	65	65	41	25	25	48	58	36	24	26	40
	East and West Ridings		85	61	44	33	69	76	47	33	29	56	70	43	31	31	50
	North Western		87	68	54	37	74	84	55	38	38	65	81	50	34	36	56
	North Midland		79	56	42	36	63	72	43	27	30	52	67	39	27	29	46
	Midland		80	59	39	29	64	69	42	26	25	50	66	40	25	27	46
	Eastern		81	59	44	33	65	74	48	33	35	56	68	42	31	33	49
	London and S.E.		91	71	55	38	78	87	61	43	42	70	83	55	39	41	62
	Southern		88	70	56	34	75	80	56	37	36	63	73	49	32	35	54
	South Western		80	62	49	43	68	75	50	34	36	58	71	44	31	35	50
	Wales I (South)		82	64	40	26	69	72	54	33	31	57	67	47	30	26	50
	Wales II (North and West)		87	72	48	47	74	83	63	45	44	68	81	56	36	41	60
Conurbations	Greater London		92	73	57	42	80	89	63	44	44	72	87	58	43	45	66
	S.E. Lancs.		91	71	54	43	78	87	51	34	35	64	85	45	30	33	56
	West Midland		82	58	37	31	67	69	41	24	23	49	67	40	24	26	46
	West Yorkshire		89	66	49	33	74	85	57	40	31	66	84	56	39	39	63
	Merseyside		91	76	60	41	79	89	66	47	45	71	87	59	41	41	62
	Tyneside		82	61	43	—	68	67	40	22	28	48	56	35	23	25	38
Density Aggregates	All Conurbations		90	70	53	40	77	84	56	38	36	65	82	52	35	37	59
	Urban	Over 100,000	84	62	42	34	69	76	46	29	30	56	71	41	27	32	49
		50,000–100,000	87	67	56	44	74	79	54	35	35	61	75	49	32	32	54
		Under 50,000	82	64	49	34	70	73	49	33	30	56	67	44	28	29	49
	Rural		78	59	46	34	64	69	46	32	33	53	63	39	29	30	46

Notes (a) Range of variation from 22 for mothers in Social Class III having their fourth and fifth children on Tyneside to 92 for mothers in Social Classes I and II having their first babies in London.

(b) Uniformity of variation with Parity in each Social Class and each Area—high for first births followed by a steady decline.

(c) Uniformity of variation with Social Class at each Parity and in each Area—high for Social Classes I and II and low for Social Classes IV and V.