A Technical Report

Infant Mortality in the Millennium Cohort Study (MCS) Sample Areas

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Acknowledgements

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1. Executive summary

The main objective of the investigation was to establish how many children in the birth cohort (from which the Millennium Cohort Study was sampled) did not survive long enough to be included in the survey which took place at 9 months. Not only would infant mortality within the birth cohort result in some cases with early deaths being missed out of the MCS, but the possibility of differential infant mortality between social groups could bias the sample of survivors.

The MCS attempted to recruit every resident child alive at 9 months of age who were born on the specified birth dates of the survey and who were living in the sampled electoral wards. The MCS birth dates are September 2000 to August 2001 for England and Wales and December 2000 to January 2002 in Scotland and Northern Ireland. The MCS was a disproportionately stratified sample of the UK, firstly by country, then region and then by electoral ward. The stratification by electoral ward was designed to over represent areas in the UK with high and low levels of child poverty (based upon the ward based Child Poverty Index) and those wards (in England) with a large proportion of ethnic minorities (for more detail, see Plewis et al, 2004). For all UK countries, those electoral wards with low levels of child poverty were classified as 'non-disadvantaged' areas and those with high levels of child poverty, 'other disadvantaged'. In addition, for England only, electoral wards with a large proportion of ethnic minorities (at least 30% of total population either 'Black' or 'Asian') were also sampled and classified as 'minority ethnic'. It should be noted, according to Plewis et al (2004), around 10% of families with a child under the age of 16 and classified as 'disadvantaged' in 1991 lived in 'minority ethnic' wards.

Besides the 27,201 living children drawn from the Child Benefit Register Sample (at 7 months), there were, according to our scrutiny of vital registration data for the sampled wards, no more than 180 children in the birth cohort who might not have lived long enough to be sampled. This reflects infant mortality of 184 cases in the sampled wards in the first 12 months of life, including 4 who are known to have died before their first birthday but after being sampled.

The results of this study show that for areas other than the 'minority ethnic' wards in England, the MCS 'non-disadvantaged' and 'other disadvantaged' areas do not differ greatly from one another on neonatal deaths, though the rate for the former was slightly higher than for the latter. For post neonatal deaths the rate is greater in the more disadvantaged strata. Infant deaths (under one year of age) in 'minority ethnic' wards had considerably higher rates than the rest of the UK and for most of these areas the differences were significant. Within each country by strata, infant mortality rates in MCS wards generally resembled the national rates. Sampling errors were calculated for deaths under one year and all are fairly wide except for England 'non-disadvantaged' and 'other disadvantaged' areas.

The weighted infant mortality rate for MCS wards in England was 5.5 per thousand live births, compared with the all-England rate of 5.4. In Wales, infant death rates in the MCS wards were above the national rates: 8.5 versus 5.1 per 1000. Interestingly,

the differences in rates between national and MCS areas for Wales were found to be statistically significant whereas all the other MCS countries and their national rates were not.   In MCS areas in Scotland, infant mortality rates (4.4) were below those of the all Scotland rates (5.6). In Northern Ireland which had a slightly higher national infant mortality rate of 5.6, the rate in MCS areas was 5.4 per thousand live births. However, again, it should be noted that the sampling errors around some of the MCS rates are quite large, particularly around those for MCS Wales areas.

Given the small numbers of deaths involved in MCS wards, the analysis of the survivors in the Millennium Cohort is unlikely to be seriously biased except on topics such as pre-maturity or congenital malformations which have high risk of infant death. The data presented here cannot give much guidance on this, but they do suggest that loss through infant mortality is a greater problem, in its own right, in the minority ethnic areas than elsewhere. As a problem for analysis, however, survey loss through refusal and non-contact is a much greater problem – around 28% of the issued sample, rather than around 0.6 percent through early death.
For almost all purposes, the MCS can be thought of as a birth cohort.

2. Background

The MCS sample included, amongst other criteria, the children being born alive between selected birth dates of the survey and living in one of the selected sample wards when they were nine months of age (Plewis et al, 2004). Children in the birth cohort who died before the age of nine months would not have been eligible for the survey. Previous UK national cohort studies of 1970 (BCS70), 1958 (NCDS), and 1946 (NSHD) had recruited at birth, and have been able to include studies of the causes and circumstances of deaths to cohort children in the early months of life. Starting later, the MCS cannot, by design, report anything about the causes or circumstances of any such tragic event, before 9 months. Fortunately they are also rare. The proportion of children expected to die before reaching nine months of age would be very close to the 0.6% applying to deaths in the first 12 months of life in the population at large. However, if pre-sample mortality before the age of nine months differs between social groups, this might result in relative understatement of deprivation in infancy. We are able to see whether this applies across the types of area used in stratification and across the four countries of the UK, and hence to note possible biases amongst survivors.

Funding from a consortium of government departments and collaboration from them and other agencies has enabled us to investigate the number of infant deaths within the MCS sample wards. The aim was to establish how many babies did not survive long enough to make it into the cohort and whether infant mortality rates experienced within the MCS sample areas differed in the wider national population. This report supplements the technical report on sampling within the MCS (Plewis et al (2004).

The following sections of the report attempt to give more detailed information concerning infant mortality in the MCS wards for all children born on MCS dates but who subsequently died before the age of nine months and were therefore ineligible for survey. Tables 1-3 provide numbers and rates for neonatal, post neonatal and all infant deaths (under one year old) in the MCS selected sample wards. The data has

been aggregated to the MCS strata of 'Non-disadvantaged', 'Other disadvantaged' and 'Minority ethnic' groupings rather than at electoral ward level geography to avoid the risk of disclosing the location of particular wards (and hence possibly cohort families' identity). The infant mortality numbers involved are, in any case, too small to be meaningful at the disaggregated level (ward) from which these estimates are built up.

3. Methodology

The first aim was establish how many children in the birth cohort were excluded from the Study because they did not survive long enough. A further aim was to make a comparison of infant mortality rates between the three stratification groupings of 'non-disadvantaged', 'other disadvantaged' and 'minority ethnic' wards within the UK as a whole and also by country, and to see whether infant mortality rates experienced within the MCS sample areas differed from the wider national population

Numbers for numerators and denominators for live births, neonatal, post neonatal and infant deaths (under age one) for all wards in the United Kingdom as a whole were provided by the relevant Register Offices of the United Kingdom. These data were collated centrally within the 'secure data' setting at the offices of the MCS project team based at the Centre for Longitudinal Studies (CLS) at the Institute of Education, London to avoid disclosure of the Study locations. The infant mortality data provided had been aggregated to electoral ward/division level by the respective Register Office. The data for MCS wards was then extracted from the complete UK data file for all wards in the UK.

In England, Wales and Scotland the ward boundaries used for the MCS survey were those used approximately at the end of 1998. However, the infant mortality data for these countries in 2000-2002 were collected some years after the end of 1998. Colleagues from the ONS and GROS were able to complete the exercise of allocating infant deaths to the original MCS ward boundaries before sending to the MCS project team. The ward boundaries used in Northern Ireland for collecting the data and those used in the survey were the same and therefore this problem did not arise.

One of the selection criteria of the MCS sample was that the children were born within a certain time period (Between 01 September, 2000 and 31 August, 2001 for England and Wales and 23 November, 2000 and 11 January, 2002 for Scotland and Northern Ireland). The Register Offices were able to provide the necessary data by ward within the same dates.

The definitions of neonatal, post neonatal and infant deaths were the same for all Register Offices in the home countries. Neonatal deaths were considered to be those deaths at ages up to 27 completed days of life, post neonatal deaths were those deaths at ages 28 days and over but less than one year of age and infant deaths were those deaths at ages under one year.

Due to the disproportionately stratified design of the MCS sample, MCS weighting procedures for both individual country and the United Kingdom as a whole were

applied to the resultant rates. National rates for all 3 infant mortality statistics by age used in this report were included so that a general comparison could be made.

Having received all the necessary data the author proceeded to complete the task of calculating mortality rates and the results of which can be seen in Tables 1-3 of this report.

4. Results

Deaths before the Survey

The total unweighted number of deaths under the age of one year in MCS UK wards on MCS birth dates was 184. Nearly all deaths under one year would in fact have been in the first nine months of life, and hence made that child ineligible for the survey. Figures from National Statistics (2003) show, for all causes of post neonatal and childhood deaths in 2001, for England and Wales, the number of deaths between 6 to 11 months are considerably less (approx 26%) than those within the first 5 months (approx 73%). Reports on mortality collected directly by the MCS survey team also suggest that very few infant deaths occurred after the 9th month. Information from parents, interviewers and the National Health Central Register showed only 4 deaths under the age of 12 months amongst the children known to the MCS. Given that a few more of the 184 deaths inferred from infant mortality registration may have occurred during the last trimester of the first year, without being reported, we can conclude that no more than 180 children are excluded from the study by mortality under 9 months. For the rest of this paper we report registered infant mortality data up to the first 12 months without attempting to adjust for the few deaths occurring in the last three months of infancy. Infant Mortality Statistics do enable us to distinguish neonatal from post neonatal infant mortality deaths – that is, deaths in the first month from deaths in the next 11 months.

Overall infant mortality rates

When weighted, the rate of infant deaths in MCS wards (under one year of age) is marginally higher than the national UK infant mortality rate at 5.5 per 1000 live births. This finding is encouraging, as it suggests the sample to be representative in terms of infant mortality under age one as a whole. It is a weighted combination of 5.0 in 'non-disadvantaged' areas, 5.7 in 'other disadvantaged' areas and 9.9 in the 'minority ethnic' areas (Table 1), which suggests there is some social variation in infant mortality across space, and that the omission of children dying early is more of a feature of the ethnic minority areas than the rest of the country.

Neonatal deaths in the UK as a whole

Most of the deaths in the first year of life occur in the first four weeks of life. Figures in Table 1 reveal that neonatal deaths in MCS areas for the UK as a whole represent 4.0 per 1000 live births (weighted). The MCS neonatal rate is higher by 0.3 deaths per 1000 live births than the neonatal rate for the whole of the UK (3.7 per 1000 live births). Again, the MCS neonatal rate is marginally higher than the national neonatal rate.

In terms of the stratification criteria, with the exception of the 'minority ethnic' areas in England which have the highest rates for all infant ages, it can be noted that the 'other disadvantaged' areas in MCS experienced a slightly lower rate of neonatal deaths of 3.5 per 1000 live births compared to the MCS 'non-disadvantaged' rate of 4.0 per 1000 live births. A possible explanation for this slight difference may be the younger age profile of mothers in the disadvantaged wards. Official statistics show that mothers over 35 are at a relatively high risk of neonatal mortality, although so are mothers under 25 (National Statistics, 2003).

Post neonatal deaths in the UK as a whole

As might be expected, the rate of deaths per 1000 live births is considerably lower for post neonatal deaths than neonatal deaths, although it is after the first month that any impact of a disadvantaged social environment might become evident. Using table 1, the weighted rate for all MCS areas is 1.5 post neonatal deaths per 1000 live births compared to the UK national post neonatal death rate of 1.8 per 1000 live births which is slightly lower than the national rate but reverses the trend seen for neonatal and the under one deaths rate figures. The risk of mortality is perhaps greater in the first month of life and drops considerably during the rest of the first year. As expected, the social differentials reverse, the MCS 'non-disadvantaged' areas with 1.0 post neonatal death per 1000 live births experience lower mortality in this age range than the 'other disadvantaged' wards in MCS with a rate of 2.1 per 1000 live births. It should be noted the UK rates for all areas was not available by the stratification criteria as used in the MCS sample and National Statistics (2003) figures were used as a guide only.

Analysis within individual UK countries and between stratum.

The following analysis uses data from tables 2 and 3. It should be noted that the figures produced in terms of rates are based on particularly small numbers of deaths especially in Wales, Scotland and Northern Ireland. For instance, in Table 2, where figures for MCS wards by stratified areas within countries are provided, 95% confidence intervals have been placed in brackets around rates but only for 'all deaths under 1'and may give an insight into the statistical significance of some of the figures. In table 2, it should also be noted that weights are not used when analysing stratified areas within country. However, in table 3 which analyses country only totals and rates, appropriate weights have been used.

Neonatal deaths within countries and between stratum

For all countries, with perhaps the exception of Wales, for neonatal (in the first 4 weeks of life) death rates, between the countries 'non-disadvantaged and other disadvantaged' stratified wards, there are only small differences. MCS 'non-disadvantaged' areas in Wales (7.0 per 1000 live births) not only have the highest rate of neonatal death compared to any other strata (apart from the England 'minority ethnic' strata) but Wales 'other disadvantaged' strata (5.4 per 1000 live births) is the second highest. It also has the highest difference between its country strata at 1.6 deaths per 1000 live births. Both MCS Scotland 'non-disadvantaged'(3.0 per 1000

live births) and 'other disadvantaged' (2.2 per 1000 live births) strata have the lowest rates of death.

Northern Ireland is the only country where the MCS 'non-disadvantaged' areas neo natal rate (3.5 per 1000 live births) is lower than the 'other disadvantaged' areas figure (4.4 per 1000 live births). It should be noted that MCS 'minority ethnic' areas in England neonatal rates are considerably higher at 6.5 per 1000 live births. One explanation for this high rate for 'minority ethnic' areas may be the lower uptake of antenatal care by some minority ethnic groups (Jayaweera et al, 2005). The high rate reported in the 'minority ethnic' areas are also consistent with rates experienced by women born in Pakistan, Bangladesh, Africa and the Caribbean although not everyone in these areas are born abroad (National Statistics, 2003).

In terms of comparisons between countries, Scotland (2.7 per 1000 live births) and Northern Ireland (3.9 per 1000 live births) neonatal rates are both below the national rates and for the later only marginally. The marginal difference is also true for England (4.0 per 1000 live births) but reversed in that MCS areas are higher than the national rates but this may be due to the 'minority ethnic' stratum effect suggested previously. Notably, the overall rate for MCS wards in Wales is 6.2 deaths per 1000 live births (table 3) which, despite re-weighting to allow for the over-representation of disadvantaged wards is nearly double the national rates for Wales for all wards and the highest of all country rates.

Post neonatal deaths within countries and between stratum

Most infant deaths occur in the first 28 days of life. Deaths in the remaining 11 months of the first year of life are analysed in Tables 2 and 3, For England and Northern Ireland, , the size of the differences in the death rates between stratum are larger for the post neonatal period than those recorded in the neonatal period.. Scotland and Wales experienced lower differences. Table 2 shows that only MCS 'Non-disadvantaged' areas in England (0.9 per 1000 live births), Wales (1.7 per 1000 live births) and Northern Ireland (0.0 per 1000 live births) had lower post neonatal mortality rates than 'other disadvantaged' area rates. In fact, the difference between each stratum for each country is over 1 death per 1000 births. However, the situation is reversed for Scotland and the difference is very marginal. Again, the England 'minority ethnic' (3.4 per 1000 live births) is the highest of all the strata but the difference between this stratum and the advantaged based strata is smaller than for neonatal deaths. Table 3 shows post neonatal deaths by country. National rates are very similar and this is reflected in the MCS areas by country with marginally higher rates in MCS areas in Wales.

Infant deaths under one year of age within countries and between stratum

The sum of deaths before and after the first month of the first year, infant mortality is also shown in tables 2 and 3. Apart from England 'minority ethnic' (9.9 per 1000 live births), both MCS strata areas in Wales appear to experience the highest rates of mortality under age 1. Northern Ireland 'Other disadvantaged' areas (7.3 per 1000 live births) have particularly high rates but interestingly the 'non-disadvantaged' (3.5 per 1000 live births) areas in this country are the lowest of all strata. There is a mixed picture for comparisons between in-country strata. England and Northern Ireland

'Non-disadvantaged' MCS areas (4.9 and 3.5 per 1000 live births respectively) are lower than their 'other disadvantaged' (5.6 and 7.3 per 1000 live births respectively) counterparts whereas this trend is reversed for Wales and Scotland. Within the Scotland the death rate between strata is small at 1.0 per 1000 live births. For Northern Ireland, the difference between strata is larger at 3.8 per 1000 live births. However, for both Scotland and Northern Ireland, the confidence intervals are fairly wide. The margin is closer for England (apart from the 'minority ethnic') whereas for Wales it is only marginally different.

As seen in table 3, in terms of country comparisons, MCS areas in Wales have the highest rates of infant mortality (8.5 per 1000 live births) and is considerably higher than the Wales national rate (5.1 per 1000 live births). MCS areas in England (5.5 per 1000 live births) and Northern Ireland (5.4 per 1000 live births) have rates similar to their national figures with the former just over and the latter under. Whereas Scotland has a rate of 1.2 deaths per 1000 live birth in MCS less than its national figures. However, as can be seen in table 3 and figure 2, it should be noted that the confidence intervals for Wales, Scotland and Northern Ireland around the mortality rates are quite wide.

Statistical significance of estimates

We now consider whether the differences found in the estimates of infant mortality in MCS wards are statistically significant. The wards are themselves a sample and the numbers of infant deaths reported in most of the MCS areas are small. 95% confidence intervals around our estimates of infant mortality in MCS wards are shown in table 2 based on the numbers of live births in each stratum which forms their denominator. The very small numbers involved in some neonatal or post neonatal groups would require more complex methods, so estimates of their sampling variability, which is unlikely to be of great interest, is not shown.

In terms of significant differences among deaths under age one year, there are several points of interest. The England MCS 'minority ethnic' areas differ significantly from England and Scotland 'non-disadvantaged' and 'other disadvantaged' areas and the Northern Ireland 'non-disadvantaged' areas. Furthermore, the Wales 'other disadvantaged' areas differ significantly from the Scotland 'other disadvantaged' areas. Otherwise the areas have infant mortality rates that are not significantly different from one another. The graph in Figure 1 also shows that, apart from perhaps the England 'non-disadvantaged' and 'other disadvantaged' areas, all the strata have wide sampling errors, especially Wales 'non disadvantaged'.

In relation to significant differences between MCS country rates for deaths under one year, the MCS rates for each country are not significantly different from their respective national country figures except for Wales. However, as is illustrated in Figure 2, the sampling errors for all MCS countries are fairly wide except for England with MCS Wales having the widest. When comparisons are made between MCS country rates only, MCS Wales areas are significantly different from MCS Scotland areas. Although MCS Wales areas are not significantly different from MCS England areas, the figures are very close to being so.

5. Conclusions

Since infant mortality is at such a low level in the UK, the Millennium Cohort Study has not missed a great number of very short lives in the birth cohort it is following. About 99.5% of the original cohort survived to 9 months when they were eligible for the survey. The analysis of the survivors in the Millennium Cohort is unlikely to be seriously biased about the prospects for children born at the turn of the Millennium, except on topics such as prematurity or congenital malformations which have high risk of infant death. The data presented here cannot give much guidance on this, beyond indicating the maximum number of cases that could have been excluded by death (180). It has been possible to demonstrate modest differentials within the types of areas sampled of which analysts may wish to take note. The loss suffered through infant mortality affects proportionally more families and is hence also a greater problem for analysis in the MCS 'minority ethnic' stratum' areas (note here this stratum has been constructed for England only) than elsewhere. However, survey loss through refusal and non-contact is a much greater problem – around 28% of the issued sample, rather than around 0.6 percent through early death. For virtually all intents and purposes, the MCS can be thought as a birth cohort.

Table 1 Infant mortality in MCS wards for the UK

Live births, neonatal deaths, post neonatal deaths and all infant deaths under 1[1,2].
Occurrence by the MCS stratified sample and for MCS sample birth dates[3] (weighted[4]).

Weighted numbers and rates per 1000 live births:

	MCS Stratification	Live births	Neonatal deaths		Post neo natal deaths		All deaths under 1	
		(n)	(n)	rate	(n)	rate	(n)	rate
MCS areas in UK	Non-disadvantaged	16,340.2	65.5	4.0	16.0	1.0	81.5	5.0
MCS areas in UK	Other disadvantaged	10,005.9	35.2	3.5	21.4	2.1	56.6	5.7
MCS areas in (England only)	Minority ethnic	1,644.3	10.7	6.5	5.6	3.4	16.3	9.9
MCS areas in UK weighted total		27,990.4	111.5	4.0	43	1.5	154.4	5.5
UK national rate[5]		680,0714	2485	**3.7**	1206	**1.8**	3,691	**5.4**

Notes:

1. Registered live births and deaths in MCS wards used in table were supplied by the Office for National Statistics (for England and Wales), General Register Office for Scotland and Northern Ireland Statistical and Research Agency. Numbers were extracted from the data supplied by the aforementioned Statistical offices by the author together with rate calculations.

2. Neonatal, post neonatal and infant deaths under 1, rates per 1000 live births (excluding stillbirths). Neonatal deaths are defined as those deaths at ages up to 27 completed days of life, post neonatal as 28 days to under one year of age. Infant deaths are all under age 1.

3. Numbers of births and deaths used in this table were those registered in MCS wards during the dates when MCS children were born (Between 01September, 2000 and 31August, 2001 for England and Wales and 23 November, 2000 and 11 January, 2002 for Scotland and Northern Ireland).

4. Following the sampling strategy used in the MCS, survey weights are used for United Kingdom estimates. Weights used are taken from Shepherd et al (2004), p33-34.

5. National rates included for comparability.

Table 2 Infant mortality in MCS wards by stratum and country

Live births, neonatal deaths, post neonatal deaths and infant deaths under 1[1]
Occurrence for MCS sample birth dates[2].

Un-weighted numbers and rates per 1000 live births:

MCS areas by country	MCS stratification	Live births	Neonatal deaths		Post neonatal deaths		All deaths under 1	
		(n)	(n)	rate	(n)	rate	(n)	Rate (95%CI)
England[3]	Non-disadvantaged	6778	27	4.0	6	0.9	33	4.9 (3.2-6.5)
	Other disadvantaged	7151	25	3.5	15	2.1	40	5.6 (3.9-7.3)
	Minority ethnic	4444	29	6.5	15	3.4	44	9.9 (7.0-12.8)
Wales[3]	Non-disadvantaged	1150	8	7.0	2	1.7	10	8.7 (3.3-14.1)
	Other disadvantaged	2779	15	5.4	8	2.9	23	8.3 (4.9-11.6)
Scotland[4]	Non-disadvantaged	1652	5	3.0	3	1.8	8	4.8 (1.5-8.2)
	Other disadvantaged	1852	4	2.2	3	1.6	7	3.8 (1.0-6.6)
Northern Ireland[5]	Non-disadvantaged	1138	4	3.5	0	0.0	4	3.5 (0.1-7.0)
	Other disadvantaged	2066	9	4.4	6	2.9	15	7.3 (3.6-10.9)

Notes:

1. Registered live births and deaths in MCS wards used in table were supplied by the Office for National Statistics (for England and Wales), General Register Office for Scotland and Northern Ireland Statistical and Research Agency. Numbers were extracted from the data supplied by the aforementioned Statistical offices by the author together with rate calculations. Neonatal, post neonatal and infant deaths under 1, rates per 1000 live births (excluding stillbirths). Neonatal deaths are defined as those deaths at ages up to 27 completed days of life, post neonatal as 28 days to under one year of age. Infant deaths are all under age 1.

2. Numbers of births and deaths used in this table were those registered in MCS wards during the dates when MCS children were born (Between 01September, 2000 and 31 August, 2001 for England and Wales and 23 November, 2000 and 11 January, 2002 for Scotland and Northern Ireland).

3. Excluding non-residents for England and Wales. Criteria used for comparability with national rates.

4. Including non-residents for Scotland. Criteria used for comparability with national rates.

5. Including deaths of non-residents of Northern Ireland. Criteria used for comparability with national rates.

Table 3 Infant mortality in MCS Wards by country

Live births, neonatal deaths post neonatal deaths and infant deaths under 1, numbers and rates:
Occurrence for MCS sample birth dates

	Live births	Neonatal deaths		Post neonatal deaths		All deaths under 1	
	(n)	**(n)**	**rate**	**(n)**	**rate**	**(n)**	**Rate (95%CI)**
MCS areas in England	15,090.7	60.4	4.0	22.2	1.5	82.5	5.5 (4.3-6.6)
England national rate[1]	565,519	2059	**3.6**	1003	**1.8**	3062	**5.4**
MCS areas in Wales	3841.9	23.9	6.2	8.7	2.3	32.7	8.5 (5.6-11.4)
Wales national rate[1]	30,781	99	**3.2**	57	**1.9**	156	**5.1**
MCS areas in Scotland	3,421.0	9.2	2.7	5.9	1.7	15.1	4.4 (2.2-6.6)
Scotland national rate[1]	59,330	226	**3.8**	106	**1.8**	332	**5.6**
MCS areas in Northern Ireland	3,174.7	12.5	3.9	4.6	1.4	17.0	5.4 (2.8-7.9)
Northern Ireland national rate[1]	25,084	101	**4.0**	40	**1.6**	141	**5.6**

Weighted[2] numbers and rates per 1000 live births

Note: Remarks found in Table 2 also apply to this table.

1. National rates included for comparability.
2. MCS 'country' weights were applied to the MCS country births and deaths.

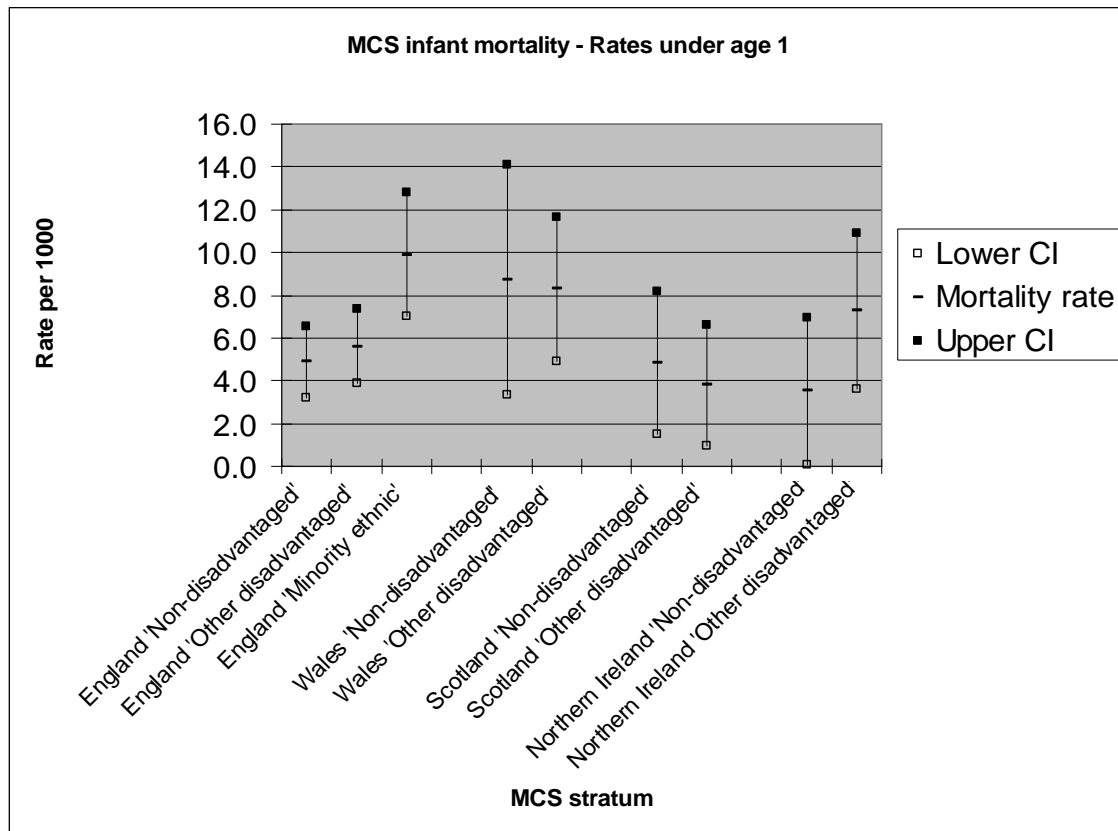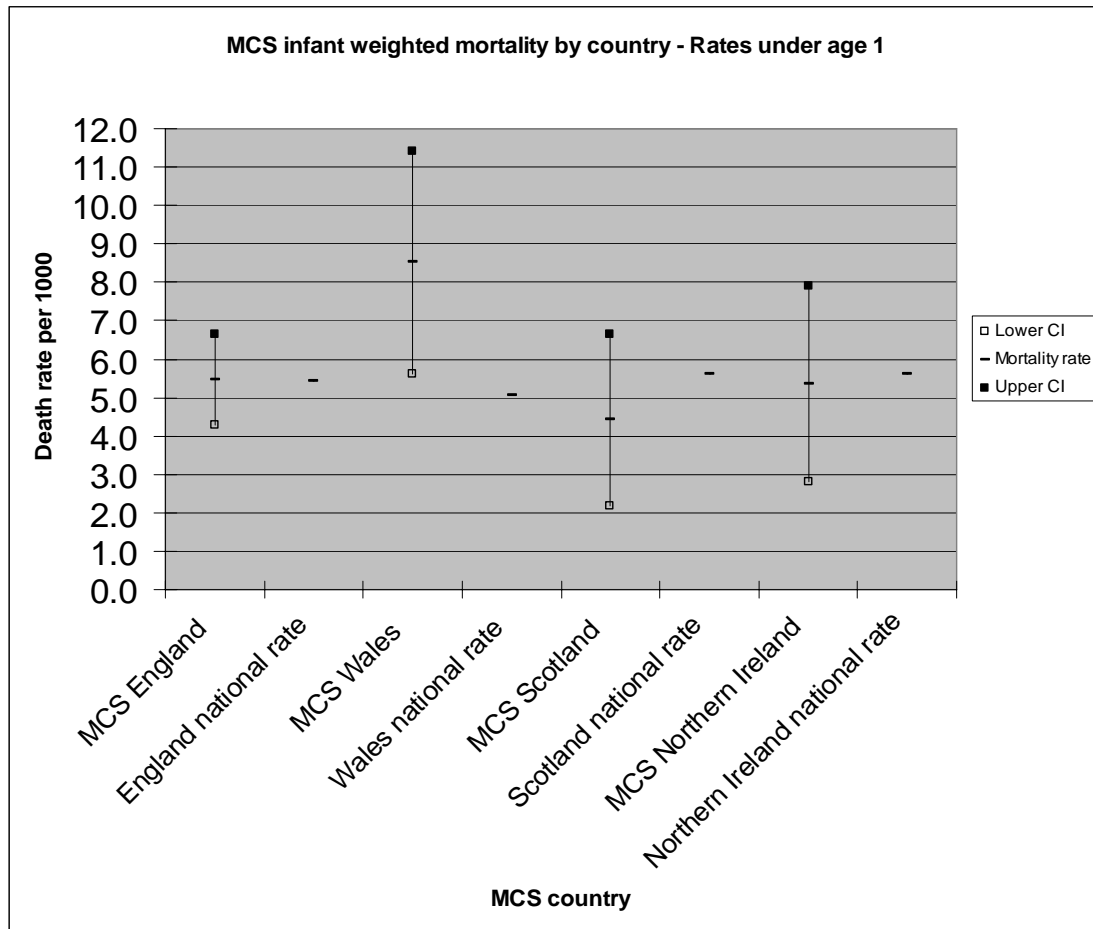**Figure 1   MCS infant mortality rates under one year of age by stratum.**

**Figure 2   MCS weighted infant mortality by country
(National figure provided for comparison) – rates
for under one year of age.**

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