

FEATURE

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Mapping trends in the care workforce using SOC 1990 and SOC 2000

SUMMARY

The number of people working in an occupation and their characteristics (age, sex, qualifications, and so on) can change over time. Such changes can be monitored using the Standard Occupational Classification (SOC) system. However, changes in the definition of occupations when the SOC is revised can raise issues of comparability. This article uses data from the Labour Force Survey to examine changes in the care workforce from the late 1990s to 2005. The care workforce is defined in the article using the SOC. Comparison of the care workforce over this short period of time showed some marked changes. However, it is difficult to be sure which changes reflect real changes in the workforce and which are due to changes in classification between the SOC 1990 and the SOC 2000.

A clear policy agenda has emerged that calls for the social care, childcare, education and health services to work together in an integrated way to achieve common outcomes. This agenda is set out in the 'Every Child Matters' (DfES 2003) and 'Youth Matters' (DfES 2005b) green papers. The Children's Workforce Strategy (DfES 2005a) has introduced a common core of skills and knowledge, which aims to ensure that the children's workforce has a shared language and common understanding of issues.

Within this context, a research study was commissioned by the Department for Education and Skills (DfES) to explore the extent and nature of interprofessional collaboration within the diverse children's workforce of health, childcare and social services. This study employed multiple methodologies, including secondary analysis of the Labour Force Survey (LFS). This analysis was to provide the context for the remainder of the research project, focusing on interprofessional working in multi-purpose children's settings such as children's centres and extended schools (Simon *et al* forthcoming). In addition to mapping the numbers working within the care workforce using up-to-date national data, it was also of interest to provide some indication of change over a period of rapid policy development. The analysis was therefore compared with an earlier mapping of the care workforce (Simon *et al* 2003), also using LFS data.

The secondary analysis mapped the characteristics and working conditions of

the care workforce using the LFS for 2001 to 2005. These results were compared with the earlier findings using the LFS for 1997 to 1999 (Simon *et al* 2003). The care workforce was defined using occupations in the Standard Occupational Classification (SOC). The SOC uses information on the tasks or duties carried out, job titles, what people state they mainly do in their jobs, and whether any special qualifications or training are required for people to carry out their job. For those in paid employment, this information is taken about their main job, and for those unemployed, the information is taken about their most recent main job (OPCS 1990; ONS 2000a, 2000b). The SOC 1990 was developed for the 1991 Census and was revised as SOC 2000 for the 2001 Census to take account of changes in the occupational structure; it was introduced in the LFS for the first time for 2001.

The earlier mapping study used the SOC 1990 to define the care workforce. However, for the new research study, the SOC 2000 was used. The main purpose of this article is to consider the consequences of changes to the SOC between SOC 1990 and SOC 2000 for comparing trends over time.

Defining the care workforce using the SOC

The care workforce was defined using SOC as those occupations directly involved in the provision of care. Social care managers were excluded. The data used were from the LFS, made available through

the UK Data Archive. To increase sample size, several years of data were combined. The earlier research study combined three spring LFS quarters (March to May) for the years 1997 to 1999, and the new research study combined five spring LFS quarters for the years 2001 to 2005. In each of these combined files, the population weight variable was divided by the number of years of data being combined, in order to provide an averaged population estimate. Roughly the same answers would result by taking separate results from each quarter and averaging them or by combining the files and then dividing the weights by the number of data sets combined (Simon and Owen 2005). All figures in this article are rounded to the nearest thousand.

In estimating changes in workforces over time, two major coding issues are apparent. The first issue is that, over time, new codes appear that did not exist in previous SOC coding and existing codes become modified. The second issue is that although people describe themselves as doing the same job, changes occur over time in the ways these people are assigned to each occupation group. Both of these changes will have an impact when comparing workforce sectors over time, both in terms of numbers and their characteristics. The Office for National Statistics (ONS) conducted an exercise where a sample of records from the 1991 Census and from the LFS for the quarters December 1996 to February 1997 and June to August 2000 were coded using both SOC 1990 and SOC 2000 (Birch 2000). Results from that analysis have been used here to illustrate how new occupational codes, the updating of codes and the reassignment of occupations can all result in difficulties when trying to assess change over time.

Care workforce

Using the LFS data for 1997 to 1999 and the SOC 1990 definitions, the care workforce in England was estimated to be just over 1 million workers. This was subdivided into two occupation groups, the social care workers and the childcare workers. The social care workers group comprised five occupations, which together accounted for 754,000 workers (Table 1). The occupations that made up this group were 293: 'Social workers, probation officers', 370: 'Matrons, houseparents', 371: 'Welfare, community and youth workers', and 644: 'Care assistants and attendants'. As there was no specific category for the job title of 'home help', in order to include them in the social care workforce, the occupation code 958:

Table 1
Social care workers as defined by SOC 1990 and SOC 2000

SOC 1990 titles (and codes)	Population numbers		SOC 2000 titles (and codes)	Population numbers	
	LFS 1997–99			LFS 2001–05	
Social workers, probation officers (293)	97		Social workers (2442)		68
Matrons, houseparents (370)	61		Houseparents and residential wardens (6114)		28
Welfare, community and youth workers (371)	144		Youth and community workers (3231)		67
Care assistants, attendants (644)	427		Housing and welfare officers (3232)		105
Cleaners/domestics (in social work industry without accommodation) (958)	26		Care assistants/home carers (6115)		463
			N/A code in 2000		
Total	754		Total		732

Table 2
Childcare workers as defined by SOC 1990 and SOC 2000

SOC 1990 titles (and codes)	Population numbers		SOC 2000 titles (and codes)	Population numbers	
	LFS 1997–99			LFS 2001–05	
Nursery nurses (650)	94		Nursery nurses (6121)		128
Other childcare and related occupations (659)	230		Childminders and related occupations (6122)		101
Playgroup leaders (651)	24		Playgroup leaders/assistants (6123)		51
Total	348		Total		280

'Cleaners, domestics' was included but only those working in the social work industry. This was done using the Standard Industrial Classification. The estimates are shown in Table 1.

The childcare workers group for 1997 to 1999, using SOC 1990 definitions, accounted for 348,000 workers, and comprised three occupations: 650: 'Nursery nurses', 651: 'Playgroup leaders' and 659: 'Other childcare and related occupations'. The estimates are shown in Table 2.

Using the LFS data for 2001 to 2005 and the SOC 2000 definitions, the care workforce also accounts for just over 1 million workers in England. However, changes to the definitions of occupations in SOC 2000 meant it was not possible to make exact comparisons using the same occupations. The occupations chosen for social care, and their estimates, are also shown in Table 1. The occupations were 2442: 'Social workers', 6114: 'Houseparents and residential wardens', 3231: 'Youth and community workers', 3232: 'Housing and welfare officers' and 6115: 'Care assistants and home carers'. These are not identical to the occupation categories in SOC 1990, but appear very similar, so that some comparisons between the earlier and later data sets should be possible. The social care workforce estimated from 2001 to 2005 LFS data was 732,000. This is a slight drop. But does this represent a real contraction of the social care workforce, or a change in the classification?

The childcare workers group, in 2001 to 2005, was estimated as 280,000 workers. This represents a significant decline in numbers, at a time when there has been a policy emphasis on increasing the number of childcare places (DfEE 1998). Again, the occupations are slightly different using SOC 2000: they were 6121: 'Nursery nurses', 6122: 'Childminders and related occupations' and 6123: 'Playgroup leaders/assistants' (Table 2). The question again arises, is this a real drop or an artefact of the changing classifications?

Changes in the childcare workforce

Of the three occupational groups, one, 'Nursery nurses', kept the same title in both SOC 1990 and SOC 2000 and the numbers show an expected slight increase. Another was modified from 'Playgroup leaders' to 'Playgroup leaders/assistants'. This expansion of the scope is associated with more than a doubling in numbers, from 24,000 to 51,000. However, registration data from DfES and Ofsted suggest that the playgroup sector has been declining, from 15,600 registered playgroups in 1998 (DfEE 1999) to 11,600 in 2003 (Ofsted 2003). So this increase in the workforce probably reflects not a real growth, but a reclassification and inclusion of playgroup assistants. It is clear from the ONS analysis (Birch 2002), that some people who were given the SOC 2000 code of 'Playgroup leader/assistant' would have been given the SOC 1990 code of 'Childminders and

Table 3
Relationship between SOC 1990 code 659¹ and SOC 2000 codes

SOC 2000	SOC 2000 unit group title	Percentages					
		Male			Female		
		Census 1991	LFS 1996/97	LFS 2000	Census 1991	LFS 1996/97	LFS 2000
3121	Architectural technologists and town planning technicians	-	-	-	-	25.0*	-
3567	Occupational hygienists and safety officers (health and safety)	-	-	-	-	-	7.1
6121	Nursery nurses	-	-	-	5.8	5.9	-
6122	Childminders and related occupations	100.0*	100.0	90.0	96.0	92.6	86.6
6123	Playgroup leaders/assistants	20.0	-	72.7	44.7	45.6	54.9
6124	Educational assistants	20.0	-	-	18.6	-	-
6213	Travel and tour guides	-	-	-	-	-	14.3
6219	Leisure and travel service occupations n.e.c.	-	-	-	-	-	25.0*
9244	School mid-day assistants	100.0*	100.0*	100.0*	89.2	93.6	86.6

Notes:

- 1 Other childcare and related occupations n.e.c.
 * denotes estimate based on fewer than five cases.

Source: Birch (2002) Table 1b

related occupations'. This third subgroup of childcare workers has a slight change of title: for SOC 1990 it was 'Other childcare and related occupations', and for SOC 2000 it was 'Childminders and related occupations'. Although these titles might suggest that the categories are very similar, the number more than halved, from 230,000 to 101,000. It is, therefore, obvious that a number of people who would have been classified as 'Other childcare and related occupations' using SOC 1990 were being coded differently using SOC 2000 definitions.

The ONS analysis (Birch 2002) shows that about half the people who would have been coded as 'Playgroup leaders/assistants' using SOC 2000 would indeed have been coded as 'Other childcare and related occupations' using SOC 1990. However, some people who would have been coded as 'Other childcare and related' in SOC 1990 would have been coded into a new occupation introduced in SOC 2000. This is 9244: 'School mid-day assistants'. This occupation did not exist as a separate category in SOC 1990. The ONS analysis shows that, in their samples, around 90 per cent of people who would have been coded as 'School mid-day assistants' using SOC 2000 would have been coded as 'Other childcare and related occupations' using SOC 1990. This relationship is shown in Table 3, which is derived from Table 1b of Birch (2002).

This table shows results for all the people in the three samples who were coded under the SOC 1990 code 659, 'Other childcare and related occupations'. The three samples are shown separately, and results for male

and female are also shown separately. Each row represents a different code from SOC 2000 which was applied to these people. Since there are relatively few males in these occupations, this discussion will be confined to females. Some codes are probably simply errors. The table shows that 25.0 per cent of females who were coded as 3121: 'Architectural technologists and town planning technicians' using SOC 1990 in the subsample of the LFS for 1996/97 were also coded as 'Childminders and related occupations' using SOC 2000. No one in any of the other samples was coded in these two ways. The asterisk with the 25.0 per cent is used to indicate that the estimate is based on fewer than five cases. This would seem to be a simple coding error.

Another row represents 6121: 'Nursery nurses'. A very small number of people coded as 'Nursery nurses' using SOC 2000 were also coded as 'Other childcare and related occupations' using SOC 1990, rather than as 'Nursery nurses'. This suggests that ambiguities in the way some people

describe their occupation may result in them being classified as 'Nursery nurses' or not.

The next row is much clearer. This represents SOC 2000 code 6122: 'Childminders and related occupations'. Across the three samples (for females), between 86.6 and 96.0 per cent of people with this code were also coded as 'Other childcare and related occupations' using the SOC 1990. It shows the very close relationship between the two codes. However, it is not a symmetrical relationship. This is illustrated in Table 4, which shows the reverse mapping of SOC 1990 codes onto the single SOC 2000 code of 6122: 'Childminders and related occupations'. The table is derived from Table 1a of Birch (2002) and shows that (for females) between 39.7 and 46.6 per cent of those coded as 'Other childcare and related' using SOC 1990 were also coded as 'Childminders and related occupations' using SOC 2000. It is evident from Table 3 that many of them have been assigned to the new code 9244: 'School mid-day assistants'. The final row shows that (for females) between 86.6 and 93.6 per cent of people with that code would have been coded as 'Other childcare and related' using SOC 1990. The corresponding table in Birch (2002) for 'School mid-day assistants' shows that between 36.4 and 50.2 per cent of people coded as 'Other childcare and related' using the SOC 1990 were switched to this new code.

The apparent reduction in 'other' childcare occupations can therefore be seen to be mainly due to a new occupational code being used in the SOC 2000 which accounted for many who would have been 'Other childcare and related occupations' using SOC 1990. Looking at the text descriptions in the SOC 1990 and SOC 2000 manuals does not make this change apparent. Part of the description for SOC 1990 refers to meals: under 'tasks' that people to be coded as 'Other childcare

Table 4
Relationship between SOC 2000 code 6122¹ and SOC 1990 codes

SOC 1990	SOC 1990 unit group title	Percentages					
		Male			Female		
		Census 1991	LFS 1996/97	LFS 2000	Census 1991	LFS 1996/97	LFS 2000
370	Matrons, houseparents	-	-	6.3	-	13.9	17.3
651	Playgroup leaders	-	-	-	-	-	6.3
659	Other childcare and related occupations n.e.c.	44.4	66.7	45.0	32.4	46.6	39.7

Note:

- 1 Childminders and related occupations.

Source: Birch (2002) Table 1a

and related occupations' may perform it says, 'prepares and serves children's meals' (OPCS 1990: 205). However, the description of tasks for the SOC 2000 code for 'Childminders and related occupations' includes the following: 'prepares and serves children's meals and supervises children during meals' (ONS 2000a: 211). Thus, for an occupation which appeared unchanged between SOC 1990 and SOC 2000, it would be easy to misinterpret a fall in the number of people employed as a real change when it was merely a reflection of a change in coding, with a new occupation being created largely as a subset of an old one.

Changes in the social care workforce

There is a similar change in one of the occupations designated as social care, but here the change is more evident. This involves the occupation in SOC 1990 coded as 293: 'Social workers, probation officers'. In SOC 2000 these two occupations are coded separately: 2442: 'Social workers' and 2443: 'Probation officers'. As can be seen from Table 1, there were 97,000 'Social workers, probation officers' in 1997 to 1999 using the SOC 1990 definition and 68,000 'Social workers' in 2001 to 2005 using the SOC 2000 definition. (There were, in addition, 8,000 'Probation officers', so removing them does not account for all of the difference.) The change in the title of the code makes it clear that there is a discontinuity in the definition, so it is unlikely that anyone would be misled into thinking that the number in the occupation had reduced significantly over the period. However, it does make it impossible to estimate whether the number of social workers is expanding or declining. More than that, it makes it impossible to monitor such issues as whether the occupation is becoming more gender specific, whether it is recruiting black and minority ethnic staff, or whether the level of training is increasing. These are all-important questions as far as the occupation is concerned, but the revision of the coding makes it impossible to even consider them with these data (or any other data set that uses the SOC).

Similarly, the single code 371: 'Welfare, community and youth workers' in SOC 1990 is split in SOC 2000 into two separate codes: 3232: 'Housing and welfare officers' and 3231: 'Youth and community workers'. The number in this occupation in 1997 to 1999 was estimated as 144,000, and for the two occupations for 2001 to 2005 the combined total was 172,000 (Table 1). This may reflect a growth in the sector, or the

addition of the term 'housing' in SOC 2000 may indicate that the scope of the code has increased, and so drawn in people who would have been coded differently using SOC 1990. It is clear from the tables in Birch (2002) that between half and three-quarters of people coded as 'Youth and community workers' using SOC 2000 and between a half and two-thirds of those coded as 'Housing and welfare officers' would be coded as 'Welfare, community and youth workers' using SOC 1990. The rest are coded into other, mostly care, occupations.

An SOC 1990 code designated as part of the social care workforce was 370: 'Matrons, houseparents'. As can be seen from Table 1, it was estimated that there were 61,000 people in this occupation using the 1997 to 1999 LFS. The nearest code for SOC 2000 was 6114: 'Houseparents and residential wardens'. This was a much smaller occupation using estimates from LFS for 2001 to 2005, just 28,000. There is no reason to suppose that the activities conducted by people in this occupation declined over this short period, so it is more likely that people doing the same jobs were assigned to different codes. From the tables in Birch (2002), it is clear that this is what has happened. Birch's Table 1a shows that, in her samples, of the people coded as 370: 'Matrons, houseparents' using SOC 1990, about half were coded as 6114: 'Houseparents and residential wardens' using SOC 2000 and most of the rest were coded as 1185: 'Residential and day care managers'. So this category has largely been split into two, although this is not evident from the job titles.

What these changes mean for comparing trends over time

This example, of using the LFS to examine changes in the care workforce over time, demonstrates some of the problems brought about by the updating of the SOC. Codes are not constant over time. Some new categories have appeared. An example is the 'School mid-day assistants', who were previously coded within the 'care related' category of 'Other childcare and related occupations', but who in SOC 2000 appear to be more appropriately counted as part of the education workforce than the childcare workforce. In other cases, groups have been split, for example, the 'Housing and welfare officers' and 'Youth and community workers', who in SOC 1990 were both included within the one occupation code of 'Welfare, community and youth workers'. Some codes have become broader, such as the 'Playgroup leaders/assistants', while

other codes now have much narrower classifications, such as the 'Childminders and related occupations'. These changes in classification over time make it difficult to compare like with like.

It is necessary for the SOC to be regularly reviewed and updated, because of the changing nature of occupations. Otherwise new occupations could not be accommodated and the classification would increasingly be dominated by occupations which no longer have the significance they once had. In discussing the revision of SOC 1990, ONS has noted that:

certain occupational areas were developing rapidly, but were not well-defined in SOC 1990. These included information technology occupations, customer service jobs, conservation and environment-related occupations and a wide range of jobs in what can loosely be termed 'caring' and 'community work' occupations. (ONS 2000a: 1)

The classification also needs to reflect the changing status of occupations and perhaps their changing skill levels. However, the changes in the classification make it almost impossible to monitor how occupations are evolving. For example, it is known that childcare is a very gender-segregated occupation, and there is a government target to increase the percentage of men working in the sector (Cameron *et al* 2001). Yet the discontinuities in the childcare occupations make it difficult to monitor whether this is being achieved.

Similarly, there is a drive to increase the level of qualifications amongst social workers (DfES 2006), but the change in the classification for social workers makes it almost impossible to see if there has been any change between periods coded using different versions of the SOC.

Monitoring the size and composition of occupations, and their conditions of employment is something that the long span of the LFS should make possible. Changes to the occupational classification can render this task difficult or impossible. Anyone wanting to conduct such a study needs to take care that the occupations they are comparing have remained consistent over time. Users should consult the definition volumes for SOC 1990 and SOC 2000 to check for consistency, but also consult the ONS User Guide (Birch 2002) which gives the results of coding some samples of data using both classifications. These tables give insight into how the codes have shifted over time.

Users could be helped with this issue if, within the SOC manuals, they are alerted to the creation of any new categories since previous versions of the SOC. They could also be helped if it is made explicit for occupations that have not changed since the previous SOC that, although the actual occupation remains unchanged, in order to reflect additional duties this occupation now performs, some additional descriptive information has been added in the new SOC. This would help users to distinguish between real and definitional changes to the SOC.

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