

CeLSIUS News

Issue 2

January 2003



Welcome to 2003 and Issue 2 of CeLSIUS News.

We are pleased to announce that the audit database for CeLSIUS users is now live and examples of pages are shown in this Newsletter. We hope you will find that charting the progress and state of your project in this way is helpful. Please let us know what you think.

We have prepared two on-line training modules to help introduce prospective users to the LS data. One on the *Ethnicity* data is already online and the second, on *Defining Your Study Population*, will be available from the middle of February. This second module will be of use for all prospective users of the LS and may be informative for experienced users too.

Remember CeLSIUS is happy to present talks on the ONS LS and its potential as a research database to academic institutions and even present posters at conferences. Let us know if you would like to avail yourself of this opportunity.

Best wishes for 2003 and an enjoyable and profitable year for using the ONS LS!

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All comments and queries on
CeLSIUS News should be
sent to:
Jo Tomlinson
CeLSIUS
Centre for Population Studies
London School of Hygiene &
Tropical Medicine
49-51 Bedford Square
London WC1B 3DP
tel: +44 (0) 20 7299 4634
email: celsius@lshtm.ac.uk

News from CeLSIUS

The CeLSIUS audit system

What is it?

The CeLSIUS audit system is an online database containing information about every request that we receive. Whether you only call us for information, or whether you are submitting an application for data from the LS, the details are stored in this system. Users can also log onto the system themselves to monitor the work being done on their own jobs.

How does it work?

The software behind the audit system is called *e-work*, a business process management tool produced by Metastorm, Inc. The e-work database, containing details of all requests made to CeLSIUS, sits on a server here at the LSHTM and a web-based client provides access to the database to registered users.

CeLSIUS support staff have full access to the system, so they can add and update data as the job progresses. Staff at the LS unit at ONS will be able to monitor all the jobs. Also, any user who registers to use the system is able to see details of their own job, as well as those of other registered users.

Figure 1 shows the login screen for the e-work client. As a registered user, you can sign in here under a common login name for LS users.



Figure 1: e-work login page

This takes you to the main e-work interface, where you can view the "Watch List", shown in Figure 2.

The Watch List shows those jobs currently in the e-work database that you have permission to view.

Folder ▲	Subject	Updated	Stage	Priority	Deadline	Message
CEL0022	Coleman; David	10/12/02 11:03	Data preparation	9		Variables
CEL0044	Davies; Elizabeth	10/12/02 12:21	Data preparation	9		Study population
CEL0046	Young; Harriet	17/12/02 11:06	Data preparation	9		Study details
CEL0054	Sloggett; Andy	17/12/02 11:03	Data preparation	9		Study details
CEL0058	Tomassini; Cecilia	10/12/02 15:33	Data preparation	9		Variables
CEL0059	Norman; Paul	17/12/02 10:33	Data preparation	9		Job details

6 Folders

Figure 2: e-work "Watch list"

A click on one of these folders opens it for viewing. *Figure 3* shows an open folder, with the “Job details” form selected. This gives the basic information that was provided by the user when

they first contacted CeLSIUS. Along the top of the screen are further tabs that open other forms, to display other information pertaining to the job.

The screenshot shows a web-based form titled "Job details display". At the top, there is a navigation bar with tabs: "Job details display", "Contact details", "Study details", "Allocation", "Study population", "Computing", "Variables display", and "Data preparation". The main form area contains several sections:

- Job Type:** A text box containing "Data request".
- Date of first contact:** A date picker showing "08/05/2002".
- Notes:** An empty text area.
- Job Description:** A text area containing "Breast cancer survival: association with socio-economic status and social support for women in England and Wales".
- Contact name:** A text box containing "Young; Harriet".
- Referred:** An unchecked checkbox.
- Accepted:** A checked checkbox.
- Acceptance date:** A date picker showing "08/05/2002".
- All users:** A list box containing "Grundy; Emily", "Sloggett; Andy", and "Young; Harriet".

Figure 3: e-work folder - "Job details" form

In *Figure 4* you can see that the “Data preparation notes” form has been opened. These are notes added

by the responsible support officer in the process of completing the data preparation.

The screenshot shows a web-based form titled "Data preparation notes". At the top, there is a navigation bar with tabs: "Job details display", "Contact details", "Study details", "Allocation", "Study population", "Computing", "Variables display", and "Data preparation". The main form area contains:

- All data preparation notes:** A table with two columns: "Date" and "Note".

Date	Note
06/08/2002	Harriet has received the breast cancer data set and two sets of simple cross-tabs from the raw data.
13/06/2002	This has taken time because of the need to calculate parity and exclude multiple cancer registrations. David should have this ready by Fri 21 June 02.
- Date added:** A date picker showing "06/08/2002".
- Number of entries:** A text box containing "2".
- Note:** A text area containing "Harriet has received the breast cancer data set and two sets of simple cross-tabs from the raw data.".
- ONS directory:** An empty text box.

Figure 4: e-work folder - "Data preparation notes" form

Requirements

The e-work web client requires Internet Explorer 5.5 or 6.0 (or higher) on Windows. It does also seem to work on Internet Explorer 5.0, but you may get occasional error messages.

Unfortunately it does *not* work on Netscape, or on Mac versions of Internet Explorer.

Privacy

Owing to the licensing costs of e-work, we have to use a common login for all external users. What this means in practice is that when you log on, you will be able to see other people's folders as well as your own, and they will be able to see yours.

It is our feeling that, in general, the information in a folder is not sensitive, but we realise that there may be exceptions. It is possible for us to mark your folder 'private', so that no-one else can see it, but unfortunately that means you would not be able to see it either. It works like this:

- Private folder – visible to CeLSIUS/LS staff only
- Non-private folder – visible to CeLSIUS/LS staff and all registered LS users (but **not** the wider world)

We do recommend that you choose to keep your folder non-private if possible. This will allow you to keep track of the work CeLSIUS is doing on your behalf, and allows other users to get an overview of the studies being conducted on the LS.

How to get access

When you submit a request for data to CeLSIUS, and the job is accepted, we will contact you to ask your permission to make your folder non-private. If you accept this, we will then send you login details so you can track the progress of the work.

If CeLSIUS is already working on a job for you, and you would like access to the audit system, please contact us at celsius@lshtm.ac.uk and we will tell you how to get started.

Publications database

The “publications” section of the CeLSIUS website now has a search engine that connects to an updated database of all published work done using the LS.

You can search by author, title, editor or journal name or keyword. You can also search the abstracts (where available) and restrict your search to a year range.

The references returned are displayed in Vancouver format, with links to abstracts and to complete PDF versions of the article where available.

Give it a try at:

www.celsius.lshtm.ac.uk/publications.html.

Online training

The *Ethnicity* training module is now complete and is available on the CeLSIUS website at www.celsius.lshtm.ac.uk/training.html. The aim of the module is to enable the user to ascertain whether the LS is a suitable data source for their ethnicity study, to specify their sample population, and to specify the variables that they will need to extract from the LS.

Work is progressing well on the second training module, entitled “Defining your study population”. The module should be online by mid-February.

Recent events

British Society for Population Studies 2002 Annual Conference

9-11 September, University of Newcastle

The special theme of this conference was *Population, Mobility and Migration* and CeLSIUS presented a poster on the ONS LS as part of the poster display.

There were four plenary papers on the theme. The first was given by Michel Poulain, Professor of Demography at the Louvain la Neuve, and Anne Helm. Their paper gave an overview and comparison of migration in the European Union countries.

The second plenary was given by Professor Tim Dyson of the London School of Economics on *Future patterns of migration and urbanisation in India*.

The third plenary was by Professor Tony Champion from the University of Newcastle on *Beyond the urban/ rural dichotomy: towards a new conceptualisation of the settlement for demographers*.

Professor Graeme Hugo, from the University of Adelaide, gave the final plenary entitled *Population movement between Australia and the United Kingdom: recent trends and issues*.

Further details of these talks and the other sessions of the conference can be found on the BSPS website www.lse.ac.uk/Depts/bmps/.

Workshop on using the ONS LS in studies of ethnicity

5 November, London School of Hygiene & Tropical Medicine

This workshop was held to bring together all those interested in using the ONS LS ethnicity data. Thirty-one people attended and were introduced to the data and given a demonstration of our online training module on ethnicity (see *Online Training* above). Professor David Coleman gave a presentation of his project "Post-war migration and the United Kingdom: evaluating the demographic and workforce consequences" and research opportunities of the data were discussed in an open forum.

Chaire Quetelet 2002 Entre nature et culture: quelle(s) démographie(s)?

22-25 October, Louvain-la-Neuve, Belgium

Cecilia Tomassini and Emily Grundy presented their paper *Culture or kinship: demographic and other influences on living arrangements in mid and later life*, based on the analysis of Italian and British demographic data. The paper was concerned with both trends and determinants in the choices of living arrangements in later life in the two countries. The authors stressed that though several regularities have been found in the determinants of intergenerational co-residence, there are still large differences among western countries that cannot be fully explained with common frameworks. Their analysis explored the association between demographic trends, socio-economic factors and changes in living arrangements using nationally representative data for Italy and England & Wales

(the ONS LS). They showed that higher income and the shrinking number of children are not necessarily associated with increases in solitary living among older people. These results reinforce the importance of cross-national comparisons in order to provide a greater understanding of the relationship between different demographic regimes, cultural traditions, and policy contexts on the one hand and the living arrangements and family support of elderly people on the other. The paper will be included in the proceedings of the conference next year.

Using the LS to trace children's changing family circumstances

Lynda Clarke gave a well-received talk on the above subject at Oxford Brookes University on 20 November 2002 and at the University of Oxford on 11 December 2002.

This talk used children as the focus of study to document the evidence on the demography of children's family location and the transitions they are likely to face and present new data on the social and economic conditions of children. It examined whether there is evidence of increasing social inequality among children as has been reported for adults and investigated how far this can be linked to the family structures of children. The aim was to investigate how far children's family structure at birth or later family breakdown is associated with subsequent adverse socio-economic circumstances.

In order to explore the differentials in children's socio-demographic background, ONS LS data from birth registration and the 1981 and 1991 censuses of England and Wales was used, tracing children throughout their childhood via the ONS Longitudinal Study. This allows an unprecedented insight into the living conditions of children and how these change throughout childhood. Matching dates of birth on birth records and census data allowed identification of children's parents and whether they had experienced family break-up or reconstitution.

Longitudinal Analyses of Fertility

Half-day meeting organised by the British Society for Population Studies

14 January, London School of Economics and Political Science

Michael Rendall of the Office of National Statistics presented a paper entitled "First Births by Age and

Occupation in Britain and France". His study focused on the entry to motherhood after age 25 among two cohorts (1956 and 1966) of French and British women by occupation. He used data from the ONS LS and from the EPD (a very similar sample to the LS) and the birth registration data from both countries. He tried to explain the anomaly of the similar fertility level in the two countries and the more extensive state support for childbearing in France. His results showed that French women have a faster and more likely entry to motherhood than British women in each occupational groups.

David Coleman of Oxford University presented Trends in Estimated Fertility by Ethnicity. He and Martin Smith have used the General Household Survey (GHS), the Labour Force Survey (LFS) and the ONS Longitudinal Study (LS) to examine fertility from 1971 to 1999 by ethnic group. This is part of a wider study of ethnic minority fertility, mortality and migration.

He found that East African and Indian groups had remarkably low birth rates and that Pakistani and Bangladeshi groups were high but falling (using the LFS). Most other groups had sub-replacement birth rates except for the Black-African group: he suggested that birth rates for this group, after falls to 1976 and 1991, were rising due to increasing numbers of entrants to the UK with high fertility.

He said that the LS reported lower birth rates than the LFS or GHS and suggested that this might be due to difficulties linking birth registrations to LS members. Interestingly though, mothers in the LS aged 15-24 had higher or similar fertility rates to the LFS & GHS. It has been suggested that this might be a product of the own-child method in the LFS & GHS whereby children of young mothers are incorrectly assigned to older women in a household.

John Ermisch asked if perhaps some of the 'own children' were born outside the UK: assuming that older women have more births before entering the UK than after, this would produce higher rates in the LFS and GHS for older women. This would not be a problem in the LS as UK birth registration data is used.

Note: Several users of the LS are taking advantage of the large sample size and longitudinal nature of the LS for analyses using ethnicity. Users interested in finding out how the LS can help them can study our on-line training module at:

News from users

Residential differentiation and the identity of the service classes

Report from Chris Hiscock, King's College London

In recent years a number of rural researchers have investigated the causes and consequences of middle-class migration into rural areas in England (for example, Boyle and Halfacree 1998, Bell 1994). From this research two general theoretical beliefs have arisen. These can be summarised as: (1) Fractions of the middle classes are drawn to countryside living because its perceived traditional values enhance their cultural identity (Cloke et al. 1995); and (2) middle-class social representations of rural space have gained a hegemonic position over the countryside (Murdoch 1995). These beliefs have led to the coining of the term "middle-class capture of the countryside".

The aim of this research project is to enter into the debate and aid in the greater understanding of service-class migration and difference. From a rural studies perspective the research intends to address two main issues. The first examines the ways in which the rural service classes can be distinguished from their urban counterparts (both suburban and inner-city). This question is designed not simply to elicit distinctions in personal and household attributes (like ethnicity or family composition), but also to explore residential histories and the rationale for household relocations. This element of the analysis will focus on exploring the linkages and the potential return movements between inner-city, suburban, small-town and rural environments. The second explores the meanings that the service-class residents attach to their place of residence.

The project employs three main methodological devices: firstly, primary quantitative data in the form of a postal survey; secondly, in-depth qualitative interviews; and thirdly, quantitative data taken from the ONS Longitudinal Study (LS).

The LS has been used in order to explore social-class change and migration history, in the context of movements between (and stays within) different types of rural, suburban and inner-city area. The

ability of the LS to provide information at a personal and household level has enabled the analysis of familial, gender- and age-related dimensions of service-class migration patterns. This has been especially important for providing a general picture of differences between service-class members living in different environments.

In order to assess class differences, Goldthorpe's classification of occupations variable has been used for all LS members and their spouses (where relevant) aged 18 and over. Because the LS produces ward cluster types based on socio-economic variables such as population density, agricultural employment, etc. it is possible to select ward cluster types that consist of rural, inner-city and suburban areas for both the 1981 and 1991 census. The primary consideration in selecting the ward types was that they clearly represented a particular residential environment and had a high service-class population. By cross-tabulating the presence of ward types against local authority district it was then possible to loosely geographically place the ward cluster types chosen. Once the wards had been selected it was possible to compare service-class household structures in different residential area types. And by comparing the 1981 and 1991 census data, it has become possible to assess the growth or decline of service-class members in different area types due both to migration and class mobility.

Initial analysis of the data has resulted in the production of a forthcoming paper entitled "*Gendered rurality or rurality gendered? Households, class structures and place differentiation*" which argues that once the prevalence of single-person households amongst the service class in the inner city is taken into account, rural service-class households are no more likely to consist of a sole 'breadwinner' than households anywhere else. As with the service class in suburban areas, rural households display a diverse class composition in partner relationships: a result which could be interpreted as suggesting that, in fact, it is the inner-city service class who are more traditional, and who are forming a distinct and coherent class through intermarriage.

References

Cloke, P J, Phillips, M and Thrift, NJ (1995) The new middle classes and the social constructs of rural living. In *Social change and the middle*

classes, (eds) T Butler and M Savage, pp 220-236. UCL Press, London

Boyle, P & Halfacree, K, (eds) (1998) *Migration into Rural Areas: Theories and Issues*, John Wiley & Sons, Baffins Lane, Chichester.

Murdoch, J. (1995) Middle class territory? Some remarks on the use of class analysis in rural studies. *Environment and Planning A*, 27, pp 12-30.

News from related organisations

The Office for National Statistics (ONS)

Meet the ONS LS teams

CeLSIUS provides support to LS users from the academic community in liaison with two teams at the ONS. The LS Development team is responsible for the overseeing of linkage of census and events data, the production of technical documentation about the LS (including maintenance and enhancement of the data dictionary and creation of derived variables for the research database) and exploration of LS developments such as the linkage of other datasets to the LS. The Longitudinal Study Analysis Team provides customer support to non-academic institution based researchers, undertakes research using LS data according to ONS business needs, develops user guides on analytical approaches and potential of the study, contributes to



Fig 5: The ONS LS Development and Longitudinal Study Analysis teams

the approval of applications to use the LS (in conjunction with the LS Research Board), clears outputs that arise from projects using LS data such as publications and presentations, and assists the

Longitudinal Study Development Team's agenda with project support, analysis and training.

The Longitudinal Study Analysis Team

Myer Glickman, Health Variations and Longitudinal Development Branch Head. Myer has been at ONS for four years and leads the Health Variations and Longitudinal Study Development Branch. Myer is a permanent member of the Longitudinal Study Steering Group and Longitudinal Study Research Board and leads the strategic development of the Longitudinal Study on behalf of ONS. Myer also manages the Longitudinal Study Analysis Team providing day to day support to team members and setting LS Analysis Team's objectives.

Chris White, Longitudinal Study Analysis Research Manager. Chris joined the team in February 2002 and is new to the LS. His main remit involves hands on user support of public sector based professionals using the LS to undertake policy related research. Other elements of the role are to develop LS training materials and user guides, support production of LS documentation, support approval of research applications and general LSRB business, clear outputs of LS-based research, contribute to LS developments such as the claimant counts linkage project, and conduct personal research projects using LS data. Before joining ONS Chris worked in the NHS in the public health arena contributing to the development of intelligence to support appropriate service provision. Chris has a masters degree in public health from Liverpool University and a postgraduate diploma in economic evaluation in health care from City University.

Bola Akinwale, Longitudinal Study Analysis Research Officer. Bola joined ONS in December 2002. Bola's main functions include providing secretarial support for the LSRB, contributing to metadata development, supporting government users of the study and undertaking personal research projects. Before joining ONS, Bola studied Social and Political Science at Trinity College Cambridge and was active in the Students Union. Bola's main interests are in methodological development and ethnic and identity related research.

The Longitudinal Study Development Team

Jillian Smith, Team Manager. Jillian Smith is currently leading the LS Development Team in the

programme of work to prepare the database for use after the 2001 Census data has been incorporated. This covers a wide range of tasks including completing linkage of the data, sorting out discrepancies, testing and documenting. In addition business as usual event capture is being maintained and a major coding exercise is being completed to code the 2001 sample occupational information to the 1990 classification.

Kevin Lynch, Senior LS Support Officer. Kevin has a long history of working with the LS. Previously Kevin worked for CLS supporting researchers from the academic community in the extraction and analysis of LS data. Since February 2002, Kevin joined ONS and has been building a version of the LS research database in SQL and managing the update of the LS data dictionary for the addition of the 2001 data.

Louisa Blackwell, LS Data Quality Manager. Louisa has many years of experience using the LS for research and assisting academic users of the study. Louisa moved to ONS in January 2002 and has responsibility for ensuring the quality of LS data and the development of LS metadata. Louisa is currently working on updating and restructuring LS documentation for web dissemination.

Shirley Swann, LS Data Quality Officer. Shirley Swann joined ONS in October 2001 and started her involvement in the LS for the LS Analysis Team. Shirley has acted as LSRB secretary and is currently supporting Louisa in the development of LS documentation and ensuring data quality, particularly in relation to classifications used in the study.

Bob Bevan Jones, LS Data Manager. Bob has been instrumental in the development of the Longitudinal Study Layered Outputs Analysis Database, which simplifies the extraction of LS data for research purposes. Bob has also developed standards for database administration and web based LS documentation and he manages the LS security and confidentiality protocols.

Peter Martin, LS Projects Officer. Peter has been working on the 2001 Census Link project encompassing a number of elements such as data matching at Southport and data processing at Titchfield. Peter will be substantively involved in the alpha and beta testing phases of the 2001 census data link.

Carl David, LS Administrative Officer. Carl is the first point of contact for enquirers about the LS and is responsible for the administrative aspects of the development team's role, supporting all the other functions of the team, including booking colleagues onto training courses and other external events and carrying out a range of financial functions.

The ONS LS: quality issues from 30 years of data linkage

Jillian Smith presented the above paper at the UNECE/Eurostat *Work Session on Registers and Administrative Records for Social and Demographic Statistics* (Geneva, 9-11 December 2002), and this is now available at: www.unece.org/stats/documents/2002/12/registers/wp.11.e.pdf.

The claimant counts and vacancies project

The content of the LS is currently limited to data which have historically been collected by the former Office of Population Censuses and Surveys (OPCS). The two main reasons for this were the requirements of confidentiality and the practical limitations imposed by the computing technology of the 1970s. However, the prospect of linking new data sources to the LS has been raised since the 1990s by:

- Advances in information management and technology;
- The merger of OPCS and the Central Statistical Office in 1996 to form ONS;
- Most recently, the publication of a National Statistics protocol on data sharing and linking.

The Claimant Counts and Vacancies (CCV) system was identified in the 1998 LS Review as a promising candidate for linkage, and would allow the analysis of spells of claiming unemployment-related benefits among LS members. The main part of this, the Claimant Count Cohort (CCC) data relate to a one per cent longitudinal sample of relevant benefits claimants, and records are available from 1994 onwards. This addition to the LS would represent an important development not only because of the enhanced research potential of

the study, but also as a pathfinder for linkage to other sources in the future.

A project has been set up as part of the LS Development Programme, in association with ONS's Labour Market Division, to establish the feasibility of linking the CCC data to the LS. Once agreed, linkage mechanisms and procedures will have to be developed and the data prepared and documented to an appropriate standard. If all goes ahead smoothly, the data could be available for analysis by the first quarter of 2005.

Further details about the project can be obtained from:

Andrew Scott 020 7533 5256
andrew.scott@ons.gov.uk

Chris White 020 7533 5138
chris.white@ons.gov.uk

The 2001 Samples of Anonymised Records (SARS)

Despite submitting a detailed specification for the 2001 SARS to ONS in September 2001 we still do not have a finalised version.

In October 2002 ONS launched their own consultation over the specification of the 2001 SARS. The ONS paper, released on October 25th, is available online at:

www.statistics.gov.uk/census2001/cn_34.asp. In brief, it proposed significant restrictions on the amount of data available in the Individual SAR, particularly if it were at local authority level (a population threshold of either 120K or 90K). In relation to the Household SAR, large households were identified as particular disclosive and individual characteristics of those living in large households (containing 10 or more residents if there is no regional geography) will be suppressed. In addition, age-banding is proposed for households of size 6-9. The amount of occupational information in the Household SAR will also be restricted to SOC minor, rather than unit SOC as in 1991 and there will be additional disclosure measures to protect households where members are of different ethnic groups.

Two meetings were organised by CCSR in October – one in London and one in Manchester- to provide

an opportunity for full discussion over the ONS proposals. A report of these meetings is available on the CCSR web-site:

www.ccsr.ac.uk/sars/2001/consultation.html

ONS has suggested that there may be opportunities to access more individual detail by working in a 'safe-setting' but there are, as yet, no detailed plans on how this might be put into practice. In addition, the proposals for a Small Area Microdata file may be accepted but we do not yet have a detailed response from ONS.

After considering the responses to the ONS consultation, CCSR met with ONS on December 18th to try to identify a specification for the SAR files that would retain their key features. This discussion is still on-going and the latest information will be posted on the CCSR website at the address above.

Research using the LS

Projects supported by CeLSIUS

Lisa Arai, Queen Mary, University of London

Adolescent pregnancy and fertility in England and Wales.

David Coleman and Martin Smith, University of Oxford

Post-war migration and the United Kingdom: evaluating the demographic and workforce consequences

Elizabeth Davies, University of Liverpool

The leaving of Liverpool an examination into the migratory characteristics of Liverpool

Emily Grundy and Cecilia Tomassini, London School of Hygiene & Tropical Medicine

Fertility, marriage and household associations with the health and mortality of women in later life - Phase I

Chris Hiscock, King's College, London

Residential differentiation and identity of the service classes

Lucinda Platt, University of Essex

Ethnic minority social mobility

Jason Strelitz, London School of Economics and Political Science

From Immigration to inclusion? A longitudinal study of immigration and outcomes for children

Andy Sloggett and Emily Grundy, London School of Hygiene & Tropical Medicine

Socio-economic and socio-demographic inequalities in cancer incidence and survival in the older population of England and Wales

Ben Wheeler, University of Bristol

An investigation into the role of environmental factors in socioeconomic and geographic health inequalities in the UK

Projects supported by the ONS

Angela Donkin, Office for National Statistics

Imputation of income on the LS

Seeromanie Harding, Michael Rosato and Kennedy Cruikshank

Differences in birth outcomes between first and second generation ethnic groups

Yuan Huang Lee, Office for National Statistics

A study of ethnic variations in mortality by socio-economic measures

Richard Pereira, Office for National Statistics

Population projections by ethnic group

Chris White, Office for National Statistics

An examination of the social, geographical and housing characteristics of females age 10-16 in 1971 yet to give birth using the ONS Longitudinal Study

Publications update

For further details of our list of ONS LS publications, please see Publications database on page 4.

Socio-demographic factors in elderly suicide in England and Wales, 1991-2000. *Mendes da Camara, Monica (2002)*. Report submitted in partial fulfilment of the requirements of the MSc in Medical Demography, London School of Hygiene & Tropical Medicine, University of London

Breast Cancer Survival in England and Wales: the Influence of Socio-economic Status, Social Support and Parity, Evidence from the ONS Longitudinal Study. *Young, H (2002)*. Report submitted in

partial fulfilment of the requirements of the MSc in Medical Demography, London School of Hygiene & Tropical Medicine, University of London

The Influence of Environmental Exposures Across the Life Course on Patterns of Disease: Environmental Equity and Public Health in England and Wales. *Wheeler, B (forthcoming)*. Thesis submitted to the University of Bristol in accordance with the requirements of the degree of Doctor of Philosophy in the Faculty of Medicine.

Inequalities in life expectancy by social class 1972-1999

Angela Donkin, Peter Goldblatt and Kevin Lynch,
Office for National Statistics

This *Health Statistics Quarterly* paper examines trends in life expectancy by social class, based on the ONS Longitudinal Study for England and Wales (LS), over the period 1972 to 1999. For both men and women there was a social class gradient throughout the period, such that those in Social Class I lived longest and those in Social Class V least. Among women the difference between Social Class I and Social Class V remained relatively constant. The difference in life expectancy at birth was 5 years in 1977/81 and 5.7 years in 1997/99. Among men the difference in life expectancy at birth between Social Class I and Social Class V was 7.7 years in 1977/81. By 1992/6 this difference had increased to 9.5 years but fell back to 7.4 years in 1997/99. Further investigation into this recent narrowing of the gap revealed that this has been due to above average improvement in the life expectancy of males in social class V that began in the early 1990s, largely fuelled by reductions in the mortality rates of children to parents in Social Class V.

These figures are based largely on social class at entry to the study, for most of those now aged thirty

and over, this was in 1971. By looking at figures based on social class at or after subsequent censuses (in 1981 and 1991), it is confirmed that some of the initial widening in inequalities between social classes I and V since 1971 can be attributed to the

fact that health inequalities are initially underestimated. This is because when occupation is recorded, people in the labour force are healthy enough to work. This 'health selection' effect wears off over time, however is initially more important for those in manual occupations.

Finally the analyses shows that measures of inequality in life expectancy in the 1990s are less reliable when calculated using predominantly 1991 social class than when using 1971, or to a lesser extent, 1981 social class. There are two reasons for this. Firstly, social class based on occupation is not recorded at census for people aged over 75 or those who have not worked in 10 years. This, coupled with the fact that people are dying at a later age means that many people who die were not allocated a social class at the last census. The average age at death for women in 1971 was 72.5. This increased to 75 in 1981, to 77.1 in 1991 and by 2000 had reached 78.7, with the most common age at death being 86. This has meant that, among females, 54 percent of deaths in 1972/76 were not allocated a social class when this was assigned at or after 1971, rising to 79 percent in 1992/96 when social class was attached at or after 1991. Secondly, as follow up time increases the ability to assign a social class from a younger working age increases. This observation has important implications for the use of the new National Statistics Socio-Economic Classification (NS-SEC) for monitoring inequalities in mortality.

Donkin A, Goldblatt P, and Lynch K. (2002) Inequalities in life expectancy by social class 1972-1999. *Health Statistics Quarterly* **15**, 5-16

Table 1: Life expectancy at birth and at age 65 by gender and social class

Social Class	1972-76		1977-81		1982-86		1987-91		1992-96		1997-99	
	Life expect t.	95% CI	Life expect t.	95% CI	Life expect t.	95% CI	Life expect t.	95% CI	Life expect t.	95% CI	Life expect t.	95% CI
Males												
At birth												
I	72.0	± 1.4	74.7	± 1.4	75.1	± 1.2	76.7	± 1.1	77.7	± 1.0	78.5	± 1.3
II	71.7	± 0.3	72.4	± 0.6	73.8	± 0.6	74.4	± 0.6	75.8	± 0.5	77.5	± 0.7
IIIN	69.5	± 0.5	70.8	± 0.8	72.2	± 0.8	73.5	± 0.8	75.0	± 0.8	76.2	± 1.0
IIIM	69.8	± 0.3	70.0	± 0.5	71.4	± 0.4	72.4	± 0.4	73.5	± 0.4	74.7	± 0.5
IV	68.4	± 0.4	68.8	± 0.7	70.6	± 0.6	70.4	± 0.6	72.6	± 0.6	72.7	± 0.8
V	66.5	± 0.9	67.0	± 1.1	67.7	± 1.1	67.9	± 1.0	68.2	± 1.2	71.1	± 1.3
Non manual	71.0	± 0.5	72.5	± 0.5	73.5	± 0.4	74.5	± 0.4	75.8	± 0.4	77.3	± 0.5
Manual	68.9	± 0.4	69.9	± 0.4	70.7	± 0.3	71.3	± 0.3	72.6	± 0.3	73.8	± 0.4
All males	69.2	± 0.2	70.0	± 0.3	71.4	± 0.2	72.3	± 0.2	73.9	± 0.2	75.0	± 0.3
At age 65												
I	14.2	± 1.3	15.5	± 1.2	15.4	± 1.0	15.8	± 1.0	16.8	± 0.8	17.5	± 1.0
II	13.3	± 0.1	14.2	± 0.5	14.4	± 0.4	14.8	± 0.4	15.5	± 0.4	16.8	± 0.5
IIIN	12.6	± 0.1	13.3	± 0.6	13.6	± 0.5	14.1	± 0.5	15.1	± 0.6	16.3	± 0.7
IIIM	12.2	± 0.1	12.6	± 0.3	13.0	± 0.3	13.4	± 0.3	14.2	± 0.3	15.1	± 0.4
IV	12.3	± 0.1	12.1	± 0.4	12.6	± 0.4	12.7	± 0.4	13.8	± 0.4	13.8	± 0.6
V	11.6	± 0.1	11.9	± 0.5	11.7	± 0.6	11.8	± 0.6	12.6	± 0.7	13.4	± 0.9
Non manual	13.1	± 0.3	14	± 0.3	14.2	± 0.3	14.7	± 0.3	15.6	± 0.3	16.8	± 0.4
Manual	12.3	± 0.2	12.3	± 0.2	12.7	± 0.2	13	± 0.2	13.9	± 0.2	14.6	± 0.3
All males	12.3	-	12.7	± 0.2	13.1	± 0.2	13.5	± 0.2	14.6	± 0.2	15.4	± 0.2
Females												
At birth												
I	79.2	± 2.4	79.9	± 2.2	80.4	± 1.5	80.9	± 1.2	83.4	± 1.2	82.8	± 1.5
II	77.0	± 0.7	78.1	± 0.6	78.5	± 0.6	80.0	± 0.6	81.1	± 0.5	81.5	± 0.7
IIIN	78.0	± 0.9	78.1	± 0.7	78.6	± 0.6	79.4	± 0.6	80.4	± 0.6	81.2	± 0.7
IIIM	75.1	± 0.8	76.1	± 0.6	77.1	± 0.5	77.6	± 0.5	78.8	± 0.5	79.2	± 0.6
IV	75.0	± 0.8	76.1	± 0.7	77.3	± 0.6	77.0	± 0.6	77.7	± 0.6	78.5	± 0.7
V	73.9	± 1.4	74.9	± 1.2	75.3	± 1.1	76.2	± 1.0	77.0	± 1.0	77.1	± 1.3
Non manual	77.5	± 0.5	78.3	± 0.5	78.7	± 0.4	80.5	± 0.4	80.9	± 0.4	81.4	± 0.5
Manual	74.9	± 0.5	75.9	± 0.4	76.9	± 0.4	77.2	± 0.3	78.0	± 0.3	78.6	± 0.4
All females	75.1	± 0.3	76.3	± 0.3	77.1	± 0.2	77.9	± 0.2	79.3	± 0.2	79.7	± 0.3
At age 65												
I	19.3	± 2.4	19.9	± 2.2	18.5	± 1.4	18.7	± 1.0	20.8	± 1.0	20.8	± 1.2
II	17.1	± 0.6	17.7	± 0.5	18.0	± 0.5	18.7	± 0.4	19.5	± 0.4	19.9	± 0.5
IIIN	17.7	± 0.8	17.6	± 0.5	18.0	± 0.5	18.3	± 0.4	18.9	± 0.4	19.6	± 0.5
IIIM	16.3	± 0.7	16.9	± 0.5	16.8	± 0.4	16.8	± 0.4	17.9	± 0.4	17.9	± 0.5
IV	16.8	± 0.6	16.7	± 0.5	17.4	± 0.4	16.9	± 0.4	17.1	± 0.4	17.4	± 0.5
V	16.4	± 0.9	16.3	± 0.8	16.1	± 0.6	16.0	± 0.6	16.4	± 0.6	16.3	± 0.8
Non manual	17.4	± 0.4	17.8	± 0.4	18.0	± 0.3	19.8	± 0.4	19.2	± 0.3	19.8	± 0.3
Manual	16.5	± 0.4	16.7	± 0.3	16.9	± 0.3	16.7	± 0.2	17.3	± 0.2	17.4	± 0.3
All females	16.2	± 0.2	16.7	± 0.2	16.9	± 0.2	17.2	± 0.2	18.0	± 0.2	18.4	± 0.2

CI = Confidence interval