



# CeLSIUS News

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We would like to thank all those who have contributed to this issue of the newsletter. As always, we are keen to spread the word about the ONS LS and the CeLSIUS service, so please help us to do this by passing on the link to CeLSIUS news to your colleagues in the UK academic community.

All comments and queries on CeLSIUS News should be sent to:

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[www.jiscmail.ac.uk/lists/ls-support.html](http://www.jiscmail.ac.uk/lists/ls-support.html)

### **The association of cancer survival with four socioeconomic indicators: a longitudinal study of the older population of England and Wales 1981-2000**

Andrew Sloggett, Harriet Young, Emily Grundy  
London School of Hygiene and Tropical Medicine, London, UK

Many studies have found socioeconomic differentials in cancer survival. Previous studies have generally demonstrated poorer cancer survival with decreasing socioeconomic status but have mostly used only ecological measures of status and analytical methods estimating simple survival. This study investigated socioeconomic differentials in cancer survival using four indicators of socioeconomic status; three individual and one ecological. They were: housing tenure and car access (both binaries), social class (6 point scale) and Carstairs deprivation score (in quintiles). It uses a relative survival method which gives a measure of excess mortality due to cancer.

This study used the cancer registration and deaths events data of the Longitudinal Study (LS) for England and Wales. The participants were LS members, present at the 1971 and 1981 Census who had a primary malignant cancer diagnosed at age 45 or above, between 1981 and 1997, with follow-up until the end of 2000. The outcome measure was relative survival/excess mortality – that is mortality compared with what would be expected from exactly matched (by age and sex) general population groups.

Results showed different socioeconomic indicators detect survival differentials of varying magnitude and definition. For all cancers combined, the four indicators show similar effects. For individual cancers there are differences between indicators. Where there is an association, all indicators show poorer survival with lower socioeconomic status.

Social class is a relatively weak indicator, not least because many individuals, especially older women, are unclassified by this scheme. A combination of car access and housing tenure seems more sensitive than the ecological Carstairs measure at detecting socioeconomic differentials in survival – confirming Carstairs effects where they occur (lung, bladder) but additionally identifying effects for cancers of the colorectum, cervix/uterus and ovary, and for leukaemias. For ovarian cancer, reported in larger studies as having only a small socioeconomic gradient when measured by ecological measures, car access identifies a relatively strong socioeconomic effect on survival.

There is no clear evidence of sex-specificity of any socioeconomic indicator, nor of a changing association with period of diagnosis.

Researchers in the area of cancer survival should endeavour to collect individual or household level indicators of socioeconomic status when analysing survival and be aware that different indicators may be more specific for different cancers.

The following table summarises the cancers for which there was some evidence of socioeconomic associations. For many of the less common cancers the LS is not sufficiently powered to find associations that may exist.

Summary table showing strength of association of excess mortality with socioeconomic indicators.

Socioeconomic effects shown by more than one indicator	Socioeconomic effect apparent on one indicator only (indicator showing effect)	Socioeconomic effect suggested by simple rate ratio but not confirmed in controlled models
Bladder Female Breast Lung Ovary Colorectal	Cervix/Uterus (Car Access) All (Tenure) Leukaemias (Social Class) Oesophagus	Stomach Pancreas Prostate

Source: ONS Longitudinal Study

The full text of this article can be found at <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8460>

## The impact of socio-economic differences in mortality

Not all projects that are approved by the Longitudinal Study Research Board come from proposals by academic staff. An increasing number of interesting projects are undertaken by students of all levels, both undergraduates and postgraduates working for MSc or PhD awards.

The abstract below comes from the dissertation of an MSc student at the Cass Business School, City University, London. The work was performed by Rakesh Shah under the supervision of Prof. Richard Verral who then went on to perform his own analysis on the data.

Because the nature of the data produced cells with very low counts both Rakesh and Prof. Verral had to go in to ONS to perform their analyses, the results of which were in a format that ONS permitted to be taken away.

### Abstract

The impact of socio-economic differences in mortality has been documented for many years in the UK. Socio-economic status is a major determinant of health status through life, together with health-related behaviour and other factors.

In recent years, the focus has been on establishing whether the social class differences in mortality has been increasing, stabilising or decreasing over time. Recent findings in various papers, have confirmed that although mortality rates in England and Wales are falling, social class differentials have been widening.

This dissertation used various measures, mortality ratios and modelling techniques such as the Lee – Carter method, to examine and model mortality trends by social classes. The dissertation starts by outlining the factors that affect mortality, the

changes in mortality rates over time and the drivers of such changes. The data are presented by age, gender and the different categories of social classes according to the Registrar General's Social Class (RGSC) based on occupation. The dissertation will initially, used standardised mortality rates to examine the changing trends in all cause mortality and the changing trends in all cause mortality by social classes. The dissertation then focused on establishing whether the social class differences in mortality have been increasing, stabilising or decreasing over time and using the Lee-Carter approach, providing projections of mortality rates for different social classes will be generated, examined and compared.

Rakesh Shah  
November 2006

CeLSIUS would like to thank both Rakesh Shah and Professor Richard Verral at the Cass Business School, City University, London for contributing to this article.

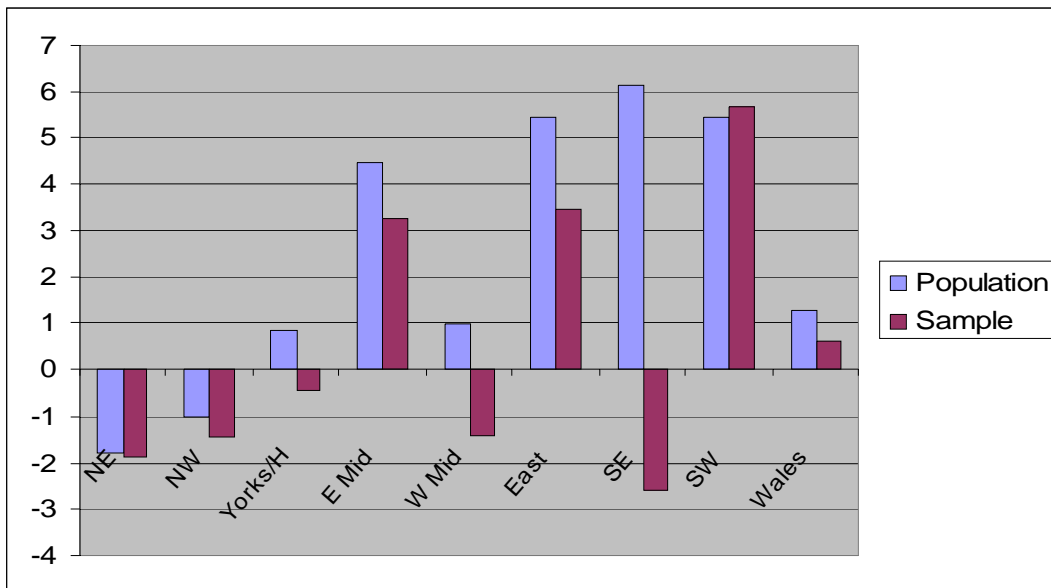
### **NEW Downloadable tables from the LS: Inter-regional migration 1991-2001**

Report taken from the CeLSIUS presentation at the Annual Conference of the British Society for Population Studies

As reported in the last issue of CeLSIUS News, we have begun to make tabulations from the LS available on our website for immediate downloading – a revolutionary development! Since the last issue a further set has been added, on the topic of **inter-regional migration between 1991 and 2001 in England and Wales**. The analysis is based on individual LS members aged 15 or over in 1991, who were present at the 1991 Census and again at the 2001 Census; it records what region they resided in at each Census and explores differences (or lack of them) between the individual characteristics of people who migrated between regions and people who did not. In order to publicise this new set of tabulations, CeLSIUS staff gave a paper on this topic at the British Society for Population Studies conference in St. Andrews, from which the following chart is taken.

This bar chart compares percentage change in regional population due to interregional migration as measured in our sample – the red bars – with overall percentage change in population as estimated by the Office for National Statistics – the blue bars. The ONS statistics are for all ages, therefore we may assume that some of the difference will be due to differences in the migrating patterns of people who were children in 1991 from those of people who were adults in 1991. But we are also seeing the effects of new births, deaths, immigration and emigration in the blue bars, which are absent from the red bars. As we would expect, the most dramatic difference is in the South East, where the sample shows an outflow but the population estimates show a marked growth in the population. The same is true on a much smaller scale for the West Midlands.

Percentage change 1991-2001 by region, in (a) whole population and (b) ONS LS sample aged 15+ in 1991



Sources: ONS estimates of resident population made in mid-2003; ONS Longitudinal Study accessed July 2007

The whole Powerpoint presentation can be accessed at [http://www.lse.ac.uk/collections/BSPS/annualConference/2007\\_Migration.htm](http://www.lse.ac.uk/collections/BSPS/annualConference/2007_Migration.htm). The downloadable tables are at <http://www.celsius.lshtm.ac.uk/download/>.

**New on the ONS website: Trends in life expectancy by social class 1972-2005 from Brian Johnston**

## LIFE EXPECTANCY ESTIMATES BY SOCIAL CLASS

This article describes recent work by the ONS Longitudinal Study (LS) Development Team on Life Expectancy by Social Class using the LS. These estimates are for England and Wales. Links are given below for access to the data.

### (1) Age-specific mortality data by Social Class and sex, 1972-76 to 1997-2001

In 2006, the Office for National Statistics (ONS) published age-specific mortality rates by Social Class and sex for 1972-76 to 1997-2001, including number of deaths and confidence intervals using existing methodology. The tables present mortality rates per 1000 in five year age groups. For the main set of tables, social classes I and II, and IV and V have been combined. This is for confidentiality reasons, as it was not possible to publish rates with fewer than 3 deaths. Rates for the four single classes have been published for age groups 40 and over, but rates for those age groups with less than 3 deaths have been omitted. The tables are referred to as "supplementary tables" on the link below.

<http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8460>

### (2) Developments in methodology for estimating Life Expectancy by Social Class

An article in Health Statistics Quarterly describes recent methodological work done by the LS Development Team on life expectancy using LS data. It assesses certain methodological changes for calculating life expectancy by Social Class and makes recommendations for use in future life expectancy estimates by social class. They include computational changes, the use of Health Authority deregistration data as a marker for “unobserved emigration” and a review of exclusion rules including the use of 2001 Census information.

“Review of methods for estimating life expectancy by social class using the ONS Longitudinal Study” Brian Johnson & Louisa Blackwell  
Health Statistics Quarterly No.35 Autumn 2007

### **(3) Life Expectancy by Social Class estimates by sex 1972-76 to 2002-05**

On 24<sup>th</sup> October, the ONS published new estimates for Life Expectancy at birth and at age 65 by Social Class and by sex for England and Wales using the new proposed methodology and updating the estimates to 2002-05. The estimates use the Registrar General's Social Class (as opposed to NS SEC) in order to achieve a degree of continuity in classification across the whole period. The estimates are presented for individual classes, including the unclassified, with confidence intervals.

ONS intend to update the age-specific mortality rates using the new methodology in due course.

The full text of this article can be found at <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=8460>

## **The ERSC Census Programme Portal News**

### **Census metadata**

Census.ac.uk provides links to comprehensive searchable metadata for the ONS Longitudinal Study (ONL LS), as well as for a large number of other datasets. Using the online interface, users are able to search for metadata across seven units in the UK, all of which support research using census data. The metadata enables researchers to identify those datasets that will be most useful to them in their research, and shows them where to access the data. All datasets, except for the longitudinal studies, can be accessed online via the Census Registration Service which is integral to Census.ac.uk.

The Census.ac.uk metadata search facility covers the following types of census data:

- ONS LS from CeLSIUS

- Scottish Longitudinal Study (SLS) from Longitudinal Studies Centre – Scotland (LSCS)
- Aggregate data and postcode matching service (GeoConvert) from Census Dissemination Unit (CDU)
- digitised boundary datasets and postcode data from UKBORDERS
- interaction/migration data from the Centre for Interaction Data Estimation and Research (CIDER)
- census microdata from Samples of Anonymised Records (SARS)
- Northern Ireland Longitudinal Study (NILS) from the Northern Ireland Statistics and Research Agency (NISRA)

The advanced data search facility allows searching by data type, geography, country, data distributor and keyword. There is also a free text search field, which can be used for either a 'Google-style' general search or, if used in combination with one or more of the above criteria, for more focussed results. For example, typing 'death' in the free text search box will return results from all three longitudinal studies. By additionally selecting 'England and Wales' from the Country drop-down list, only those results relating to the ONS LS will be returned. There is also a basic data search box on every page.

Anyone who wishes to explore the metadata is welcome to do so without having to register, by visiting <http://census.ac.uk/search>.

Jo Weatherall  
Metadata and Outreach Officer  
[jlw@essex.ac.uk](mailto:jlw@essex.ac.uk)



## News from the ONS

### 2007 Events Data Refresh

The latest refresh of new events data was added to the database on schedule on 27th July 2007. New data included new births, births to sample mothers and deaths to the end of 2005 and embarkations, immigrations and other minor events to March 2007. All the metadata to accompany the new events have been included in the LS data dictionary.

### New Developments

There has been steady progress on a number of developments to enhance the value of the LS for its users:

### New Data Linkage

In the last newsletter we listed two beta test projects that had been set up to test a new extract from the National Health Service Central Register database and assess its potential for valuable insights into migration between health authorities:

## A Review of Life Expectancy Model on the LS

Brian Johnson has been examining the use of cancelled Health Authority registrations as a proxy for embarkation for adjusted estimates of person years at risk. Initial findings from Brian's project are due to be published in the forthcoming issue of 'Health Statistics Quarterly'.

Migration at older ages in England and Wales, 1966-2003 Steve Smallwood and Shayla Goldring have been analysing patterns of migration for older people, in different time periods and across time, and exploring the long-term circumstances of those who had moved in terms of their health, housing and any subsequent moves in with their families.

### 2011 Census

Planning for the 2011 Census Link has continued. The LS Development Team has been analysing the 2007 Census Test data and initial findings have been provided to the teams planning Census data quality. Recently representatives of the ONS, Scottish and Northern Irish Longitudinal Studies came together in London to develop a harmonised approach to planning for 2011 in what will become a regular series of meetings in the run-up to the next Census.

### Claimant Count Cohort (CCC) Data

The release of the Claimant Count Cohort (CCC) data remains on hold at the request of DWP. We will update users as soon as a release date has been agreed.

## Publications

### Recent publications:

Bartley, M. and Plewis, I. (2007) Increasing social mobility: an effective policy to reduce health inequalities, *J Royal Stats Soc A* 2007; 170(2): 469 - 81

Berthoud, R. and Blekesaune, M. (2007). Persistent employment disadvantage, Department for Work and Pensions. Research Report No 416, ISBN: 978 1 84712 158 5

Scott, A. and Johnson, B. Mortality rates by social class by age and sex (2007)  
[http://www.statistics.gov.uk/downloads/theme\\_population/Life\\_Expect\\_Social\\_class\\_1972\\_01/LSMortRates.xls](http://www.statistics.gov.uk/downloads/theme_population/Life_Expect_Social_class_1972_01/LSMortRates.xls)

### Presentations:

Grundy, E. (2007). Academic research using the ONS Longitudinal Study. Presentation at launch of the Scottish Longitudinal Study, University of St Andrew's, 26 March 2007

A searchable database of publications using LS data is available from the CeLSIUS web site at <http://www.celsius.lshtm.ac.uk/publications.html>. To submit a publication based on research conducted with the LS, please email [celsius@lshtm.ac.uk](mailto:celsius@lshtm.ac.uk).

### **Workshops in partnership with the ESRC Census Programme**

A new programme of workshops beginning in December and continuing throughout the 2007/08 academic year

London, City University: 10.00am – 4.00pm 5 December 2007

Introduction to analysing Census data via the SARs (Samples of Anonymised Records) or the ONS Longitudinal Study  
*CeLSIUS are participating in this workshop*

Cardiff: 16 January 2008 Geography and migration

Manchester: 14 March 2008 Combining macro and micro data from the census  
Colchester: 17 March 2008 (provisional) The SARS (Sample of Anonymised Records) and the ONS Longitudinal Study  
*CeLSIUS are participating in this workshop*

Edinburgh: 16 April 2008 Longitudinal studies using the census  
*CeLSIUS are participating in this workshop*

Belfast: 14 May 2008 Longitudinal studies using the census  
*CeLSIUS are participating in this workshop*

Bristol: 28 May 2008 Geographical census data

Colchester: 17 March 2008 (provisional) The SARs (Samples of Anonymised Records) and the ONS Longitudinal Study  
*CeLSIUS are participating in this workshop*

For more information go to <http://census.ac.uk/News/Workshops.aspx>

### **Institute of Education, Centre for Longitudinal Studies**

NCDS/BCS70 User Group Meeting  
Thursday, December 6, 2007

#### Changing family structures, changing family life

This meeting will be of interest to both experienced researchers and those in government and the voluntary sector who are comparatively new to these large-scale longitudinal datasets.

In addition to presentations of recent research based on the 1958 and 1970 British Birth Cohorts, there will be ample opportunity for participants to hear about plans for the 2008 surveys of NCDS and BCS70 and the availability of longitudinal relationship histories for both cohorts. A copy of the provisional programme and booking form for this meeting may be downloaded from the CLS website: <http://www.cls.ioe.ac.uk/ncdsbcs70conference>

Advance booking is essential as the number of places is strictly limited. Call Lorna Hardy on 020 7612 6861, for further details.

## The CeLSIUS Team

### Team News

We welcome a new member to the CeLSIUS team; Melissa Neal has joined to take over maternity cover for Jo Tomlinson. On Jo's return they will combine forces in a job share.

Emily Grundy	Director
Andy Sloggett	Associated Lecturer
Julian Buxton	Research and Computing Support Officer
Chris Marshall	Research and Computing Support Officer
Rachel Stuchbury	Research Support Officer
Jo Tomlinson	Executive Officer (on maternity leave)
Melissa Neal	Executive Officer (providing maternity leave cover)

### Key links

CeLSIUS <http://www.celsius.lshtm.ac.uk/>

National Statistics Online <http://www.statistics.gov.uk/>

ONS Longitudinal Study  
<http://www.statistics.gov.uk/about/data/methodology/specific/population/ls/default.asp>

### Census of Population Programme Data Units Links

Home of ESRC Census Programme: [census.ac.uk](http://census.ac.uk)  
<http://census.ac.uk/>

*All users wishing to use the data provided by CDU, CIDER, UKBORDERS, SARs must register via census.ac.uk*

Census Dissemination Unit (CDU)  
<http://cdu.mimas.ac.uk//>

Centre for Interaction Data Estimation and Research (CIDER)  
<http://cids.census.ac.uk/>

UK boundary datasets (UKBORDERS)  
<http://www.edina.ac.uk/ukborders/>

Scottish Longitudinal Study  
<http://www.lscs.ac.uk/>

Samples of Anonymised Records  
<http://www.ccsr.ac.uk/sars/>