



SLS-DSU

SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

Introduction and the 2011 Census linkage

Susan Carsley, SLS Project Manager



National
Records of
Scotland



- What is the SLS?

- The 2011 linkage

- New questions in 2011

What is the SLS?

- The SLS is a large-scale, anonymised linkage study designed to capture 5.5% of the Scottish population
- The sample is based on 20 semi-random birthdays
- It's a joint project between University of Edinburgh, University of St Andrews and National Records of Scotland (NRS)
- It is built using data available from...
 - Census
 - Vital Events
 - NHSCR (migration into or out of Scotland)
 - Education (School Census, Absences and SQA qualifications)

Ethnicity

Personal

Family and
household

Emigration of SLS
members

Immigrants into
the sample

Socio-economic

Census

Religion

Communal
Establishments

Accommodation

Health

Qualifications

Occupation

SQA qualifications

Attendance

School Census

Education

SQA attainment

Exclusions

Absence

PM₁₀ concentration

PM_{2.5} concentration

SO₂ concentration

CO concentration

O₃ concentration

NO₂ concentration

Cloud Cover

Environmental

NHSCR

Re-entries of SLS
members

Widow(er)hoods

Deaths

Births

Vital Events

Infant mortality

Stillbirths

Marriages

Temperature

Sunshine

Precipitation

Wind Speed

SLS

Health data

Not held within the SLS database but can be linked on a project by project basis

- SMR00 – Outpatient Attendance dataset
- SMR01 – General / Acute Inpatient and Day Case dataset
- SMR02 – Maternity Inpatient and Day Case dataset
- SMR04 – Mental Health Inpatient and Day Case dataset
- SMR06 – Scottish Cancer Registry
- SMR11 – Neonatal Inpatient dataset
- Accident and Emergency dataset
- Child Health Surveillance (CHSP-PS/ CHSP-S/SIRS)
- Outpatient dataset
- Maternity and Neonatal Linked Database
- Prescribing Information System (PIS)
- Scottish Birth Record
- Scottish Drug Misuse Database
- Scottish Morbidity Database

Study structure

Entries 1991-2011

Births 63,181

Immigrations 46,092

1991

Original sample:
270,385
selected from 1991
Census

Plus members of
household

*193,735
members
found at both
1991 and 2001*

2001

265,104
sample members found
at 2001 Census

Plus members
of household

*196,702
members found
at both 2001
and 2011*

2011

270,947
sample members found
at 2011 Census

Plus members of
household

151,910 members found at 1991, 2001 and 2011

Events 1991-2011

Births to sample mothers

52,260

Births to sample fathers

48,363

Widow(er)hoods of sample members

20,154

Marriages of sample members

42,436

Exits 1991-2011

Deaths 56,961

Embarkations* 30,369

The 2011 Census Linkage

- Collaborative work between Census, NHSCR, NRS Alternative Sources branch and the SLS team
- Used deterministic, probabilistic and clerical matching to trace SLS members

Tracing and linking

Tracing

Finding SLS members on the NHSCR database (if they are found, it means they are registered with a GP and thus with the NHS)

The first time a SLS member is found on the NHSCR system a flag is placed on the record

Linking

Linking a census record or a vital event to an existing SLS member

Note: Only traced SLS members can have other data linked to them

2011 SLS Tracing Rates

Deterministic
84.4%



Probabilistic
11.0%



Clerical
4.6%

	1991		2001		2011	
	Count	%	Count	%	Count	%
New entries	265,321	96.8%	30,934	11.5%	14,268	5.2%
Existing SLS members found	-		225,445	84.0%	255,168	93.0%
Total traced cases	265,321	96.8%	256,379	95.5%	269,436	98.2%
Total no traces cases	5,064	1.8%	8,725	3.3%	1,502	0.5%
Total dummies and duplicates	3,670	1.3%	3,324	1.2%	3,366	1.2%
Total	274,055	100.0%	268,428	100.0%	274,304	100.0%

New 2011 Census questions

5 new questions were included in 2011 Census:

- national identity
- ability in spoken English
- languages other than English used at home
- long term health conditions
- Month/year of arrival into the UK (for people not born in the UK)

- 14 What do you feel is your national identity?

◆ Tick **ALL** that apply.

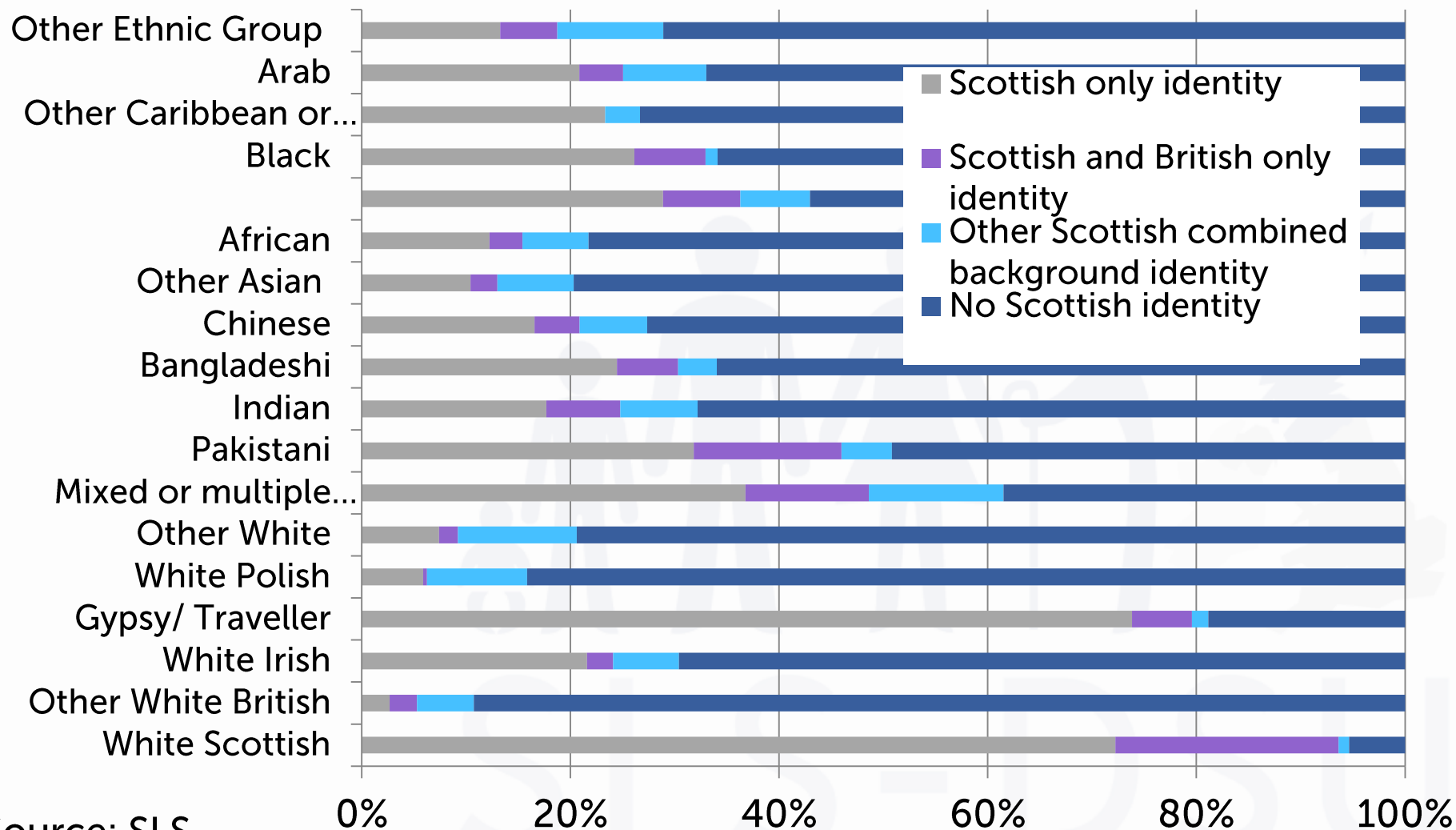
- ☐ Scottish
- ☐ English
- ☐ Welsh
- ☐ Northern Irish
- ☐ British
- ☐ Other, please write in _____

National Identity

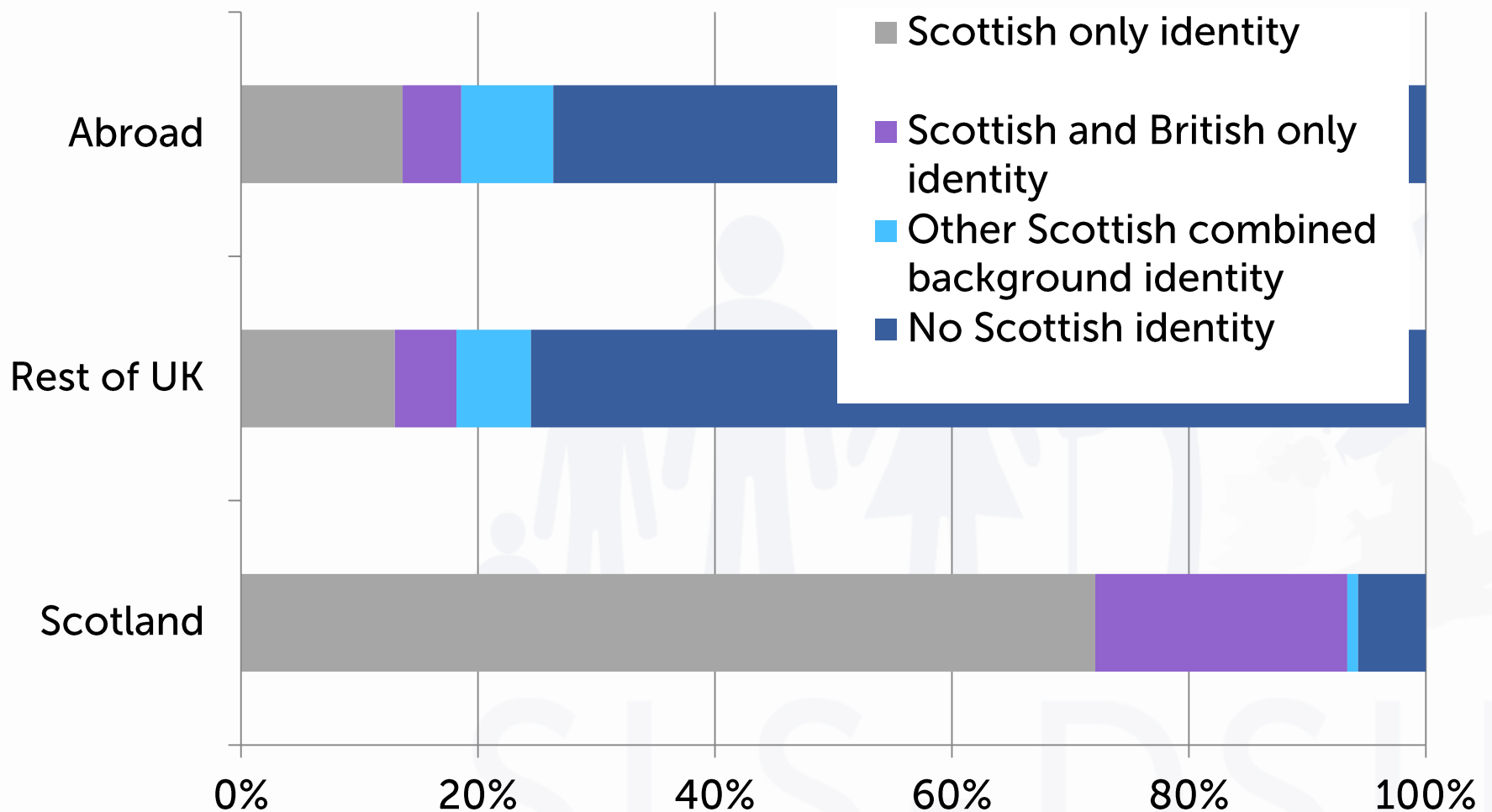
	SLS		2011 Census		Representativeness Ratio
	Count	Percent	Count	Percent	
Scottish only	168,286	62.6%	3,306,138	62.4%	1.00
Scottish and British only	50,160	18.7%	968,759	18.3%	1.02
Other Scottish combined background	5,060	1.9%	102,028	1.9%	0.98
No Scottish identity	45,208	16.8%	918,478	17.3%	0.97
Total	268,714	100.0%	5,295,403	100.0%	1.00

Source: SLS & NRS, 2011 Census

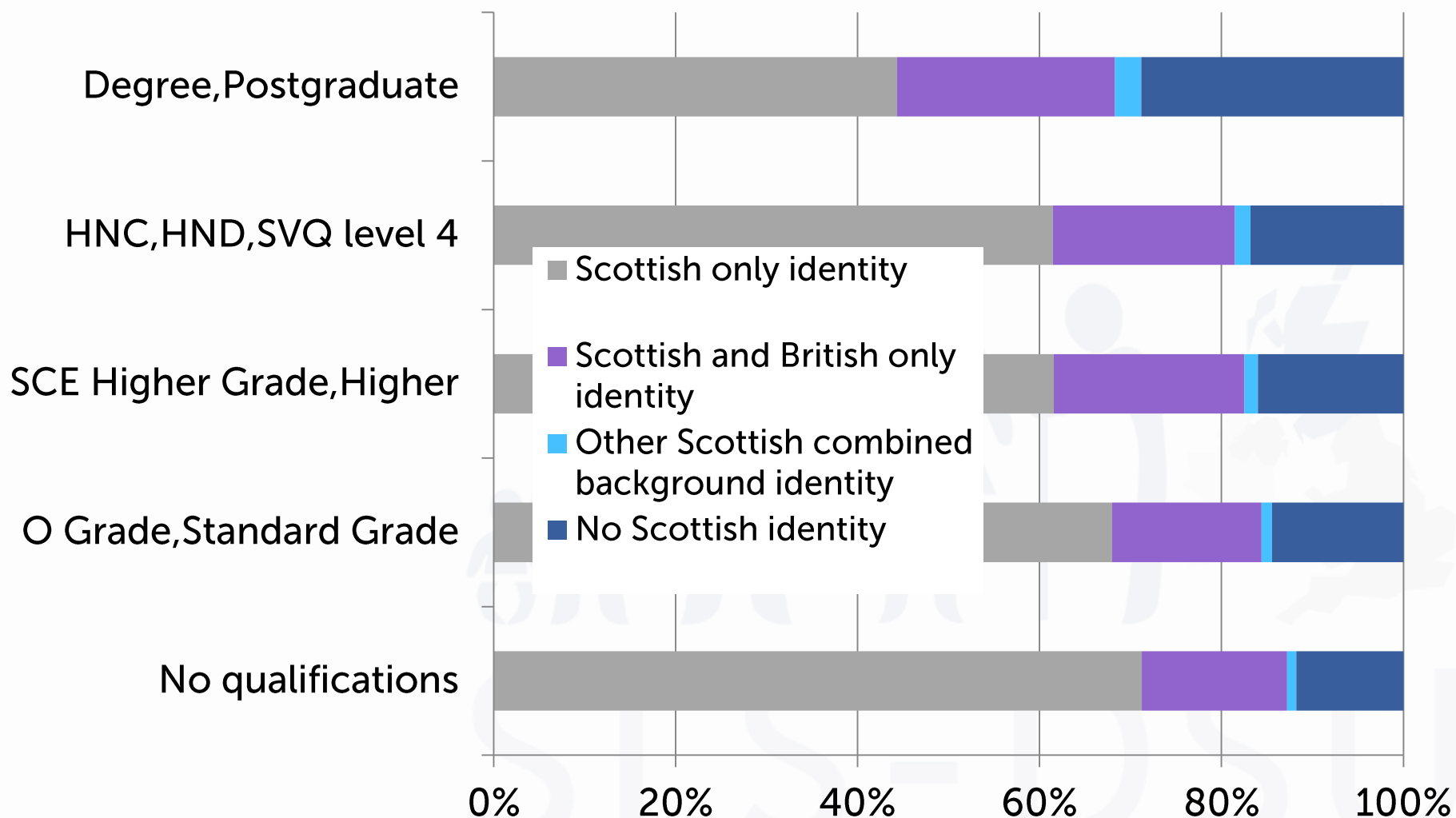
National Identity by Ethnic group



National Identity by Country of Birth



National Identity by Qualification



- the 2001 Census in Scotland asked only whether people could understand, speak, read or write Scottish Gaelic
- Strong user need for Q on ability in spoken English
- New Q on other languages has many uses

16 Which of these can you do?

◆ Tick all that apply.

	English	Scottish Gaelic	Scots
Understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speak	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Write	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

or

☐ None of these

17 How well can you speak English?

Very well	Well	Not well	Not at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18 Do you use a language other than English at home?

◆ Tick all that apply.

☐ No, English only

☐ Yes, British Sign Language

☐ Yes, other - please write in

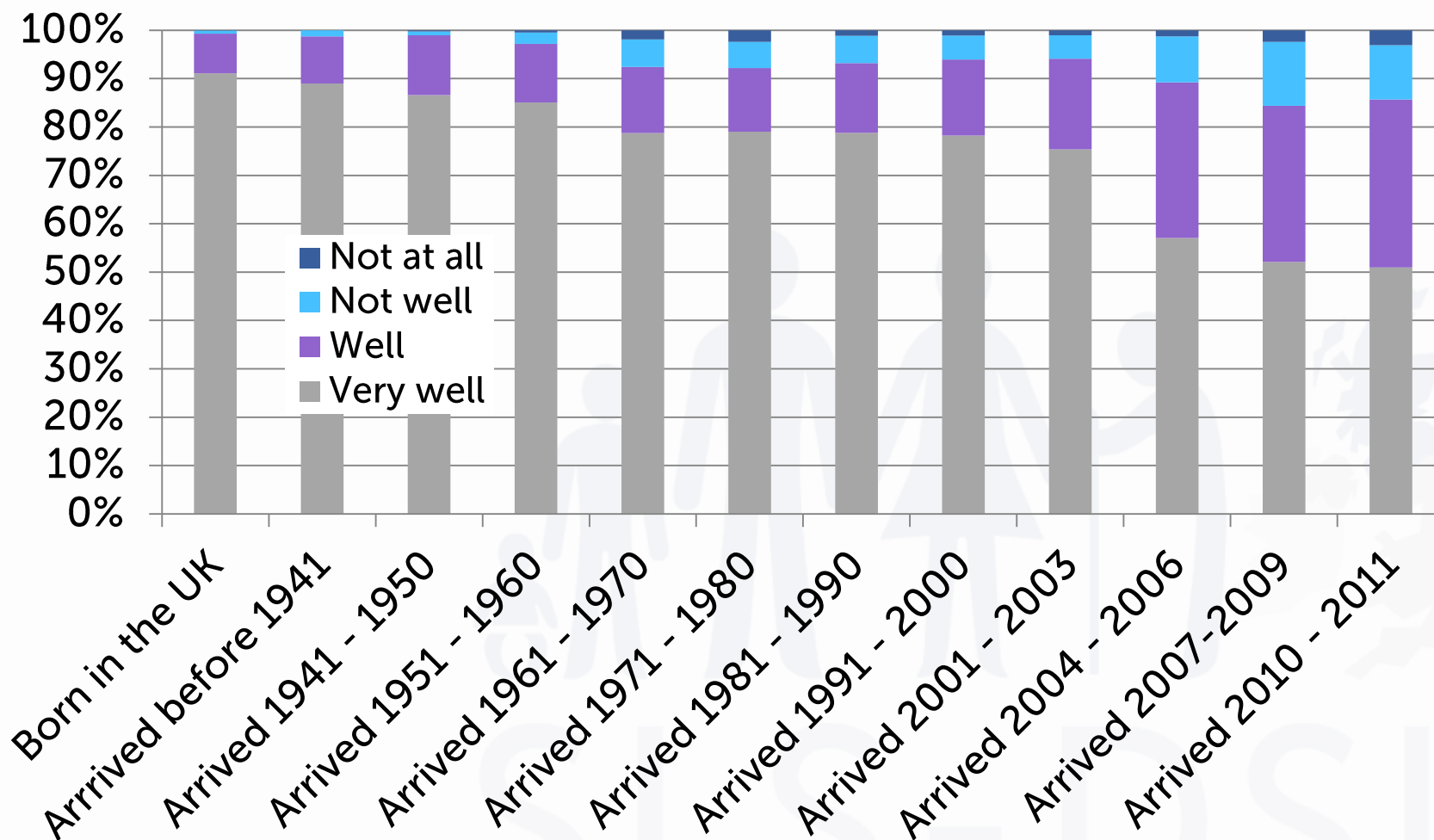
Proficiency in English

All people aged 3 and over

	SLS		2011 Census		Representativeness Ratio
	Count	Percent	Count	Percent	
Very well	232,998	89.5%	4,555,104	89.0%	1.01
Well	24,012	9.2%	489,579	9.6%	0.96
Not well	2,799	1.1%	62,128	1.2%	0.89
Not at all	505	0.2%	11,412	0.2%	0.87
Total	260,314	100.0%	5,118,223	100.0%	1.00

Source: SLS & NRS, 2011 Census

Proficiency in English by Year of arrival in the UK



Language other than English used at home

All people aged 3 and over

	SLS		2011 Census		Representativeness
	Count	Percent	Count	Percent	Ratio
English only	242,507	93.2%	4,740,547	92.6%	1.01
Scots	2,914	1.1%	55,817	1.1%	1.03
Polish	2,491	1.0%	54,186	1.1%	0.90
Gaelic	1,220	0.5%	24,974	0.5%	0.96
British Sign Language	606	0.2%	12,533	0.2%	0.95
Other	10,576	4.1%	230,166	4.5%	0.90
Total	260,314	100.0%	5,118,223	100.0%	1.00

Source: SLS & NRS, 2011 Census

Long-term health conditions

- Long-term health conditions – new question
- Avoids the word 'disability'
- Great analytical potential

20 Do you have any of the following conditions which have lasted, or are expected to last, at least 12 months?

◆ Tick all that apply.

☐ Deafness or partial hearing loss

☐ Blindness or partial sight loss

☐ Learning disability (for example, Down's Syndrome)

☐ Learning difficulty (for example, dyslexia)

☐ Developmental disorder (for example, Autistic Spectrum Disorder or Asperger's Syndrome)

☐ Physical disability

☐ Mental health condition

☐ Long-term illness, disease or condition

☐ Other condition, please write in

☐

☐

or

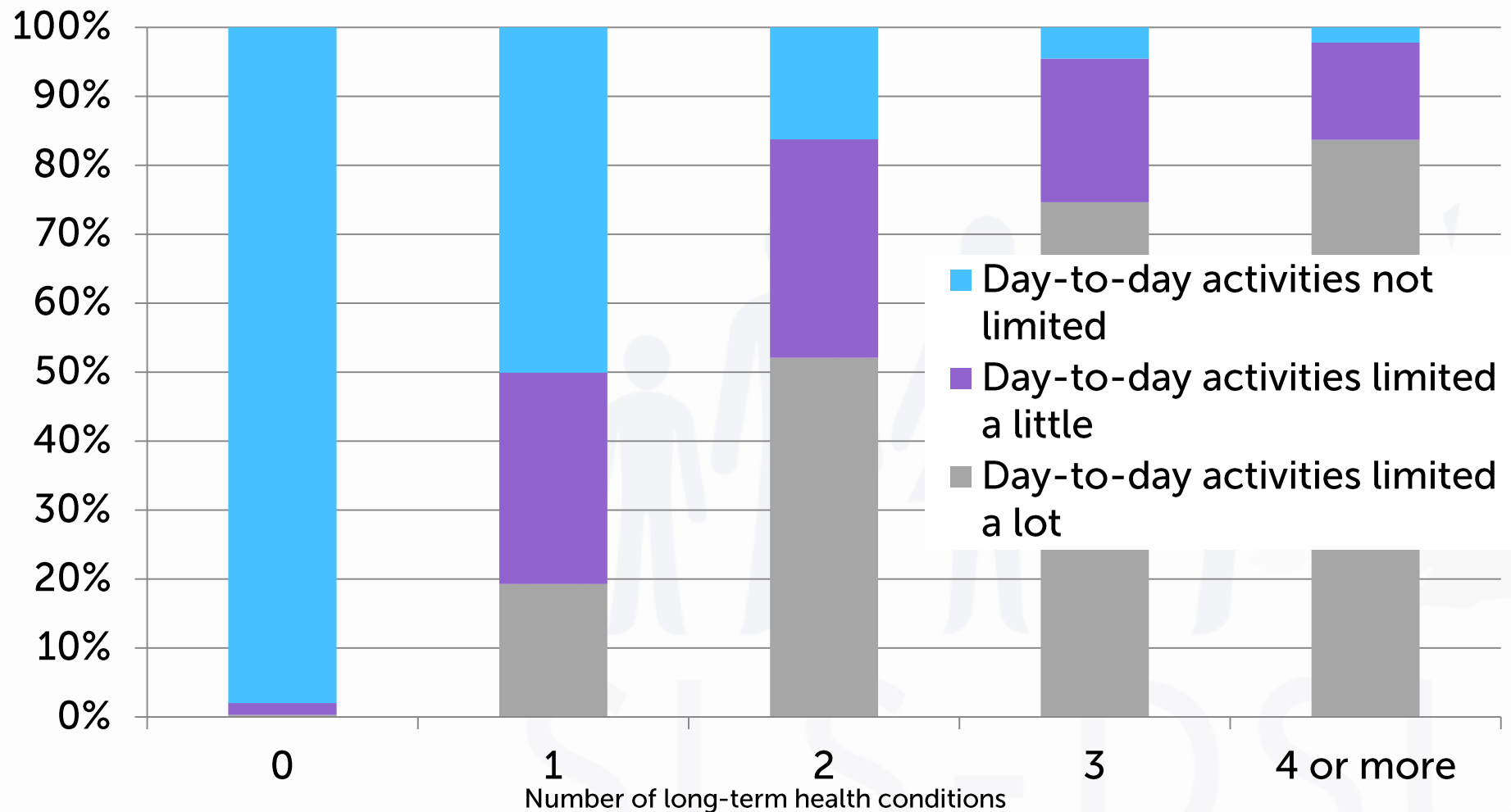
☐ No condition

Long term health conditions

	Count	Percent
No condition	186,793	69.5%
One or more conditions	81,921	30.5%
Deafness or partial hearing loss	18,433	6.9%
Blindness or partial sight loss	6,577	2.4%
Learning disability	1,247	0.5%
Learning difficulty	5,257	2.0%
Developmental disorder	1,593	0.6%
Physical disability	18,297	6.8%
Mental health condition	11,632	4.3%
Long-term illness, disease or condition	51,106	19.0%
Other condition	600	0.2%
Total	268,714	100.0%

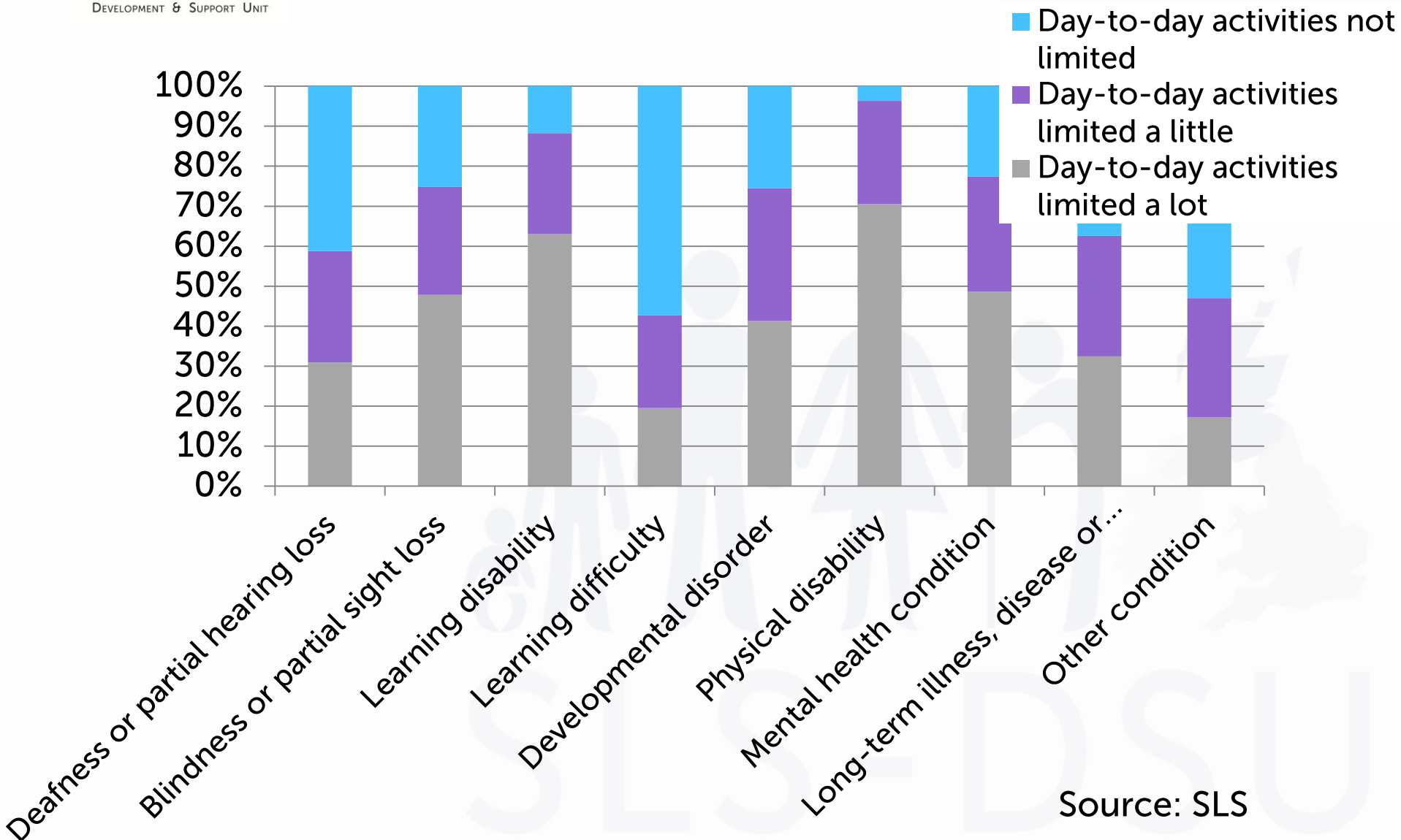
Source: SLS

No. of long term health conditions



Source: SLS

Type of long term health condition



Month and year of arrival in the UK

- New question asked of all born outside UK
- To provide information on migrant trends and profiles

8 If you were not born in the United Kingdom, when did you most recently arrive to live here?

◆ Do not count short visits away from the UK.

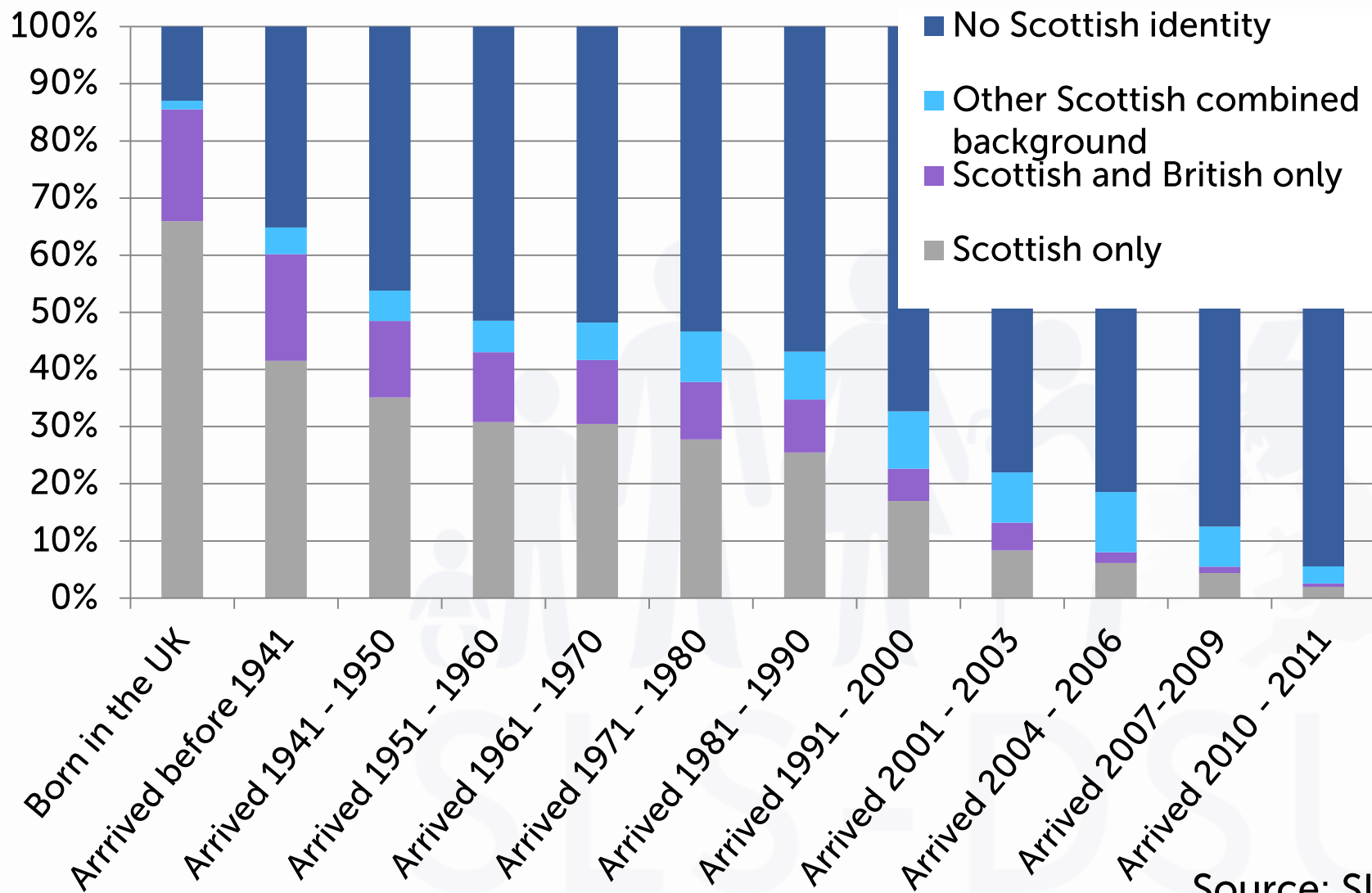
Month

Year

Year of arrival in the UK

	SLS		2011 Census		Representativeness Ratio
	Count	Percent	Count	Percent	
Born in the UK	251,688	93.7%	4,926,119	93.0%	1.01
Arrived before 1941	236	0.1%	4,495	0.1%	1.03
Arrived 1941 - 1950	396	0.1%	7,480	0.1%	1.04
Arrived 1951 - 1960	676	0.3%	13,070	0.2%	1.02
Arrived 1961 - 1970	1,224	0.5%	22,764	0.4%	1.06
Arrived 1971 - 1980	1,256	0.5%	23,649	0.4%	1.05
Arrived 1981 - 1990	1,134	0.4%	22,949	0.4%	0.97
Arrived 1991 - 2000	2,160	0.8%	42,344	0.8%	1.01
Arrived 2001 - 2003	1,379	0.5%	28,751	0.5%	0.95
Arrived 2004 - 2006	3,122	1.2%	66,218	1.3%	0.93
Arrived 2007-2009	3,452	1.3%	79,366	1.5%	0.86
Arrived 2010 - 2011	1,991	0.7%	58,198	1.1%	0.67
Total	268,714	100.0%	5,295,403	100.0%	1.0

National Identity by Year of arrival in the UK



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For more information

Website – sls.lscs.ac.uk

Email – sls@lscs.ac.uk

Twitter  @SLS_DSU

**Training seminar – 1.30pm, 10th December
New Register House**