



Introducing the England and Wales Office for National Statistics Longitudinal Study (ONS LS) and the Scottish Longitudinal Study (SLS) for research use. Additionally, demonstrating the linkage of health data to the SLS including maternity and Child Health Surveillance Programme data.

Lee Williamson, University of Edinburgh

lee.williamson@ed.ac.uk



National
Records of
Scotland









What are the longitudinal studies?

- large-scale, anonymised record linkage study designed to capture representative sample of the population
- built using data available from...
 - Census
 - Vital Events (births, deaths)
 - NHSCR (migration into or out of the country)

Comparison of the 3 longitudinal studies:

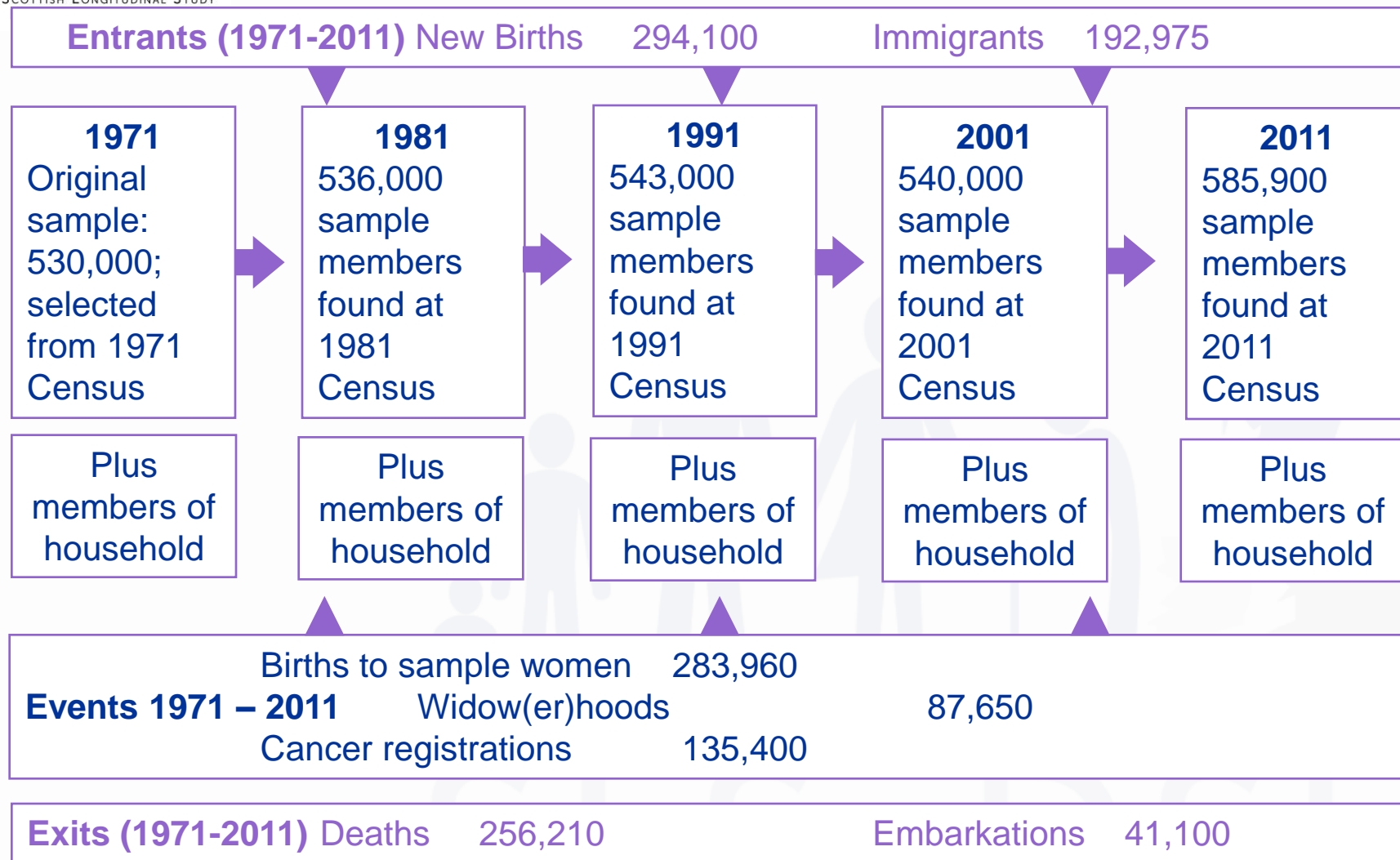
- ONS Longitudinal Study (ONS LS) covers England & Wales: approximately 1% sample: 1971 onwards www.ucl.ac.uk/celsius
- Scottish LS (SLS) covers Scotland: 5.3% sample: 1991 onwards <http://sls.lscs.ac.uk>
- Northern Ireland LS (NILS) covers Northern Ireland: 28% sample: 1991 onwards www.qub.ac.uk/research-centres/NILSResearchSupportUnit
- Initial sample drawn from 1971 Census (EW), 1991 Census (Scot.), Health Card registration system (NI)
- Selected by birthday, irrespective of year of birth. No. of birthdays: 4 (EW), 20 (Scot.), 104 (NI)
- Maintained through addition of immigrations and new births with one of the sampling birthdays
- Losses to sample through deaths and out-migrations (though all records are retained in the database)

	 Office for National Statistics ONS Longitudinal Study	 National Records of Scotland Scottish Longitudinal Study	 <i>Northern Ireland</i> Statistics & Research Agency Northern Ireland Longitudinal Study
Study sample	1% of the population of England & Wales	5% of the population of Scotland	28% of the population of Northern Ireland
Records from 2011 Census	580,000	~270,000	~500,000
Censuses in the study	1971, 1981, 1991, 2001, 2011	1991, 2001, 2011	1991, 2001, 2011
Academic user support	 Centre for Longitudinal Study Information & User Support, University College London	 Scottish Longitudinal Study Development & Support Unit, University of St. Andrews & University of Edinburgh	 Northern Ireland Longitudinal Study Research Support Unit, Queens University Belfast
Census data available	Complete census data for study members and for people living in the same household as a study member	Complete census data for study members and for people living in the same household as a study member	Complete census data for study members and for people living in the same household as a study member
Event data available	Civil registration system <ul style="list-style-type: none"> • Births of sample members • Births to sample mothers • Stillbirths / Infant deaths • Deaths of sample members • Widow(er)hoods NHS Central Register <ul style="list-style-type: none"> • Immigration • Emigration • Minor events Cancer registries <ul style="list-style-type: none"> • Cancer data 	Civil registration system <ul style="list-style-type: none"> • Births of sample members • Births to sample mothers • Births to sample fathers • Stillbirths / Infant deaths • Marriages • Deaths of sample members • Widow(er)hoods NHS Central Register <ul style="list-style-type: none"> • Immigration • Emigration Scottish Govt. Education Directorate <ul style="list-style-type: none"> • School level education data including attendance, exclusions, attainment and qualifications Other data available, subject to approval <ul style="list-style-type: none"> • Hospital episodes • Maternity data • Cancer data 	Civil registration system <ul style="list-style-type: none"> • Births of sample members • Births to sample mothers • Births to sample fathers • Infant mortality • Deaths of sample members Health card registration system <ul style="list-style-type: none"> • Immigration • Emigration • Internal migration Land & Property Services <ul style="list-style-type: none"> • Housing data Health & Social Care <ul style="list-style-type: none"> • Health data linked in one-off distinct linkage projects (e.g. breast screening, dental treatments) subject to approval

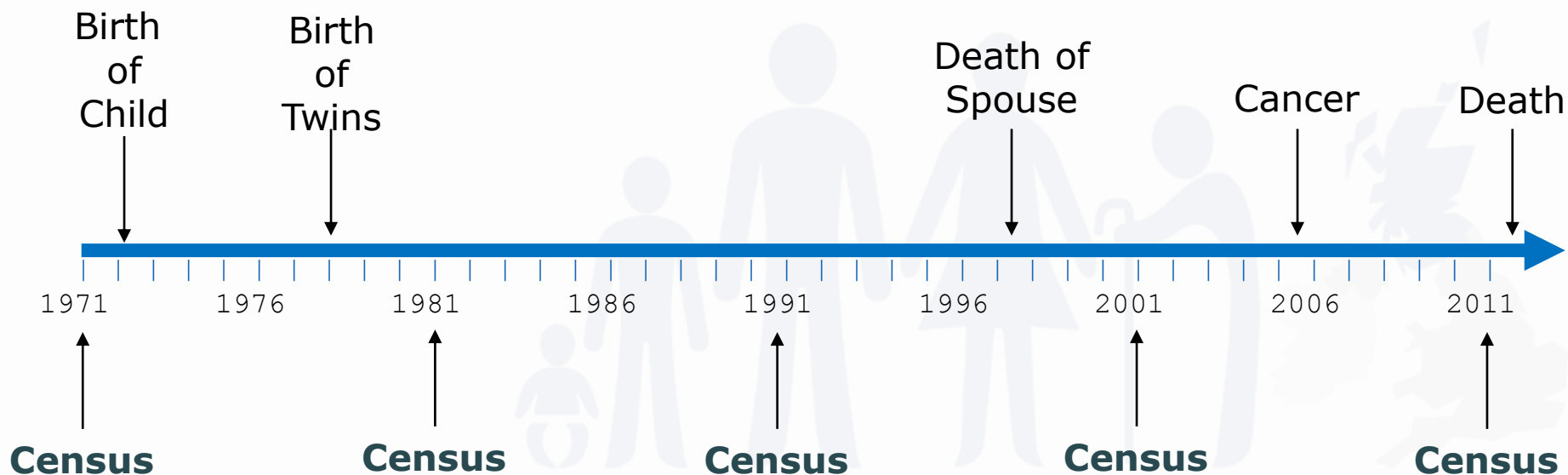
Census & Administrative data Longitudinal Studies Hub – CALLS Hub

- Co-ordinate, harmonise, and promote the work of the 3 Longitudinal Study (LS) support units:
 1. Centre for LS Information and User Support (CeLSIUS – for the ONS LS)
 2. Scottish LS Development & Support Unit (SLS-DSU)
 3. Northern Ireland LS (NILS) Research Support Unit (NILS-RSU)
- Provides a single portal for those seeking to use one or more LS in their research
- Data dictionary covering LS's
- Examples of uses of the LS's – impact
- Help with running UK level analysis via eDatashield

1% - based on 4 birthdays



ONS LS Woman included from 1971 Census



Birthweight recorded in ONS LS

1.2 Information collected at birth registration

Most of the information, for both live births and stillbirths, is typically supplied to registrars by one or both parents.

Information not supplied by the parents:

- For live births, details of **birthweight** are provided by the hospital where the birth took place, or by the midwife or doctor in attendance at the birth. The birthweight is passed to ONS as a consequence of the NHS birth notification being linked to the corresponding birth registration by the registrar.
- For stillbirths, details of **cause of death, duration of pregnancy and weight of foetus** are supplied on a certificate or notification by a doctor or midwife who was present at the birth, or who examined the body. The certificate or notification is then taken by the informant to a registrar.



SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

SLS Study structure

5.3% - based on 20 birthdays

Entries 1991-2011

Births 63,181

Immigrations 46,092

1991

Original sample:
270,385
selected from 1991
Census

Plus members of
household

2001

265,104
sample members found
at 2001 Census

Plus members of
household

2011

270,947
sample members found
at 2011 Census

Plus members of
household

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



SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

SLS Study structure

5.3% - based on 20 birthdays

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

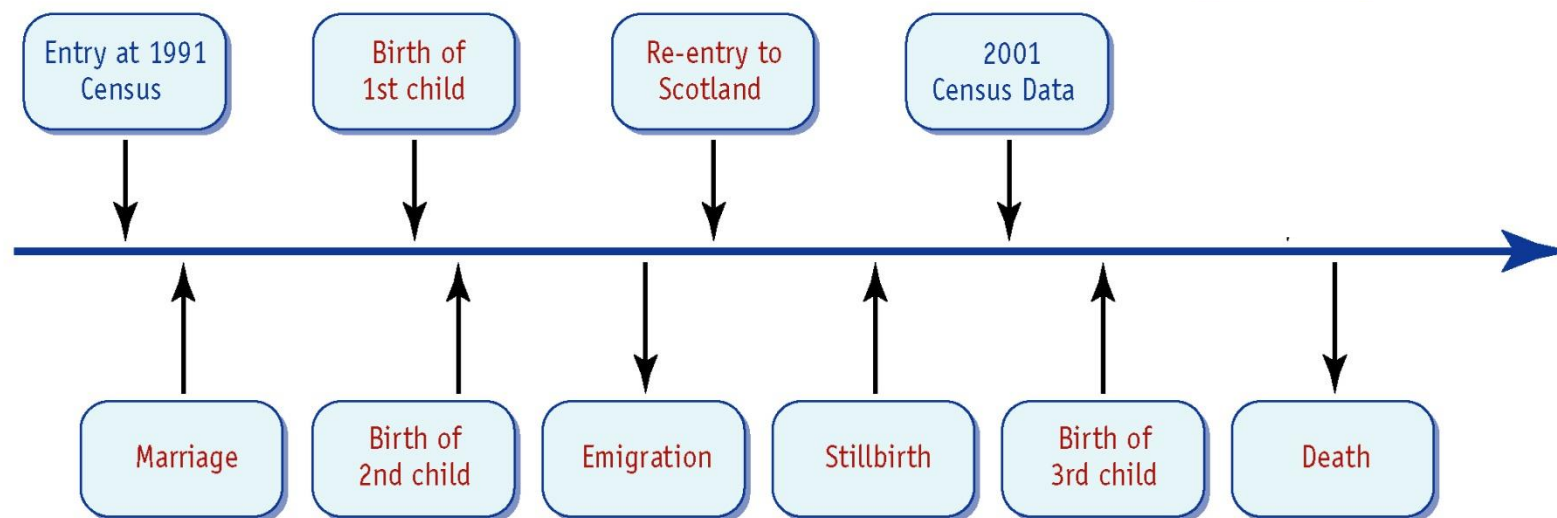
Marriages of sample members 42,436

Exits 1991-2011

Deaths 56,961

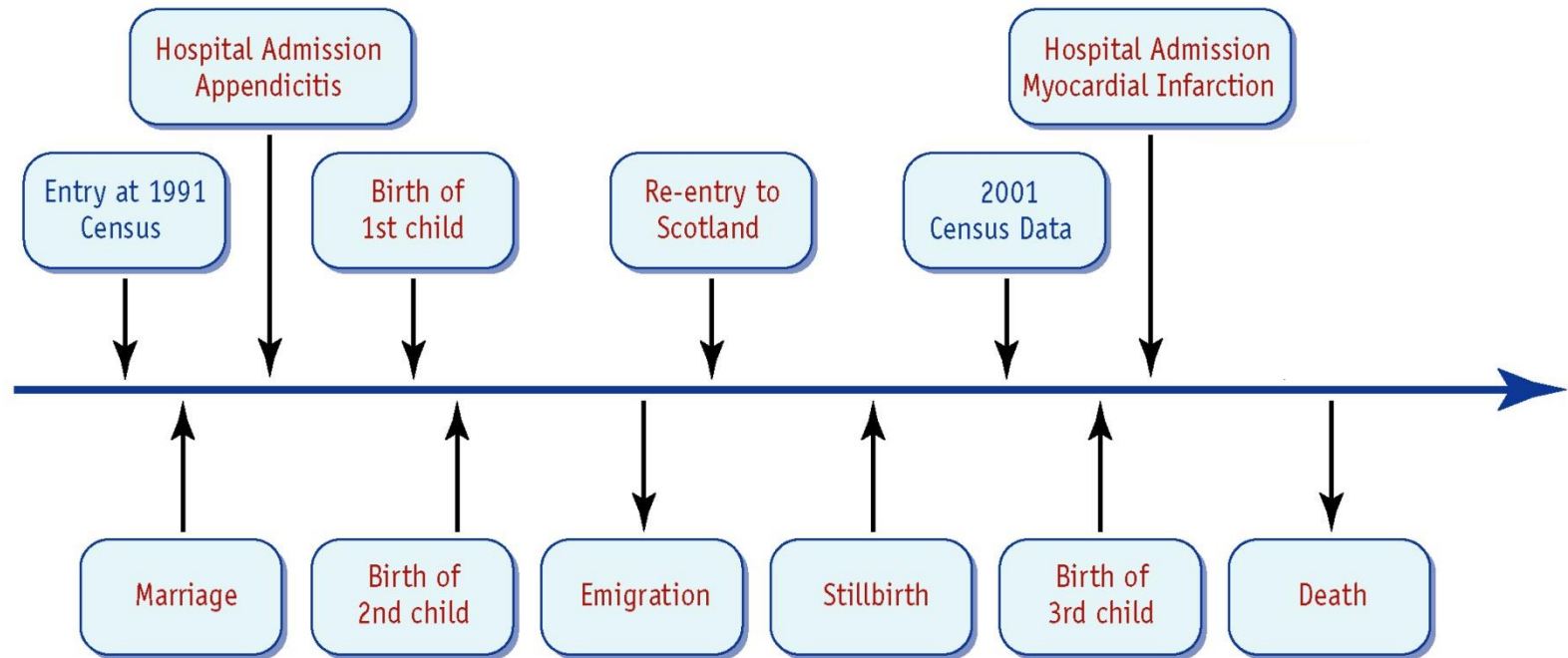
Embarkations* 30,369

Example Event History of a Female SLS Member aged 21 at 1991 Census



Can add in NHS data...

Example Event History of a Female SLS Member aged 21 at 1991 Census





SLS-DSU

SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

SLS: Education Data



National
Records of
Scotland



School Education data 3 datasets:

1. School Census data
2. SQA attainment data
3. Attendance/absence & exclusions data available

● Data from 2007-2010 are now linked to the SLS

	Age at start of school year
Primary 1	4 - 5
Primary 2	5 - 6
Primary 3	6 - 7
Primary 4	7 - 8
Primary 5	8 - 9
Primary 6	9 - 10
Primary 7	10 - 11
S1	11 - 12
S2	12 - 13
S3	13 - 14
S4	14 - 15
S5	15 - 16
S6	16 - 17

Qualifications

S3/S4

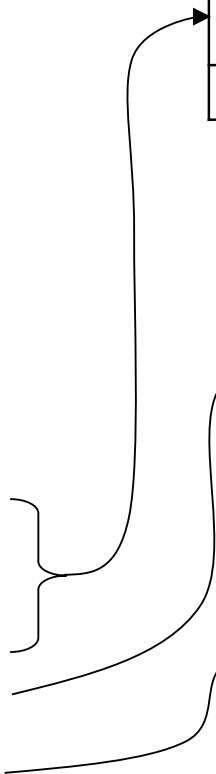
Standard Grade or Access 3
Standard Grade or Intermediate 1 then intermediate 2
Standard Grade (Credit level) or Intermediate 2

S5

Intermediate 1
Intermediate 2 or higher
Higher

S6

Intermediate 2
Higher or advanced higher
Advanced Higher



Data available now

48,233 School census records

STAGE COHORT	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13
2007 School Census				p1	p2	p3	p4	p5	p6	p7	s1	s2	s3	s4	s5	s6
2007 Exam results																
2008 School Census			p1	p2	p3	p4	p5	p6	p7	s1	s2	s3	s4	s5	s6	
2008 Exam results																
2009 School Census		p1	p2	p3	p4	p5	p6	p7	s1	s2	s3	s4	s5	s6		
2009 Exam results																
2010 School Census	p1	p2	p3	p4	p5	p6	p7	s1	s2	s3	s4	s5	s6			
2010 Exam results																
Number of pupils	3005	2878	2903	3020	2994	3001	2919	3050	3226	3206	3412	3261	3376	3367	2582	1535



SLS-DSU

SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

Linking Health Data to the SLS



National
Records of
Scotland



Health data

Not held within the SLS database but can be linked on a project by project basis after applying to a Privacy Advisory Committee (PAC)

- 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

Health data

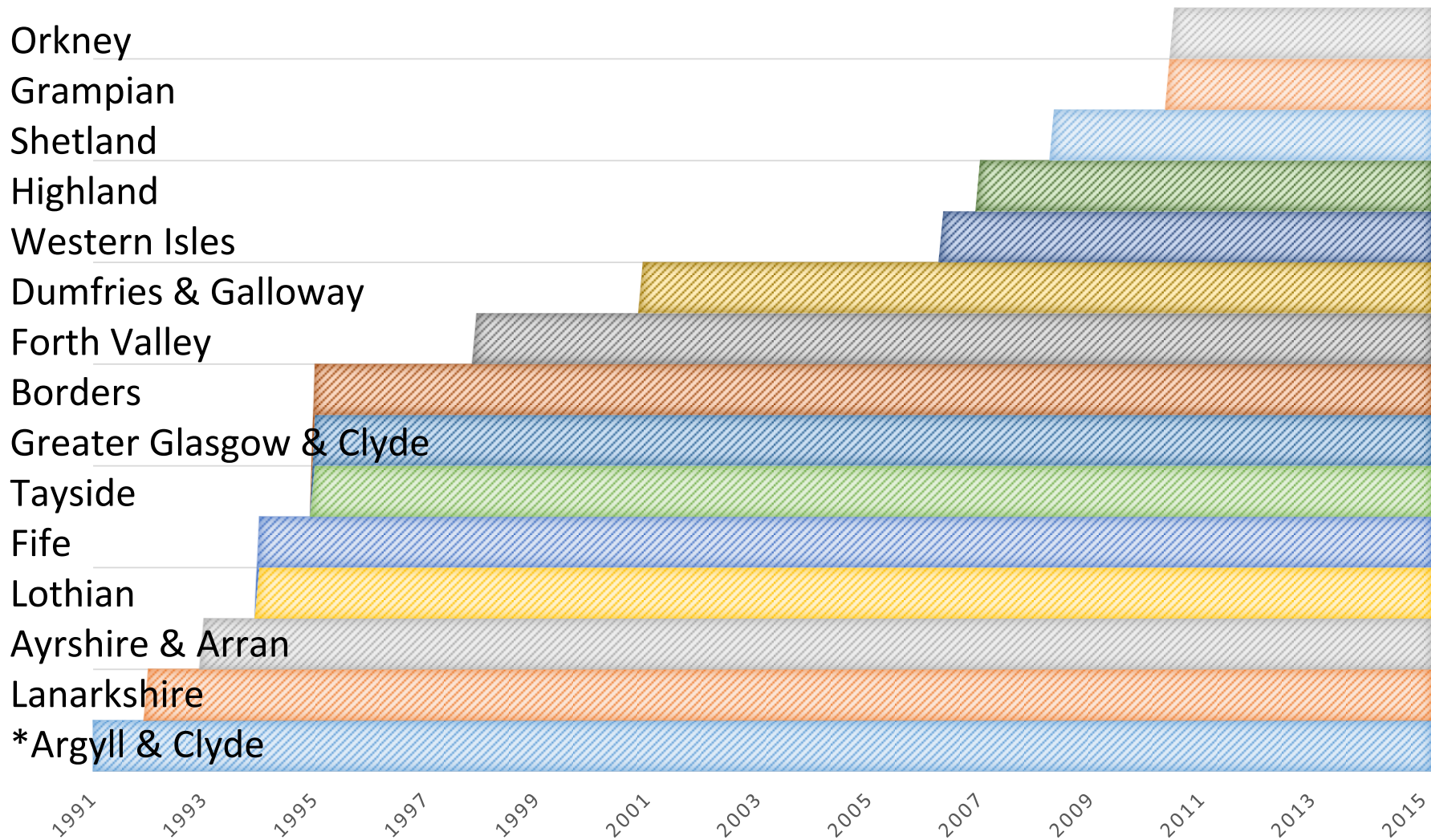
Not held within the SLS database but can be linked on a project by project basis after applying to a Privacy Advisory Committee (PAC)

- 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

Child Health data

- Child Health Surveillance (CHSP-PS/CHSP-S/SIRS)
- Child Health Systems Programme - Pre-School (CHSP-PS)
- Child Health Systems Programme - School (CHSP-S)
- Scottish Immunisation Recall System (SIRS)

CHSP Pre-School (PS) Reviews



CHSP-PS Reviews

- Birth Details
- Neonatal hearing screening
- Health Visitor First Visit
- 6-8 Week Review
- 27-30 Month Review (from 1 April 2013)
- Orthoptist vision screening (4-5 years)
- Recall Review
- Unscheduled Review

<http://www.isdscotland.org/Health-Topics/Child-Health/Child-Health-Programme/Child-Health-Systems-Programme-Pre-School.asp#Reviews>

- *Historical CHSP-PS reviews:*
 - 8-9 Month Review
 - 2-Year Review (replaced by 27-30 month review from 2013)
 - 39-42 Month Review
 - 48 Month Review

CHSP-PS Reviews

● Universal Programme of Reviews and Screening Activities

- Neonatal hearing screening
- Health Visitor First Visit
- 6-8 Week Review
- 27-30 Month Review (from 1 April 2013)
- Orthoptist vision screening (4-5 years)

● Non-Universal Reviews

- Birth Details
- Recall Review
- Unscheduled Review

<http://www.isdscotland.org/Health-Topics/Child-Health/Child-Health-Programme/Child-Health-Systems-Programme-Pre-School.asp#Reviews>

Universal CHSP-PS Reviews: First Visit (FV)

MEDICAL-IN-CONFIDENCE **Public Health Nurse First Visit Report**

PUBLIC HEALTH NURSE COPY

DATE OF VISIT:

NAME
ADDRESS
.....
.....
POSTCODE

CHI NO
GENDER
BIRTH WEIGHT
PLACE OF BIRTH
MOTHERS D.O.B.
PHN NO

HB
HD
TIME

EDD *

PLEASE WRITE CLEARLY IN BALL POINT PEN

Please check the information above and if appropriate, enter amendments below. Please also advise the GP of any changes.

Change of Surname to: _____ Change of Forename to: _____

Change of Address to: _____ Postcode:

CASE LOAD PUBLIC HEALTH NURSE

GP / TC NAME: _____

CHSP TC No.

SIRS TC No.

Schedule for Immunisation (Y/ N) ☐



Universal CHSP-PS Reviews: First Visit (FV)

Mother/Carer: _____ Age Smoker (Y/N) ☐ Health (include current illness) _____

Partner: _____ Age Smoker (Y/N) ☐ Health (include current illness) _____

Is child exposed to passive smoking? (Y/N) ☐

Concerns raised by carer, enter (R)

Feeding ☐ Illness ☐ Crying ☐ Appearance ☐ Weight ☐ Sleeping ☐ Other ☐ _____

FEEDING:- (Based on previous 24 hr period) Enter (Y) in one box only, in each section

	Breast milk only	Formula milk only	Both	Date, if stopped breast milk:
At birth:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
On hospital discharge:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
On discharge from Comm Midwife:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PHN 1st visit:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Enter **diagnoses, social issues** or other **concerns** that are likely to be **relevant to the continuing health and development** of the child including **congenital conditions**.

ENTER PROBLEM STATUS

PLEASE PRINT CLEARLY

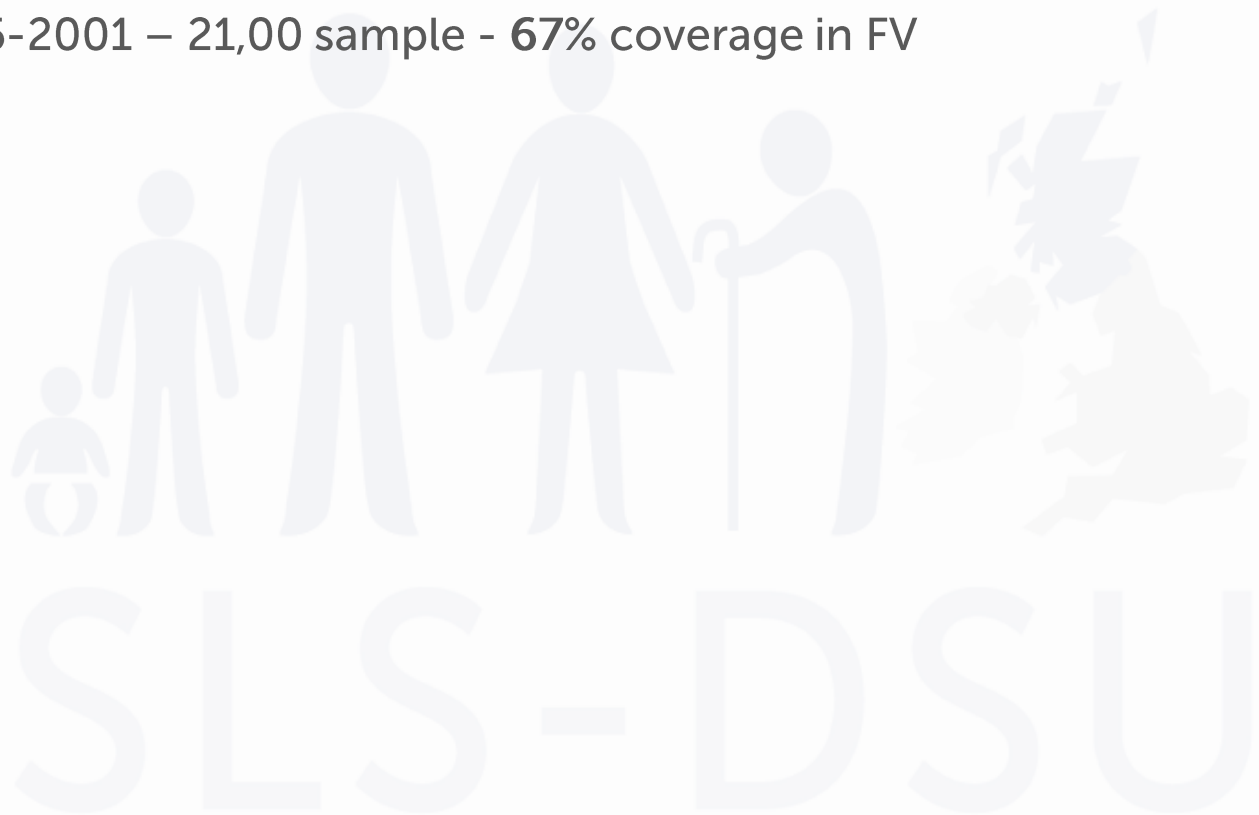
- (1) _____
(2) _____
(3) _____
(4) _____
(5) _____

Sev	Lat	Professional Code	Problem Status	Read Code
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

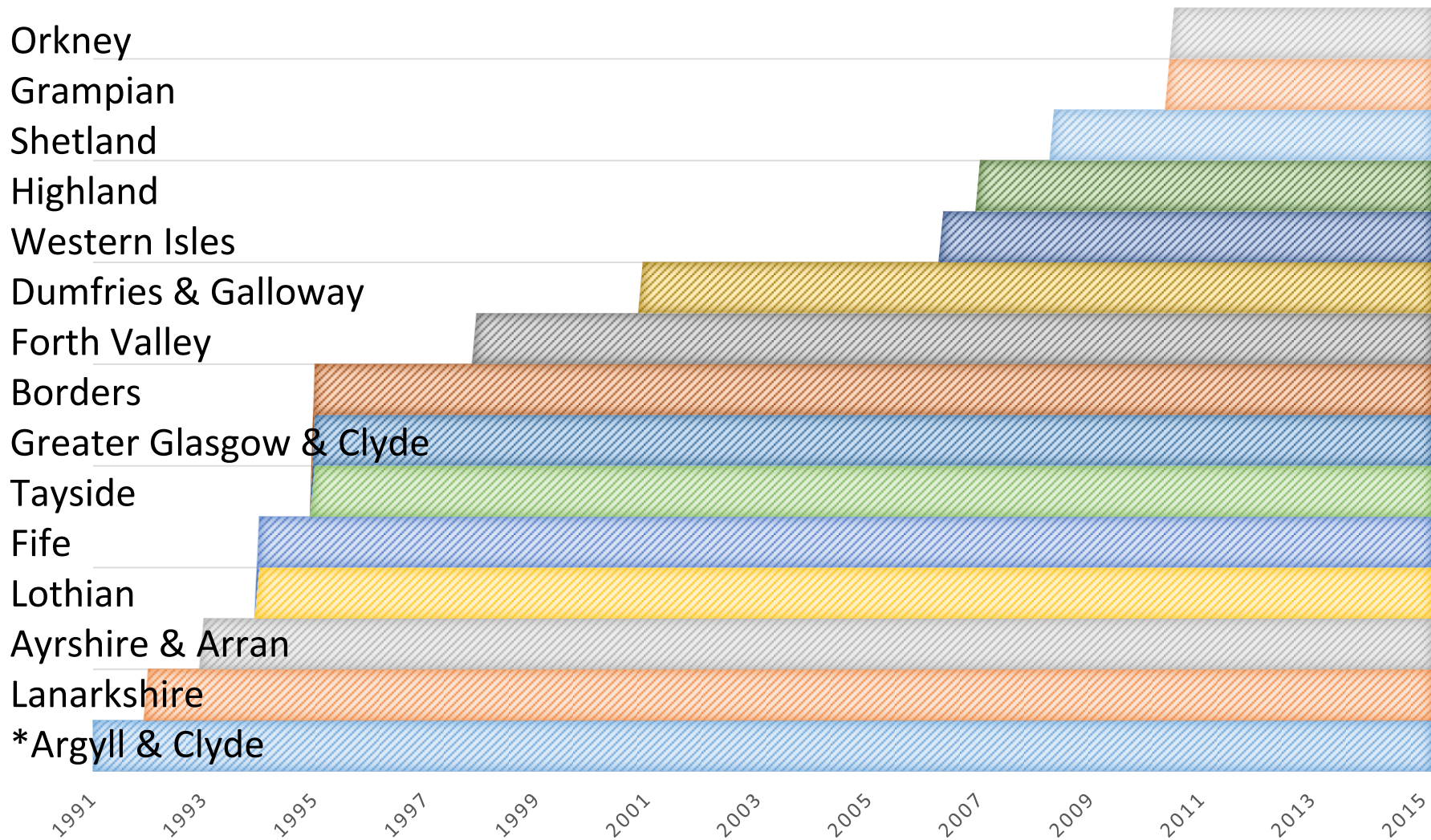
Universal CHSP-PS Reviews: Example Project 1

Health Visitor First Visit (FV)

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - **53% covered in FV**
 - ranging from 10% born in 1993 to 79% for those born in 2001
 - for DOBYr 1995-2001 – 21,00 sample - **67% coverage in FV**



CHSP-PS Reviews



Universal CHSP-PS Reviews: Example Project 1

Health Visitor First Visit (FV)

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - **53%** covered in FV
 - ranging from 10% born in 1993 to 79% for those born in 2001
 - for DOBYr 1995-2001 – 21,000 sample - **67%** coverage in FV

- of sample *linked*

Feeding at PHN First Visit	
Breast	33.6%
Bottle	54.1%
Both	3.3%
INVALID	9.0%
	100%
Total	15,000

Universal CHSP-PS Reviews: Example Project 1

Health Visitor First Visit (FV)

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - 53% covered in FV
 - ranging from 10% born in 1993 to 79% for those born in 2001
 - for DOBYr 1995-2001 – 21,000 sample - 67% coverage in FV

- of sample *linked*

Feeding at PHN First Visit		Non-Invalid distribution
Breast	33.6%	36.9%
Bottle	54.1%	59.5%
Both	3.3%	3.6%
INVALID	9.0%	
	100%	
Total	15,000	

Universal CHSP-PS Reviews: Example Project 1

Health Visitor First Visit (FV)

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - **53%** covered in FV
 - ranging from 10% born in 1993 to 79% for those born in 2001
 - for DOBYr 1995-2001 – 21,000 sample - **67%** coverage in FV
- of sample *linked*

Feeding at PHN First Visit		Non-Invalid distribution	Distribution from a Report* (1995/6 sample)
Breast	33.6%	36.9%	25.3%
Bottle	54.1%	59.5%	67.9%
Both	3.3%	3.6%	6.8%
INVALID	9.0%		
	100%		
Total	15,000		Of 74500 sample 52394 (70%) were within the CHSP-PS, feeding was recorded for 35260 (67%)

*Reilly J, & Armstrong J (2001). Assessment of the National Children Health Surveillance System as a toll for obesity surveillance at national and health board level. ISD

Universal CHSP-PS Reviews: 6-8 week

FEEDING: (Based on previous 24 hr period). Enter (Y) in one box only Breast milk only <input type="checkbox"/> Formula milk only <input type="checkbox"/> Both <input type="checkbox"/> Date, if stopped breast milk: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> *						CHT <table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																									
Sleeping: (Y/N) Prone <input type="checkbox"/> Supine <input type="checkbox"/> Side <input type="checkbox"/> Childsmile Ref? (Y/N/R) <input type="checkbox"/>						CF <table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																									
Concerns raised by carer, enter (R) Feeding <input type="checkbox"/> Illness <input type="checkbox"/> Crying <input type="checkbox"/> Appearance <input type="checkbox"/> Behaviour <input type="checkbox"/> Weight <input type="checkbox"/> Hearing <input type="checkbox"/> Eyes <input type="checkbox"/> Movement <input type="checkbox"/> Sleeping <input type="checkbox"/> Other <input type="checkbox"/>						MCD <table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																									
Development: If appropriate, in the summary boxes, enter N-normal, A-abnormal, D-doubtful or uncertain or I-not done/incomplete. If appropriate, in the area boxes, enter O-direct successful observation, H-history or carer's report or X-not achieved.						HBO <table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																									
Gross motor skills Pull to sit (head lag decreasing) <input type="checkbox"/> Ventral suspension (head briefly to horizontal) <input type="checkbox"/> Handling (not floppy or stiff) <input type="checkbox"/>						Newborn Hearing Screening Results R <input type="checkbox"/> * L <input type="checkbox"/> *																									
Hearing and communication Response to sudden sound <input type="checkbox"/> Response to unseen carer's voice <input type="checkbox"/>						Summary <div style="text-align: center;">↓</div>																									
Vision and social awareness Intent regard of carer's face <input type="checkbox"/> Follow dangling object past midline <input type="checkbox"/> Social smile <input type="checkbox"/>						CHI No. <input type="text"/>																									
Physical examination: Length (cms) <input type="text"/> Weight (kg) <input type="text"/> OFC (cms) <input type="text"/> Date measured <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>																															
For each of the items below, enter N - normal; A - abnormal; D - doubtful or uncertain; I - not done/incomplete.																															
Heart <input type="checkbox"/> Hips R <input type="checkbox"/> L <input type="checkbox"/> Testes R <input type="checkbox"/> L <input type="checkbox"/> Genitalia <input type="checkbox"/> Femoral Pulses R <input type="checkbox"/> L <input type="checkbox"/> Eyes: (red reflex) R <input type="checkbox"/> L <input type="checkbox"/>																															
Enter diagnoses, social issues or other concerns that are likely to be relevant to the continuing health and development of the child including congenital conditions .																															
ENTER PROBLEM STATUS																															
PLEASE PRINT CLEARLY				Sev Lat Professional Code Problem Status Read Code																											
(1) <input type="text"/>				<table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																											
(2) <input type="text"/>				<table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																											
(3) <input type="text"/>				<table border="1" style="border-collapse: collapse; text-align: center;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>																											

Universal CHSP-PS Reviews: 6-8 week

FEEDING: (Based on previous 24 hr period). Enter (Y) in one box only
 Breast milk only ☐ Formula milk only ☐ Both ☐ Date, if stopped breast milk: *

Sleeping: (Y/N) Prone ☐ Supine ☐ Side ☐ Childsmile Ref? (Y/N/R) ☐

Concerns raised by carer, enter (R)
 Feeding ☐ Illness ☐ Crying ☐ Appearance ☐ Behaviour ☐ Weight ☐
 Hearing ☐ Eyes ☐ Movement ☐ Sleeping ☐ Other ☐

CHT ☐ ☐ ☐ ☐
 CF ☐ ☐ ☐ ☐
 MCD ☐ ☐ ☐ ☐
 HBO ☐ ☐ ☐ ☐

Newborn Hearing Screening Results
 R ☐ * L ☐ *

Development: If appropriate, in the summary boxes, enter N-normal, A-abnormal, D-doubtful or uncertain or I-not done/incomplete.
 If appropriate, in the area boxes, enter O-direct successful observation, H-history or carer's report or X-not achieved.

<i>Gross motor skills</i>	Pull to sit (head lag decreasing) <input type="checkbox"/>	Ventral suspension (head briefly to horizontal) <input type="checkbox"/>	Handling (not floppy or stiff) <input type="checkbox"/>	Summary <input type="checkbox"/>
<i>Hearing and communication</i>	Response to sudden sound <input type="checkbox"/>	Response to unseen carer's voice <input type="checkbox"/>		<input type="checkbox"/>
<i>Vision and social awareness</i>	Intent regard of carer's face <input type="checkbox"/>	Follow dangling object past midline <input type="checkbox"/>	Social smile <input type="checkbox"/>	<input type="checkbox"/>

CHI No. _____

Physical examination: Length (cms) _____ Weight (kg) _____ OFC (cms) _____ Date measured

For each of the items below, enter N - normal; A - abnormal; D - doubtful or uncertain; I - not done/incomplete.

Heart ☐ Hips R ☐ L ☐ Testes R ☐ L ☐ Genitalia ☐ Femoral Pulses R ☐ L ☐ Eyes: (red reflex) R ☐ L ☐

Enter **diagnoses, social issues** or other **concerns** that are likely to be **relevant to the continuing health and development** of the child including **congenital conditions**.

ENTER PROBLEM STATUS

PLEASE PRINT CLEARLY

(1) _____
 (2) _____
 (3) _____
 (4) _____

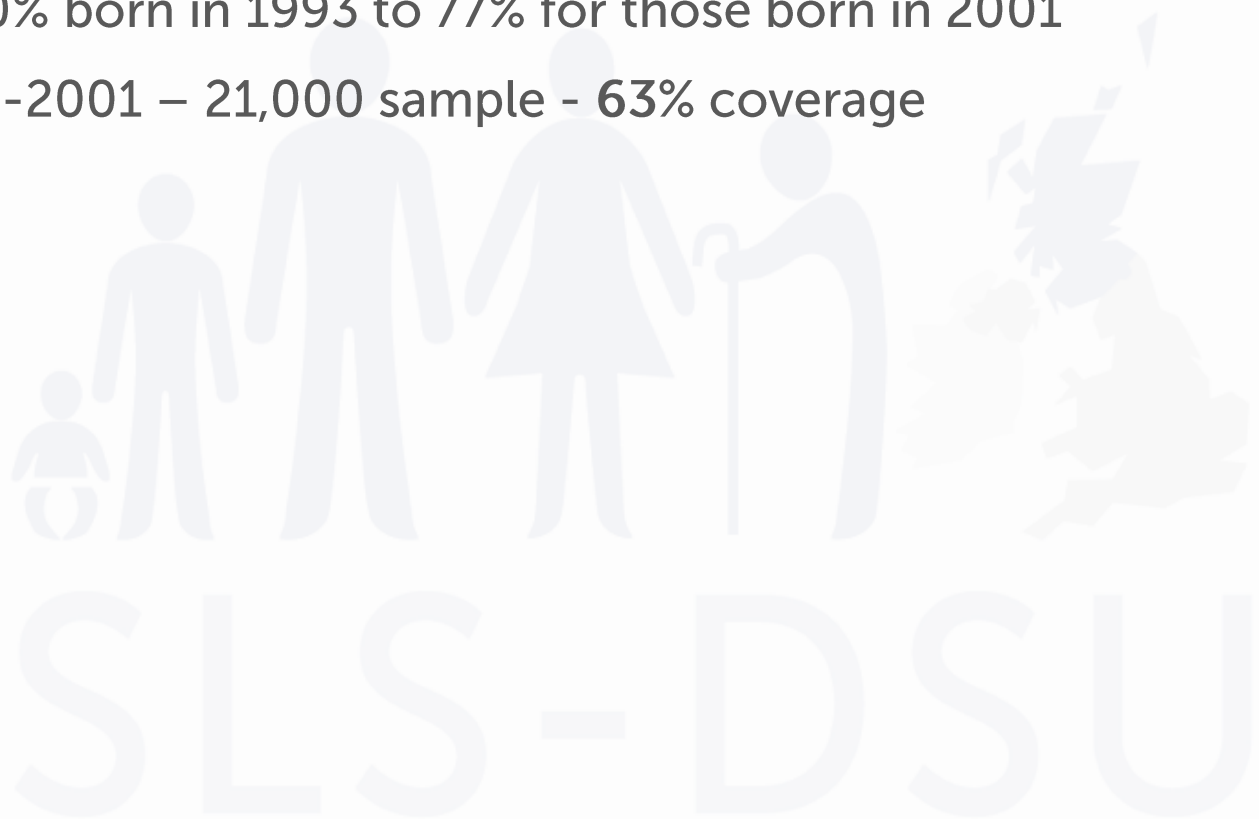
Sev	Lat	Professional Code	Problem Status	Read Code

[illegible]

Universal CHSP-PS Reviews: Example Project 1

6-8week review

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - **50%** covered in 6-8week review
 - ranging from 10% born in 1993 to 77% for those born in 2001
 - for DOBYr 1995-2001 – 21,000 sample - **63%** coverage



Universal CHSP-PS Reviews: Example Project 1

6-8week review

- for a SLS sample born 1993 to 2001 (DOBYr)- 29,000 sample members - 50% covered in 6-8week review
 - ranging from 10% born in 1993 to 77% for those born in 2001
 - for DOBYr 1995-2001 – 21,000 sample - 63% coverage
- of sample *returned*:

3% missing on height	Development Observations:
2% missing on weight	7% Not done/Incomplete on Gross motor skills
2% missing on OFC - Occipito frontal circumference (in cm's)	7% Not done/Incomplete on Vision & social awareness
	2% Not done/Incomplete on Hearing & communication

Universal CHSP-PS Reviews:

Example Project 2

- SLS members born 1991-2001 &
Children of the SLS (COTS) born 1991-2005
- Sample size in total 57,000
 - First Visit 39,000

Is mother a smoker?		Is partner a smoker?	
No	72.2%	No	62.4%
Yes	27.8%	Yes	37.6%
	100%		100%
Total	35,000	Total	22,000

Universal CHSP-PS Reviews:

Example Project 2

- SLS members born 1991-2001 &
Children of the SLS (COTS) born 1991-2005
- Sample size in total 57,000
 - 6-8 week review 38,000

Development Observations:

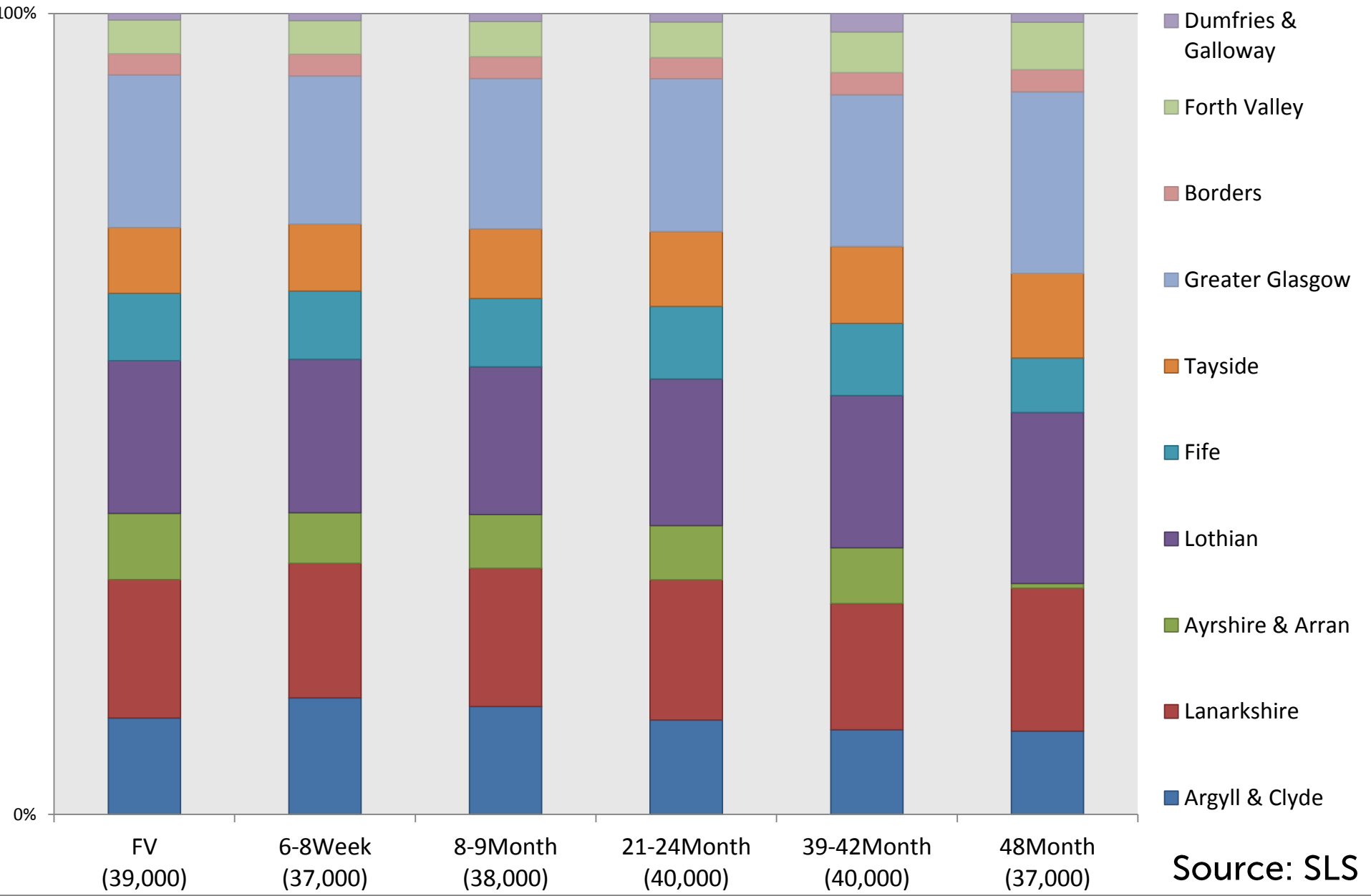
5% Not done/Incomplete on Gross motor skills

5% Not done/Incomplete on Vision & social awareness

2% Not done/Incomplete on Hearing & communication

Example Project 2

SLS members & COTS- Sample size in total 57,000



Summary: CHSP for research

- CHSP data useful for research purposes but must think carefully about the sample/cohort given reviews are not all universal & that some were dropped
- Height & weight are more completely recorded than other information
- New universal CHSP-PS 27-30 Month Review (from 1 April 2013) includes LAC
- SLS-RSU Working Paper on using CHSP & maternity data (SMR02) available online May 2015 – will give info on CHSP-PS & CHSP-S



SLS-DSU

SCOTTISH LONGITUDINAL STUDY
DEVELOPMENT & SUPPORT UNIT

With thanks to

For SLS

The help provided by staff of the Longitudinal Studies Centre – Scotland (LSCS) is acknowledged. The LSCS is supported by the ESRC/JISC, the Scottish Funding Council, the Chief Scientist's Office and the Scottish Government. The authors alone are responsible for the interpretation of the data. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland.

For ONS LS

The permission of the Office for National Statistics to use the Longitudinal Study is gratefully acknowledged, as is the help provided by staff of the Centre for Longitudinal Study Information & User Support (CeLSIUS). CeLSIUS is supported by the ESRC Census of Population Programme under project ES/K000365/1. The authors alone are responsible for the interpretation of the data. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland.

Funder: Economic & Social Research Council (ESRC)

lee.williamson@ed.ac.uk



National
Records of
Scotland

