

Latest updates on the UK Census-based Longitudinal Studies

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- What are the UK Longitudinal Studies (UKLS)?
- Overview of each UKLS
- Newest data update
- Newest findings
- Access to newest data

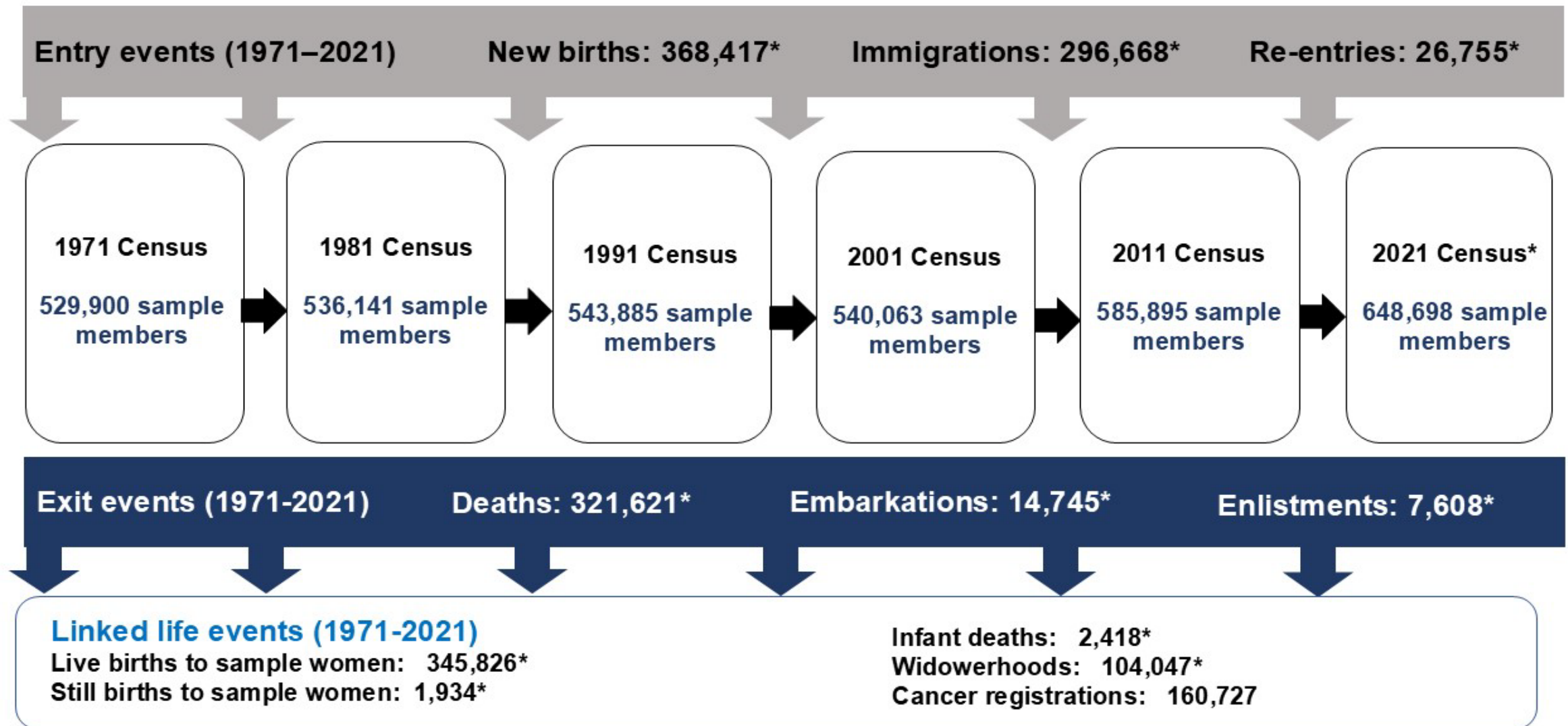
What are the UK Longitudinal Studies (UKLS)?

- Based on UK censuses
- Linked census and life events data for nationally representative samples of UK jurisdiction:
 - England & Wales (Office for National Statistics- ONS)
 - Scotland (National Records of Scotland - NRS)
 - Northern Ireland (Northern Ireland Statistics and Research Agency- NISRA)
- Separate because each jurisdiction administer its own census
- Census = a count of all people in a population, serving as basis for calculation of resource allocation across areas
- First census of E&W in 1801; every 10 years since; increasingly detailed
- First census-based UK Longitudinal Studies

ONS Longitudinal Study (ONS LS – England & Wales)

- Administered by Office for National Statistics
- Contains linked census & life events data for 1% sample of E&W pop
- Members selected if birthday falls on 1 of 4 days in year (ie. $4/365 = 1\%$ of pop)
- Individuals' census forms linked from 1971 to 2021
 - allows individuals to be tracked over time
- Largest nationally representative dataset in UK
- 2021 census undertaken 21 March 2021: 97% person response rate; 673,000 with LS date of birth; 89% online responses (vs 17% in 2011)
- Linkage of 2021 census data in early 2025: beta testing currently underway

ONS LS: What information does it contain?



The 2021 statistical outputs are based on provisional data and form part of the ONS Longitudinal Study 2021 beta testing.

Data source: ONS LS

ONS LS: What CENSUS info does it contain?

	Since 1991...	Since 2001...	Since 2011...	Since 2021
Mar stat & fam type	Mar stat & fam type	Mar stat & fam type	Mar stat & fam type	Mar stat & fam type
Housing & amenities	Housing & amenities	Housing & amenities	Housing & amenities	Housing & amenities
Occ & social class	Occ & social class	Occ & social class	Occ & social class	Occ & social class
Economic activity	Economic activity	Economic activity	Economic activity	Economic activity
Education	Education	Education	Education	Education
Migration	Migration	Migration	Migration	Migration
Ethnicity	Ethnicity	Ethnicity	Ethnicity	Ethnicity
Area level data	Area level data	Area level data	Area level data	Area level data
	Travel to work	Travel to work	Travel to work	Travel to work
	Long-term illness	Long-term illness	Long-term illness	Long-term illness
		Religion	Religion	Religion
		Self-rated health	Self-rated health	Self-rated health
		Care-giving	Care-giving	Care-giving
			Main language	Main language
			Passports held & national identity	Passports held & national identity
			Time since UK arrival	Time since UK arrival
				Sexuality
				Gender identity
				Service in UK Armed Forces

ONS LS: Beta test findings

Mode of travel to work transitions: comparisons of 2001-2011 with 2011-2021

First most prevalent in 2011
Second most prevalent in 2011

N=139,929		Mode in 2011(%)									
		Tube	Train	Bus	Taxi	Motorcycle	Car/van driver	Car/van passenger	Bicycle	On foot	Other
Mode in 2001(%)	Tube	35.5	18.4	8.5*		0.9	25.3	1.6	3.5	5.8*	
	Train	6.9	44.0	4.4	0.3	0.7	34.3	1.7	2.3	5.0	0.6
	Bus	3.3	5.5	28.1	0.7	0.5	40.0	7.2	2.1	12.1	0.4
	Taxi	2.1	3.6	8.9	25.0*		36.3	7.7*		11.1	2.5
	Motorcycle	1.6	4.0	2.8	0.6	19.4	57.6	3.2	5.8	4.6	0.6
	Car/van driver	0.8	2.4	1.6	0.2	0.5	86.0	2.3	1.4	4.2	0.4
	Car/van passenger	1.2	3.3	7.6	0.7	0.6	55.5	18.5	2.4	9.8	0.4
	Bicycle	1.3	3.0	4.0	0.2	2.5	44.0	4.1	30.2	10.2	0.5
	On foot	1.6	3.2	7.6	0.6	0.6	41.2	6.0	3.3	35.4	0.5
	Other	2.3	5.1	3.7*	*		51.1	4.9*		9.5	18.2

Data source: ONS-LS

ONS LS: Beta test findings

Mode of travel to work transitions: comparisons of 2001-2011 with 2011-2021

First most prevalent in 2011
Second most prevalent in 2011

Mode in 2011(%)		Mode in 2021(%)									
		Tube	Train	Bus	Taxi	Motorcycle	Car/van driver	Car/van passenger	Bicycle	On foot	Other
Mode in 2011(%)	Tube	27.9	10.8	7.5	0.7	1.0	36.7	1.4	4.5	7.2	2.3
	Train	6.9	24.5	6.0	0.7	0.8	46.5	2.7	2.5	7.4	2.1
	Bus	3.6	3.2	26.4	2.0	0.6	39.0	7.8	2.9	13.0	1.5
	Taxi*	*	*	4.4	25.3*	*	46.1	6.6*	*	9.4	5.7
	Motorcycle	1.0	1.3	1.7	0.6	20.1	62.5	2.7	4.2	4.4	1.4
	Car/van driver	0.4	0.7	0.7	0.3	0.2	90.3	1.6	1.1	3.6	1.1
	Car/van passenger	0.7	1.4	4.8	1.3	0.6	60.2	18.3	2.4	8.9	1.4
	Bicycle	1.1	1.7	2.9	0.5	1.5	47.6	3.5	29.8	10.4	0.9
	On foot	0.9	1.8	5.3	1.1	0.3	44.1	5.6	3.0	36.7	1.1
	Other*	*	*	2.7	2.4*	*	58.5	3.9*	*	8.7	17.5

ONS LS: What EVENTS info does it contain

Added annually but lag of 2 years...

SEARCH from civil registration system:

- Deaths of (cause-specific)
- Births of LS members
- Infant deaths to sample mothers
- Still births to sample mothers
- Live births to sample mothers
- Widow(er)hoods

Means of linkage:

Search of registers OR flagged NHS Central Register

SEARCH from NHS cancer registers

(National Cancer Registration and Analysis Service for England; Welsh Cancer and Intelligence and Surveillance Unit for Wales:

- Cancer registrations (incl date of diagnosis, site, treatment)

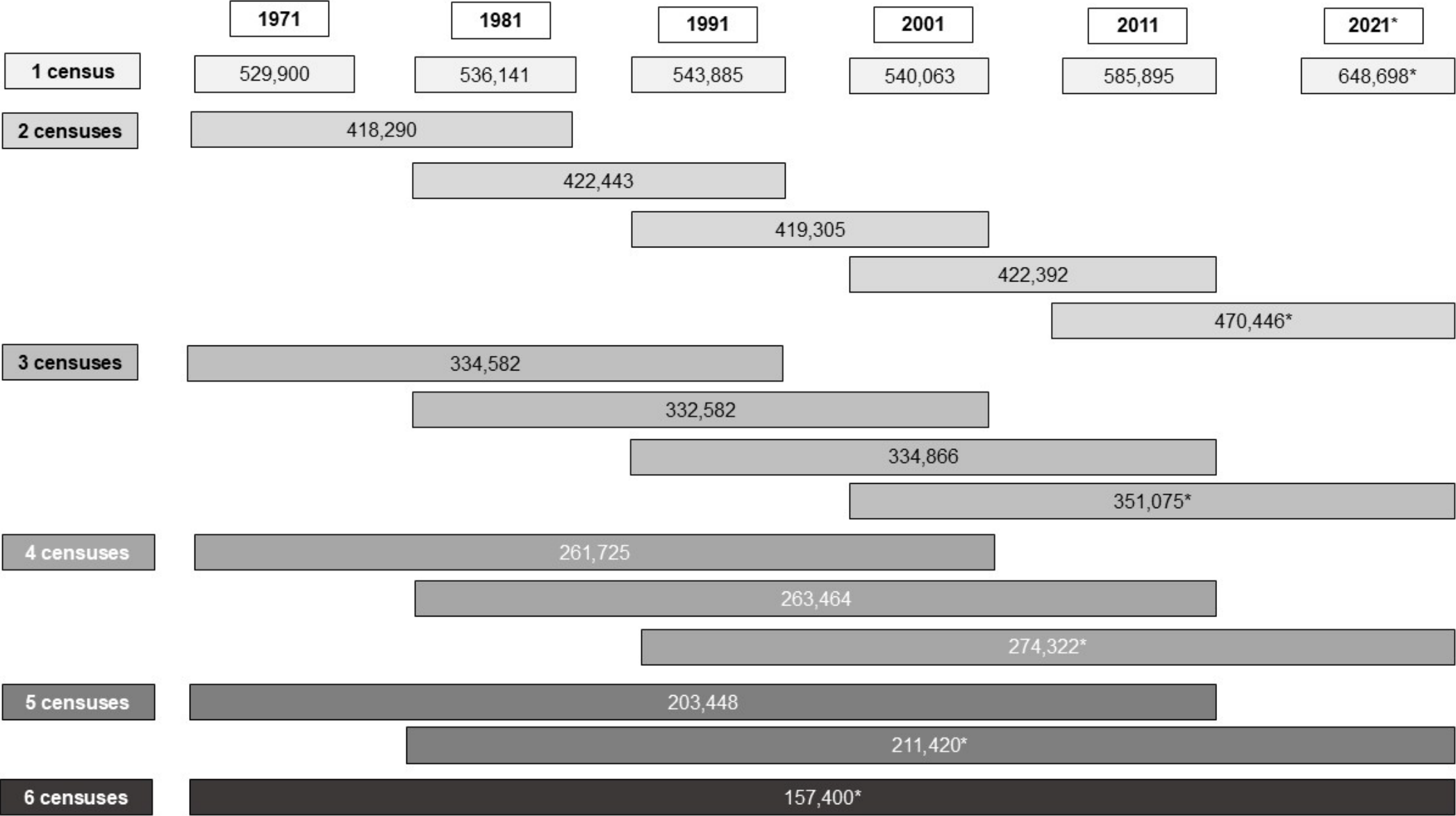
FLAG from NHS Central Register:

- Immigrations
- Recorded emigrations
- Deaths
- Cancer registrations

Events data used in many studies, e.g.

Understanding the social determinants of place of death in older adults | Faculty of Population Health Sciences

ONS LS: Cross-sectional and longitudinal sample sizes



*Provisional counts based on beta test data

Data source: ONS LS

Scottish Longitudinal Study (SLS)

- Administered by National Records of Scotland
- Set up in 2007
- Contains linked census & life events data for 5.3% sample of Scottish pop
- Members selected if birthday falls on 1 of 20 days in year (ie. $20/365 = 5.3\%$ of pop)
- Individuals' census forms linked from 1991 to 2022
 - allows individuals to be tracked over time
- Latest census undertaken 20 March 2022, 364 days after E&W and NI.
- Beta testing currently underway

SLS: What data are included?

Census data – demographic, occupational, health, housing, family, social

New for 2022: gender identity, sexual orientation, British Sign Language, passport held, service in UK Armed forces

Vital events – births, marriages, deaths, widowhood

Education: School census since 2007 – school meals, absences, exclusions, SQA attainment

Migration data from NHSCR

NHS GP postcode history since 2000

Scottish Mental Survey 1947 for a sub-cohort born ~1936

SLS: What data are included?

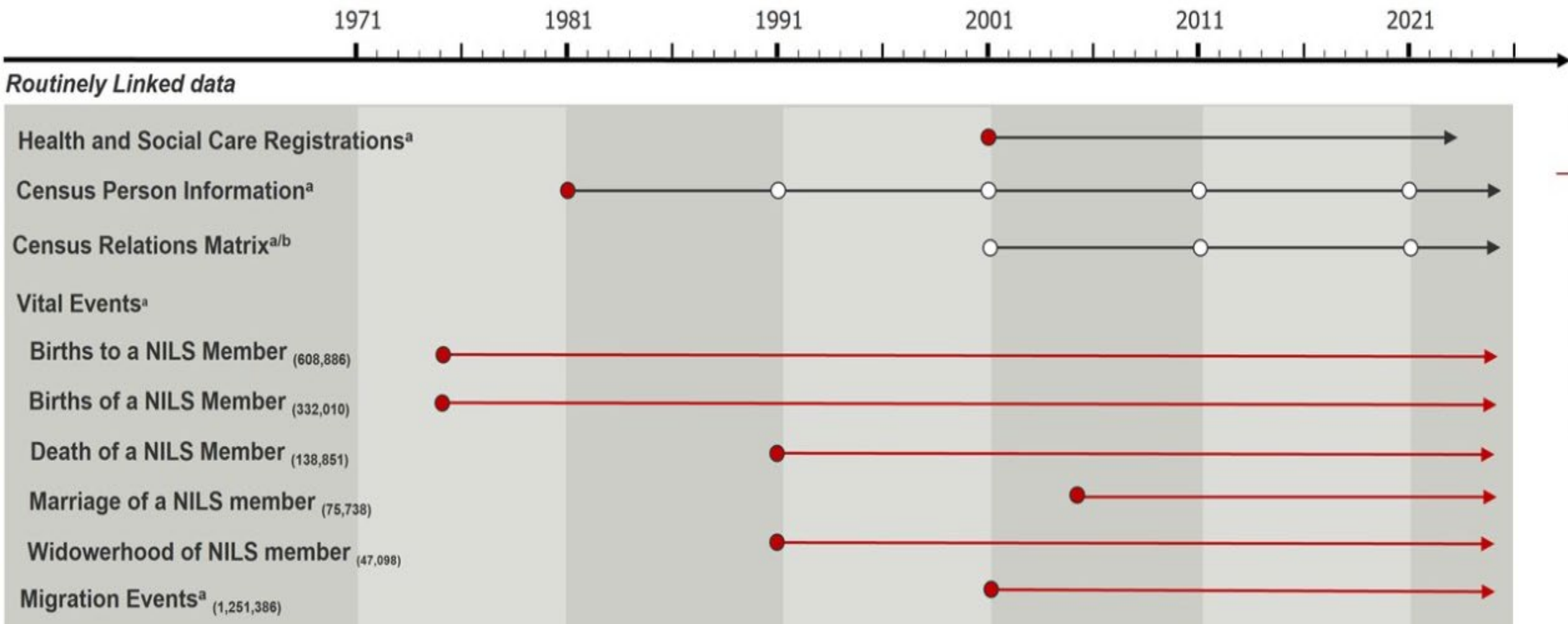
Can also be linked to other data sources:

NHS health data with extra permissions – birth records, inpatient, cancer registration, prescription data

Other external data – deprivation, urban/rural, GIS (distance to hospital/green space), occupation scores, unemployment, house prices, pollution

Northern Ireland Longitudinal Study (NILS)

- Administered by Northern Ireland Statistics and Research Agency- NISRA
- Contains linked census & life events data for 28% sample of NI pop
- Members selected if birthday falls on 1 of 104 days in year (ie. $104/365 = 28\%$ of pop)
- **Core data from health card registrations (vs ONS-LS &SLS)**– obtained after registering with GP
- Linked to individuals' census forms linked from 1981 to 2021
 - allows individuals to be tracked over time
- 2021 census undertaken 21 March 2021
- Newer topics: health conditions, passports, national identity, sexual orientation, and renewable energy.
- 2 new statistical output geographies: Data Zones and Super Data Zones
- Enhanced NILS (including Census 2021) launched 16 April 2024

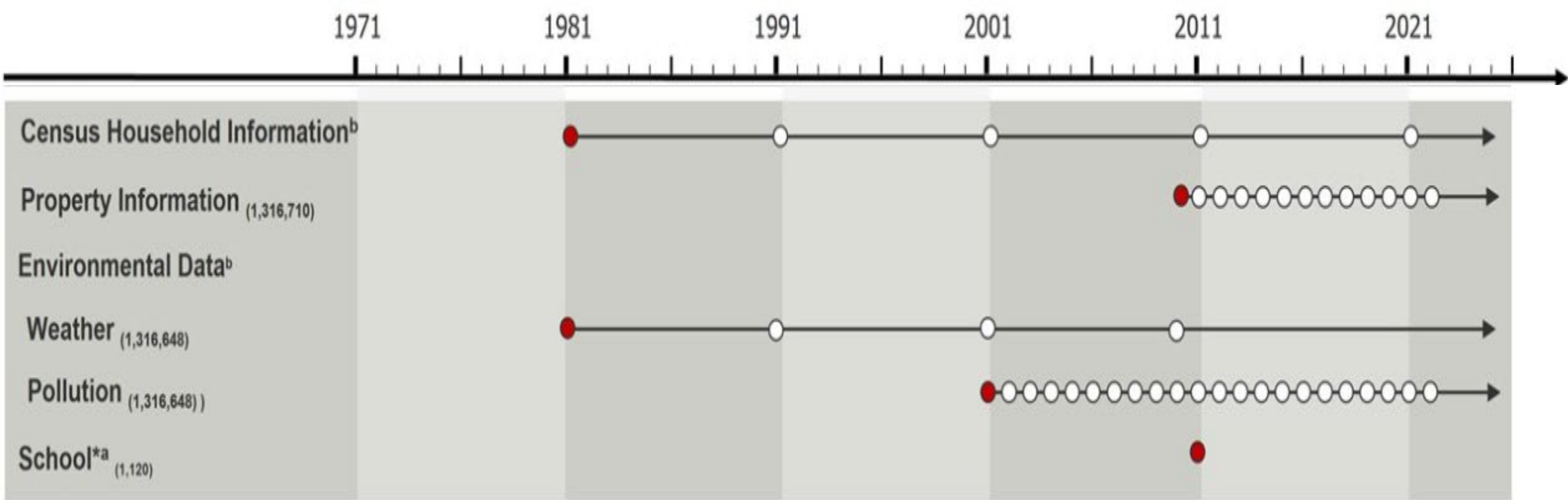


● **Data first available**

→ **Biannual Uploads**

○ **Annual uploads**

Source: Estelle Lowry, Ian Shuttleworth, Peter Wilgar, Catherine McLoughlin, Emma Connell, Cohort Profile Update: The Northern Ireland Longitudinal Study (NILS), *International Journal of Epidemiology*, Volume 54, Issue 3, June 2025, dyaf054, <https://doi.org/10.1093/ije/dyaf054>

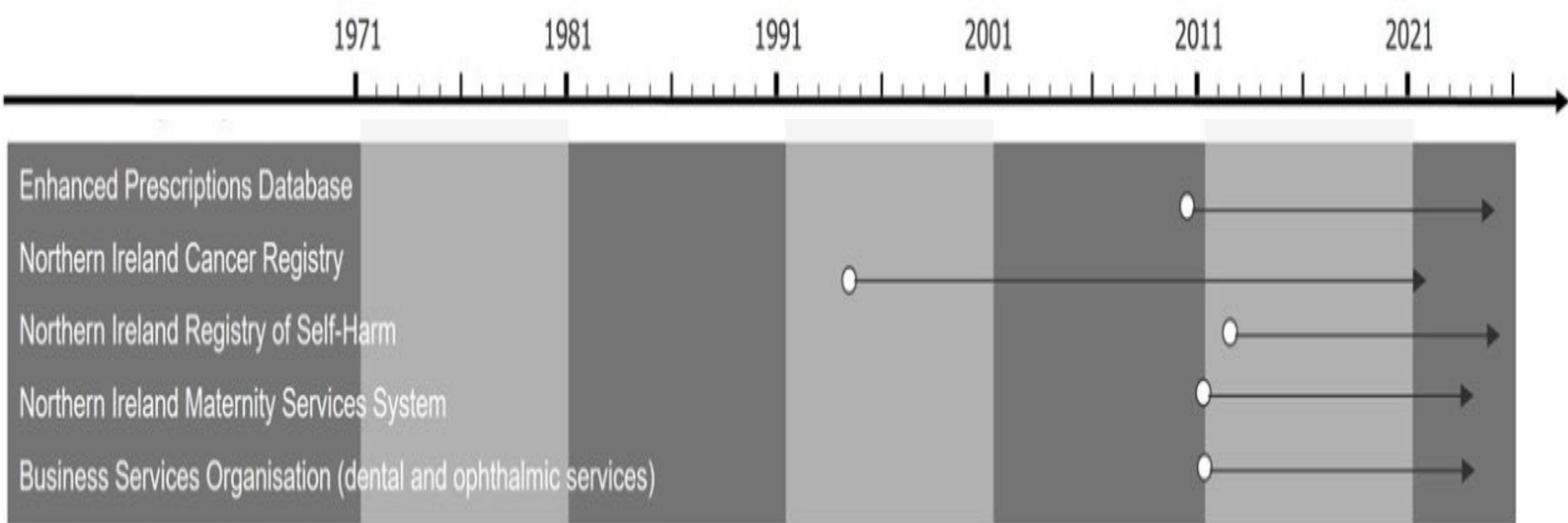


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Access to newest data

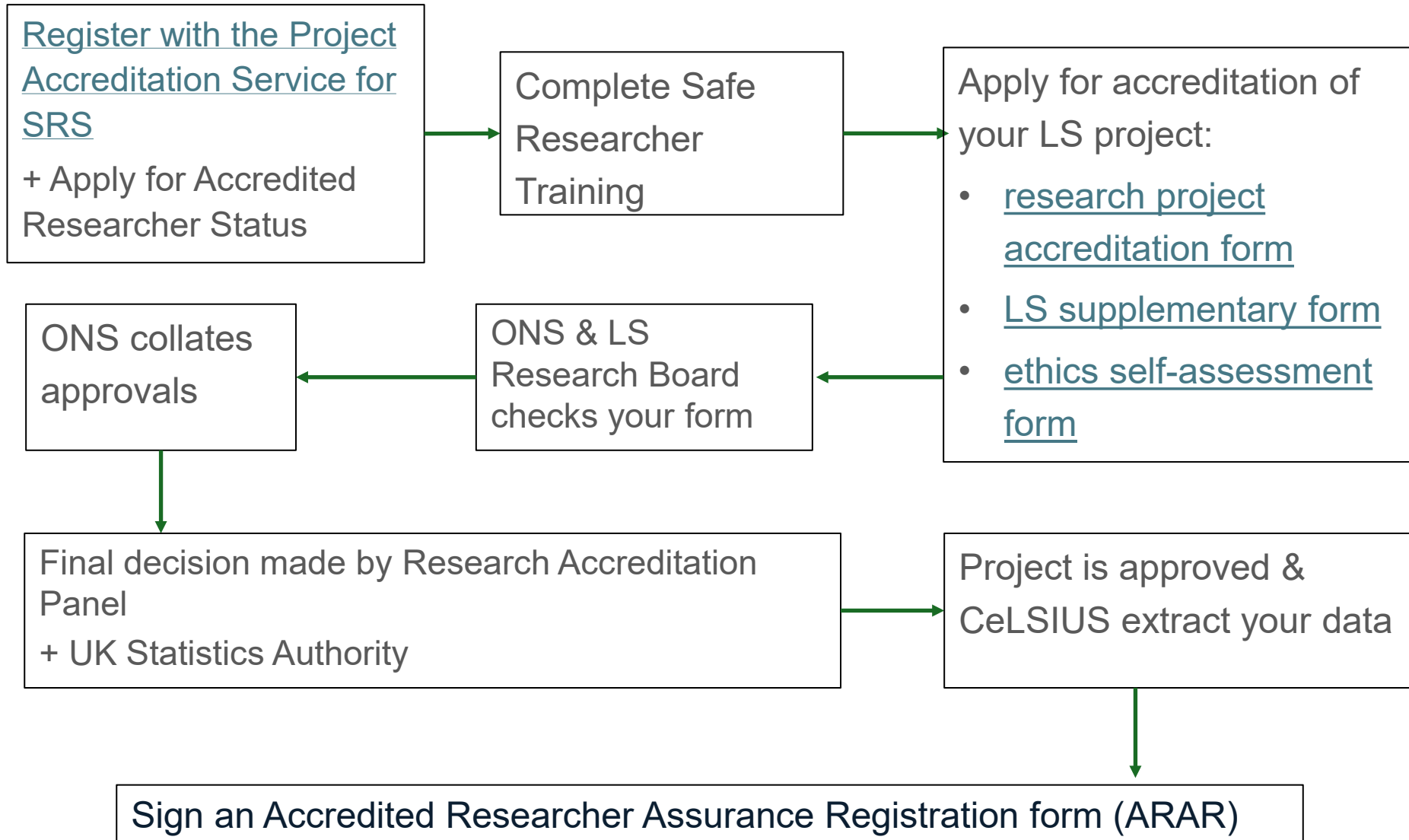
- ONS LS: Autumn 2025
- SLS: Summer 2025
- NILS: Since April 2024

CeLSIUS celsius@ucl.ac.uk

User Support Officers (Jitka Pikhartova, Aly Sizer, Jemima Stockton)

- Advising on design and feasibility of projects
- Guiding researchers through the application process and submitting applications
- Creating data extracts
- Remote analyses and some statistical guidance
- Disclosure control compliance checks of outputs
- Advice and on-site support
- Information on syntax files that are available for LS researchers to use to derive some variables, e.g. causes of death

Application process:



Accessing your project data

SRS safe settings

- Hampshire (Titchfield)
- Wales (Newport)

University-based safe pods

- 2022 onwards
- <https://safepodnetwork.ac.uk/>

Assured Organisational Connectivity agreement

- SRS in office
- Institution owned computer at home (sign extended Security Operations Procedures document & get ONS approval)
- [Assured Organisational Connectivity](#)

Remote access

- Send code to CeLSIUS
- We send output

Acknowledgements

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The help provided by staff of the Longitudinal Studies Centre – Scotland (LSCS) is acknowledged. 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 King’s Printer for Scotland.