

General Register Office
for
SCOTLAND
information about Scotland's
people

Developing Alternatives to Census

Alternative Sources branch, GROS

Finding the Population Statistics You Need, Glasgow 23 February 2010

Overview

- Background
- Beyond 2011
- Development Work in Scotland

Background

1

- Key outputs
 - Census: decennial count, rich detail at small area level
 - Mid-year population estimates: multiple data sources
- Challenges
 - Social change: migration
 - User needs
 - Traditional census difficulties: response, cost
 - Data availability: administrative sources

Background

2

- Short and medium term response
 - Migration Statistics Task Force (2006)
 - Improving Migration and Population Statistics Programme (2007)
- Key developments
 - Increased Use of Administrative data
 - Statistics and Registration Services Act 2007
(Office for National Statistics (ONS): English School Census, Higher Education (HE) Student Record, Department of Work and Pensions (DWP) Benefit Recipients Records)

Beyond 2011 Project

1

- Longer term framework
- Statistics User Forum, May 2009
- Scope: UK-wide, ONS-led, England and Wales development work
- General Register Office for Scotland involvement: Steering Group and Project Board
- <http://www.ons.gov.uk/about-statistics/methodology-and-quality/imps/beyond-2011/index.html>

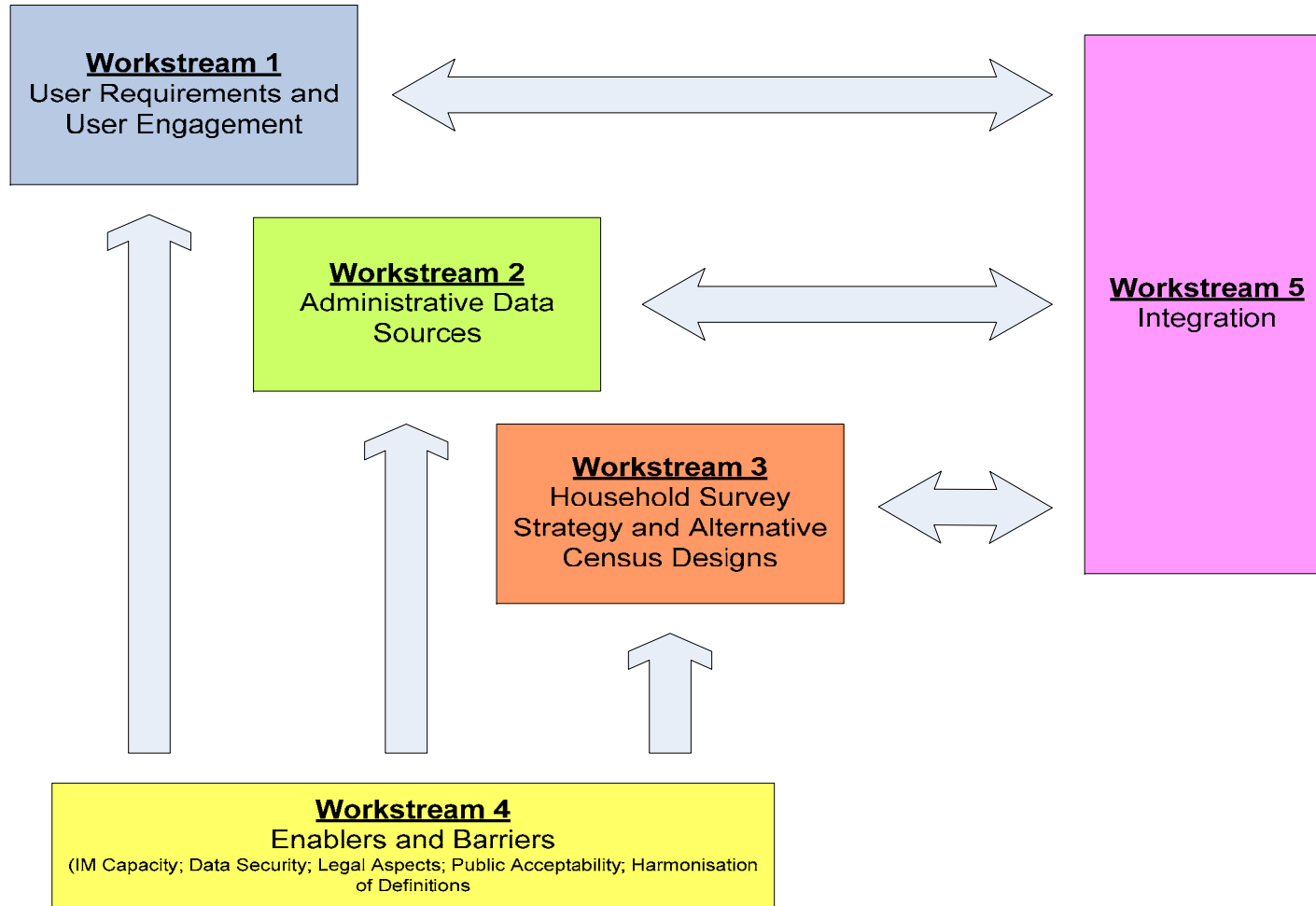
Beyond 2011 Project

2

Aims:

- To investigate the feasibility of improving population statistics in the UK by making use of integrated data sources to replace or complement existing approaches
- To investigate whether alternative data sources can provide the priority statistics on the characteristics of small populations, typically provided by census

Beyond 2011 Project Structure



Beyond 2011 Project Structure

Work Stream 1: User Requirements

- What outputs are needed: stocks and flows, individuals/households, dwellings counts and structures, characteristics
- Quality Aspects: relevance, frequency, timeliness, accuracy/geography, accessibility/clarity, comparability, coherence

Beyond 2011 Project Structure

Work Stream 2: Administrative Data

- Identify Key Sources: DWP/Her Majesty's Revenue and Customs (HMRC), National Health Service Central Register (NHSCR)
- Demonstrate Feasibility: proof of concept

Beyond 2011 Project Structure

Work Stream 3: Survey/Census Design

- Extended and integrated household surveys
- Alternative census designs – e.g. French (rolling census) or United States (US) (short and long form) models
- Modelling: Small area estimation

Beyond 2011 Project Structure

Work Stream 4: Enablers/Barriers

Key developments underpinning the work

- IT infrastructure
- Data security/confidentiality
- Legal issues
- Harmonisation of definitions, concepts, identifiers
- Public acceptability <http://www.ons.gov.uk/about-statistics/methodology-and-quality/imps/beyond-2011/data-sharing-between-government-departments---report-on-public-acceptability.pdf>

Beyond 2011 Project Stages

- March 2010 – HMT Strategic Case and work plan
- Spring 2011 – Census 2011 and key sources snapshots
- 2011 – 2013 – Analysis, assessment
- 2013/14 – Decisions on a future approach

Work in Scotland

- GROS focus on administrative sources :

Small team to cover this area since October 2004

- SG-led harmonisation and integration of population surveys:

Long term strategy for population surveys 2009-2019

<http://www.scotland.gov.uk/Topics/Statistics/About/SurvStrat>

GROS: Administrative Sources Research 1

- Aiming to arrive at a coherent UK approach but
- Development work for Scotland where
 - Sources, or
 - Legal framework for data sharing may be different

(e.g. No Scottish equivalent of the 2007 SRSA which gives ONS enabling powers to access OGD data; easier access to NHSCR data)

GROS: Administrative Sources Research 2

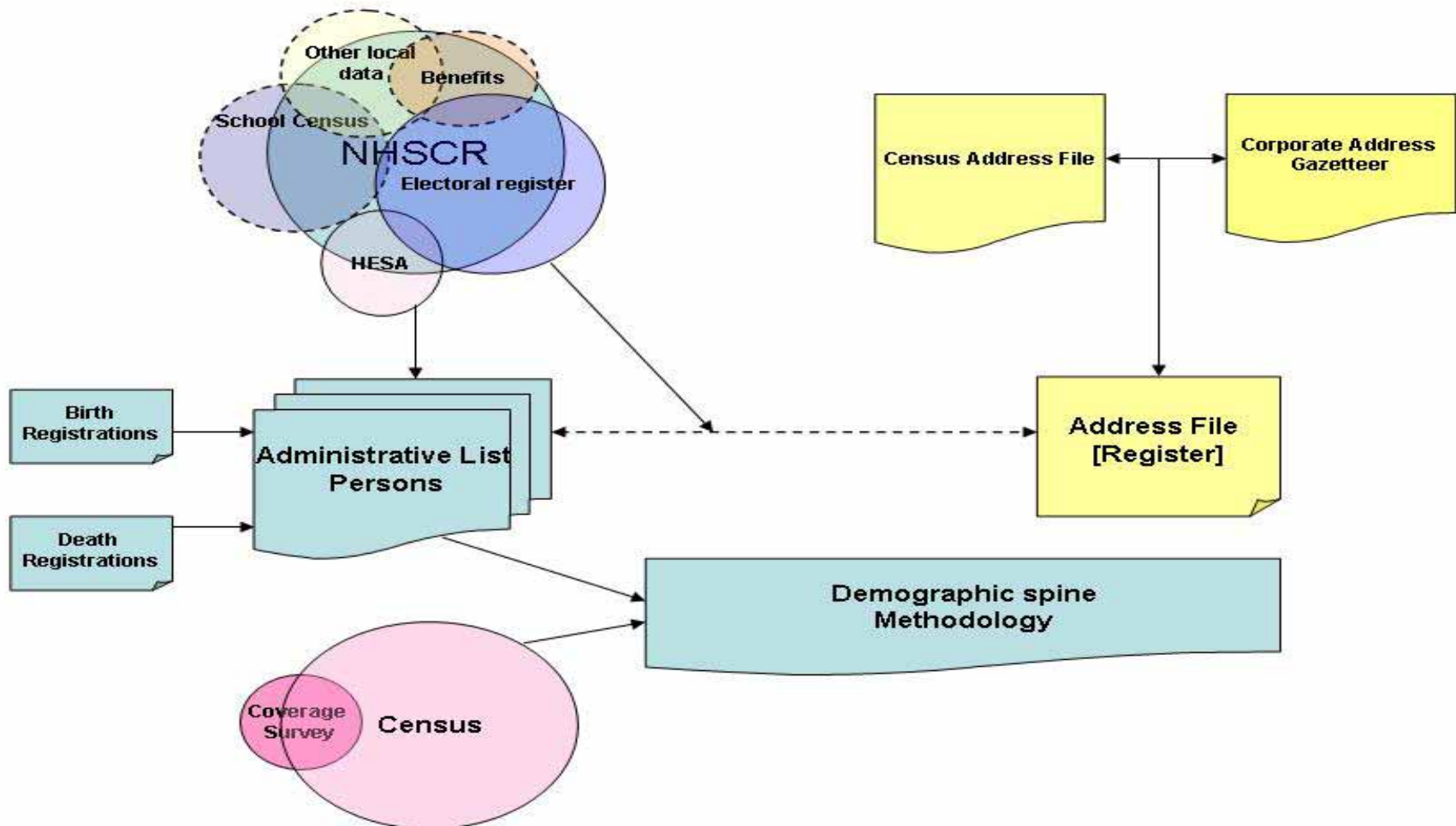
- Data sharing
- Record linkage capability
- Data quality assessment
- Data integration

Demonstrating feasibility: data integration

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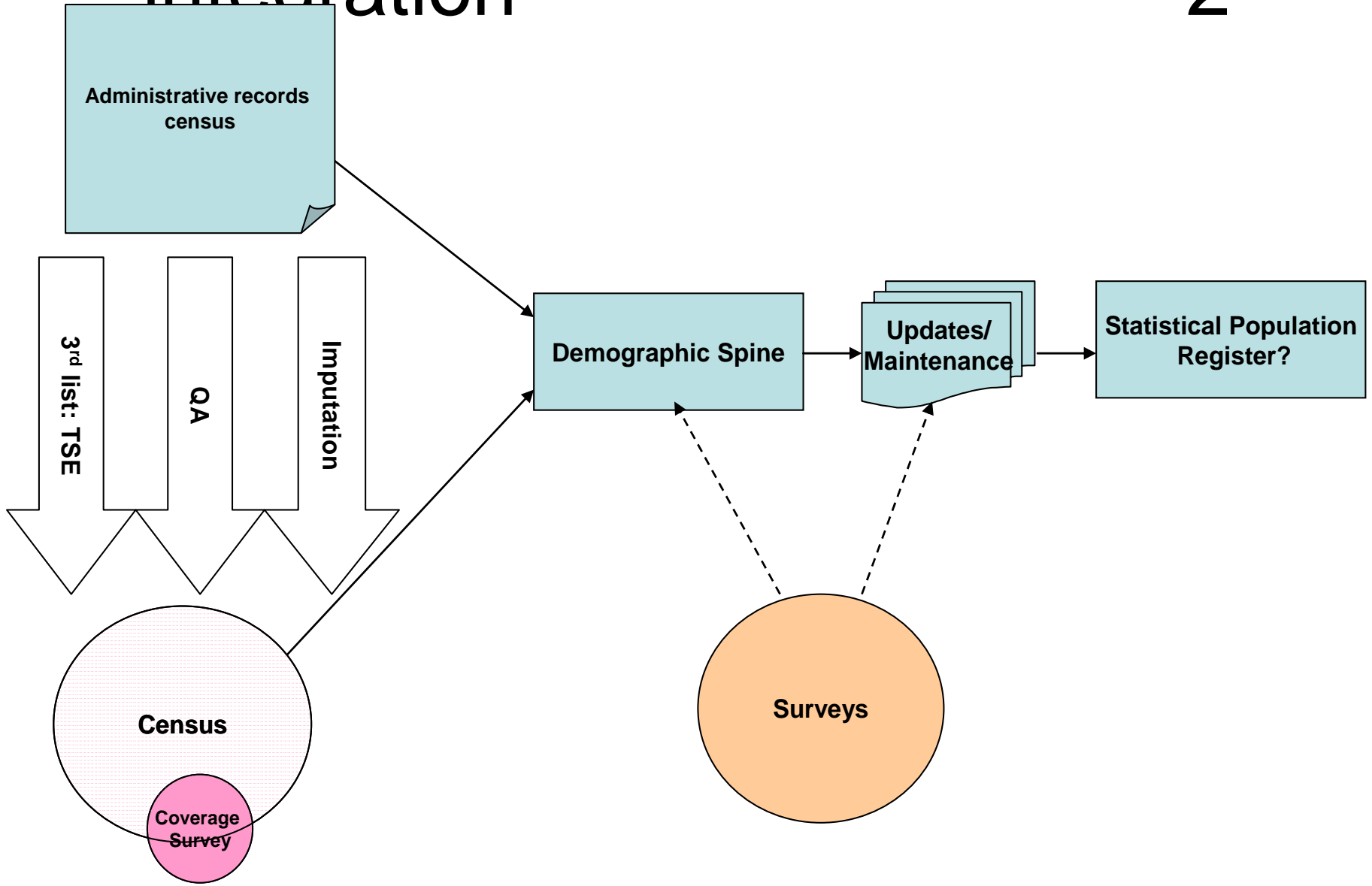
Person Universe

Address Universe



Demonstrating feasibility: data integration

2



Data Sharing

- Key requirement: person record level
- Currently available:
 - GROS held: *Census, Registration, NHSCR*
 - Other: *Electoral Roll*
- Work in progress (short to medium term):
 - With ONS: *NINO (National Insurance Number) Allocations (Migrant Worker Scan), HE Student record (E&W), DWP benefit recipients*
 - With Scottish Government: *HE student record for Scotland*
 - With Local Authorities (LA): *School census and other local data*

Data Quality Assessment

- Small area aggregate data (comparison to Census and population and migration estimates):

child benefit, state-pension-age benefits, school census (stocks and flows), electoral roll, NHSCR, HE student record (flows)

- Person level data (record linkage)

community health index, electoral roll, NHSCR

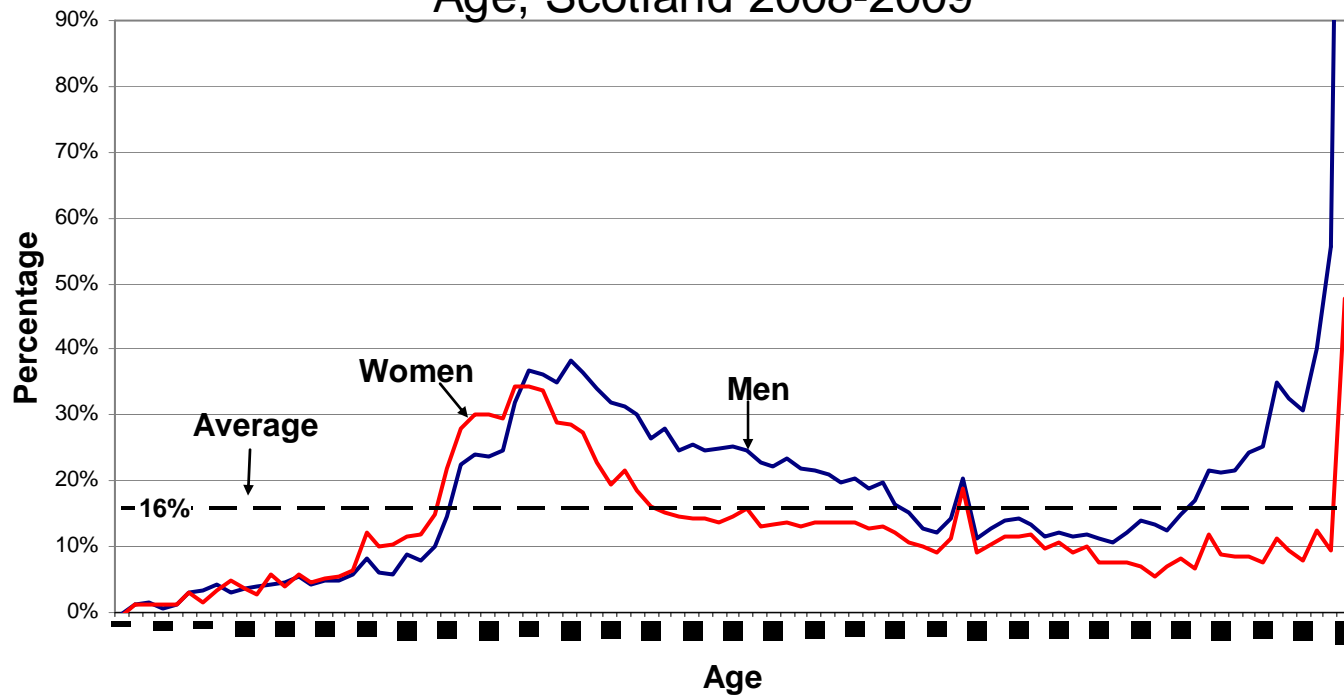
Record Linkage Capability

- Reviewed tools and methodologies for combining data
- Identified key software tools
- Carried out pilot studies

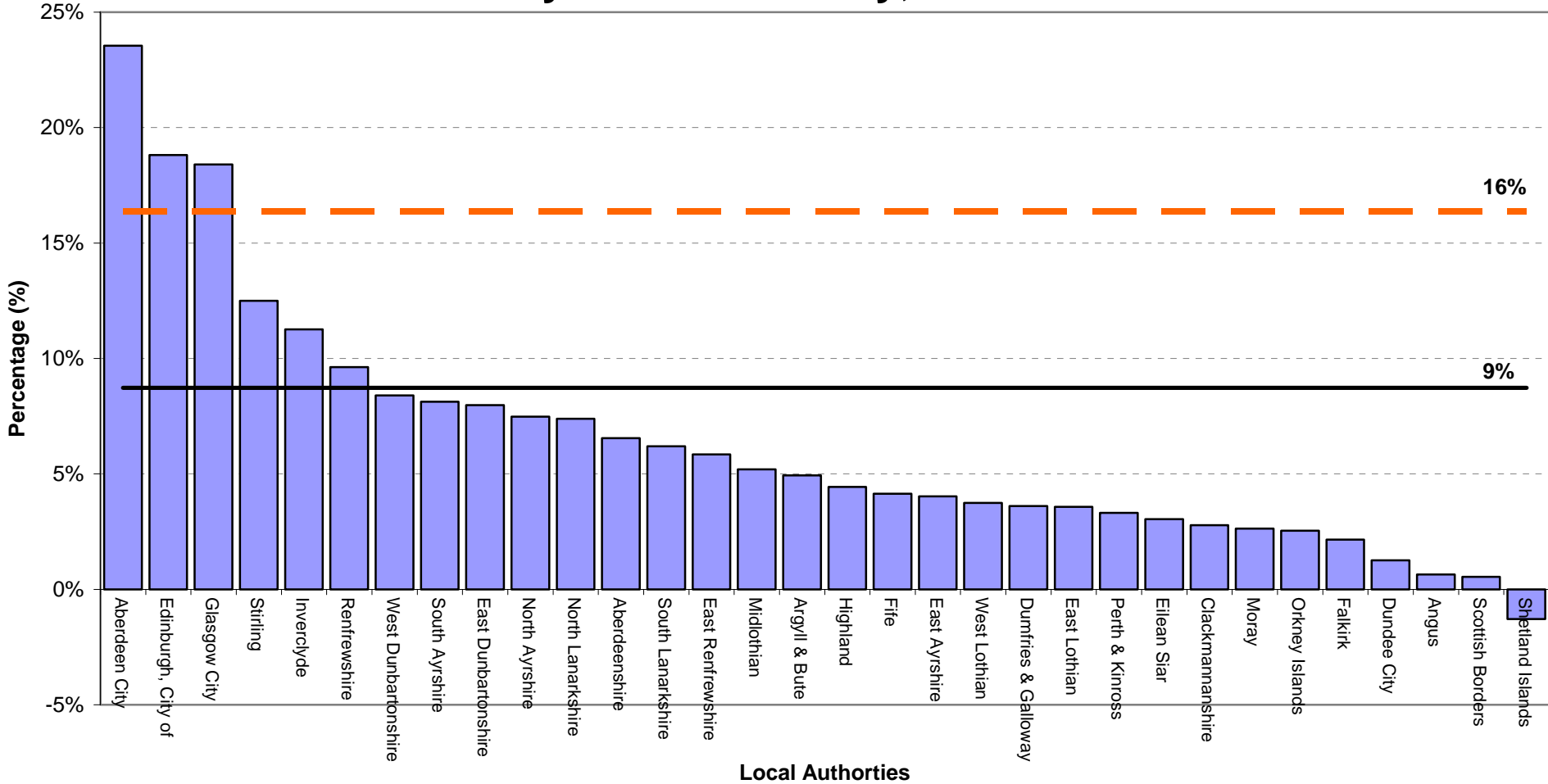
Key Conclusions (so far)

- Different sources tell different stories/measure different things (and patterns vary across the country)
- Aggregate data useful as a start but of limited value: raises more questions
- Access to identified person records essential to progress
 - comprehensive population coverage
 - ability to cross check sources and resolve discrepancies (which are numerous)

NHS Central Register Compared to Population Estimates: Percent Over-Coverage by Gender and Age, Scotland 2008-2009

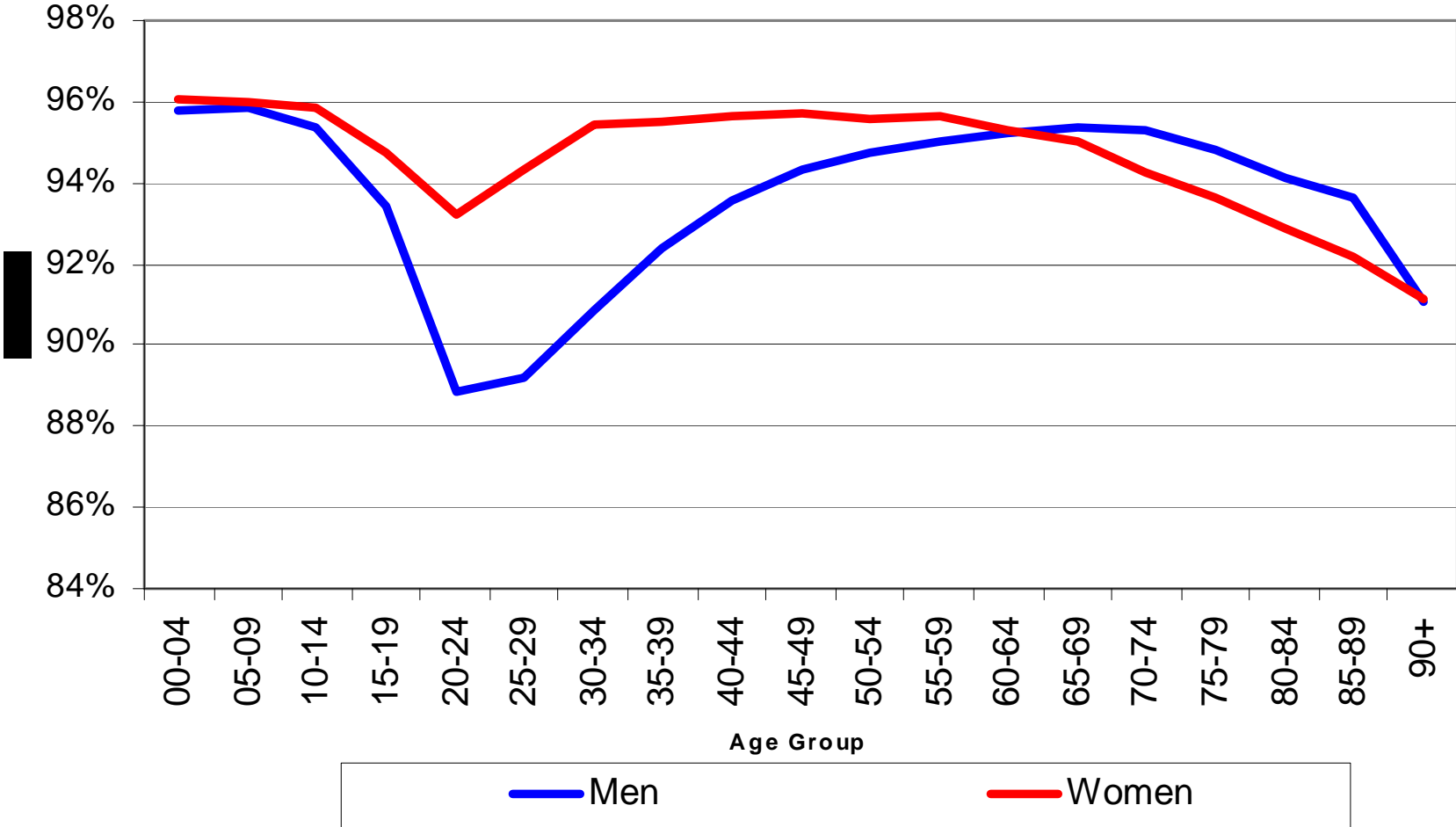


Over-Coverage of NHSCR against Mid Year Estimates (MYE), by Local Authority, 2008



Local Authorities
 Scotland who are assigned valid postcode
 Scotland - alive and residing in a Scottish Health Board

Proportion of Census Records Linked to Community Health Index (CHI) by Age and Gender, 2001



Key Challenges

- Data sharing:
Insufficient population coverage secured so far
- IT infrastructures and tools

Timeline

- Comparison of our 'statistical register' with 2011 Census
 - Much of the work to be done retrospectively
- Inform decisions for 2021 around 2013/14
 - The quality of conclusions depends on future outcomes of data sharing initiatives