Improving population estimates for England and Wales

Outline of our continuous improvement plan for mid-year population estimatesfor England and Wales.

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1 . Overview of improving population estimates

Mid-year population estimates (MYEs) are some of the most widely used and valued statistics that we produce. They measure the usually resident population, which is comprised of people who live in a specific country continuously for 12 months or more. MYEs provide a denominator to enable the production of other important national- and local-level statistics that we produce. They support decisions about public services, funding, planning, and policy.

In March 2026, we explained our decision to publish official MYEs using established population estimates methods , rather than moving to the admin-based population estimates (ABPEs). This reflected our assessment of the ABPEs and user feedback. We concluded that MYEs should be further developed through a continuous improvement approach, using more administrative data where viable. We committed to publishing an improvement plan for mid-year population estimates, including how we intend to assess our progress.

In May 2026, the Office for Statistics Regulation (OSR) published a review of the MYEs that assessed the extent to which they continue to meet the standards of trustworthiness, quality and value of the Code of Practice for Statistics.

In response to these reviews, this article sets out our plans to:

- continue building a data strategy that prioritises the sustainable supply of high-quality data and data-linkage practices for use in the population estimates
- develop methods using “new” data sources to improve the quality of our local area estimates, particularly focusing on those areas with greater uncertainty, including areas with a high number of international migrants, students and other people moving to and from the area
- improve how we understand and communicate the quality of our estimates, so we can be confident in the improvements we are making and advise on their best use

Our aim is to maintain a coherent population statistics system that supports user confidence. We will work with local authorities to address important challenges in estimating migration and population change.

This improvement plan responds to challenges outlined in OSR’s review, while supporting the princples of trustworthiness, quality and value in the Code of Practice for Statistics.

We have published this improvement plan alongside our Population estimates for England and Wales bulletin. To accompany the bulletin, we have also published:

- our Mid-year population estimates for England and Wales quality and methods guide
- our Population statistics and sources guide
- our Local authority quality of population estimates for England and Wales supporting methodology article
- our Subnational long-term international migration methodology article
- our Effect of the coronavirus pandemic on the quality of mid-year population estimates for England and Wales supporting methodology article

2 . Strategy for improving population estimates

Addressing challenges with the current approach

Our focus for addressing these challenges combines the knowledge gained by developing the admin-based population estimates (ABPEs) and our understanding of the challenges with the current approach.

We have learned from developing ABPEs that administrative data and modelling can help improve population estimates, especially at more detailed local levels. Combining administrative, survey and census data can improve methods and help validate population estimates.

However, there are still important challenges around securing reliable data, building robust production systems, and explaining complex methods clearly so users trust the results.

Because of this, our plan is to improve the current mid-year population estimates (MYEs) gradually, rather than switch immediately to a new approach. The improvements will focus on better methods and better data, using a continuous improvement approach that supports the trustworthiness, quality and value of the estimates.

Guiding principles for improving the mid-year population estimates

We have set out guiding principles for our improvements. These are to:

- put users at the heart of our decision-making by understanding their needs and enabling them to confidently understand and use MYEs
- continue to publish MYEs using the current methodology, while making incremental improvements to the components of the estimates
- prioritise improvements to internal migration and estimates of international migration by local authority, age and sex
- use our research maturity framework to develop, test and implement improvements to methods, administrative data, and modelling in a structured and transparent way
- use data sources where we have confidence in their quality, sustainability and suitability for population estimation
- monitor progress against clear objectives and success criteria, supported by regular independent review
- develop a sustainable population statistics system that can be improved iteratively, supported by robust code, platforms, data, and skills

Applying the guiding principles

To make sure our research meets users' needs, we will use a research maturity framework to develop new methods and data sources. Work will progress through defined stages only where agreed success criteria are met. This will:

- help ensure improvements are robust, sustainable and user focused
- build confidence in the estimates
- ensure any improvements are introduced in a secure and reliable way

While improving accuracy is the main aim of our improvements, we also need to consider other aspects of quality. For example, estimates should remain comparable over time and coherent with related population statistics. Maintaining these qualities helps ensure users can correctly interpret and apply the estimates, which is just as important as improving accuracy.

The plan aims to develop MYEs in a way that improves accuracy, reduces uncertainty, and increases user confidence by demonstrating improvements in their trustworthiness, quality and value.

Our approach to improvements, and a set of objectives and associated success criteria, have been developed and reviewed by the independent Methodological Assurance Research Panel (MARP). They outlined their support for the approaches proposed in this plan, saying:

> MARP reviewed the high-level plans for improvements to mid-year estimates and felt assured that the focus is in the right areas to address the challenges with population estimates. The success criteria sufficiently set out how the Office for National Statistics (ONS) aims to meet these challenges whilst demonstrating how improvements better meet the standards of Trustworthiness, Quality and Value outlined in the UK Statistics Authority's Code of Practice. MARP expects to play an assurance role in reviewing the data and methodological developments as the plans progress.

3 . Research and development to improve mid-year population estimates

We created workplans in four main areas to improve the quality, sustainability and transparency of mid-year population estimates (MYEs). These workplans focused on:

- better data – improving the quality, coverage and sustainability of the data used to produce population estimates
- better methods – developing and testing improvements to how population change is measured
- better evidence and assurance – strengthening how we assess, validate and communicate the quality of the estimates
- better systems and processes – building robust, efficient and sustainable systems to support continuous improvement

Data sourcing, supply and quality

A data strategy that prioritises the sustainable supply of high-quality data and data linkage practices is fundamental to both current methods and future improvements to MYEs.

As we explore and use more data sources, understanding their quality and stability becomes increasingly important. This can improve the inputs used in population estimation and provide evidence to validate new methods.

We are working with data suppliers on several developments that are affecting current data supplies.

Higher Education Statistics Agency student record data

We are supporting the Joint Information Systems Committee (JISC) planned in-year Higher Education Statistics Agency (HESA) collection. This could provide earlier data from the 2028/2029 academic year and support timelier population estimates.

Home Office Borders and Immigration data

We are working with the Home Office on improving the timeliness and quality of data supplies, including how developments within Home Office data may support this.

NHS Personal Demographics Service data

We are working with NHS England to ensure the continuation of high-quality data supplies. Personal Demographic Service (PDS) data are currently used, alongside other sources, in the international and internal migration components of MYEs.

Additional data sources

We are exploring whether additional data sources could improve the quality of our data and methods used in population estimates. These data sources include:

- administrative data on pre-school and school-age children from the Department for Education's Statistics on schools, pupils and their characteristics and their Early Years Census data, to improve coverage of child population estimates
- administrative data from HM Revenue and Customs (HMRC) Real Time Information data, the Department for Work and Pensions's (DWP's) Registration and Population Interaction Database (RAPID), and NHS prescriptions data, to improve coverage of the working-age population
- data from the Driving and Licensing Agency (DVLA) and HESA's Graduate Outcomes Survey, to improve how moves within areas of England and Wales are measured

Quality assurance improvements

We will continue to improve our quality assurance process for MYEs, building on our The future of population and migration statistics in England and Wales quality strategy. These improvements will focus on:

- completing a data dashboard to compare trends in administrative comparator sources (including those that are publicly available), long-term international migration (LTIM) estimates, and MYEs, helping to identify unusual changes
- strengthening quality assurance for administrative and commercial data sources used in MYE research and development, including earlier checks in the pipeline, closer work with suppliers, and new tools to identify data issues and emerging patterns
- continuing to improve our understanding of data linkage quality, including the Demographic and Location Index and Statistical Population Dataset, and how these could support future improvements

Developing methods

We will focus on improvements to the methods underpinning the current MYE cohort component method, prioritising improvements to the local authority estimates of internal and international migration (by age and sex). We will assess the need and design for a statistical modelling approach, learning from our experiences with the Dynamic Population Model in addressing uncertainty in the data sources.

Migration within the UK (internal migration)

For internal migration, we will test ways to improve how we estimate people that move into and out of local-authority areas each year (flows). This work will focus on:

- improvements to existing methods by assessing the Higher Education Leavers Methodology (HELM) and exploring where improvements can be made by improving data linkage or by incorporating new data sources
- better understanding the limitations in the existing methods by linking to survey data to analyse lags in the registered moves
- explore the value and feasibility of moving from an approach that captures all moves that people make within a year to an approach that focuses on where people are located at the mid-year point in consecutive years (known as a transition-based approach)
- investigate the feasibility of modelling approaches to address the limitations in existing approaches
- collaborate with the newly formed Internal Migration Methods Development working group, which is comprised of demographic experts from across government and academia, that will support the ONS by reviewing and advising on our research in this area

Migration to and from overseas at local-authority level

We will review the assumptions used to distribute LTIM estimates by local authority, age and sex. This will focus on population groups where users have shared quality concerns and where our understanding of the data sources and data linkage has improved, for example, children and adults in higher education.

Like internal migration, there are likely to be benefits in adopting a modelling approach to improve the quality of the estimates. There are several options we will evaluate as part of the plan to understand their strengths and limitations before considering if further development and implementation would benefit the system.

Population estimation

Improvements to the MYE inputs are unlikely to remove the need for a coverage adjustment. In the current MYE process, this takes place after each census, but this means increasing uncertainty between censuses as the error accumulates. We are exploring modelling approaches to help reduce error and uncertainty in the inputs on an annual basis.

Alongside these focused improvements, we will continue to research alternative approaches to population estimation, including how coverage assessment and adjustment could support population estimates after 2031.

Further information on the methods being explored is available in the Methodological Assurance Research Panel (MARP)'s Mid-year Population Estimates Improvement Plan report.

Testing and evaluation processes and data

As we move further from Census 2021, we need stronger evidence to check how well the estimates are performing. We are developing an approach for providing suitable benchmarks that does not rely on Census 2021 – our inter-censal validation protocol.

We will develop other indicators of population and population change by combining administrative, and other, data sources as benchmarks, alongside the use of single administrative data sources as comparator sources, as outlined in the Data sourcing, supply and quality subsection of Section 3. This will help to provide assurance that any changes to the methods produce improved outputs. These comparisons will be explored in our discussions with users to help us assess the impact of any changes.

We will compare MYEs at national and local-authority levels, by age and sex, with these population indicators. Some of these will be novel data sources or only focus on a subset of the population. Other data sources enable wider population coverage checks. For example, we will use the Statistical Population Dataset (SPD) as a source that is independent from MYEs to provide several different population comparisons.

We will also consider how modelling could improve comparator sources. We are exploring the potential of developing a household asset to produce aggregate independent comparators to the MYEs. It will tell us which households we believe are occupied and, if possible, household size and other attributes that build intelligence at a household level.

Internal and international migration are the two components of change that cause the highest levels of uncertainty in MYEs. Therefore, we will test the impact of new assumptions or methods that we aim to implement through sensitivity analysis. Additionally, we will compare SPDs longitudinally over time to provide an internal migration comparator and to try to derive international migration from net changes. We will define thresholds for discrepancies that will trigger further investigation.

Local authorities are both users and producers of local population data (for example, in their role in updating the Local Land and Property Gazetteer). We will continue to engage with a selection of local authorities that have particular demographic traits that pose challenges to the estimation process (for example, high population churn areas). This includes sharing our research at early stages, investigating alternative data sources they have, understanding their strengths and weaknesses, or collectively exploring the quality of existing administrative sources.

Statistical processes and data pipelines

We aim to meet best practice standards in all our processes to ensure their sustainability as data sources and methods change. We routinely review and update our existing processes and data pipelines to identify and implement efficiencies, provide better documentation and provide greater assurance that the existing system does not contain process errors.

As we adopt new methods, we will ensure statistical processes are compliant with repeatable analytical pipelines.

4 . Future developments

Outputs, communication and engagement

While research continues to improve the quality of our mid-year population estimates (MYEs), our statistical publications, stakeholder engagement and communications must give users confidence in the changes we are making. We must also provide assurance that MYEs meet users' needs and clearly explain their limitations.

Alongside our Population estimates for England and Wales bulletin, we have published two articles that explain their strengths and limitations:

- our Local authority quality of population estimates for England and Wales supporting methodology article
- our Effect of the coronavirus pandemic on data and quality of population estimates for England and Wales supporting methodology article

These articles draw on our assessment of the quality of the estimates and user feedback. We will continue to publish information on the quality of MYEs and the impact of future improvements.

We recognise there is room for improvement in this area, as acknowledged by the Office for Statistics Regulation's (OSR's) requirements and recommendations for the MYEs. We will:

- involve users of MYEs throughout the research maturity framework stages, from proof-of-concept through to implementation in outputs and guidance
- develop an engagement plan focused on user needs and building confidence in iterative improvements
- liaise with users of local-authority level MYEs in autumn 2026 to gather feedback on changes made to quality reporting for the mid-2025 MYEs; we will use this feedback to inform whether further quality analysis should be conducted before the publication of mid-2026 MYEs (in summer 2027) and what further changes are needed to our suite of MYE quality materials
- explore the viability of making data comparator tools available to users; we currently use these tools for MYE quality assurance purposes but want to make this more accessible for users, subject to data-sharing agreements
- conduct more detailed analysis of population trends at local-authority level, either through standalone analytical articles or within our 2027 MYE publication; this analysis will explore the components of population change, local demographic trends and how they compare with national patterns

Timelines and future updates

Monitoring, assurance and user engagement

This article sets out our approach to addressing methodological limitations in the current MYEs through incremental improvements. Progress will be monitored through the research maturity framework and established governance routes, including six-monthly updates to the Population Statistics System Committee.

The framework ensures assurance across the trustworthiness, quality and value objectives, including seeking and addressing user and expert feedback before proceeding to each stage from proof-of-concept to implementation. Methodological developments will continue to be independently assured by the Methodological Assurance Research Panel (MARP).

We will provide regular updates on progress and the timing of planned changes to future MYEs. Given the iterative nature of this research, we will aim to communicate proposed methodological or data source changes before publication.

As the programme involves original methodological research, implementation will depend on the evidence generated and whether proposed changes deliver sufficient improvements in quality and fitness for purpose.

Planned improvements by summer 2027

By summer 2027, we aim to complete the evaluation of improvements to internal migration methods, including the use of new administrative data sources, and determine their suitability for implementation. We also plan to introduce enhanced validation approaches that will initially be focused on comparisons between administrative data and MYEs, alongside improving our understanding of local data sources and their limitations.

By that point, we aim to complete a proof-of-concept evaluation of alternative estimation approaches to the current cohort component method. These findings, together with the improvements achieved through enhancements to current MYEs, will inform whether a future transition to an alternative approach should be considered.

Research and development will continue through 2028. During this period, we also aim to evaluate and implement improvements to the allocation of long-term international migrants across local authorities, where this is supported by evidence. We will provide updates in our Quarterly update on population and migration statistics articles.

Alignment with Census 2031 and future population statistics

We will ensure improvements to MYEs align closely with Census 2031 plans and the longer-term development of population statistics through joint planning, shared research, and coordinated development. This will include aligning work on population definitions, methods and data sources so that evidence from intercensal research can both inform and be informed by Census 2031 decisions.

Regulation, transparency and future delivery

We will continue to engage closely with the OSR to support compliance with the Code of Practice for Statistics and address its requirements and recommendations. Progress, emerging findings and planned developments will be communicated through quarterly updates and established user engagement channels.

The activities and indicative timelines in this plan reflect current expectations. As the programme involves ongoing research and evaluation, priorities, timelines and implementation decisions may be refined in response to evidence, user feedback and independent assurance.

5 . Related links

Population estimates for England and Wales: mid-2025
Bulletin | Released 29 July 2026
National and subnational mid-year population estimates for England and Wales by administrative area, age and sex.

Mid-year population estimates for England and Wales quality and methods guide
Methodology | Released 29 July 2026
What the population estimates statistics cover, how we produce them, and their quality and comparability. Includes definitions and latest, past and upcoming changes.

Effect of the coronavirus pandemic on the quality of mid-year estimates for England and Wales
Supporting methodology article | Released 29 July 2026
An assessment of how the coronavirus (COVID-19) pandemic affected the production and quality of population estimates for England and Wales.

Local authority quality of population estimates for England and Wales
Supporting methodology article | Released 29 July 2026
Explores how uncertainty, as a measure of quality, can be introduced into the population estimates process, and the impact of this on local authorities.

6 . Cite this article

Office for National Statistics (ONS), released 29 July 2026, ONS website, supporting methodology article, Improving population estimates for England and Wales