Office for Statistics Regulation

UK Statistics Authority

Review of compliance with the Code of Practice for Statistics

Mid-year population estimates for England and Wales

Statistics producer: Office for National Statistics
Report by: Office for Statistics Regulation

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The Office for Statistics Regulation

Statistics should serve everyone, helping enhance knowledge about every section of society and the economy, and people's place within them.

The Office for Statistics Regulation (OSR) provides independent regulation of official statistics produced in the UK. Official statistics are statistics produced by Crown bodies and other organisations listed within an Official Statistics Order, on behalf of the UK Government or the devolved governments.

We aim to enhance public confidence in statistics produced by government by setting the standards that they must meet in the Code of Practice for Statistics. We ensure that producers uphold these standards by conducting reviews of statistics against the Code. We also report publicly on system-wide issues and on the way statistics are being used, celebrating when the standards are upheld and challenging publicly when they are not.

Compliance review

A compliance review is a review of any official statistics (or accredited official statistics) to establish the extent to which they meet the standards of Trustworthiness, Quality and Value in the Code of Practice for Statistics. We might undertake a review with a view to accrediting a set of statistics (this type of compliance review is called an assessment), focus on a specific issue or involve a high-level check of ongoing compliance.

A range of factors determine the scope of and approach to a compliance review, including the type of statistics, their accreditation status, the producer history, the profile of the statistics and the reasons for initiating the review.

Contents

Overview

At the time of this report, the Office for National Statistics (ONS)'s national and subnational 2024 mid-year population estimates (MYEs) for England and Wales are published as accredited official statistics.

These statistics provide the official headline measure of the population in England and Wales on an annual basis. The statistics are used extensively by a wide range of users for different uses. They provide insight into the size and location of the population and feed into a range of other datasets, for example to calculate employment, unemployment, and inactivity rates in labour market statistics. In turn, MYEs are used to underpin important operational and policy decisions, both at a national and local level.

This review assesses the extent to which the MYEs continue to meet the standards of Trustworthiness, Quality and Value of the Code of Practice for Statistics. In parallel we sought user views on ONS's development of the admin-based population estimates (ABPE).

Why we did this review

In 2021 we initiated a review in response to user concerns raised with us regarding the population projections and mid-year population estimates for Coventry. The concerns were about the perceived inaccuracies of the population estimates on which the household projections and subsequent housing need are based. We concluded that ONS needed to build and enhance its approach in three ways: improve methods; enhance communication; and embrace challenge. Our 2021 recommendations set out areas for ONS to address.

In parallel, ONS has been developing new ABPEs using the dynamic population model, a Bayesian statistical modelling approach, to improve the way it measures the population. Development work for the new methods has rapidly increased in recent years, as part of considering alternative options to a 2031 census. To support ONS's ambition, we conducted the first phase of an assessment of the ABPEs in 2024, focusing on the quality aspects of the new approach. Since then, ONS has used our findings to help steer and shape its developments.

ONS set out its ambition to transition from the current traditional cohort component method used to compile its annual MYEs to the ABPEs as its headline official measure of the population in summer 2026. We wanted to assure ourselves and users around the quality of the traditional MYEs, as the continued headline measure. This was reinforced by user concerns raised during our 2021 Census in England and Wales phase 3 assessment report. ONS has since made the decision not to transition, and instead to focus on improving the MYEs.

Highlighted findings

- ONS's decision not to transition to admin-based population estimates (ABPEs) in 2026 provides a valuable opportunity for ONS to focus on continuous improvement of the existing mid-year estimates (MYEs).
- The current MYE methods have known limitations, particularly regarding the measurement of internal migration and disaggregation of international migration at the local authority level – issues which contributed to past concerns.
- At a national (country) level, the population estimates are of sufficient quality that means that they meet their intended uses. User confidence is generally strong at the national level.
- Census 2021 took place during the COVID-19 pandemic. The impact this had on population movement at a local level presents challenges for some users as a baseline in subnational population estimates.
- Some users raised significant concerns with the quality of subnational and subpopulation estimates. We share these concerns and consider them credible, given the well-established challenges in producing reliable estimates for areas with high population churn. Local authority intelligence indicates an over- or under-estimate in some areas. These discrepancies are yet to be fully explained and are indicative of a need for ONS to innovate and improve its methods.
- There is a need for clearer communication and guidance to strengthen user confidence – particularly around quality, uncertainty, revisions and how different population estimates should be used – helping ensure the statistics remain trusted and relevant.
- Our user engagement exercise found that while many users value the accessibility, clarity, and granularity of ONS's population statistics – particularly the quality of written guidance and the generally constructive engagement with ONS – substantial concerns remain about data quality, methodological issues, and communication.

Our judgement

We judge that while the MYEs continue to provide an important and valued source of population insight, work is needed to strengthen user confidence by enhancing transparency, communication, and the clarity of quality information. Some users raised significant concerns with the quality of subnational estimates, particularly in local authority areas with high population churn. The data sources and methods used for measuring internal migration also require improvement. These limitations are well understood by ONS, which recognises them as priority areas for development and improvement. As ONS continues to develop its methods for estimating the mid-year population, further

improvements to assurance, explanation and documentation would help reinforce trust in the statistics. Existing governance structures provide a strong foundation, and with clearer objectives, greater transparency and strengthened oversight, they can play an even more effective role in supporting high quality population estimates.

Based on the findings of this review, we have identified four requirements which ONS must meet by the time of its next publication in summer 2026 in order for the statistics to retain accredited official statistics status. These requirements are set out in full in the following section. In summary, ONS is required to:

- Clearly and transparently explain the strengths and limitations of current MYE methods, and what it plans to do to address weaknesses.
- Clearly explain pandemic impacts on the MYEs, justify claims of post-2021 robustness, and actively engage users to ensure that its current guidance is helpful at highlighting any pandemic-related effects on the data.
- Strengthen how it communicates uncertainty and limitations, particularly for non-technical users, and improve the navigation and accessibility of quality and methodology information.
- Update and actively promote clearer guidance on which population estimates should be used for different purposes.

We have also identified several recommendations which ONS should address to further improve the statistics and enhance their Trustworthiness, Quality and Value. These recommendations include strengthening user confidence in ONS's improvement plans and estimates, conducting deep-dive analyses to understand how estimates may have changed since 2021, resolving discrepancies with DfE school census data, enhancing quality assurance, undertaking a robust revisions analysis in summer 2026, and mitigating concerns about revisions and publication delays. We note that ONS is already developing and implementing plans to make improvements. In light of ONS's focus on continuous improvement of the MYEs, our review findings should play a central role in shaping planned work.

Next steps

Confirmation of the continued accreditation of these statistics is conditional on ONS meeting Requirements 1, 2, 3 and 4 before or at the same time as its next planned publication of the MYEs in summer 2026. We expect a public update from ONS detailing how it has met these requirements by this point.

We will review and monitor ONS's progress against our recommendations and expect ONS to report publicly to us on its progress in relation to these by the end of 2026. To add an additional layer of assurance, we recommend that the Population Statistics System Committee of the UK Statistics Authority play a role in overseeing ONS's progress in

response to the recommendations and report relevant updates publicly through its minutes every six months.

Related links

Review of population estimates and projections produced by the Office for National Statistics (May 2021)

Admin-based population estimates for England and Wales (July 2024)

Assessment of compliance with the Code of Practice for Statistics: 2021 Census in England and Wales (June 2025)

Requirements and recommendations

Due to the significance of some of our findings, confirmation of the continued accreditation of these statistics is conditional on ONS meeting Requirements 1, 2, 3 and 4 before or at the same time as its next planned publication of the MYEs in summer 2026. We expect a public update from ONS detailing how it has met these requirements by this point.

We will review and monitor ONS's progress against our recommendations and expect ONS to report publicly to us on its progress in relation to these by the end of 2026. To add an additional layer of assurance, we recommend that the Population Statistics System Committee of the UK Statistics Authority play a role in overseeing ONS's progress in response to the recommendations and report relevant updates publicly through its minutes every six months.

Requirements

Requirement 1: To support user confidence in its decision to continue with the MYEs, ONS must be open and explicit about the strengths and limitations of the current methods and what action ONS is taking, with time scales, to address methodological limitations with independent assurance.

Requirement 2: To ensure that users have confidence in the population baseline underpinning the MYEs, ONS must:

- Clearly set out the pandemic's impacts on the MYEs, prominently linking to its published COVID-19 impacts report, and publish evidence to justify its claim that its estimates since 2021 are unaffected by systemic pandemic effects, particularly in light of acknowledged uncertainties for some areas.
- Actively engage with users through its established groups to test the adequacy of current guidance and make necessary improvements, ensuring users are explicitly informed about which data and geographies remain vulnerable to pandemic-related distortions.

Requirement 3: To help users better understand the strengths and limitations of the MYEs, ONS must:

- Improve the prominence and clarity of how it communicates uncertainty in its population estimates, particularly for local authority areas with high levels of migration and/or large student populations. This should include enhancing communication for non-technical users so that they can understand what the estimates should and should not be used for.
- Improve the accessibility, structure, and navigation of key methodological and quality and methodology information (QMI) documentation to support a broader range of users.

Requirement 4: To avoid the risk of users picking up the wrong number for the purpose that they need, ONS must update and promote its guidance for users on which population estimates should be used for which purposes, setting out the strengths and limitations of each.

Recommendations

Recommendation 1: To support user confidence in its plans to improve population statistics, ONS should:

- Develop and publish, as planned, revised goals and criteria to direct and measure the continuous improvement activities in a structured and accountable way. This should include how the work may or may not intersect with plans for the 2031 census.
- Ensure that methodological research and lessons learnt from the development of the ABPEs are incorporated into the plans for the MYEs.
- Report continuous improvement activity for the MYEs to the Population Statistics System Committee (updates to the Committee should include progress made against the OSR recommendations every six months).

Recommendation 2: To support user understanding and confidence in the estimates, ONS should improve its transparency on methods used to measure internal migration. ONS should also provide greater clarity on the assurance and effectiveness of the Higher Education Leavers Methodology (HELM) and evaluate its impact as part of its plans to improve the measurement of internal migration.

Recommendation 3: Given the time passed since 2021, and wider population trends and changes, ONS should conduct and publish deep-dive analyses into areas where users flagged discrepancies to understand how the estimates may have changed since 2021, triangulating its research with other data sources.

Recommendation 4: To help with understanding the differences between MYEs for school-age children and the Department for Education's (DfE) English school census, ONS should:

- Continue reconciliation work with DfE, accompanied by joint statements that summarise findings and provide explanations where differences persist.
- Engage with Welsh Government to determine if there are any discrepancies between the Wales school census results and MYEs for school-age children in Wales.

Recommendation 5: To enhance the rigour of its quality assurance process and increase user confidence in the accuracy of estimates in some local authority areas, ONS should:

- Revisit its quality assurance process now that a decision has been made around the future of population statistics and identify ways to improve learning lessons

across both ABPEs and MYEs following the closure of ONS's Future of Population and Migration Statistics (FPMS) programme.

- Evaluate and consider the added value that local authorities (LAs) can bring by formally incorporating LA intelligence into the quality assurance process.
- Strengthen its documentation to clearly and transparently explain how intelligence from LAs is considered and assessed, and where it cannot be incorporated, set out the rationale for those decisions.

Recommendation 6: In light of ONS's plans to revise its estimates for mid-2022 to mid-2024, reflecting improvements already made to long-term international migration (LTIM) statistics, ONS should, when publishing the mid-2025 estimates in summer 2026, undertake a revisions analysis to assess whether the updated figures align more closely with expectations held by some local authorities.

Recommendation 7: To help mitigate user concerns about revisions and publication delays, ONS should update its publication schedule and in future promptly explain to users any unexpected/expected revisions and changes to publication dates in line with its revisions policy.

Context

Background

In recent years, ONS has been seeking ways to improve its population estimates for England and Wales by making more use of administrative data in its methods. These efforts have resulted in the admin-based population estimates (ABPEs). ONS has published a series of articles demonstrating its development of the ABPEs (labelled official statistics in development) using the dynamic population model (DPM), a Bayesian statistical modelling approach. ONS had been working towards replacing the current traditional cohort component method used to produce national and subnational population estimates by age, sex and local authority for England and Wales with the ABPEs. ONS's prioritisation and focus had been to stabilise and improve the new methods of the ABPEs so that users could be confident when the change in methods occurred.

ONS has since made the decision not to transition from the current traditional cohort component method used to compile its annual MYEs to admin-based population estimates (ABPEs) as its official estimate of the population in England and Wales. This is a significant shift in ONS's direction for the future development of population estimates. ONS now plans to focus its activity on a programme of continuous improvement to the current methods to produce the mid-year estimates.

The findings presented in this report are based on a due diligence check of the mid-2024 national and subnational mid-year estimates for England and Wales. We conducted desk research and spoke to a range of population statistics users to help inform our judgements and findings. The report is also informed by insights from the Office for Statistics Regulation (OSR)'s three previous regulatory projects on ONS's population statistics. With its publication, we consider our 2021 review of population estimates and projections, the 2024 assessment of the ABPEs in England and Wales and the 2025 assessment of the 2021 Census in England and Wales to be closed.

User views sought on the ONS's development of the ABPEs are reported in our letter dated 13 March, confirming the closure of the ABPE assessment project.

Mid-year estimates

Measuring the size of the population accurately is essential to understanding different aspects of our lives and communities. It is also inherently challenging. ONS publishes annual mid-year estimates (MYEs) of the population of England, as well as annual population estimates for Wales. This includes statistics at the following geographic breakdowns:

- England and Wales combined

- England and Wales at country level
- Regional
- Local authority

The annual MYEs are produced from data on four aspects of the population – namely stock, births, deaths, and migration:

a. Stock (the size of the population on a given day) is taken from the census. Estimates are rolled forward to 30 June (mid-year), and for consecutive years between censuses.

b. Birth data are obtained from birth registrations. ONS publishes birth statistics for England and Wales. ONS also publishes UK birth figures.

c. Death data are obtained from death registrations in constituent countries, similar to birth registrations.

d. Migration data include estimates of both international and internal migration. An international migrant is defined as a person who changes their country of usual residence for a period of at least one year. Internal migration estimates account for the movement of people within England and Wales and to, or from, the rest of the UK (cross-border flows).

Finally, adjustments are made to account for special population groups that are not captured by the internal or international migration estimates, such as prisoners and armed forces.

ONS also collates data from National Records of Scotland and Northern Ireland Statistics and Research Agency to produce population estimates for the UK. Estimates for each of the UK constituent countries are compiled using a common methodological approach, with the aim to be as consistent as possible.

The cohort component method

To produce the MYEs, ONS takes data from the most-recent census and rolls them forward to 30 June (mid-year) to determine the population stock. ONS then updates the MYEs for population change (also known as population flow) using births, deaths, and migration data. This method is referred to as the cohort component method and accounts for a full year's population change between 1 July and the subsequent 30 June. However, in census years, the MYEs instead account for the change between the day the census was conducted (for example, 21 March 2021) and mid-year (30 June 2021), a period of three months.

Between censuses, the estimates tend to drift and their quality deteriorates. This drift can be caused, in principle, by an error in the population baseline from the preceding census (census base) and by the accumulation of error in population flow data until they can be

rebased again using data from the next census. So, the more time that has passed since the last census took place, the less accurate the estimates. For example, in November 2023, ONS rebased its MYEs (2012–2021) once data from Census 2021 for England and Wales became available and revised the back series of components of population change, as depicted in the charts below. In England, this led to an increase in rebased estimates for females and a decrease for males compared to the rolled-forward MYEs. In Wales, rebased estimates decreased the number of both males and females compared to the rolled-forward estimates.

Figure 1. Comparison between rolled-forward mid-year population estimates and rebased back series by sex, England, 2012–2021 (Figure 5).

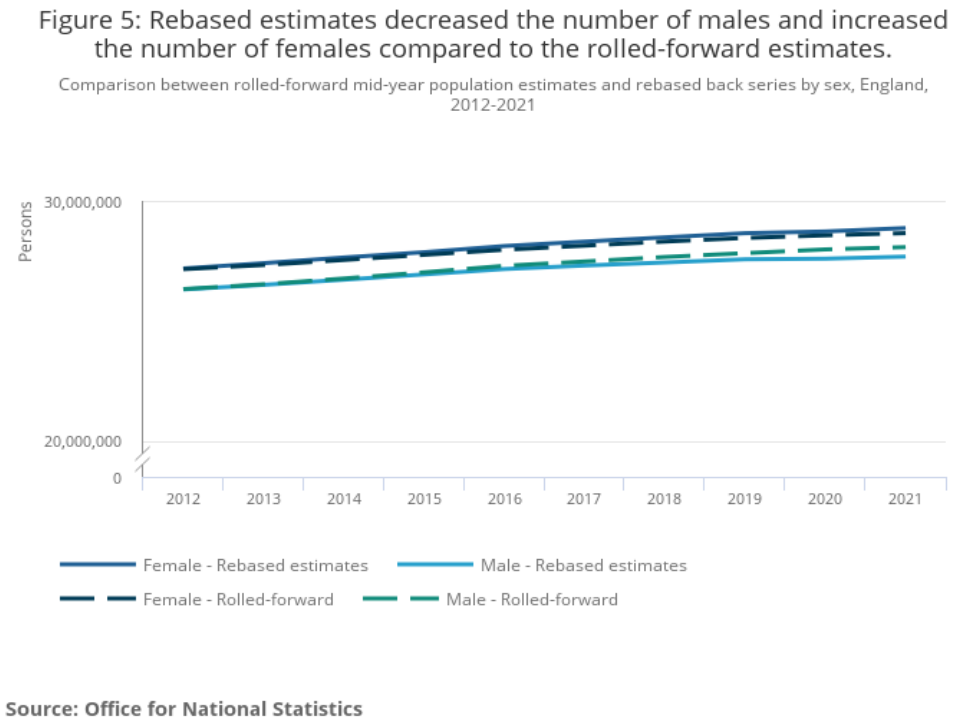
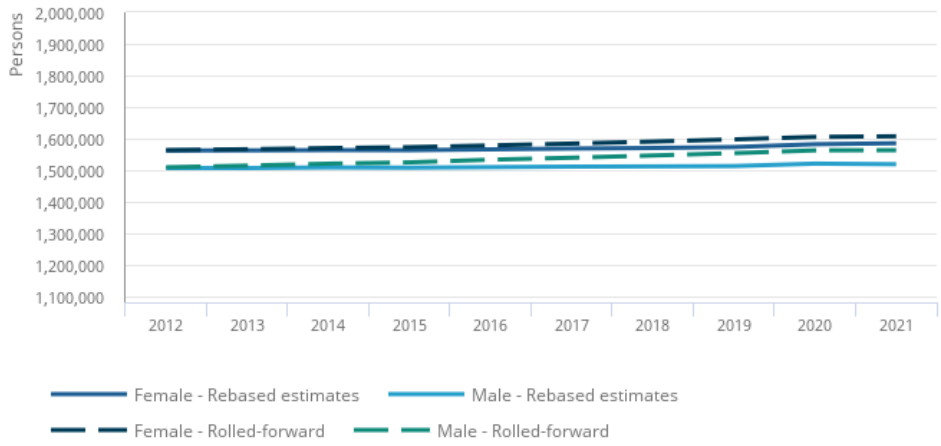


Figure 2. Comparison between rolled-forward mid-year population estimates and rebased back series by sex, Wales, 2012–2021 (Figure 8).

Figure 8: Rebased estimates for Wales decreased the number of both males and females compared to the rolled-forward estimates.

Comparison between rolled-forward mid-year population estimates and rebased back series by sex, Wales, 2012-2021



Source: Office for National Statistics

Source: Figures 5 and 8 – ONS website.

This rebasing is standard practice and conducted by ONS as part of the current process to estimate the size of the population, with benchmarking against the census every 10 years. Most of the revisions made have been for net international migration flows as a result of improved methods and data over time.

The value of the dynamic population model (DPM)

The extensive research and progress made to produce administrative-based population estimates using the Dynamic Population Model (DPM) offers a wealth of insight and opportunity for ONS to harness in its continuous improvement plans for the MYEs. As a Bayesian statistical model, the DPM is designed to estimate components of population change, incorporating prior knowledge and estimates of stocks, flows, and rates and their uncertainties using a Bayesian approach. As a statistical model, it updates prior beliefs using new evidence and as an approach can account for associated statistical uncertainty more effectively than the current MYE methods. Most uncertainty is associated with migration. Methods for international migration estimates are currently under development, and changes to these methods lead to revisions.

One of the strengths of the DPM is that it should, in principle, avoid the existence of unattributable population change (UPC) due to the way it balances the stocks and flows. UPC refers to the remaining population change that can be seen between the census-based population estimates and the rolled-forward mid-year estimates that cannot be explained by any of the components of change. Continued improvements to the methods used to produce migration estimates should also help to ensure greater accuracy and

coherence in subnational estimates, especially for local authorities with high population churn, large student populations, or complex migration patterns.

The ONS article Evaluating the accuracy of the admin-based population estimates for England and Wales, published on 4 March, provides evidence that ABPEs between 2011 and 2021 show less bias than MYEs at the subnational level, although MYEs perform better nationally. This reinforces the potential value of DPM-based methods, particularly for LAs experiencing high population turnover, large student populations, or significant migration flows.

Although ONS has now decided not to move to new methods for the 2026 MYE publication, there is significant value in ensuring that insight from the DPM and ABPE development programme is not lost.

Findings

ONS's decision to continue with its current methods

On 4 March, ONS announced that it no longer plans to move to the ABPEs in summer 2026 and will instead focus on continuous improvement activity for the MYEs. ONS's transparent communication of the decision, using the criteria recommended by OSR, demonstrated a clear commitment to support user understanding and confidence in its decision-making processes.

The decision to continue with the MYEs as the official headline population estimates is a significant pivot away from ONS's previous ambition to make the ABPEs the official headline measure. As outlined in our response letter, the announcement highlighted important areas for improvement within the current system, such as for the methods used to estimate internal migration and disaggregate long-term international migration at a local authority level.

These known limitations with the current methods (described in more detail in the section on user confidence in subnational and sub-population) may lead some users to question the continued reliance on existing methods. It is therefore important that ONS clarifies the strengths and limitations of the methods and develops new strategic goals and objectives to help drive the work forward.

Requirement 1: To support user confidence in its decision to continue with the MYEs, ONS must be open and explicit about the strengths and limitations of the current methods and what action ONS is taking, with time scales, to address methodological limitations with independent assurance.

ONS is currently hosting internal workshops to develop revised research plans for alternative approaches to population estimates, drawing on the insight gleaned from the development of the ABPEs and planned improvements to internal migration and the disaggregation of international migration. Publishing these revised plans, which are clearly aligned to ONS's goals and objectives, will help ensure users remain well informed in an open and transparent way.

Decision-making responsibilities and coherent oversight of ONS's plans

The responsibility for the production and decision-making relating to the MYEs sits within the ONS Population Statistics Directorate. Until November 2025, the development of the ABPEs was separately governed by ONS's Future of Population and Migration Statistics (FPMS) programme. The closure of the FPMS programme due to ONS shifting resources away from experimental projects to improve core economic, population and survey statistics has meant that ONS can now govern across the various aspects of population statistics in a joined-up way through the Continuous Improvement Steering Group established in January 2026. This is a sensible approach to ensure that lessons learnt

from the development of the ABPEs are not lost and the benefits are considered holistically as part of the continuous improvement plans for the MYEs.

In parallel to its aims to improve the MYEs, ONS has made commitments as part of the ONS Plan for Economic Statistics and has published its strategy for Census 2031 in England and Wales. The 2031 census in England and Wales provides a significant opportunity to benchmark and validate any future methodological developments. Census 2031 will also provide an opportunity to assess the quality of alternative data sources, improve calibration, and help inform the long-term direction of population statistics. Without a clearly defined plan on what continuous improvement for the MYEs looks like, and how it may intersect with the strategy, there is a risk that progress stalls and 2031 becomes a missed opportunity.

The Population Statistics System Committee, which reports to the UK Statistics Authority Board, plays a crucial role in overseeing, challenging and providing assurance on the delivery of Census 2031 and the development of admin-based population statistics.

The Committee is a valuable addition to the governance of ONS population statistics and should also provide an effective forum for overseeing continuous improvement activity for the MYEs. We recommend this approach because it adds a layer of assurance for ONS to act on our recommendations. The Committee's published minutes should further support user confidence in ONS's work on population statistics in a transparent way.

Recommendation 1: To support user confidence in its plans to improve population statistics, ONS should:

- **Develop and publish, as planned, revised goals and criteria to direct and measure the continuous improvement activities in a structured and accountable way. This should include how the work may or may not intersect with plans for the 2031 census.**
- **Ensure that methodological research and lessons learnt from the development of the ABPEs are incorporated into the plans for the MYEs.**
- **Report continuous improvement activity for the MYEs to the Population Statistics System Committee (updates to the Committee should include progress made against the OSR recommendations every six months).**

User confidence in subnational and sub-population estimates

Users we spoke to generally had confidence in the national estimates, which draw on internationally recognised methods and long-established statistical definitions. However, some users reported lower confidence in their use of subnational and sub-population estimates due to challenges in some local authorities (LAs) experiencing high population churn and a high proportion of student, children, and seasonal populations. Some LAs and other users reported discrepancies between MYEs and their own local intelligence or local

admin data, especially for fast-changing populations, students, and young adults, suggesting either an over- or under-estimate of people in particular areas. For example, some discrepancies arise from using Census 2021 data as a baseline given the uniqueness of conducting Census 2021 during a pandemic, or from questions of how internal migration movements are measured.

Some users also questioned the complexity of ONS's migration methods. From our user engagement, we found that although the published supporting guidance was widely viewed as being clear, users noted gaps in explanations of known data quirks and challenges in reconciling multiple ONS population estimates.

ONS told us that LA intelligence often reflects populations beyond the usually resident population that MYEs aim to measure, making such evidence difficult to integrate consistently. Population allocation is determined by input data relating to the components of population change, births, deaths, and migration. Any local adjustments made as part of the estimation process would lead to inconsistencies with input data or have implications for counts in other local areas. ONS assured us that it does use conflicting evidence to understand areas where LAs and population groups are more challenging to estimate, particularly in areas characterised by significant population turnover. However, to date this has not led to methodological improvements that take account of these issues and resolve the user concerns. User concerns in the current national and subnational MYE estimates is also supported by ONS research which provides evidence that ABPEs between 2011 and 2021 show less bias than MYEs at the subnational level, although MYEs perform better nationally.

We explore two of the key issues leading to discrepancies in more detail below.

Internal migration challenges – Coventry as a case study

Internal migration estimates are primarily based on data showing when people change their address with their doctor – which is recorded in the NHS Personal Demographics Service (PDS). Because students often delay updating their GP records, Higher Education Statistics Agency (HESA) data are used to help improve estimates of moves into and out of higher education. There are, however, challenges in understanding the post-study movements of students; HESA data are subject to limitations, and the NHS PDS has had past quality issues and limited coverage for young adults.

Our 2021 review of ONS's population estimates and projections was prompted by issues raised by Coventry users regarding perceived inaccuracies in ONS's population estimates and projections. Coventry's large student population and complex migration patterns – including cross-boundary movements between Coventry and Warwickshire – make it difficult to apply standard estimation methods. For example, administrative sources such as council tax records suggested there were a number of empty properties that appeared inconsistent with population growth figures.

Evidence suggests that the MYEs in Coventry, and other areas, may over-estimate student arrivals or under-estimate departures. ONS introduced the Higher Education Leavers Methodology (HELM) to allocate students whose GP records have not been updated by modelling their likely movement patterns based on previous cohorts (three years prior).

Given the impact on movements during the COVID-19 pandemic in 2020 and 2021, particularly for some students who remained at home for their studies, using the 2020/2021 movements of higher education leavers may be biased. In our 2021 review, we noted that several methodological fixes were introduced, such as HELM, but that the impact was unclear to date. More clarity is needed around ONS's confidence and assurance of the HELM to support users. Another LA we spoke to expressed concerns about using administrative data systems for internal migration that are not designed to measure population, and which can be unreliable, such as GP records.

Recommendation 2: To support user understanding and confidence in the estimates, ONS should improve its transparency on methods used to measure internal migration. ONS should also provide greater clarity on the assurance and effectiveness of the Higher Education Leavers Methodology (HELM) and evaluate its impact as part of its plans to improve the measurement of internal migration.

ONS told us that internal migration could theoretically be adjusted to account for information from sources outside the method, but given the confidence in the national estimate, every increase for one LA must be offset by a decrease elsewhere, as the counts are constrained to the national components of population change. Determining which LAs should be adjusted, and by how much, would introduce an additional source of uncertainty. Internal flows often follow broad patterns (for example, urban–rural migration, student mobility), not simple neighbour-to-neighbour movements.

Additionally, ONS told us that the current methods and systems for producing MYEs are not set up in a way to take on any manual adjustments. Adjustments to individual LAs estimates would necessarily be informed by adjustments to one or more of the components of population change. Three of the main components of change (births, deaths, and international migration) are supplied to the MYE team at the LA level and so changes to those flows would result in an inconsistent set of statistics.

Definition inconsistencies with local intelligence sources, ONS system constraints and potential population flow inconsistencies mean that any adjustments to individual LA estimates based on local evidence, such as in the case of Coventry, would be challenging. Discrepancies are not unique to Coventry. There is evidence of over- or under-estimation in other local authorities. ONS is exploring alternative data sources that could be used in addition to health and higher education data that better capture moves made by young adults. These include administrative data sources such as HM Revenue & Customs and council tax data.

The ONS Plan for Economic Statistics identifies internal migration estimates as a priority. ONS's stakeholder advisory panel on migration will be central to advancing methodological development and strengthening the underlying data sources used to measure internal migration. We support ONS prioritising ways to improve internal migration estimates as part of wider work to improve population estimates.

Census 2021 as a baseline

Several LAs raised concerns about the suitability of Census 2021 as a baseline for MYEs, given it was undertaken during the COVID-19 pandemic. These concerns related to Census 2021 data being used to rebase population estimates between 2012 and 2020, as the 'gold standard' benchmark, in addition to their use as the baseline stock measure for 2021 mid-year estimates and beyond. One LA reported around 30,000 residents and approximately 8,000 unrecorded properties missing from the census, leading to underestimation when ONS rebased the MYEs using 2021 Census data. This rebasing is standard practice and conducted by ONS as part of the current process of benchmarking against the census every 10 years.

Similar concerns were raised by other LAs and by some London boroughs; for example, see this this blog by Centre for Cities, particularly the concern regarding missing young adults – especially men aged 23 to 28. Another LA expressed concerns about using 2021 Census as a baseline due to pandemic-related distortions.

Recommendation 3: Given the time passed since 2021, and wider population trends and changes, ONS should conduct and publish deep-dive analyses into areas where users flagged discrepancies to understand how the estimates may have changed since 2021, triangulating its research with other data sources.

These issues reflect findings from our Census 2021 Phase 3 report, in which we concluded that ONS had not sufficiently explained how users should interpret Census 2021 data in light of the pandemic, and how any distortive effects impacted use in other population estimates, for example mid-year estimates. We required ONS to provide clearer guidance on which topics or geographic breakdowns may be affected and why. ONS has since published its report Impact of the coronavirus (COVID-19) pandemic on England and Wales Census 2021 outputs, explaining that student estimates reflect term-time addresses in March 2021. The report warns that pandemic-related changes in living arrangements and international student numbers limit how far the data can be applied beyond the pandemic context. The report also highlights greater uncertainty for some local authorities, particularly urban areas, and those with large student populations.

In the report, ONS also states that "*it is confident that its methods ensure that its estimates do not have systemic pandemic effects in the years since 2021. However, though most restrictions had lifted by mid-2021, some population patterns may still have been unusual*." While we acknowledge the complexity of the pandemic-related impacts, the two sentences appear contradictory, and we have not seen any evidence that supports ONS's confidence that the estimates do not have systemic pandemic effects in the years since 2021.

Published quality indicators show where there is greater uncertainty for components of the mid-year estimates for some local authorities.

Requirement 2: To ensure that users have confidence in the population baseline underpinning the MYEs, ONS must:

- **Clearly set out the pandemic's impacts on the MYEs, prominently linking to its published COVID-19 impacts report and publish evidence to justify its claim that its estimates since 2021 are unaffected by systemic pandemic effects, particularly in light of acknowledged uncertainties for some areas.**
- **Actively engage with users through its established groups to test the adequacy of current guidance and make necessary improvements, ensuring users are explicitly informed about which data and geographies remain vulnerable to pandemic-related distortions.**

Sub-population estimates

One example of a lack of confidence in the sub-population estimates, specific to children, was raised by the Department of Education (DfE), who told us about discrepancies it had found between ONS's MYEs and data from the school census. The expectation is that the number of children in the MYEs would be higher than those recorded in state-funded schools in the school census for several reasons, including some children being educated at independent schools, home-schooled and some missing from education. However, in fact the data show the opposite pattern to this expectation: the number of primary school children recorded in the school census in recent years exceeds the population estimated by ONS.

One London LA we spoke to told also highlighted discrepancies in the projected numbers of children aged 4–10 in its borough, as part of its broader concerns with ONS's 2021 MYE-based subnational population projections – concerns which are shared by other LAs in London. The LA told us it is finding it hard to rely on the data going forward and is using estimates produced by the Greater London Authority (GLA), as it believes they are more accurate. There is concern from LAs that an undercount or overcount of young families, specifically children, impacts on the ability to provide child services and school places.

Constructive discussions between ONS and DfE were held to explore and resolve these discrepancies to help ensure confidence in the child population estimates in England. A school census is also carried out in Wales – the Pupil Level Annual School Census. It could be helpful for ONS, in considering the broader picture, to engage with Welsh Government to determine if there are any discrepancies between the Wales school census results and MYEs for Wales.

Recommendation 4: To help with understanding the differences between MYEs for school-age children and the Department for Education's (DfE) English school census, ONS should:

- **Continue reconciliation work with DfE, accompanied by joint statements that summarise findings and provide explanations where differences persist.**
- **Engage with Welsh Government to determine if there are any discrepancies between the Wales school census results and MYEs for school-age children in Wales.**

Reliance on administrative data sources and quality assurance processes

Population estimates are produced using the cohort component method. This method draws on administrative data sources, which are collected for operational rather than statistical purposes, and therefore are subject to the coverage and error associated with these sources. While birth and death data from administrative registers are considered robust, some components require combining multiple sources to determine population size, location, age, and sex.

In addition to census data, mid-year population estimates draw on:

- Birth and death registrations from the General Register Office (GRO).
- International migration data from the Home Office's Home Office Borders and Immigration (HOBI) data; DPW's Registration and Population Interaction Database (RAPID); the Higher Education Statistics Agency (HESA); the NHS Personal Demographics Service (NHS PDS); Census 2021; and the International Passenger Survey (IPS). We recognise though that the MYE for 2025 will include methods developments and improvements to ONS's long-term international migration estimates, which includes ceasing to use the International Passenger Survey (IPS) for any part of its migration estimates.
- Internal migration estimates from the NHS PDS and HESA; the Ministry of Defence; and the United States Air Force (USAF).
- Prisoner numbers from the Ministry of Justice.

The MYEs are relied upon for many different uses – including as weighting and as the population used to calculate rates and per head measures in high-profile economic statistics – meaning that the timing of their publication has important systemwide implications. Their publication cycle depends on several factors – such as the extent of revisions to migration data, which feed into the estimates – as well as requirements from the devolved administrations, since ONS also produces UK-level population estimates later in the year. As a result, publication dates can vary across the summer months, and any delays can affect the value and timeliness of other statistics across the wider statistical system.

To explore whether users needed timelier figures, ONS carried out a stakeholder engagement exercise in autumn 2025. While there was limited demand for provisional estimates to support planning and policy decisions, users identified a clear need for UK-level provisional estimates to support economic statistics, particularly GDP per head. In response, ONS published a provisional population estimate for the UK: mid-2025 in November 2025 using the latest LTIM data, sharing its plans with OSR in advance and demonstrating a transparent, user-centred approach.

Overall, ONS has a well-defined internal process in place for the quality assurance of the MYEs, with strong engagement with Welsh Government and other demography experts. For example, the team regularly engages with ONS's Data Quality Management Forum to identify and mitigate any potential risks associated with data supplies early in liaison with the data acquisition teams. The recently established monthly Quality Assurance Panel brings together the demography leadership team, quality champions and other ONS business areas to improve consistency across quality assurance processes used for statistical outputs, including the MYEs.

In 2025, an internal audit of ONS's quality assurance process across annual population estimates, both the MYEs and ABPEs, was carried out. The audit noted positives in terms of the MYE process but also a lack of consistent end-to-end documentation. ONS plans to update its Statistical Quality Management Plan to enhance its approach to managing quality risks and embed a well-documented quality assurance framework across its work, in line with the internal audit recommendations.

As part of its assurance checks, ONS compared the MYEs against the ABPEs, along with the underlying data sources, to understand the plausibility of population trends, with input from internal demography experts. ONS told us that it also uses alternative data sources, such as school census data and housing data, to understand broader population trends and underlying drivers of change. In 2025, this included a full review of local authority estimates comparing patterns. The triangulation of estimates against other data sources should remain an important part of assuring the plausibility of population trends.

Within the statistical production process, local authority users are not currently part of the quality assurance process. Some local authority users lack confidence in the accuracy of estimates in their respective areas. ONS told us that it will be able to make more use of the existing NHS PDS data. And for the next publication round in summer 2026, it will be able to use numerous other data sources that it did not have access to before to triangulate the LA-level data. ONS should also consider the benefits of including LAs more directly in the quality assurance process to enable triangulation with alternative intelligence sources.

Recommendation 5: To enhance the rigour of its quality assurance process and increase user confidence in the accuracy of estimates in some local authority areas, ONS should:

- **Revisit its quality assurance process now that a decision has been made around the future of population statistics and identify ways to improve**

learning lessons across both ABPEs and MYEs following the closure of the FPMS programme.

- **Evaluate and consider the added value that local authorities (LAs) can bring by formally incorporating LA intelligence into the quality assurance process.**
- **Strengthen its documentation to clearly and transparently explain how intelligence from LAs is considered and assessed, and where it cannot be incorporated, set out the rationale for those decisions.**

Methods assurance and quality information

Methods for the MYEs are assured through the Methodology and Quality Directorate, the Population Statistics Directorate, the newly formed Continuous Improvement Steering Group, the Methodological Assurance Review Panel (MARP), the UK Population Theme Advisory Board (UKPTAB) and the devolved governments' statistical agencies where relevant. Planned methods changes are also discussed with central government departments at the Cross Government Demography and Methods Group, and with LAs at the CLIP-Population Subgroup meetings. Additionally, the demography statistics team within ONS has an informal discussion forum for discussing potential methodological developments at an early stage. This is known as the Research Review Group. Overall, we are assured that these multiple oversight mechanisms form a comprehensive and rigorous framework for the ongoing assurance of MYE methods.

Due to the previous emphasis on the move to ABPEs, the published quality assurance of administrative data (QAAD) reports for the ABPEs are more up to date than those for the MYEs (for example, Births: quality assurance of administrative data used in population statistics, Dec 2016 and Births QMI (last updated August 2025)). We recognise ONS's rationale for keeping the ABPE and MYE documentation distinct to help avoid user confusion. Following ONS's decision to focus more now on continuous improvement of the MYEs, we welcome its commitment to exploring how best to take forward the work on updating the supporting quality and methods documents in a more efficient way and how to improve navigation to the documentation on the ONS website. This should help improve transparency for users and potentially reduce the chance of users misunderstanding or misusing the MYEs.

ONS publishes a set of quality indicators alongside each MYE release to provide high-level indications of the reliability of the estimates for each local authority. ONS also publishes research-based statistical measures of uncertainty, specifically bias-adjusted confidence intervals that are under development. Based on user feedback, it would be helpful for users, particularly non-technical users, if ONS did more around prominently explaining uncertainty in the bulletin and charts. Users struggling to interpret the sources of uncertainty and how revisions related to updated estimates may over- or under-interpret small changes, misunderstand the reliability of local-level estimates, or make decisions based on estimates whose limitations they do not fully grasp.

Requirement 3: To help users better understand the strengths and limitations of the MYEs, ONS must:

- **Improve the prominence and clarity of how it communicates uncertainty in its population estimates, particularly for local authority areas with high levels of migration and/or large student populations. This should include enhancing communication for non-technical users so that they can understand what the estimates should and should not be used for.**

- **Improve the accessibility, structure, and navigation of key methodological and quality and methodology information (QMI) documentation to support a broader range of users.**

User engagement and user need

Our review found that ONS's user engagement around its population estimates is strong, with many channels for outreach, for example mailing lists, webinars and quarterly updates across population and migration, in a joined-up way.

ONS engages with several forums made up of expert users of population statistics, for example the Funding Impacts Working Group, which requires population estimates for funding allocations; the Cross Government Demography and Methods Group, which provides a forum to discuss methods, plans and use of population estimates; and the Central and Local Information Partnership (CLIP) Population Subgroup, which provides a forum for users of local-level population statistics to discuss methods, plans and concerns. Given the extensive use of population statistics, ONS's strong outreach to users, including its engagement through established forums, is an important part of ensuring a user-centred approach in statistical production.

LAs that are part of the pilot group for ABPEs and who have a long-term relationship with ONS provided positive feedback and engagement. Feedback from central government departments was that ONS is responsive to users with data queries. However, some LAs who were outside of ONS's pilot group of LAs were less positive about ONS's responsiveness. One user noted that it felt as if the purpose of CLIP had shifted away from two-way dialogue to more of a selling pitch, and that an expert user group for population statistics is lacking (for example, the user group for migration statistics).

According to the users we spoke to, engagement experiences varied: some central and local government users described improved responsiveness, while others cited limited follow-through on consultations and insufficient opportunities for technical discussion.

Some users we spoke to identified data gaps, such as daytime population numbers in cities. ONS told us that it had previously conducted some research into time-of-day population estimates, but this work is not currently being progressed as a result of necessary prioritisation. ONS is undertaking work to look at different definitions of internal

and international migration from a population flows perspective, for example people resident in the UK for fewer than 12 months. The recent census topic consultation could also be helpful, for example, regarding questions on a respondent's address 1 year ago or place of work; ONS plans to look at responses to the topic consultation to see if there is a wider user requirement for estimating daytime population.

Accessibility and clarity

The statistical bulletin, data tables and accompanying methods and quality documentation are all in accessible formats, with data also available through Nomis (a service provided on behalf of ONS, publishing statistics related to population, society and the labour market at national, regional and local levels) and Customise My Data. We received positive feedback from users about Nomis. Statistics are clearly presented with charts to help users visualise the data. A new interactive tool was introduced in the most recent bulletin, enabling users to view the latest population trends for their local area. One user we spoke to noted that the accompanying commentary has improved over the years that they have been using the data.

While we found good accessibility of data, some users still find navigation of the ONS website difficult, and others highlighted that revisions to or inconsistent formatting of datasets make them harder to work with, with some also noting it is quite hard to track down required information: "there's some incredibly rich population data on components of population change by single year of age buried deep in ONS webpages". We also noted that it was not made obvious on the ONS website if users can request ad hoc datasets, and if these are published. Statistics that cannot be found or understood are effectively less valuable. Users may rely on outdated data, not see crucial context, or avoid using statistics they assume are inaccessible. Some users we spoke to commented on the changing data formats between years or revisions, for example changing variable names and the need for a standard template.

We recognise that ONS is developing a new website as part of a wider transformation programme. This development is aimed at making it quicker and easier for users to find its data and analysis. ONS told us that this work is grounded in a user-centred approach, ensuring that content is clearly prioritised, accessible, and written in line with what users have told ONS they need.

The population statistics team has already begun applying these principles to its statistical releases. For example, the MYEs published in July 2025 included a new overview section, clearer explanations, and improved visualisations to help users understand key trends more easily. ONS told us that these changes led to a measurable improvement in user engagement and satisfaction.

Over the coming months, ONS will be rolling out similar improvements across more content areas. Together, these updates aim to support a modern, intuitive website experience, helping all users navigate ONS statistics more efficiently and with greater

confidence. ONS is also developing the data explorer on the website to help improve findability.

ONS told us that some elements of the MYEs are compliant with reproducible analytical pipelines (RAPs), while others will be developed in a RAP-compliant manner in the longer term as part of the continuous improvement approach. Methods changes, where applied, will need to be assured and finalised first, before being embedded into a RAP.

Coherence and revisions of population estimates

In addition to the mid-year population estimates, ONS also produces population projections – projections of the future size and age structure of the population of the UK and its constituent countries. Whilst based on the MYEs, the projections use a wider range of data sources than the MYEs and different methods. Each provides different figures for the UK population at different points in time. Some users we spoke to were unclear on which population data they should use for which purpose.

Users may select the wrong measure for their purpose, leading to inconsistent decisions across government, reduced comparability and possibly a perception that ONS outputs conflict with each other. The concerns raised by users are significant and may lead to flawed decisions without appropriate communication and guidance on how the estimates should or should not be used in decision-making. While ONS has published a population statistics and sources guide, this does not include detailed information on population projections, and during our user engagement no users mentioned the guide to us, suggesting a need for ONS to promote and update the guide.

Requirement 4: To avoid the risk of users picking up the wrong number for the purpose that they need, ONS must update and promote its guidance for users on which population estimates should be used for which purposes, setting out the strengths and limitations of each.

The publication cycle of the MYEs has dependencies (for example, the extent of revisions to migration data, which are a data input), in addition to requirements from the devolved governments of the UK, as ONS also produces UK population estimates later in the year. Reliance on administrative data sources has historically contributed to delays to the publication of the MYEs due to data issue supplies and has led to revisions of the estimates, meaning users needed to wait or deal with revisions more frequently than they would like. Some users we spoke to also expressed a lack of understanding around why the publication schedule of the MYEs is not consistent, why revisions have happened and what numbers should be used. Some users would also like to see better communication from ONS when unexpected MYE revisions occur due to data supply issues or when there are any last-minute changes to the publication dates.

Recommendation 6: In light of ONS's plans to revise its estimates for mid-2022 to mid-2024, reflecting improvements already made to long-term international

migration (LTIM) statistics, ONS should, when publishing the mid-2025 estimates in summer 2026, undertake a revisions analysis to assess whether the updated figures align more closely with expectations held by some local authorities.

These dependencies also mean that the MYE publication can vary in timing across the summer months. We expect ONS to update its publication schedule for admin-based population and migration statistics now that the decision has been taken to remain with the MYEs, and be prompt in its communications to users where any unexpected delays may occur.

For the MYEs, the population estimates methods guide provides detailed information in accessible language. This provides a plain-language overview of the cohort component method, and more-detailed information about the use of census data as a base, and the data used for the components of population change. In addition, the Population Statistics and Sources Guide provides an overview of the uses, publication timings and official statistics status of the different types of population estimates, which is linked within the MYE statistical bulletin. The Population Statistics and Sources guide does not cover subnational population projections, so we welcome ONS's commitment to refine the guide to make it more user-focussed, including use after revisions.

User views on revisions to the MYEs were mixed – some welcomed early release with caveats, whereas others found frequent revisions resource intensive and confusing, with implications for funding and policy work. Overall, users emphasised the need for clearer communication, greater transparency about limitations and more robust, up-to-date methods to ensure confidence and coherence in population estimates.

As the MYEs remain official statistics on the population, and this will continue in 2026, ONS could consider producing something similar to its video on explaining the dynamic population model for the MYEs given the ONS website constraints on including visualised concepts.

ONS publishes a range of information on revisions, including the Population and International Migration Statistics Revisions Policy. For the ABPEs, ONS also published a publication schedule for admin-based population and migration statistics, which set out planned publication and revisions timelines for population and international migration estimates over a two-year period covering both routine revisions and those arising from methodological improvements and new data sources. However, this document is no longer in use following ONS's decision to adopt a continuous improvement approach to mid-year population estimates. Producing similar guidance for its MYEs, explicitly stating what new time periods are being published, which periods are being revised and the reasons for the revisions, could help improve the users' understanding and experience of revisions.

Recommendation 7: To help mitigate user concerns about revisions and publication delays, ONS should update its publication schedule and in future promptly explain to users any unexpected/expected revisions and changes to publication dates in line with its revisions policy.