

Article

How we are improving population and migration statistics

Find out more about our population and migration statistics transformation journey.

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1 . Main changes

- We are transforming the way we produce population and migration statistics to better meet our users needs for a more timely and accurate understanding of the population to meet the biggest challenges facing society.
- Our aim is to transform the way we produce our statistics, building in flexibility to changes in data, technology, and policy development, underpinned by integration of the best available data sources.
- We are developing new methods using a range of data sources with the ambition to produce more regular and timely population and migration statistics at both national and local levels.
- In 2023, the National Statistician will report to the government on our progress, including the transformation we have already delivered, and set out what is needed in the future to continue to achieve these ambitions.

2 . Overview

The importance of accurate and timely population and migration statistics

Population and migration statistics underpin a wide variety of other statistics (such as unemployment rates) and are vital to support a vast range of decisions about local services (such as the number of school places) and inform public debate.

For the last 200 years, the census has given us an in-depth understanding of our population at a certain point in time. Census 2021 results, out in late Spring 2022, will deliver rich insight into all areas of the population at a time of enormous change, but the census only happens once every ten years.

While it provides a detailed snapshot, our users need a more timely and accurate understanding of our population on an ongoing basis. We know that our users are interested in how migration patterns are changing and what this means for society and the economy, especially since the coronavirus (COVID-19) pandemic and our exit from the European Union. For example, users are interested in the contribution and impact migration has on the UK labour market and public services, such as education and healthcare. This includes both the national picture and what is happening at regional and local levels.

Some of our historical measures, such as long-term international migration, don't easily lend themselves to these changing user needs. We have acknowledged that the International Passenger Survey (IPS), which previously underpinned [international migration estimates](#), has been stretched beyond its original purpose. It was also suspended between March 2020 and January 2021 because of the pandemic.

We announced in August 2020 that we would not return to producing official migration statistics from the IPS and instead shift to a new approach that will rely on administrative data first and foremost (admin-based migration estimates (ABMEs)). This shift means that in future we will be basing our estimates on actual patterns of migration, rather than relying on potential migrants to respond to survey questions about whether they are planning to remain in or out of the UK in the next 12 months.

In a society where people are increasingly mobile, our statistics must reflect the needs of users and policy makers. Since the pandemic there is more interest in who is in the country at any given time, whether in the short term or long term. There is a unique opportunity to review the definitions of the population as part of our transformation to ensure we meet those changing needs.

These changes are important steps towards transforming our statistics so that they will be flexible to changes in data, technology, and policy development, built on the integration of a range of sources including administrative data, some commercial data and surveys. We are aiming to produce more regular and timely estimates, as well as alternative population measures, such as the daytime population. In addition, we also want to produce a wider, more frequent, more responsive range of characteristics such as ethnicity, income and health.

3 . How we are improving population and migration statistics

Our approach to transforming our population and migration system is based on making best use of all available data to produce the best possible statistics at a point in the time.

Traditionally, our population estimates have been produced annually using information from the census, and then rolling forward the estimates using information from registers for births and deaths, and migration surveys to produce the next year's population estimate.

Using our data-sharing powers through the [Digital Economy Act 2017](#) and building on our previous work in the [Administrative Data Census project](#) and [Beyond 2011 Programme](#), we have continued to research how we can produce population and migration estimates based on administrative data.

Our progress towards admin-based population estimates

Our population statistics research has centred around creating population estimates from administrative data via our methodology of anonymously linking person records on administrative data sources. These admin-based population estimates (ABPEs) provide estimates of the usually resident population at both national and local level and will be used as a basis for producing admin-based household estimates. With each iteration of our ABPEs, we will continue to bring together all available data and develop new methods to make improvements.

While the overall population figures using this approach are accurate at the national level, we will continue to focus on reducing the over-coverage or under-coverage of certain population groups, to produce more accurate and robust estimates by age, sex and at local levels.

Our progress towards admin-based migration estimates

Until recently, international migration was measured based on a person's intentions through the International Passenger Survey (IPS). We are now exploring how to use actual behaviours recorded in administrative data to identify a long-term international migrant (someone who has arrived or left the UK for at least 12 months). These admin-based migration estimates (ABMEs) will use statistical models to bring data together and predict the likely outcome of long-term international migrants who have recently immigrated or emigrated. More timely statistics can be produced by this method.

Our regular migration statistical reports will look different as we adapt our methods and go through a period of transitioning to ABMEs. Whilst they remain our best estimates, they will continue to be badged as [Experimental Statistics](#) throughout the transition, to support users in understanding the changes. We will also highlight where we are unable to provide certain statistics or breakdowns of data during the transition and provide guidance on the quality and coverage to ensure the statistics can be used and interpreted appropriately.

We are working closely with National Records of Scotland (NRS) and the Northern Ireland Statistics and Research Agency (NISRA) to ensure comprehensive and coherent UK and country level migration statistics.

A coherent population and migration statistics system

Coherence is an important part of the transformed system that we are working towards. We are exploring Bayesian Demographic Accounts as a method to achieve fully coherent estimates across population and migration through time and also more frequent and timely sub-national population estimates.

4 . Future developments

In 2023, the National Statistician will report to the government on the progress we have made, including the transformation we have already delivered. The National Statistician will also set out what is needed in future to continue achieving our ambitions, iteratively building on what has been achieved so far. This could include the role of any future census and, for example, necessary improvements in data collection or acquisition, methods and infrastructure.

In the meantime, we will continue to publish our new insights as we improve our understanding of data and develop new methods. We will embed these new methods into our official statistics as we become confident in the extent to which they can better meet user needs.

There is also significant public and policy interest in how employment, population and migration have been affected by the coronavirus (COVID-19) pandemic and the exit from the European Union. We are continuing to work closely with colleagues across the Government Statistical Service to use all available data to draw earlier insights and provide the best possible evidence to our users. We will continue to research and develop our understanding of how internal moves, special populations and life transitions are captured in administrative data and how these feed into our admin-based estimates.

We are also exploring the most relevant definitions that will best meet our users' needs, such as permanent or temporary residence, and would welcome your feedback on this research.

Census 2021 will give us an in-depth and rich understanding of our population as a snapshot at a single point in time and enable us to assess the uncertainty in population estimates from the current approach. We intend to use Census 2021 data to gain insight into our progress and help us continue to develop our admin-based population estimates (ABPE) rules and methods.

How you can get involved

We welcome your feedback on our transformation journey and our [latest progress and plans](#). If you would like to contact us, please email us at pop.info@ons.gov.uk.

You can also sign up to [email alerts](#) for updates on our progress, and to hear about upcoming events and opportunities to share your views.

We have previously presented our research at the Royal Statistical Society Conferences, the British Society for Population Studies Conferences, the Migration Statistics User Forums, and internationally at the [International Conference on Administrative Data Research](#) and the [International Forum on Migration Statistics](#).

We are also working with local authorities, experts from academia and other government departments through invited engagement groups to help shape and quality assure our work. Additionally, we are engaging with other National Statistical Institutes (NSIs) across the UK and internationally to share experiences and seek feedback on our plans.

5 . Related links

[Population estimates](#)

Product page | Updated frequently

Annual population estimates. Figures are available for various administrative and electoral geographies and for different population sub-groups, for example, estimates of the very old and estimates by marital status.

[International migration](#)

Product page | Updated frequently

People moving into and out of the UK, long term migration, short term migration, and non-UK resident's data providing a picture of those entering and leaving the UK, covering all lengths of stay. All data published from the Centre for International Migration.

