

Article

Transformation of the population and migration statistics system: overview

Latest update on our population and migration statistics transformation journey.

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Release date:
27 February 2020

Next release:
To be announced

Table of contents

1. [About our transformation](#)
2. [An update on our Short-Term International Migration statistics](#)
3. [Our latest update on concepts and definitions for international migration](#)
4. [Our mission – why transform?](#)
5. [Why are these statistics so important?](#)
6. [How are we transforming population and migration statistics?](#)
7. [What have our users told us?](#)
8. [More about our transformation journey](#)
9. [More about our official population and migration statistics](#)

1 . About our transformation

This page provides an overview of our transformation of population and migration statistics to put administrative data at the core of what we do. This includes an update on our latest progress alongside links to all our related research reports. Your [feedback](#) on our latest update would be valuable.

2 . An update on our Short-Term International Migration statistics

So far we have focused on developing preliminary adjustments for Long-Term International Migration. We are now beginning to explore how we can develop measurements of Short-Term International Migration (STIM) estimates as part of our transformation programme.

We have recently undertaken a series of engagement exercises to understand user needs of our STIM estimates. On the whole, users were keen that high-level national estimates were still available and therefore were supportive of proposals to reduce the content of the STIM estimates to allow more focus on our transformation work and development of these statistics.

As a result, only updated estimates for [Table STIM.01](#) will be released on 21 May 2020.

We welcome any thoughts you have on the development of STIM estimates in the future. If you would like to get in touch, please contact us by email at pop.info@ons.gov.uk.

3 . Our latest update on concepts and definitions for international migration

On 14 February 2020 we published a series of articles exploring the concepts and definitions that underpin the measurement of international migration and how they can be applied within administrative data. This area of research is an important element of our [transformation framework](#) and our aim at this stage is to set out how these definitions are used currently, summarise our latest research with administrative data, and gather feedback from users to inform next steps.

Defining and measuring international migration

This article provides an overview of our research into how we [define and measure migration](#) and why this is an important topic given increasingly complex migration patterns and the need for further flexibility in order to reflect population changes in a modern world. It also sets out the concepts, definitions and data sources that are currently used and provides a summary of the different approaches used in other countries.

Exploring international migration concepts and definitions with Home Office administrative data

Administrative data provides us with [alternative sources of information on international migration](#) and an opportunity to explore different ways to define and measure it. In this article we have investigated how we can use one such source, Home Office Exit Checks data, to apply the current UN definition of a long-term international migrant, as well as exploring two potential supplementary definitions. This work has helped us develop our understanding of international migration and shown the potential for using definitions based on a range of administrative data sources in future.

Understanding non-EU student migration

As study is one of the two most common reasons for people to move to the UK, there has been a growing importance placed on understanding [student travel patterns](#) and what administrative data can tell us about this topic. This article presents research using Higher Education Statistics Agency (HESA) student records linked to Home Office Exit Checks data to investigate the patterns and length of student presence in the country.

Applying a quality framework to longitudinally linked administrative data

We have [developed a quality framework](#) to assess statistical error in administrative data sources and applied it to longitudinally linked Home Office Exit Checks data. This has further deepened our understanding of this data source and the findings from this research will inform statistical design decisions and future linkage of multiple administrative data sources.

Next steps and other research

This work forms part of our longer-term research to transform population and migration statistics, which we will continue to work on collaboratively with partners across government, including the devolved administrations in Northern Ireland, Scotland and Wales.

In addition to the research published on 14 February 2020, we are also undertaking ongoing research into circular travel patterns among international migrants, following previous user feedback that highlighted the need to develop a better understanding of this population group. Our next steps include the use of a longer time series of Home Office Exit Checks data to enable us to explore this topic further.

The series of articles described here include some proposed next steps for our research into migration concepts and definitions. However, we would like user feedback at this stage to help inform the future direction of our work and have included a range of questions in these articles that we are particularly interested in getting your views on.

If you would like to get in touch, please contact us by email at pop.info@ons.gov.uk.

4 . Our mission – why transform?

It is our mission to provide the best insights on population and migration using a range of new and existing data sources to meet the needs of our users. This is increasingly important in a rapidly changing policy context, where we know our users need better evidence to support decision-making at both national and local levels.

As set out in our previous work on the [Administrative Data Census](#) project, the current population system is heavily reliant on the decennial census. While this provides granular data at the lowest levels of geography every 10 years, it delivers less detail throughout the interim years. Additionally, the quality of our population estimates declines as we move further away from the census year.

We have also long acknowledged that the [International Passenger Survey \(IPS\)](#), which underpins our [existing international migration estimates](#), has been stretched beyond its original purpose and that we need to consider all available sources to fully understand international migration.

Enabled by data-sharing powers in the [Digital Economy Act 2017](#) and guided by our [data security principles](#), we are therefore seizing the opportunity to make use of more data to give us a much richer understanding of how our population is changing.

5 . Why are these statistics so important?

Population and migration statistics underpin a wide variety of other statistics (such as unemployment rates), support a vast range of decisions and inform public debate. For example, the ability to forecast pensions, make decisions about local services (such as the number of school places or the provision of health services for an ageing population) and decisions about where to site new businesses.

In a rapidly changing policy context, we also know that our users are highly interested in how migration patterns are changing and what this means for society and the economy. For example, the contribution and impact that migration has on public services – such as education, healthcare – and on the UK labour market. This includes both the national picture but also what is happening at a more detailed regional and local level.

It is therefore essential that our population and migration statistics are robust, timely and meet this broad range of user needs.

6 . How are we transforming population and migration statistics?

Working in partnership across the Government Statistical Service (GSS), we are putting administrative data at the core of our population and migration statistics.

Using our data-sharing powers through the [Digital Economy Act 2017](#), we have been progressing research into how we can link a range of government data sources to build an integrated system for measuring population and migration.

In January 2019, we published a [research engagement report](#) that updated users on our ambition for putting administrative data at the core of our statistics by 2020, dependent on acquiring access to the further data sources needed to fill gaps in coverage.

Since January 2019, we have made further progress towards our ambition. For population statistics, this includes our June 2019 update on developing [administrative data-based population estimates \(ABPEs\)](#), where our latest rules show promise for removing patterns of over-coverage seen in previous research. [For migration statistics, this includes our improvements](#) based on a preliminary adjustment using administrative data from the Home Office and the Department for Work and Pensions and our move to [reclassify these statistics as Experimental Statistics](#) to support ongoing development and innovation.

Whilst we continue to make progress in embedding more administrative data in our statistics, we know there is more we need to do to put administrative data at the core of these. Access to data continues to be one of our main challenges and we do not yet have all the sources we need to deliver a fully integrated administrative data-based statistics system. These are needed to fill important gaps in coverage for groups such as EU migrants, where our available data sources are more limited.

We are continuing to make important steps in addressing gaps in coverage – for example, collaborating with the Home Office and the Department for Work and Pensions to explore how further data could support us in measuring EU migration and improving our [adjustment method](#). However, there are a range of factors we need to take into account and we are committed to meeting high standards in the data we use and how we incorporate that data in producing official statistics.

[Data security](#) is paramount. As we harness the power of an increasing volume and variety of data, we must ensure that we continue to protect and secure this appropriately. We are therefore continuing to work in close partnership across the Government Statistical Service (GSS) to ensure we apply appropriate safeguards and have an agreed approach to how we manage and share data.

Data quality is also crucial to the success of our transformation work. Once we have acquired further administrative data sources, we also need time to fully understand their strengths and limitations and assess the best way to integrate them into our statistics system. Our move to reclassify migration statistics as [Experimental Statistics](#) supports this process, by clearly signalling to our users how we are developing and evaluating our data sources and methods.

Our transformation journey

Our ambition – as set out in our [January 2019 report](#) – has been to put administrative data at the core of both population and migration statistics in 2020. However, based on our latest progress on data access, we have revised our plans to focus on the priority areas where we can best address user needs in the short-term, continuing to embed more administrative data as this becomes available and as our research progresses.

In 2020, we now plan to focus on delivering improved migration statistics by refining our preliminary adjustment methodology. We will then build on this – alongside continuing our admin-based population estimates (ABPE) development – to deliver improvements to population statistics from 2021 instead. This in turn will support the delivery of the best quality census outputs in 2022 and the delivery of a fully transformed population and migration statistics system based on integrated administrative data by 2023.

A summary of the milestones on our transformation journey are set out in the following table.

Date	What we aim to deliver
	Improved international migration statistics (UK) by refining the adjustments made to our estimates using administrative data sources.
Summer 2020	Continued research into our approach for delivering population estimates based on more fully integrated administrative data sources (known as admin-based population estimates (ABPEs)).
Autumn 2020	Research to assess the impact of including the adjustments made to international migration statistics in the mid-year population estimates for England and Wales (reference year: 2019).
2021	Improved population statistics (England and Wales) by embedding adjusted international migration figures into our mid-year population estimates (reference year: 2020). Continued research into our approach for delivering ABPEs (reference year: 2020). 2021 Census statistics published.
2022	Improved population and migration statistics based on our ABPEs approach (reference year: 2021), including an understanding of differences when compared with census outputs.
2023	Deliver transformed population and migration statistics system – informing the recommendation from the National Statistician on the future of the census.

This transformation journey – alongside the work to transform surveys across the Office for National Statistics (ONS) – also supports the ambition that “censuses after 2021 will be conducted using other sources of data” and importantly that the outputs we publish should be coherent and meet the needs of our users. This is essential to providing evidence to inform the recommendation to the UK government in 2023 about the future of population and housing censuses in England and Wales.

We have taken the decision not to benchmark the administrative data census outputs with the outputs from the 2021 Census. Instead, we will ensure that we use the best available sources to produce the best-possible outputs from the census – using our understanding of the differences between administrative data and the census, and the strengths of all data sources. We will iteratively develop our transformed population and migration statistics system, taking on board feedback from users and making the best use of new data and new methods as they become available. We will rigorously quality assure new methods and share the impact of any changes made, demonstrating the benefits and improvements before implementing them.

Alongside supporting the decision on the future of the census, our transformation journey also plays an important role in supporting our progress in measuring the global [Sustainable Development Goal \(SDG\)](#) indicators in the UK. Migratory status is one of the standard disaggregations required by the United Nations to [measure and report on the global SDGs](#) and our transformation work will help to improve the evidence base by providing more granular data in future.

What is happening in the next year?

To keep users of population and migration statistics updated on our progress towards these milestones, we plan to publish regular updates over the next year.

The following table summarises our upcoming publications and focuses on migration statistics given our aim to deliver further improvements to these in 2020. We plan to make these improvements when we are confident that it is the right time to do so, based on the best available data and taking on board feedback from our users. This includes extending our current EU adjustment (which applies up to 2016) as soon as possible, as user feedback shows this is a priority. However, we need to bring in further data to do this and so we are working across the Government Statistical Service (including with the Home Office and the Department for Work and Pensions) to assess what sources will be available to help us refine our methods.

Date	Publication
Spring 2020	February Migration Statistics Quarterly Report (MSQR) – we will continue to apply the adjustment methodology but will introduce some minor refinements that we expect to have minimal impact on the numbers.
	Update on admin-based population estimates (ABPEs) – we plan to publish an update on how we are developing ABPEs and the design for our hybrid stocks and flows approach.
	Impact of registration lags in admin data on mid-year population estimates – we plan to publish research exploring the impact of lags in administrative data registrations on the distribution of international immigration in the mid-year population estimates.
Summer 2020	May MSQR – we will continue to update our adjustment methodology using the best available data, including updating on our progress on extending the EU adjustment.
	August MSQR – we expect to publish our completed adjustment methodology and a more fully revised set of annual tables, based on the best available data.
Autumn 2020	Impact of August 2020 MSQR adjustments on mid-year population estimates – we plan to publish research into how the adjustments made to international migration statistics in August 2020 will impact on mid-year population estimates for England and Wales.

Throughout the year, we will continue to work closely with the Office for Statistics Regulation (OSR) to update them on our progress and to review when we will reapply for [National Statistics](#) status for ONS international migration statistics.

7 . What have our users told us?

Our users sit at the heart of our [framework for transforming these statistics](#) (Figure 1), which describes the important questions we need to answer to meet their needs.

Figure 1: Our framework for transforming population and migration statistics

To meet our users' needs we need to provide coherent statistics on the size (or stock) of the population and how it changes over time (flows, both nationally and locally). We also need to tell a clear story about what is contributing to this change and show how different groups in the population impact on society and the economy, including on our workforce, communities and public services such as the NHS and schools. This needs to be recognised as the story that is being experienced by our users.

Our users have also told us that they want us to deliver these statistics frequently and in a timely manner to be able to make evidence-based decisions. Our statistics also need to be relevant in a rapidly changing society, and we need to be able to report on their quality.

[Feedback gathered](#) shows support for how we are reviewing current data sources and looking to maximise the value of administrative data in future, whilst challenging us to provide more evidence to ensure we instil confidence in these statistics.

To make sure that our transformation journey continues to be as open and transparent as possible, we will:

- regularly publish research and methods as we develop them
- continue to present analysis showing the coherence between different sources of information
- engage with our users and stakeholders, seeking regular feedback
- use our research findings, the best available data and methods, and the feedback from users to make decisions about which improvements to make each year
- implement changes to our statistics when and where appropriate, clearly communicating these changes to users in advance of making them

How can users get in touch?

We welcome your feedback on this update and on our transformation journey. If you would like to get in touch, please contact us by email at pop.info@ons.gov.uk.

We have recently presented our research at the 2019 Royal Statistical Society Conference, the British Society for Population Studies Conference, the Migration Statistics User Forum and the [International Conference on Administrative Data Research](#).

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.

8 . More about our transformation journey

- For a comprehensive list of descriptions for the names and terms used in our outputs, see our [glossary](#).
- [Research outputs](#) provide more information on using administrative data to produce population statistics.
- Previous research using administrative data to produce [estimates on the size of the population](#) (previous admin-based population estimates (ABPEs)) is available.
- Our August 2017 report highlights our progress towards developing a better understanding of [student migration to and from the UK](#).
- In May 2018, we published an [update on the migration statistics transformation programme](#).
- Our [report on international migration data sources](#) sets out how we are using Home Office administrative data to further our understanding of international migration.
- Our January 2019 report, [Update on our population and migration statistics transformation journey: a research engagement report](#), updates users on our progress and seeks feedback on our future plans.
- In May 2019, we published our research into [international migration and the education sector](#), exploring what current data sources tell us about school places, pupil attainment and the number of teaching staff in schools.
- In June 2019, we published our analysis using activity-based rules and records from single and linked data sources to [develop our approach for producing admin-based population estimates](#). Initial rules have been combined to produce the first admin-based population estimates (ABPE) using this approach. Alongside this, we also published a short note outlining our discussions on the [measurement of illegal migration](#).
- On 15 August 2019, we published our [analysis plans](#) on the contribution and impact of international migration on the health sector. Alongside this, we published a report on [international migration and the healthcare workforce](#) and our [analysis of migrant labour force within the tourism industry](#).
- On 21 August 2019, we published our latest research into [understanding different migration data sources](#), setting out how we can draw on combined strengths of survey and administrative data sources to provide our best assessment yet of international migration. This research was then reflected in the August Migration Statistics Quarterly Report for the first time.
- On 14 February 2020, we published an overview summarising how we are [defining and measuring international migration](#), including developments of our current methods. Alongside this, we published our latest research [investigating international student migrants' travel patterns](#) using linked administrative data and [alternative definitions for international migration](#) using Home Office Exit Checks data. We also published a report on applying [a statistical quality framework to longitudinally linked administrative data](#), aiming to identify potential errors within datasets.

9 . More about our official population and migration statistics

- For national and subnational mid-year population estimates for the UK and its constituent countries, see the [Population estimates for the UK, England and Wales, Scotland and Northern Ireland](#) statistical bulletins.
- All information and publications on international migration produced by the Office for National Statistics (ONS) are available on our [International migration](#) page.
- All information and publications on the size of the population produced by the ONS are available on our [Population estimates](#) page.
- You can find more information on the main concepts and definitions used for migration, country of birth and citizenship across the Government Statistical Service (GSS) in the relevant [GSS harmonisation guidance](#).

