

Article

International migration statistical design progress report: July 2022

An update on the future of international migration statistics in 2022 and beyond.

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Table of contents

1. [Overview of migration statistics transformation](#)
2. [Why we are transforming migration statistics](#)
3. [How we are transforming migration statistics](#)
4. [Future developments](#)
5. [Related links](#)

1 . Overview of migration statistics transformation

This article explains how we intend to move through the next stages of the international migration transformation programme to deliver user-focused migration estimates. We also explain how we will support the Dynamic Population Model (DPM) to produce timely population estimates at a national and local authority level. Where international migration is an important component of population change, estimates of international migration are required with the same degree of timeliness, frequency, and granularity.

This article forms part of a series of publications on population and migration statistics. You can view our [Dynamic population model for England and Wales article](#), which outlines the development of new methods to produce near real-time estimates on the size of the population, using a dynamic population model.

2 . Why we are transforming migration statistics

From 1961 to August 2020, the International Passenger Survey (IPS) was used to measure a person's intention to migrate. The survey used face-to-face interviews from a sample of passengers to identify migrants as they entered or left the UK. The long-term international migration data from the IPS was the largest component of the Long-Term International Migrations (LTIM) estimates until its suspension in August 2020 because of the coronavirus (COVID-19) pandemic.

The IPS supported our previous international migration estimates. Stretched beyond its original purpose, [the IPS had known limitations around measuring migration](#), which has been known for many years. This led us to launch [the migration statistics transformation programme](#). This was accelerated in August 2020, when we announced that we would not return to producing official migration statistics from the IPS. We now focus on measuring migration using primarily administrative data (admin-based migration estimates (ABMEs)).

In the absence of any official statistics on international migration during the coronavirus pandemic, we published our [Using statistical modelling to estimate UK international migration methodology](#) in April 2021, covering the period up to June 2020. We updated these indicative estimates in November 2021, covering the period up to December 2020. This model nowcasted historic IPS trends using up-to-date administrative data, providing an estimate of migration patterns during the coronavirus pandemic.

However, the reliance of this model on historic IPS data, and the assumptions required, meant that it was always a short-term solution. Recognising this, [experimental statistics on international migration for the year ending June 2021](#) used a new method that makes greater use of administrative data from the Home Office (HO) and the Department for Work and Pensions (DWP). Observed migration activity, from early insights of provisional census results, provide confidence that estimates derived from these administrative data sources are more accurate than those derived using a statistical model. However, the change in methods means they cannot be compared with our previous estimates published in April 2021 and November 2021.

3 . How we are transforming migration statistics

Future estimates of migration will be derived from administrative data

Previous [research identified a range of data sources](#) held across government that provide valuable insight into migration levels and trends. However, some of these data sources can only tell us about migration into the UK. Therefore, we have focused our research on those that can tell us about both immigration and emigration. These are [border data from the Home Office \(HO\) exit checks dataset](#) and [the Registration and Population Interaction Database \(RAPID\) from the Department for Work and Pensions \(DWP\)](#).

Our current approach uses the best available data source for EU and non-EU migration trends as well as for British nationals.

Measuring migration of non-EU nationals

We consider the HO exit checks dataset to be the best source of data, with the most complete coverage, for measuring non-EU migration. However, our methods for [estimating immigration using HO data](#) are more developed than for emigration, and there are some known data gaps. Current methods using HO data use a combination of the “first arrival” and “last departure” of an individual travelling to or from the UK, along with their visa end date.

[Levels of immigration are comparable](#) between HO Data and estimates derived from the RAPID from the DWP. However, there are greater disparities in estimates of non-EU emigration across the two sources. Therefore, we are developing our understanding of this information. This includes investigating imputation methods to apportion estimates for the numbers of “true emigrants” depending on departure information, leave type, and other characteristics.

Measuring migration of EU nationals

The [current method for estimating the migration of EU nationals](#) uses the RAPID from the DWP. When this method was developed, we acknowledged that we could make improvements, including to the adjustments made. Therefore, to improve this method, we will refine the rules for classifying a migrant as long term.

The current method identifies the total number of weeks of activity in a tax year but does not distinguish when this activity occurred. Therefore, we want to look at continued activity during each month or at the end of each month, accounting for short periods of inactivity.

We are also improving the student adjustment by linking Higher Education Statistics Agency (HESA) data to HM Revenue and Customs (HMRC) real time information (RTI). By linking these data, we can identify the extent to which students have economic activity within a tax year, thereby allowing us to estimate the number of international students not present on RAPID.

Currently, we cannot estimate the migration of EU nationals using HO data. This is because of free movement between the EU and UK until January 2021, and continued free movement for EU nationals who have been granted residency through the EU Settlement Scheme (EUSS). With the introduction of new immigration routes for EU nationals through European Economic Area (EEA) visas, these individuals will be present in the HO data. [We are working with the HO](#) to understand if this may allow us to estimate migration of EEA nationals, especially new migrants who are not part of the settlement scheme. This is similar to current methods used for non-EEA nationals.

This will provide comparison to estimates generated using RAPID data, and allow us to assess the benefits of each data source, to provide the best quality estimate with the most complete coverage.

Measuring migration of British nationals

Estimating migration of British nationals is more complex. This is because there is no requirement for these individuals to interact with administrative data sources to inform them of an intention to emigrate or subsequently return.

Our current methods rely on statistically modelling historic International Passenger Survey (IPS) using non-EU visa data. To move away from IPS data, research is required to assess the best possible data source or whether a combination of sources is appropriate. This will include continuing to assess whether the RAPID can be used to measure migration of British nationals. This would involve assessing whether periods of inactivity could indicate emigration and subsequent activity could indicate immigration. However, this is difficult as there are many reasons someone can stop interacting with tax and benefits systems and still be living in the UK. For example, this can include students who stop working while in higher education, young people Not in Education, Employment or Training (NEET), or someone taking a career break.

Census 2021

While we will continue to refine our methods using administrative data, we will also be examining how Census 2021 can inform our estimates. Census 2021 provides a rich picture on the size of the population, by nationality and country of birth, as of 21 March 2021. Comparing these estimates with Census 2011 will allow us to evaluate the accuracy of different sources in estimating the flow of international migrants over the course of the decade. We anticipate that this will help us refine our methods for admin-based migration estimates, as well as considering a revision to the historical international migration series in early 2023.

Producing timely estimates

Because of the timeliness of data supplies to produce international migration, it is expected that admin-based migration estimates (ABMEs) will be provided with a lag of around five to six months. The Dynamic Population Model (DPM) has an ambition to estimate the population in a more timely way to better respond to user needs. We need to provide migration estimates with the same degree of timeliness to feed into the dynamic population model. Therefore, we are exploring how using the best available data and statistical modelling can reduce the lag in international migration estimates.

Data from the HO, the DWP RAPID data (supported with HESA data to account for students missing in RAPID) will provide the base for ABME's. RAPID is an annual dataset and is updated after the end of each tax year, and HO data are supplied around three months after the end of the reference period.

To produce more timely estimates, we are exploring a continuation of the State Space Model (SSM) where we have an absence of data. This is using signal data to nowcast international migration. We will be assessing the strengths of various sources of this signal data. This may include published visa granted and data from Advanced Passenger Information (API) (both provided by HO), as well as employment counts by nationality published by HMRC, or GP registrations. The SSM uses multiple data sources together, so we can assess different combinations to evaluate which signal data provides the most accurate results.

How we can improve the granularity of migration estimates

As part of our transformation programme, users have highlighted a need for granular estimates of international migration. The ambition of the DPM includes population estimates by age and sex at national and local authority level. Recently published provisional estimates of international migration do not provide any demographic or geographic breakdowns.

We are exploring the use of administrative data to provide these granular estimates. One of the benefits of using administrative data is that it typically has large population coverage, allowing for reasonably robust disaggregation. For instance, both the RAPID and data from the HO contain information on the age and sex of those in the data. Estimates at Local Authority level are more complex. While we have some limited address information from RAPID, data from the HO is based on visa information and travel data that does not provide an indication of where migrants settle.

One option we are exploring is to estimate geographical proportions in RAPID for EU, non-EU, and British national migrants, and apply these to alternative data sources.

We acknowledge there are coverage gaps in RAPID – most notably, non-working students and those aged under 16 years. We will explore how information from the Higher Education Statistics Agency (HESA) and the NHS Personal Demographic Service (PDS), respectively, can fill these gaps.

Reason for migration

Users have highlighted the need to not only know how many people migrate to and from the UK, but why. The IPS asked migrants their reason for migration, which allowed us to disaggregate our previous IPS based estimates. However, this is more difficult to estimate with administrative data. In [May 2022, we showed how administrative data can provide more intelligence on the reason for migration](#). We used students as an example – historically, studying has been the most common reason for immigrating to the UK.

We plan to make further use of visa data from the HO to give an indication of the reason for migration as the new immigration system matures. However, we must use this data from the HO in conjunction with other sources, to provide a fuller picture. EU nationals who have registered for pre-settled or settled status as part of the EUSS are not subject to immigration control. Therefore, we will not have the same information about their reason for migration as visa-requiring nationals. Data from the RAPID does not provide an indication of reason for migration. However, we could provide breakdowns of first arrivals compared with re-arrivals, or migration by industry type for migrants in employment.

We will continue to investigate how we can measure the reasons for migration and update users as our methods develop.

Flexible definitions of an international migrant

Estimates of the UK population are supported by the UN definition of long-term international migration. This is “a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence”. However, this traditional approach does not capture the more dynamic nature of international movement and mobility. Users are requesting more flexible definitions of a long-term migrant that are capable of better reflecting the variety of uses for migration statistics.

We are currently exploring the use of both HO and DWP RAPID administrative data to apply alternative definitions of a long-term migrant. For example, developing definitions that include people who spend most of their time each year in, or out of, the UK, or accounting for temporary populations in addition to those usually resident. We are also looking at methods for providing estimates for different lengths of visit.

These estimates are intended as a supplement to the existing approach that uses the UN definition of long-term international migration. The aim is to support local and national decision makers to better understand the population and to help plan service delivery.

4 . Future developments

Research strands

Bringing all of this together, we have identified a programme of research. We expect to deliver incremental quality improvements to estimates for international migration for year ending June 2022. We aim to publish this in November 2022.

These improvements include:

- developing our methods to estimate non-EU migration using Home Office (HO) data, in particular refining our rules for emigration
- developing our methods to estimate EU migration using the Registration and Population Interactions Database (RAPID), including developing estimates using a monthly indicator of activity, rather than the number of weeks in a year
- working with the HO to integrate and understand the implications of including European Economic Area (EEA) nationals in HO data
- using Census 2021 to help assess the accuracy of historical international migration estimates and refine our current methods
- exploring how signal data can be used to produce more timely estimates of international migration
- developing methods for providing further disaggregation of estimates by age, sex and local authority, using administrative data
- building our understanding of information on visa type within the HO data to provide breakdowns by reason for migration
- developing new rules to provide a greater range of definitions of a migrant, initially focussing on length of stay and departure

5 . Related links

[Long-term international migration, provisional: year ending June 2021](#)

Bulletin | Released 26 May 2022

Experimental statistics on UK international migration throughout 2020 and into 2021 including the impact of the coronavirus pandemic.

[Dynamic population model for England and Wales: July 2022](#)

Article | Released 14 July 2022

The development of new methods to produce near-real time estimates on the size of the population, using a dynamic population model.

[Transforming the way we produce population statistics](#)

Blog post | Released 14 July 2022

How we are transforming the way we produce population statistics, including an update on the transformation of international migration and the role of information from Census 2021.