Home Office

Second report on statistics being collected under the exit checks programme

August 2017

Executive Summary

1. This report provides a further update on the experimental statistics produced from the exit checks programme. This includes an update on the quality of data first reported in August 2016[1] and some experimental statistics on departures by selected non-EEA nationals granted visas (those on visit visas of up to six months' duration, or for study, work or family reasons).

Context (further details are provided at Chapter 1)

2. The exit checks programme was designed primarily for operational purposes – and data are being extensively used for these purposes - rather than to produce statistics. Statistics are derived by combining and matching data from multiple administrative systems, including (via carriers) from passengers' ticket bookings, from passport swipes at the border, and from immigration records. Producing statistics from these multiple sources presents a range of challenges. Nevertheless, it has been possible to produce useful statistical insights and practical operational benefits for the Home Office.

3. From 2010 onwards there have been a range of measures implemented to improve compliance with UK's immigration system. These policy changes have, for example, contributed to the rise in the proportion of visas being granted from 73% to 95% for non-EU sponsored students (Tier 4), and from 88% to 94% for visas granted to non-EU nationals on work routes. The introduction of Exit checks in April 2015 was intended to support these measures.

Initial results (further details at Chapter 2)

4. The analyses in this report look at when non-EEA nationals departed compared to their visa expiry date (apart from those who were granted an extension to stay longer). They include only those people who had both valid leave after April 2015 , the date at which the full exit checks system was launched, and were identified as entering the UK after that date – this includes both people granted visas after April 2015 and people returning to the UK on an existing valid visa.

Note: The analysis excludes the majority of visitors to the UK – who don't need a visa (UK and other EU nationals living overseas who visit the UK as well as 'non-visa' nationals such as US citizens who don't normally need a visa to visit the UK). The analyses also exclude those whose visa expired in earlier years, as well as the minority of visit visa holders who have long term visit visas (longer visas allowing multiple visits, each of up to six months).

5. The statistics reported here are estimates and for reasons explained below are likely to provide only an estimate of minimum levels of compliance. Further investigations looking at data in more detail, reported in Chapter 4, indicate that some of those not initially identified as having departed the UK, were in fact compliant. Compliance in the analyses in this report refers only to whether individuals appear to have departed before or on the date their visa expired – and not other aspects of compliance with the immigration rules.

The main findings reported here are:

i) For the 1.34m visas[2] granted to non-EEA nationals and which expired in 2016/17, where individuals did not obtain a further extension to stay longer in the UK,

- **96.3% departed in time** (that is, before their visa expired),
- 0.4% departed after their leave had expired,
- 3.3% had expired leave but were not initially identified as having departed

ii) **The corresponding proportions shown as departing in time for visit, study** (including the short term study category) **or work visas were similar at 96.7%, 97.4% and 95.4%** respectively (out of 1.06 million, 181,024 and 79,013 visa expiries). Within work categories, the percentage shown as departing in time was higher for sponsored routes with 97.4% for Tier 2 skilled work and 94.8% for Tier 5 youth mobility and temporary (out of 43,306 and 24,156 expiries respectively). This percentage was lower for routes outside the Points Based System (90.9% of 10,138 expiries, mostly the domestic worker category, although there may be some specific reasons for initially unidentified departures for this group which are discussed in the report) and for Tier 1 visas (76.5% of 1,421 expiries – largely due to a lower rate of identified departures for Tier 1 dependants, in particular children).

[1] See 'A report on the statistics being collected under the exit checks programme' (Home Office, 2016)
[2] Or in-country extensions of leave to remain

These statistics exclude those who do not need a visa to visit as well as others with long-term visit visas, and those whose visa expired in earlier years. Any resultant estimates for those whose departure has not been recorded will not therefore capture the full breadth of the potentially resident illegal population, whose number is unknown.

iii) Ten nationalities together accounted for three quarters (73%) of the visas that expired in 2016/17. For these nationalities the proportions departing in time were fairly similar, ranging between 94.3% (Chinese) and 98.6% (Saudi Arabian and Thai nationals). Further information on some of the reasons for these differences is given in Chapters 2 and 4 below.

iv) Additional analysis by Office for National Statistics (ONS) on international students, including Home Office's exit checks data, *'What's happening with international student migration?'*, has been published separately at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/whatshappeningwithinternationalstudentmigration/2017-08-24. The ONS report included an investigation of what happened to 193,100 non-EU students who immigrated on a long term (12 months or more) study visas and whose visa (or in-country extension of leave to study) expired in 2015/16. This included identifying those who then extended their stay within the UK either in the study or other routes, and also following up those who departed the UK.

Quality improvements (further details are provided at Chapters 3 and 4)

6. The quality of the data, and our understanding of it, has been improving since the first report published in August 2016. For example:

- As the first report showed, the route coverage[3] (i.e. whether systems were in place to collect data) of the data on passenger arrivals has increased over time. It reached 100% for the in-scope outbound routes by the end of June 2015 and 89% for all inbound routes by the end of March 2017, including 100% for arrivals by air and cruise liner.

- The percentage of voyages where some passenger and crew members were confirmed as departing is now very high, for example averaging over 99% in the first week of May 2017. This level of data receipt provides a good degree of operational confidence in checks made on cases of departures not initially identified for particular individuals.

- The quality of data matching for information about individual passengers has also improved. Overall for 2016/17, 92.7% of travel movements of 'visa nationals'[4] could be matched to their most recent inbound arrival. Some record are not matched using automatic systems (e.g. where individuals use different documents when travelling in and out of the UK, such as dual nationals or individuals who lose or renew passports whilst in the UK). As a result, there is an inherent degree of uncertainty in the figures.

- Whilst some routes were not in scope for the introduction of exit checks, most notably most travel within the Common Travel Area[5] (CTA), we have assessed that the proportion of non-EEA travellers overall whose departure would not be counted in this way is likely to be low.

Next steps

7. Publishing the first experimental statistics derived from the exit checks programme is an important milestone**.** The Home Office will continue to work closely with the Office for National Statistics to ensure that both departments can learn from these new data and ensure that they make the most of the potential statistical benefits.

[3] Route coverage relates to there being arrangements in place to collect data on routes, not that data collection is complete. For inbound travel, the data provided by the carriers and port operators is further supplemented by the additional data captured as part of the regular immigration checks at the border which is used to mitigate the any shortfall.

[4] See the Glossary for definition of 'visa nationals' and 'non visa nationals'.

[5] The Common Travel Areas consists of the United Kingdom, Ireland and the Crown Dependencies of the Isle of Man and the Channel Islands.

Introduction

This is the second report on the data collected on travellers departing from and arriving in the UK as part of the Home Office exit checks programme. It provides the first experimental statistics relating to the compliance of those passengers required to obtain a visa, as well as updates and reporting of further data quality investigations. Further detailed results on international student migration using a range of sources including Home Office data are also being reported separately by Office for National Statistics (ONS), as part of cross-government analysis.

The data collated by the Home Office in its border systems will provide the most comprehensive picture that has ever been available on those entering and leaving the United Kingdom. However, this data is new, only having commenced on 8th April 2015, and as 'experimental' data it poses a number of statistical challenges, including:

- Coverage - Whether systems are in place to collect data for all routes.
- Data receipt at voyage level (previously referred to as 'completeness') - Whether at least one departure confirmation message is provided by carriers for every flight or voyage.
- Matching - The extent to which data on travel movements collected by airlines and other carriers can be matched to immigration system records. (Reasons why a person's record may not be matched include, for example, if they are dual nationals and do not use a single document for travel or if different data systems have captured their name or other details differently).
- There are millions of travel movements and receiving data from hundreds of carriers which will have some gaps. There are also a number of ways in which a traveller's departure may legitimately not be initially identified or recorded by the system, e.g. where outward travel is by the Common Travel Area (CTA), or when a traveller unfortunately dies in the UK.
- Development of new processes for analysis and for measuring quality including the processes for matching data.

Due to the factors listed above, the figures presented in this report need to be interpreted with considerable care. However the results are promising, with high levels of coverage and voyage level data receipt now being achieved. The data systems and results are now being used for Home Office and other government departments' operational benefit.

Overview of the Initial Status Analysis (ISA) system

The ISA system, developed by the exit checks programme, is a linked database that combines data from Home Office systems to build travel histories that consist of an individual's travel in or out of the country together with data relating to immigration status e.g. on periods of leave granted. This combined data is used for operational and security purposes in the assessment of an individual's immigration status. The approach used enhanced data gathering capabilities from carriers. This built on existing arrangements where possible.

In particular, the programme put in place outbound data collection on scheduled commercial international air, sea and rail routes, providing an ability to identify those who have left and those who may have failed to leave the UK when they should have done so. It was recognised that some (air/ferry/land) travel would remain out of scope – in particular most journeys within the Common Travel Area.

Background

The previous report on the statistics being collected under the exit checks programme provided the background to exit checks, an explanation of the information provided by exit checks, and the difference between visa and non-visa nationals. It reported a range of metrics based on the ISA database, and provided a range of metrics describing the coverage, voyage level data receipt (previously referred to as 'completeness') and coherence of the data.

This report provides an updated and expanded analysis:

Chapter 1 sets out the operational uses of the exit checks system, improvements to immigration control and compliance since 2010.

Chapter 2 presents initial results from the exit checks data.

Chapter 3 presents updates to the measures of coverage, voyage level data receipt and data matching.

Chapter 4 discusses other data quality issues.

Chapter 1 Operational uses of exit checks programme, improvements to immigration control and compliance since 2010

Key points

- The exit checks programme was designed and introduced for operational purposes, not to produce statistics. The exit checks data system in practice is a combination of data drawn together and matched from a range of sources including data supplied by passengers to carriers through ticket bookings, information collected from passport swipes at the border, and immigration records. A great deal of care must therefore be taken when matching these individual data sets to produce statistics, from which conclusions about the overall immigration system can be drawn. Nevertheless the system is providing a range of practical operational benefits for the Home Office.

- The development of exit checks has not happened in isolation and there have also been a wide range of policy changes to the UK's immigration system over recent years. From 2010 onwards there have been a range of measures implemented to improve compliance with UK's immigration rules. As a result, current cohorts of migrants and travellers are likely to be more compliant than might have been the case previously. These policy changes have, for example, likely been reflected in the rise in the proportion of visas granted visa to sponsored students and their dependents (Tier 4) from 73% to 95% between 2010 and 2016, and to those granted work visas (and their dependants) from 88% to 94% over the same period.

Exit checks background

Before 1994, embarkation controls were operated by Immigration Officers at the majority of air and sea ports. Passports were checked at the embarkation control, a card completed for those who had been given a 'controlled landing' and a report completed for anyone who had overstayed. The paper-based nature of the checks meant that there was only limited ability to match records and therefore no usable information about outbound passengers was published. These embarkation checks were largely removed in 1994 and then in 1998 were abolished completely.

From 2004, the United Kingdom adopted a more sophisticated approach to checks by collecting Advance Passenger Information (API) for both inbound and outbound air passengers. There was, however, no mechanism to match departures to arrivals, and at this point only partial coverage of air routes and no coverage of rail and maritime. In 2010 the government altered the approach being taken by what was then known as the e-Borders programme, and committed to 'reintroduce exit checks'.

Although partly in place as systems were being developed, exit checks were formally introduced on 8 April 2015, and since then more comprehensive data on departures from the UK has been flowing from ports and carriers into Home Office systems. Exit checks apply to over 100 million travellers a year, including British, European and others arriving by air, rail and ferry, with a small number of routes 'out of scope' such as most departures via the Common Travel Area (CTA).

Obtaining and developing the data

Significant and continuing work has occurred on data improvement and assurance. Measures were introduced, through the Immigration Act 2014, to give carriers and port operators the powers to carry out embarkation checks on exit, and to give the government the power to compel them to do so if necessary. The Home Office has worked closely with the industry to deliver exit checks without the use of this permissive power. Since 8 April 2015, as a result of this collaboration, exit checks on outbound travel have covered all in-scope scheduled commercial international air, sea and rail routes.

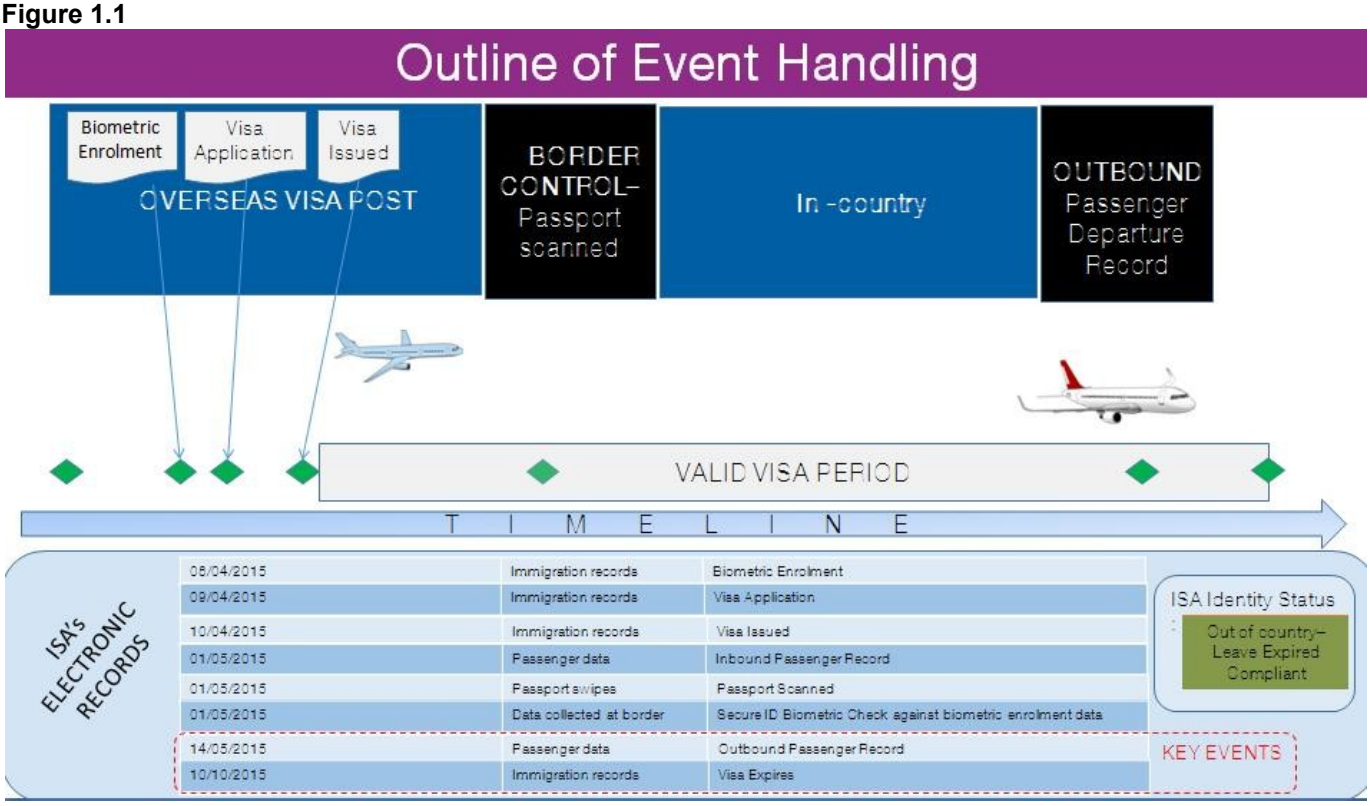
Arrangements are in place with carriers to process API or Travel Document Information (TDI) for 100% of the outbound travel for modes of transport that are in scope. The government has been processing inbound travel data from carriers for some time and as of the end of March 2017 data was supplied on 89% of inbound routes, with 100% coverage for air routes and cruise ships. This data is further supplemented by additional data captured as part of regular immigration checks at the border.

Passenger data is submitted in advance of travel for most scheduled aviation journeys (as Advance Passenger Information or API) but only collected at the point of departure for other modes of transport (as Travel Document Information or TDI). For statistical purposes API and TDI provide essentially the same information on travel movements apart from TDI not being submitted in advance of travel.

Both API and TDI are used to provide the information for exit checks on people leaving the UK and for the remainder of this report references made to API will also include TDI unless otherwise indicated.

In order to analyse exit data it is necessary to bring together, match and assess multiple individual events from different data systems in order to produce an 'identity' and to determine the current compliance status of an individual. The resultant dataset is termed the 'Initial Status Analysis'. An example of these relationships is shown in the diagram below.

Figure 1.1



Examples of operational uses and benefits of exit checks

Over 130 million people leave the UK every year, including around 36 million EEA or Swiss nationals and 16 million non-EEA nationals. This includes people who leave after visiting temporarily, or after study or work in the UK. There are also around 3 million entry clearance visas granted (and expiring) annually. This presents a very large volume of travellers who need to be checked under normal border control activity.

Exit checks data are already providing the police, the security services and intelligence agencies with more information to help track the movements of known criminals and terrorists, supporting wider work already taking place across government and law enforcement.

Exit checks also support the Government's immigration and borders strategy, and strengthen our knowledge of those who leave the UK on time as well as those who leave late or do not leave at all.

Exit checks are helping the Home Office take better targeted, more effective action against those who stay longer than they are permitted to. They also help to identify those who are working illegally and those who try to defraud our health and welfare systems. The data is also set to provide valuable information on the immigration routes and visas that are potentially the most subject to non-compliance, enabling the Government to make targeted changes.

Other examples of the use of exit checks data include:

- Data on an individual's history of compliance can be used to inform entry clearance visa decision-making in individual cases and to close in-country applications, asylum claims and appeals. The data is also used by Border Force officials at ports.

- Data on those departing after their leave has expired is being used to help identify returns abroad (data matching to identify 'other verified returns') published in the quarterly Immigration Statistics.

- Data relating to students has also been shared with the Office for National Statistics (ONS) to help inform their understanding of international student migration statistics, and published in the ONS report 'Technical

paper: International Student Migration – August 2017' at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/internationalstudentmigrationresearchupdate/august2017.

- Immigration Enforcement are using information on those with no evidence of departure and also information for those close to their expiry date to assess whether providing additional information and reminders using available contact details impacts on compliance.

- Data indicating individuals for whom there is no evidence of departure and their leave had expired has also been used by other Government departments to cease payment of benefits.

- In the future, data from the exit checks system on non-compliance may inform risk assessments relating to the visa system, and help further target enforcement activity.

UK's immigration system 2010 to 2016: improving compliance with the Immigration Rules

It is important to recognise that the development of exit checks has not happened in isolation and that there have been a wide range of changes to the UK's immigration system over time. Below is a brief overview giving a range of examples of the changes made from 2010 to 2016 for the major temporary migration routes of study and work, particularly those which may have impacted on the rates of non-compliance with the immigration rules.

Study migration

In the early part of the decade there was a range of evidence suggesting non-compliance in the non-EU student sector, particularly but not entirely concentrated in the further education sector. For example, the National Audit Office reported in 2012[6] that they estimated "between 40,000 and 50,000 individuals might have entered through Tier 4 in its first year of operation to work rather than study". A Home Office study looked at the operation of the Tier 1 work route[7], and in relation to post-study work found that of those Post-study work route students who had taken employment at least 60% were in unskilled jobs, despite the scheme being designed to provide opportunities for non-EEA graduates to find relevant skilled work experience following their studies in the UK. Partly as a result, the Tier 1 (Post-study work) route closed in April 2012.

Since 2010, the Home Office has implemented a range of measures to improve compliance within the sponsored study (Tier 4) route for non-EU nationals:

- February 2010 – use of Confirmation of Acceptance for Study (CAS) by sponsoring educational institutions became mandatory.
- 2011 – new requirements for English language were introduced; the right to work was removed for international students other than those at higher education institutions (HEIs) and publicly-funded further education (FE) colleges; the right of students to sponsor dependants was removed except for students on post-graduate courses lasting less than a year; FE colleges were asked to vouch for their students' academic progress if they wanted to extend their visa.
- April 2012 – the *post-study work route* was closed to new entrants; a five -year time limit was introduced for study at bachelor's and master's degree level; limits were introduced on the time students are allowed to spend on work placements.
- July 2012 – immigration officers at the border were given the power to refuse applicants if they had doubts about their genuineness, and interviews were re-introduced for high-risk applicants.
- April 2013 – new flexibilities for highly skilled workers to work after their studies were introduced: completing PhD students were allowed to stay for 12 months, the number of places offered within the Graduate Entrepreneur scheme was doubled, and lower "new entrant" salary rates were introduced for graduates switching into Tier 2.
- November 2014 – the permitted visa refusal rate for sponsor institutions was reduced from 20% to 10%. So that in future if 1 in 10 of a sponsor's prospective students are refused, the sponsor loses the ability to recruit international students.

[6] See 'Immigration: The Points Based System – The Student Route' (NAO, 2012) https://www.nao.org.uk/report/immigration-the-points-based-system-student-route/

[7] See 'Points Based System Tier 1 – An Operational Assessment' (Home Office, 2010) https://www.gov.uk/government/publications/points-based-system-tier-1-an-operational-assessment

- July 2015, students at publicly funded colleges were banned from working; length of time for study within FE was reduced from 3 to 2 years; students who wish to extend their studies within the UK were required to show that they have progressed academically.

- From 2010 onwards a new sponsorship scheme was introduced, which required sponsors to apply for accreditation on an annual basis. This was originally through receipt of Highly Trusted Sponsor status, which was replaced with the Basic Compliance Assessment in 2015. Following this or as a result of subsequent enforcement action, licences were not renewed for over 900 FE colleges which were then not able to sponsor international students. In many cases these were colleges where there were concerns over compliance.

The tightening of the rules in areas where abuse has been uncovered was reflected in a 78% decrease in entry clearance visa applications sponsored by the further education sector between 2010 and 2016. Over the same period the number of applications sponsored by the higher education sector rose by 17%. The visa grant rate for all Tier 4 visas (including dependants) also rose from 73% in 2010 to 95% in 2016.

Figure 1.2
Sponsored entry clearance visa applications by education sector, 2010 to Year ending March 2017

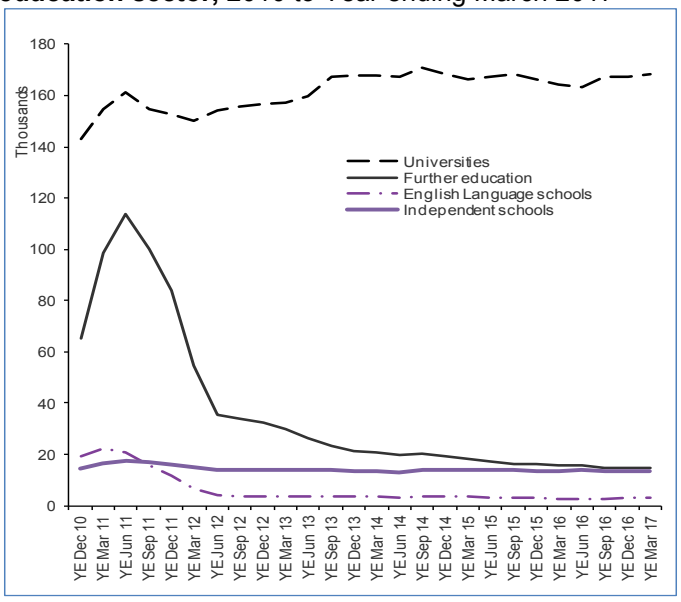
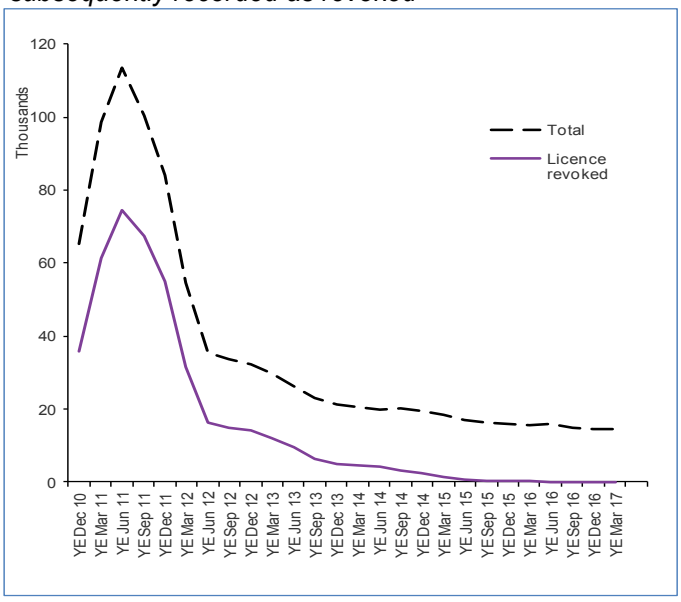


Figure 1.3
FE sector sponsored applications, by whether license subsequently recorded as revoked



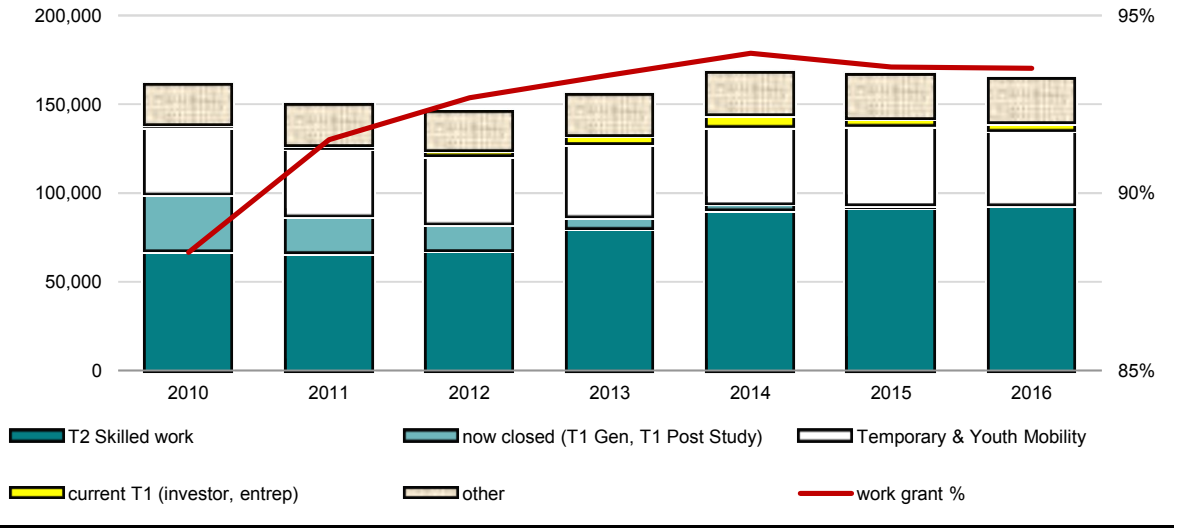
As noted, all these measures taken together can be expected to have improved compliance more generally. This will be reflected in analyses of data relating to more recent arrivals derived from exit checks. More information on study migration trends can be found in the Home Office statistics topic on study migration[8].

[8] See https://www.gov.uk/government/publications/immigration-statistics-january-to-march-2017/why-do-people-come-to-the-uk-3-to-study

Work migration

As the following chart below shows, the number of sponsored Tier 2 skilled work visas increased by 37% between 2010 and 2016. Meanwhile the numbers fell for other unsponsored routes that were not working as intended (Tier 1 General and Tier 1 Post Study Work) and which were subsequently closed to new entrants. Other 'high value' categories in Tier 1 (which include investors and entrepreneurs) have remained open and were three times higher (up 203%) in 2016 compared to 2010. Over the same period, the grant rate for work visas (including dependants has risen from 88% in 2010 to 94% in 2016 (with an increase for Tier 2 skilled work visas from 92% to 97%).

Figure 1.4
Work entry clearance visas granted by category, and grant rate, 2010 to 2016



Similar to the Tier 4 study route, the work routes (in particular Tier 2) have been subject to reform over the last few years. The following changes took into account the recommendations of the independent Migration Advisory Committee, to ensure the route is focussed on genuine skills shortages and highly specialised experts. These changes included:

- The introduction of an annual limit of 20,700 places on Tier 2 (General) applications from overseas.
- Raised standards by restricting Tier 2 to graduate occupations only and requiring applicants to have an intermediate (B1) level of English.
- Reformation of the Intra-Company Transfer (ICT) route by introducing minimum salary requirements and restrictions on lengths of stay.
- Breaking the link between working temporarily and settling permanently – those who entered Tier 2 from April 2011 must earn £35,000 in order to settle after five years, unless they are working in a shortage or PhD-level occupation.
- Introduction of a genuine vacancy test and other measures to tackle non-compliance.
- Introduction of the genuine entrepreneur test for Tier 1 (Entrepreneur) introduced in January 2013.
- Doubling the minimum investment for Tier 1 (Investor) to £2 million; further checks on applicants' associations and the source of funds; requiring applicants to open a UK investment account before applying for a visa.
- Requiring applicants in certain categories to provide overseas criminal records certificates.
- Introducing an Immigration Skills Charge for employers of £1,000 per sponsored worker per year (or £364 for small employers and charities).
- Raising the Tier 2 (General) salary threshold for experienced workers to £30,000.
- Consolidating the Intra-Company Transfer (ICT) provisions to a single category with a salary threshold of £41,500 (except for graduate trainees).

As noted, all these measures taken together can be expected to have improved compliance more generally which will be reflected in analyses of data relating to more recent arrivals derived from exit checks. More information on work migration trends can be found in the Home Office statistics topic on work migration[9].

[9] See https://www.gov.uk/government/publications/immigration-statistics-january-to-march-2017/why-do-people-come-to-the-uk-2-to-work

Chapter 2 Initial results from exit checks data

Key points

- For the visa holders within the scope of this analysis, whose visas or extensions expired in 2016/17 without them being granted an extension to stay longer in the UK, the vast majority (96.3%) departed in time i.e. before their visa expired. Note this does not cover other aspects of compliant behaviour.

- A further 0.4% left late, that is they departed after their leave had expired. A further 3.3% whose leave had expired were not initially identified as having departed. However, further investigations of specific subgroups, reported in Chapter 4, suggest that some of these individuals may have in fact left, on account of known gaps in the data and data matching processes.

- The proportions departing in time for visit, study or work visas were similar at 96.7%, 97.4% and 95.4% respectively, with higher proportions for sponsored skilled work (Tier 2 skilled work 97.4%) than those visa categories which were not governed by the sponsorship system.

- Ten nationalities together accounted for three quarters (73%) of the visa expiries in 2016/17. For these nationalities the proportions departing in time were fairly similar, ranging from 94.3% (Chinese) to 98.6% (Saudi Arabians and Thai nationals). Again, further investigations have suggested some reasons why particular groups might be showing a lower rate.

- Further analysis by Office for National Statistics (ONS)[10] has investigated what happened to non-EU students who immigrated on a long term (12 months or more) study visa and whose visa (or in-country extension of leave to study) expired in 2015/16. This included identifying those who then extended their stay within the UK either in the study or other routes, and also following up those who departed the UK. ONS' findings included that :

  - **The Home Office Exit check data provides a more accurate picture of what non-EU students do after their visa expires** and there is no evidence to suggest whether these findings are likely to affect total net migration figures

  - **International students do add to net migration both initially and over the longer term because not all students depart the UK when they have completed their studies** and significant numbers are granted settlement.

Detailed results

This chapter reports on new analyses of non-EEA nationals departures compared to their visa expiry dates.

Chapters 3 and 4 then explain some of the important issues and caveats connected with the production of the figures that need to be taken into account when interpreting the data. In particular, missing departure information for any individuals may result in significantly inaccurate statistical estimates of numbers not departed.

The ISA system combines data into identities that link an individual's travel in or out of the country with their immigration history such as periods of leave granted. This event history is used in combination with agreed business rules in the assessment of an individual's immigration status. The system assigns a status to individuals based on this history, most commonly those known to be compliant, late departures and those with no departure matched on the ISA system.

[10] See '*Technical paper: International Student Migration – August 2017*' at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/internationalstudentmigrationresearchupdate/august2017.

1. Known departure rates for non-EEA nationals granted visas

What the analysis measures

The results on departure rates in this report are looking at those on short term visit visas and those on longer term routes such as work or study. The levels of compliance reported are estimates. Further investigations looking at data in more detail in Chapter 4, indicate that many of those not initially identified as compliant by matching data together, were in fact compliant, and potentially some of those initially identified as compliant may not have been due to data quality or matching errors. Compliance measured in these experimental estimates is also measured only in relation to whether individuals appear to have departed before or on the date their visa expired – they do not measure any other aspects e.g. whether individuals complied with any other conditions associated with their visa.

In interpreting these figures there are a number of important caveats to take into account, (discussed further in chapters 3 and 4):

- The analysis excludes those whose entry clearance visa expired but who obtained extensions of leave to remain (or settlement) whilst in the UK and therefore understate true compliance levels. It also excludes those who were not matched to a visa or leave to remain at the point of their last entry into the UK.
- The analysis excludes the majority of visitors to the UK – who don't need a visa (UK and other EU nationals living overseas who visit the UK as well as 'non-visa' nationals such as US citizens who don't normally need a visa to visit the UK). The analyses also exclude those whose visa expired in earlier years, as well as the minority of visit visa holders who have long term visit visas (visas of duration of over six months which allow periods of stay of up to six months before the visa expires), as well as nationals of Gulf States that can travel under an Electronic Visa Waiver Scheme, and those non-visa nationals who were granted visit visas.
- Only individuals who entered the UK after 8th April 2015, when exit checks data collection commenced, have been included in the analysis. This includes both people granted visas after 8th April 2015 and people returning to the UK on an existing valid visa.
- The analysis in this report uses data for those whose visa expired in 2016/17, reflecting improved data quality more recently (see Chapter 3). This analysis replicates an earlier analysis using 2015/16 data and the results are consistent.
- For the small minority of individuals when there is no record of their departure initially identified, there are known – and potentially significant - uncertainties within the immigration system, impacting the assignment of statuses. Key sources of uncertainty include coverage and completeness of travel data, data being provided but of insufficient quality, data not pulled into the Initial Status Analysis (ISA) system and effectiveness of matching identities to bring together travel and immigration events.
- The ISA system is still under development. Changes to the ISA system as development continues will change the figures quoted in this report. It is also reliant on the quality of data that it draws upon. Data quality issues and data entry lags in Home Office systems such as CID and CRS will have an impact on the details of identities held within the ISA system.
- For individuals whose leave expired with no known departure, they may have left without their departure being initially identified (see Chapter 4 for further details).

Results from analysis of those visa[11] holders whose leave expired in 2016/17 (without obtaining an extension to stay further in the UK) had the following statuses recorded on the ISA system:

- **96.3%** were recorded as having left in-time (e.g. before their leave expired)
- 3.7% were not recorded as leaving before their visa expiry date, of whom 0.4% departed after their leave had expired and 3.3% had leave expired but no departure was initially identified

Corresponding information for those visitors within scope, work migrants and students showed:

- **Visitors: 96.7%** of those who arrived as a visitor were recorded as having left in-time.
- **Workers: 95.4%** of those who arrived for employment were recorded as having left in-time.
- **Students: 97.4%** of those who arrived for study were recorded as having left in-time.

Of the remainder, some may have left but not been identified for the reasons explained above and in chapters 3 and 4, others will have left late, and some may have overstayed.

[11] Or in-country extensions of leave to remain

Table 2.1
Expiries and departures for non-EEA nationals granted visas[11] by category - 2016/17

Visa Category	Volume of expiries*	Number with known departure in time	Percentage with known departure in time	Percentage with no initially identified in time departure**
Visiting the UK***	1,058,212	1,023,057	96.7%	3.3%
Study	181,024	176,407	97.4%	2.6%
Of which				
Sponsored study (Tier 4)****	112,270	108,930	97.0%	3.0%
Short term study	68,754	67,477	98.1%	1.9%
Work	79,013	75,381	95.4%	4.6%
Other*****	17,433	11,526	66.1%	33.9%
Total	1,335,682	1,286,371	96.3%	3.7%

*Excludes a small number of cases where there is specific additional evidence of further leave or that a person has left the UK or evidence of an application in progress.

** Includes cases where departure data is not found due to known gaps in the ISA system, and late departures. Reasons why a person's record may not be matched and therefore not identify a departure may include, for example, if they are dual nationals and do not use a single document for travel or if different data systems have captured their name or other details differently.

*** Excludes non-visa nationals (who don't normally require a visa to visit the UK e.g. US nationals).

****Includes pre-PBS equivalents. Note the figures reported by ONS separately at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/whatshappeningwithinternationalstudentmigration/2017-08-24 cover those with long term (1 year or more) visas expiring, relate only to main applicants, and also include those who were granted extensions to stay further in the UK, and therefore will differ from the figures presented here.

*****After visitors, study and employment, the most common type of visas granted are family–related. Visas relating to family and resettlement in due course often lead to settlement grants (indefinite leave to remain). Where settlement grants occur, these cases are not included in this analysis as such individuals would not then be expected to depart the UK. Consequently this 'Other' category understates the true level of compliance of individuals granted family and resettlement visas and records a lower in-time departure rate than the true level of compliance.

The figures for work visas can be further broken down to show the comparable rates for skilled sponsored workers (Tier 2), youth mobility and temporary workers (Tier 5), the exceptional talent and entrepreneurial visas (Tier 1) and others. The identified departure rate for the main Tier 2 visas is 97.4%. The rate was lower for work routes outside the Points Based System (90.9% of 10,130 expiries, mostly the domestic worker category) and for Tier 1 visas (76.5% of 1,421 expiries – with most of those with no initially identified record of in-time departure accounted for by dependants, such as children) which have now become a relatively small category (following the closure of the post-study and general categories). It is possible that the travellers on the Overseas Domestic Workers visa or with a Tier 1 visa were more likely to depart using less usual routes, such as via Europe or on small aircraft.

Table 2.2
Work: Expiries and departures for non-EEA nationals granted visas[11] by category* - 2016/17

Visa Category	Volume of expiries*	Number with known departure in time	Percentage with known departure in time	Percentage where no initially identified in time departure**
Skilled work (Tier 2)***	43,306	42,175	97.4%	2.6%
Youth mobility & temporary (Tier 5)***	24,156	22,907	94.8%	5.2%
Other Employment	10,130	9,212	90.9%	9.1%
Of which				
Overseas Domestic Workers	9,022	8,217	91.1%	8.9%
High value (Tier 1)***	1,421	1,087	76.5%	23.5%
Of which				
Main applicants***	676	590	87.3%	12.7%
Dependants***	745	497	66.7%	33.3%
Total	79,013	75,381	95.4%	4.6%

*Excludes a small number of cases where there is specific additional evidence of further leave or that a person has left the UK or evidence of an application in progress.

** Includes cases where departure data is not found due to known gaps in the ISA system, and late departures. Reasons why a person's record may not be matched and therefore not identify a departure may include, for example, if they are dual nationals and do not use a single document for travel or if different data systems have captured their name or other details differently.

***including pre-PBS equivalents

The following table also presents a breakdown of results for the top ten nationalities of those issued a visa. These numbers will mostly relate to those on normal visit visas (either tourist or family visits). As noted above the analysis excludes those on long-term visitor visas[12] and those visitors who don't need a visa (non-visa nationals such as US nationals). It does include both visa nationals and non-visa nationals for study, work and other categories where they obtain visas.

Ten nationalities together accounted for three quarters (73%) of the visa expiries in 2016/17. For these nationalities the proportions departing in time were fairly similar, ranging between 94.3% (Chinese) and 98.6% (Saudi Arabians and Thai nationals). Again, further investigations have suggested there were some reasons why particular groups might be showing a lower initially recorded departure rate.

The rate for Chinese nationals in the lowest among the top ten but this reflects known issues in coverage for tour groups whose visa has been arranged through the approved destination status (ADS) agreement, see chapter 4 below for more information. Removing the ADS cases increases the rate for Chinese nationals from 94.3% to 97.4%. Additionally a large majority of Chinese visit visas issued in 2016/17 were long term visit visas[13] so are not covered by this analysis.

[12] If individuals can prove they need to visit the UK regularly over a longer period, they can apply for a visa that lasts 2, 5 or 10 years. These allow individuals to stay for a maximum of 6 months on each visit. Correspondingly in such cases it is not possible to assess compliance in the same way, against the final visa expiry date, which may be in the future.
[13] See https://www.gov.uk/government/news/the-home-office-launches-new-two-year-chinese-visa-pilot

Table 2.3
Expiries and departures for non-EEA nationals granted visas[11] by nationality - 2016/17

Nationality	Volume of expiries*	Number with known departure in time	Percentage with known departure in time	Percentage where no initially identified in time departure**
India	330,127	320,124	97.0%	3.0%
China	221,039	208,351	94.3%	5.7%
- *of which* non-ADS	141,950	138,193	97.4%	2.6%
- *of which* ADS	79,089	70,158	88.7%	11.3%
Saudi Arabia	80,906	79,735	98.6%	1.4%
Russia	72,123	70,926	98.3%	1.7%
Turkey	62,454	60,579	97.0%	3.0%
South Africa	56,239	54,929	97.7%	2.3%
Thailand	49,097	48,409	98.6%	1.4%
Philippines	36,149	34,924	96.6%	3.4%
Nigeria	34,968	33,220	95.0%	5.0%
Indonesia	32,315	31,628	97.9%	2.1%
Other	360,265	343,546	95.4%	4.6%
Total	1,335,682	1,286,371	96.3%	3.7%

*Excludes a small number of cases where there is specific additional evidence of further leave or that a person has left the UK or evidence of an application in progress.

** Includes cases where departure data is not found due to known gaps in the ISA system, and late departures. Reasons why a person's record may not be matched and therefore not identify a departure may include, for example, if they are dual nationals and do not use a single document for travel or if different data systems have captured their name or other details differently.

Separate joint analysis of international student migration data

The Office for National Statistics (ONS) and Home Office analysis[14] of international student migration data using data from the exit checks programme, other Home Office sources and the International Passenger Survey included the following key messages

- **International students do add to net migration both initially and over the longer term** because not all students depart the UK when they have completed their studies. Previously published Home Office analysis of non-EU students' journeys through the immigration system shows that around 1 in 5 non-EU former students extended their leave to remain up to 5 years after their arrival to study by switching visa routes. In addition a small proportion (1%) had achieved settlement in five years. Further evidence from the survey of graduating international students shows that around a quarter of non-EU students responding to the survey state that they intend to work in the UK after completing their studies. In the past former students have remained permanently in the UK in significant numbers, and of those granted settlement in 2015 more than a quarter (29%) or some 26,799 individuals had initially come to the UK via the study route (23,950 as students and a further 2,849 as dependants).

- **The Home Office Exit check data provides a more accurate picture of what non-EU students do after their study leave expires.** The IPS records migration intentions, which may be more likely to reflect actual behaviour when immigrating long term to the UK (because students will have registered on their courses and are asked about these by interviewers). This is supported by the historically close patterns seen in IPS data and other sources. However, evidence shows that these intentions are less likely to reflect actual behaviour on departure, because post-study plans are likely to be less certain, and personal circumstances can change.

[14] See '*Technical paper: International Student Migration – August 2017' at* https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/internationalstudentmigrationresearchupdate/august2017

Chapter 3 Measures of coverage, voyage level data receipt, and data matching

Key points

The quality of exit data and our understanding of its limitations has been improving since the first report published in August 2016[15]. For example,

- As the first report showed, the route coverage[16] of the exit checks data passenger arrivals has increased over time, reaching 100% for the in-scope outbound routes by the end of June 2015 and 89% for all inbound routes by the end of March 2017, including 100% for arrivals by air and cruise liner.

- Estimates of voyage level data receipt (previously referred to as 'completeness') for outbound air travel relate to the proportion of voyages with data supplied and not completeness of data for each traveller. This is now very high – for example averaging over 99% in the first week of May 2017

- The quality of data matching for individual travellers has improved. Overall for 2016/17, 92.7% travel movements of 'visa nationals'[17] could be matched to their most recent inbound arrival as recorded on API. Some matching attrition is to be expected (e.g. for dual nationality or lost passports).

Detailed results:-

This chapter reports updated metrics on coverage, voyage level data receipt (previously referred to as 'completeness') and coherence.

What the analysis measures

The ISA System links data from a number of Home Office systems:

- Advance Passenger Information (API) and Travel Document Information (TDI). Passenger data is submitted in advance of travel for most scheduled aviation journeys (as Advance Passenger Information or API) but only collected at the point of departure for other modes of transport (as Travel Document Information or TDI). For statistical purposes API and TDI provide essentially the same information on travel movements apart from TDI not being submitted in advance of travel.
- Case working systems relating to (out of country) entry clearance visa application casework and (in-country) casework e.g. on extensions of leave to remain (this also includes information on statuses provided by the Channel Islands and Isle of Man authorities).
- The system used to check biometric details prior to visa applications
- Inbound passport swipes collecting passport scan (PS) data upon entry into the UK

Each individual (or identity) within the ISA system is allocated a unique identifier which consists of biographic details (such as name, passport or travel document number, date of birth, nationality and gender) and associated events (such as travel in or out of the country or periods of leave granted). This event history is used in the assessment of an individual's immigration status.

Individuals for whom there is a travel record entering the UK on or after 8 April 2015 (when Exit Checks formally began) are included in most outputs provided from the system. Some data is also held on individuals who do not meet this criteria, and this can be used in certain circumstances (e.g. if an individual left after 8 April 2015 and had had some form of leave to enter or remain, this would be sufficient evidence that they had at some point entered the country and a status could then be determined). On account of the requirement for a recorded entry, clandestine entrants are not currently in scope for compliance assessment. Data about individuals travelling on European Economic Area[1] or UK[1] travel documents are not included within the ISA system (though API data is held elsewhere on such travel movements).

The ISA system contains data on both visa nationals and non-visa nationals. Visa nationals are nationals of countries, such as India, China and Russia, for whom a visa is normally required to enter the UK. Non-visa nationals are nationals of countries, such as the United States, Canada and Japan, who are currently allowed to enter the UK without a visa as visitors for a period of up to six months There is more confidence in data on visa nationals, because more information is held on them through their visa and therefore the quality of data matching is believed to be higher so only data relating to visa nationals data is included in this chapter.

[15] See 'A report on the statistics being collected under the exit checks programme', at https://www.gov.uk/government/statistics/a-report-on-the-statistics-being-collected-under-the-exit-checks-programme.

[16] Here route coverage relates to there being arrangements in place to collect data on routes, not that data collection is complete. For inbound travel the data provided by the carriers and port operators is further supplemented by the additional data captured as part of the regular immigration checks at the border which is used to mitigate the shortfall.

[17] See the Glossary for definition of 'visa nationals' and 'non visa nationals'.

Coverage

Definition Coverage is a measure of the proportion of routes which are covered by the system for collecting data on border crossings; all carriers on a specified route are required to provide data for their flights, voyages or rail journeys. A calculation is then made of the estimated number of passengers who would have travelled on these routes. This is not the same as *completeness* of the API data provided in relation to flights by the carriers or the number of passengers for whom Home Office has received API data (this is discussed in the next section, a route may be covered but data may not always be submitted by carriers).

For the purposes of the exit checks system both inbound and outbound API provide information on travel to and from the UK in order to build up information held in the ISA. Additionally for inbound travel movements Passport Scans and other information are collected from saved data when travel documents are checked, this mitigating the gaps in inbound API coverage.

Coverage can be estimated as a percentage of routes or as a percentage of volumes of travellers on routes. As some routes can have much higher volumes than others it is most meaningful to consider coverage weighted by numbers travelling.

Using a coverage measure weighted by numbers of people travelling via the different routes, it was estimated that at the end of 2009 the overall coverage of API/TDI collected by the Home Office for both inbound and outbound travel (combined) stood at 57%. Since then, the coverage has increased and by mid 2014 had reached 81% and has continued to increase since then.

Figures for coverage are available from mid-2014 at the level of individual modes of travel (aviation, maritime, rail). The National Audit Office (NAO) report *E-borders and successor programmes*[18] reported that by September 2015 coverage rates were 100% outbound and 86% inbound for air carriers but that the Home Office was not then receiving inbound data for the majority of ferry and rail passengers. Coverage has increased over time, reaching 100% for outbound routes by the end of June 2015 and 87% for all inbound routes by the end of June 2016, including 100% for arrivals by air and cruise liner passengers.

Coverage figures for the first quarter (January-March) 2017 was 100% outbound and 89% inbound, very similar to those reported in the first report. The only changes within subcategories is for inbound Maritime where the overall coverage rate has increased from 32% to 42%, this reflecting a change in the balance of cruise and ferry inbound passengers. However, the 0% and 25% coverage for rail and ferry inbound travel is mitigated by passport swipe data.

Table 3.1
Coverage figures for API/TDI

	30 June 2014	30 June 2015	30 June 2016	31 March 2017
Outbound all travel modes	81%	100%	100%	100%
Inbound all travel modes	81%	83%	87%	89%
• Aviation inbound	96%	97%	100%	100%
• Rail inbound	0%	0%	0%	0%
• Maritime inbound	21%	29%	32%	42%
• Maritime inbound (cruise)	53%	94%	100%	100%
• Maritime inbound (ferry)	16%	16%	25%	25%

Voyage level data receipt (previously referred to as 'Completeness')

While coverage of exit checks data has now increased to 100% for the in scope outbound routes indicating that systems are in place to collect data, carriers do not always in practice supply data pertaining to a flight or an individual. Estimates of voyage level data receipt are available for aviation routes and relate to the extent to which carriers supply API data for voyages, not whether all data for every passenger on a particular voyage was received.

Definition In this report, voyage level data receipt (previously referred to as 'completeness') refers to the completeness in the provision of the supply of data agreed and delivered by carriers in relation to voyages, i.e. individual flights or journeys. Figures for voyage level receipt are currently available for aviation and relate to the percentage of voyages where a message (i.e. both check in and departure confirmation) for at least one passenger and at least one crew member was received (that is, the flight took place). This measurement does *not* mean that all data for every passenger was received.

[18] See https://www.nao.org.uk/report/home-office-e-borders-and-successor-programmes/

The estimates for the voyage level data receipt (see above definition) stood at 90% overall in March 2014, rising to 94% by November 2014. These statistics can fluctuate but are now relatively stable at an even higher level. The 2015 NAO[6] report stated that voyage level data receipt (previously referred to as 'completeness') had reached 98% by September 2015. The latest position is that for the whole period September 2015 to June 2016 the average inbound voyage level data receipt was 98.8% and for outbound it was 98.1%, and for the average for the weeks in May 2016 this was 98.8% and 98.7% respectively. Recent figures (for the week 22–28 May 2017) were 99.6% for inbound and 99.3% on outbound.

Aviation accounts for around 84% of overall inbound and outbound travel movements. Rail travel (Eurostar and Eurotunnel) accounts for 8% and maritime travel for the remaining 8%. As yet there are no measures of voyage level data receipt for rail and maritime travel and work on this is still in its early stages but the system is being developed to allow monitoring of receipt of data within expected volumes and time windows.

Although the available voyage level data receipt rates for flights are high, it does not indicate whether all data for every passenger on a particular voyage was received. The impact of not receiving passenger details could have important impacts on any statistical estimates. For example, a non-completeness rate as low as 1% or 2% where no initial record of departure was found, would still potentially generate a high number of incorrectly initial estimates (bearing in mind that there were 16.3 million non-EEA admissions overall in 2016, of which 5.9 million were visa nationals). Although some background level of missing data is inevitable, this potential source of uncertainty needs to be taken into account when interpreting the figures on departure rates.

Coherence: The processing of API data and matching to other sources

API data has been used for a number of years to inform operational assessments. Over time, processes have been implemented to improve the quality of the data, such as addressing duplicate records. In preparation for the re-introduction of exit Checks in April 2015, a number of further improvements were made. As far as possible a person-centric view is produced, using links within immigration system data as well as matching processes for API data.

Processes for data linking

The ISA system combines immigration and travel events into travel histories for individuals through a process of data linking. This also includes external linking based upon immigration system data and additional data matching to create as far as possible a single person-centric dataset. Whilst linking various immigration systems data combines events that have common indexes, additional data matching combines events that have common biographic details. The data matching uses deterministic, probabilistic and event based matching methods. It is relatively easy to appreciate how each individual linking method operates in isolation; however, the combined effect of different methods working together is more complex. The ISA system has to cater for all (non-EEA nationals) and so matching needs to be intuitive enough to make best use of records with poor data quality but cautious enough to ensure that incorrect initial estimates are kept to a minimum. In doing this, work is done to also include records with limited data quality by employing multiple techniques and business logic.

Achieved matching rates of API data to Immigration System records and Passport Scan data from swipes of passports

Matching rates of API data to Immigration System records and Passport Scan data have been produced using a method which either examines the latest inbound, or latest outbound journey (where a previous inbound journey also exists). This has the advantage of focusing on individual travellers, rather than weighting according to the number of travel movements, and brings matching rates into line with those generated from the live system. This does, however, mean that match rates are not directly comparable with those produced for the first report published in August 2016 (data for the last 9 months of 2015), where all journeys with an API record were analysed.

API records from all modes of transport have been included, with aviation contributing the majority (99.6%) of inbound API data and (91.3%) of outbound data[19]. The difference in these percentages reflects known issues of coverage with no inbound API data for rail and only partial inbound maritime, these gaps in coverage being mitigated by inbound passport swipe data.

Achieved matching rates of API data to Immigration System records

When producing these matching rates, there is a difference between visa nationals, who are normally required to have a visa to enter the UK and non-visa nationals who are currently allowed to enter the UK without a visa as visitors for a period of up to six months, but not for other purposes such as work or study. The data available differs considerably for these two groups.

For visa nationals, during the period 1 April 2016 to 31 March 2017, the match rate was 92.7% for inbound journeys and 96.9% for outbound. In other words, for more than 9 out of every 10 visa nationals there was a definite record of a visa being issued and being used to enter the UK and there was a corresponding and linkable travel event to or from the UK for the latest journey they had made.

Non-matching may legitimately occur because

- A passport has been renewed following expiry or loss whilst its owner was in the UK;
- some travellers may use a different travel document, for example when initially booking their voyage or because they hold dual nationality;
- A passenger may have leave to remain in the UK captured in an old passport which is presented on arrival, but use a more recent document on departure;
- A passenger may hold a residency card issued under EU law by an EEA member state together with other documentation that allowed visa free entry;
- Some cruise passengers benefit from a visa waiver for port visits;
- A passenger may have been granted leave by other parts of the Common Travel Area and this is not linked.

There could also be inconsistencies between the data entered in booking a voyage as a result of error (e.g. on passport number, nationality or date of birth) that result in no match.

[19] Based on a last outbound journey that follows a last inbound journey.

Table 3.2
Proportion of individuals' API data matched to same individual's visa for 2016/17 (excluding transit cases) for top ten visa nationalities and for all other visa nationalities (latest journey only)

	Percentage of inbound API matched to Immigration System records	
Nationality	**Number matched**	**% of all matched**
India	461,422	96.5%
China	338,812	96.4%
Saudi Arabia	122,339	96.8%
Russia	115,787	94.2%
Turkey	101,020	95.5%
Nigeria	88,915	86.2%
Pakistan	77,240	87.3%
South Africa	75,527	82.4%
Thailand	74,029	96.7%
Philippines	48,964	94.1%
Other nationalities	510,564	88.6%
All visa nationals	**2,014,619**	**92.7%**

	Percentage of outbound API matched to Immigration System records	
Nationality	**Number matched**	**% of all matched**
India	382,601	99.3%
China	251,259	98.0%
Saudi Arabia	108,037	98.2%
Russia	104,805	97.1%
Turkey	86,727	98.0%
Nigeria	72,361	93.4%
South Africa	66,765	88.7%
Thailand	66,754	98.8%
Pakistan	45,944	96.5%
Philippines	40,454	98.2%
Other nationalities	401,821	95.0%
All visa nationals	**1,627,528**	**96.9%**

Transit cases where a person arrives and departs the UK within 48 hours have been excluded. Nationals of countries who qualify for Electronic Visa Waivers (Kuwait, Oman, Qatar and United Arab Emirates) are also excluded from the analysis.

The inbound match rates are little altered if cases where an inbound passport swipe is recorded, but no API, are included within the inbound numbers.

The higher match rates for outbound seen here may reflect the fact that rates are determined for the a last outbound journey that follows on *after* a last inbound journey (the match status being determined by valid leave for the inbound journey). This will tend to reduce contributions from resident dual nationals or those granted settlement prior to 2002 not normally be recorded on electronic systems.

At present there is no straightforward explanation as to why the differences in matching rates occur between different nationalities. In some cases it may in part be due to differences in the degree to which travellers use on-line application systems (electronic data being easier to match), consistency in presenting biographical information in different databases or other reasons.

The overall matching rate for visa nationals for 2016/17 (92.7% inbound, 96.9% outbound) is higher than the rate reported in August 2016 for April – December 2015 data (89.1% inbound, 90.1% outbound).

Achieved matching rates of API data to Passport Scan (PS) data

The ISA system also records Passport Scan (PS) data from swipes of passports at the border. This data can be used to supplement inbound API data, completing any missing data, and provides additional information for matching to immigration systems. At the same point at which these swipes are collected there would normally also be collection of biometric data (for non-visa nationals only). These data are also used to provide more complete coverage for inbound data.

When matching API to PS[20] rates for visa nationals were 92.5%, and slightly higher when we restrict this to aviation (92.6%) in part reflecting limited coverage for API for non-aviation routes.

Conversely if one looks at match rates of PS data to API the matching rate for visa nationals was 93.6%, and when we restrict this to aviation was 97.8%.

Work with Office for National Statistics

The Home Office and ONS have also worked together closely on improving migration statistics, both in terms of presentation and in data development.

Home Office has supplied large Semaphore data extracts (the source system on travel movements in exit checks) to ONS since 2013 for evaluation of its use for statistical purposes. ONS' findings have been included in a number of reports and updates, including

- Delivering statistical benefits from Semaphore (formally e-Borders) (2013)
- Semaphore Research Update (2014)

Further data extracts have been provided to ONS in 2016 and again in 2017.

Home Office has also provided ONS analysts with secure access to some of the underlying data on visas, including the Migrant Journey data and "exit checks" enabling further collaborative work. The results of these analyses are summarised at Chapter 3 and reported in full in the ONS report on student migration statistics ('Technical paper: International Student Migration – August 2017' at https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/articles/internationalstudentmigrationresearchupdate/august2017 published on 24th August 2017. The Home office and ONS are committed to working together to use the full range of available data sources to inform the migration statistics and improve our understanding.

Users are kept informed of ONS and Home Office plans for the development of migration statistics via the annual Migration Statistics User Forum conference. The conference has taken place every Autumn since 2011.

[20] Including checks made at the border of biometric data provided by visa holders.

Chapter 4 Other data quality issues

Key points

- Where no evidence of departure was found initially, individuals may have left. There could be a variety of legitimate reasons why records have not been matched. These may include, for example, if they are dual nationals and do not use a single document for travel; or if different data systems have captured their name differently; or if there data errors that are not identified; or if the Home Office does not have other sources of evidence of departure of individuals, such as movement within the Common Travel Area.
- A sampling exercise highlighted, in particular, the importance of receiving API that contains accurate data in the key fields used in matching (name, date of birth, passport number and nationality).
- Chinese Visitor 'Approved Destination Status' (ADS) visa holders represent a cohort for which there was an unexpectedly high rate of no ISA-matched departure in the data. Further checks on over 400 Chinese ADS visa holders where no departure record was initially identified confirmed the departure for nearly two thirds of cases (63%), or provided data on their planned route home. For those where their departure was confirmed or where Home Office had evidence of their intended outbound route, 43% of outbound travel was through the Common Travel Area (CTA) and 21% was via Europe.
- A range of other data issues have been identified relating to specific nationalities and for particular routes.

Detailed results:-

This chapter reports on further analyses of data quality issues carried out since the first[t] report, plans for the further developments, and provides an update relating to CTA issues. This chapter focuses on individuals whose leave expired with no initially recorded departure. However, as stated previously and further illustrated by the findings below, these individuals may have left without their departure being identified.

The volumes and rates in these analyses were produced using different versions of the ISA data, so figures below may not be directly comparable. They should provide a broad indication of patterns though. This work has focused on the no ISA-matched departure group and this assessment can only be made once an individual's leave has expired. These results should not therefore be considered representative of all such visa holders.

Outcomes from additional data investigations

API data quality within ISA

A small sampling exercise was carried out on groups of visa nationals for whom there was no record of departure in the ISA dataset (termed here as those with no ISA-matched departure) to investigate whether there was evidence that the person had actually departed or if there was an obvious reason why their departure had not been initially identified. A range of outcomes were noted, including cases where data quality may have meant data was either not ingested into the ISA system, or was not matched, or where there was evidence individuals had in fact left. Where further information was available, the most common data errors found were an incorrect Date of Birth, incorrect nationality or passport number errors, whilst in some cases, there was evidence they may have departed on routes where there are known gaps in coverage (e.g. including joining a cruise or general maritime, or travelling on to Ireland).

Where no initial evidence of departure was found, individuals may have left. These may include, for example, if they are dual nationals and do not use a single document for travel; or if different data systems have captured their name differently; or if there data errors that are not identified; or if the Home Office does not have other sources of evidence of departure of individuals, such as movement within the Common Travel Area.

This sampling exercise highlighted, in particular, the importance of receiving API that contains accurate data in the key fields used in matching (name, date of birth, passport number and nationality). While the Home Office potentially has the opportunity to compensate for some poor API data quality for inbound flights using passport swipes and/or Secure ID checks, the ISA system is reliant on API as the only indicator of an outbound journey. Further work to understand the quality of these fields across the dataset is now underway.

Additional insight into data relating to particular groups of travellers

Detailed investigations have been carried out to investigate potential data issues relating to specific groups of travellers.

Chinese ADS visa holders

Chinese Visitor 'Approved Destination Status' (ADS) visa holders represent a cohort for which there was an unexpectedly high rate of no ISA-matched departure in the data. ADS is an agreement between the UK and China allowing Chinese nationals to enter the UK with an approved tour group. The ADS scheme operates through a limited number of designated tour operators, accredited and trained by the British Embassy in China, who submit visa applications for each member of a tour group. Each group is led by a tour leader and the group stay together throughout the entire duration of their stay.

Because of the arrangements for these types of travellers it was believed that the high rate of no ISA-matched departure represented data quality issues, rather than a genuinely high level of no departure.

Analysis for the first year of ISA data (April 2015-March 2016) showed that for over 52,000 determinations for Chinese ADS visa holders whose leave expired in that period, no departure was initially identified for 16% (slightly over 8,000). However further investigation revealed that the vast majority of these had in fact left the UK but had not been initially identified by ISA due to:

- Leaving through Ireland (CTA).
- Leaving by ferry or train.
- Leaving the UK on a flight for which not all data has been ingested into ISA system. There was previously a known issue with respect to this processing of data, which has now been resolved.

Further checks on over 400 Chinese ADS visa holders where no departure record existed were undertaken by the Home Office in Beijing or by analysis of travel data. The results of this exercise were:

- Departure could be confirmed for nearly two thirds of cases (63%) either through UKVI being provided with evidence of entry/exit stamps or copies of boarding passes, or through manual analysis of travel data.
- For just under a third of cases (31%) data was available on their planned route home based on either information provided by the travel agent or their itinerary.
- There were a small minority of cases with no available information on departure method or whether they had returned to China.
- For those where their departure was confirmed or where Home Office had evidence of their intended outbound route, 43% of outbound travel was through the CTA and 21% was via Europe.

A more recent data extract (up to March 2017) implied that the no ISA-matched departure rate for all Chinese ADS visa holders whose visa has expired since April 2015 was 12.9% compared to an average across all nationalities of 4.1% and 2.8% for Chinese travellers with other (non-ADS) visa types.

For those whose visa has expired since April 2016, the rate was 12.3% compared to an average across all nationalities of 4.4% and 3.5% for Chinese travellers with other visa types. The majority of Chinese ADS visas expire over the period from June to October and there is some evidence that the no ISA-matched departure rate over this period is lower in 2016 than it was in 2015. This could suggest that quality of travel data has improved, most likely for European routes.

Colombians

In February 2016, Colombians were identified as a cohort requiring further investigation because of a high implied rate of no ISA-matched departure for visas expiring between April and December 2015 and a 'deep dive' into the data was conducted. This revealed that the majority of Colombian child visitors with no record of departure appeared to be either on school trips to English language centres or on coming of age tours of Europe. Many of these were only identified entering the UK through a passport scan and there was no other information on their travel – whether it was by air, rail or ferry.

Research into the journeys of time-compliant cases showed that flying into the UK via Madrid and departing the UK via Eurotunnel was a popular routing for Colombians. If high volumes of children were using these routes, leaving by Eurotunnel on organised coach trips, they are unlikely to have been initially identified as leaving.

A more recent data extract (up to March 2017) has shown that the no ISA-matched departure rate for all Colombians whose visa has expired since April 2015 was 7.3% compared to an average across all nationalities of 4.1%. However, for those whose visa has expired since April 2016, the rate was 4.9% compared to an average across all nationalities of 3.2%, which could imply that the earlier data gaps are being addressed.

Nonstandard nationalities

Nationalities recorded on case working databases as Stateless, Refugee and Unspecified Nationality are a relatively small group but have an increased risk of their departures not being initially identified in ISA. Difficulties seem to result from a different passenger and document nationality sometimes being recorded in the data on travel movements compared to the information held in other Home Office records. The nationality recorded in passenger data can often be their place of residence and/or the issuing country of their travel document.

Some of the most common cohorts encountered include:

- Stateless Latvians and Estonians: This group do not hold citizenship for their country of residence and so will be travelling on an 'Alien's Passport'. They are commonly recorded as Latvian or Estonian in travel data and so their departure will not be ingested in the dataset relating to non-EEA nationals.
- Stateless Palestinians: This group are usually recorded on Home Office systems as XXP but are often travelling on travel documents issued in their place of birth or residence, usually Jordan, Egypt and Lebanon. There does not appear to be any similar problems for those with Palestine issued documents.
- Refugees resident in Europe: This group will often hold a travel document issued by their country of residence and like stateless nationals may often have travel records with this nationality. If this is the case, the data for those who are resident in Europe will not be ingested.

The most recent data (2016/2017) has shown that the no ISA-matched departure rate for all those with unspecified nationality remains much higher than average (29.7% as compared to 3.2%) At this point, it is necessary to be cautious in assessing those of unspecified nationality for whom Home Office has no record of departure.

Routes for which there is particular information

Although outbound coverage of in-scope routes has now reached 100%, there remain routes out of scope as discussed earlier in this report. These include:

- Routes within the CTA i.e. routes between the UK and rest of the CTA.
  - General Aviation, that is non-scheduled flights (e.g. private airplanes) and General Maritime, that is non-commercial maritime traffic (e.g. private boats).
  - Organised coach parties of school groups where students are aged 16 or under (regardless of nationality) and Eurotunnel passengers who self-declare as EEA nationals travelling in a light vehicle and who are not subject to routine Department for Transport security checks are also excluded.

Common Travel Area (CTA)

The most recognised 'statistical' gap in travel data coverage relates to the CTA with Ireland, the Channel Islands and the Isle of Man. Collecting data on journeys out of the UK via each of these states will further inform our understanding of passenger movements. Travel volumes and the possibilities for onward travel mean there will be a larger volume of data on routes out of the CTA via Ireland.

The Government has been clear that intra-CTA routes are excluded from the mandatory arrangements to collect exit data but these represent a small proportion of overall departures. Estimates for travel flows of non-EU residents between Great Britain and Ireland, together with the high volume of flights from Dublin to destinations in North America, indicate that the risk factor for departure via Ireland will be highest for non-visa nationals, particularly US citizens (in all 1.8 million passengers departed Dublin in 2016 to non-EU airports with New York being the busiest route with 321,000 passengers). ONS also estimated that in 2016 close to 460,000 non-EU citizens who are also non-EU residents departed Great Britain for Ireland, of which around half were US citizens, though some of these would have subsequently returned to the UK.

Visa nationals who applied for their visa in Dublin may also be resident in Ireland and so more likely to travel via the CTA and have their departure at the end of their leave missed in the ISA data. Consistent with this, the "no ISA-matched departure rate" for out of country visas to visa nationals that expired between October 2015 and September 2016 was 3.5% for all visas but 31.6% where the application was made at the Dublin visa application centre.

Visit visas for Indian and Chinese nationals (along with about 16 other nationalities) allow them travel on to Ireland with a UK visa. They can now also obtain a visa under the British-Irish Visa Scheme (BIVS) that allows them to travel to the UK from Ireland (and vice versa). As a result, more may now depart via the CTA. Examination of a cohort of Chinese ADS visit visa holders who had no ISA-matched departure over the period from April 2015 to August 2016 carried out by Immigration Intelligence showed that, for 383 individuals where departure was subsequently confirmed, 163 (43%) provided evidence for or stated the intention to depart through the CTA.

Cross Channel routes

The “no ISA-matched departure” rate for out of country visas to visa nationals that expired in 2016/17 was 2.5% for all visas but 4.1% where the application was made at a mainland Europe visa application centre. This could be taken to imply that the non-European visa holder was resident in another European member state. The rate was even higher (5.9%) if the application was made at a French or Belgian visa application centre. Individuals applying in these countries are likely to be using cross Channel routes such as rail and maritime rather than aviation, implying that the relatively high no ISA-matched departure rate may be due to gaps in outbound travel data for these routes.

Commercial maritime and rail

Commercial maritime and rail passenger data systems currently only record a departure confirmation event with no associated check-in event. In addition, not all carriers in this mode send passenger data related to specific services. The data can currently only be measured in terms of passenger volumes and number of voyages. Home Office Border Force staff are working with carriers to obtain earlier check in data and booking data but this is likely to take some years to develop. It will require changes to carrier systems and processes, and may also require changes to Home Office systems.

Charter passengers

API is provided for some but not all private chartered flights (i.e. non scheduled flights). For some inbound journeys this can be compensated for by checks at the border. Some private charter flights can be identified on the basis of passport swipes from airports where there were no inbound flights scheduled to explain the arrival. However, if there is no API provided, outbound journeys will be missed.

For General Aviation (unscheduled aircraft), data is provided in line with HMRC’s Commissioner’s Directions, but those do not require data for outbound flights within the EEA (for which any data is provided voluntarily). Data for only around 10% of all General Aviation flights inbound and outbound is provided in a form which is fed into Semaphore from which exit checks data are derived. This means that there are no definitive figures for the number of individuals who exit the UK via General Aviation. There are about 90,000 flights per annum, with on average 3 or 4 people per flight, however most of the people on these flights will be UK or EEA citizens. In any case they represent a very small proportion of overall aviation numbers.

With respect to General Aviation, analysis has suggested that some organised travel groups are using unscheduled chartered flights and are therefore not being initially identified as leaving. In some cases, the inbound chartered flight has been recorded, but most often entry is only confirmed through the passport swipe. Some football teams and other groups working in the entertainment sector departed the UK in 2015/16 in this way. Consistent with this, an investigation over the same period showed a higher than average proportion of no ISA-matched departure, specifically for those with a Visit Sportsperson or Tier 5 (Creative or Sport) visa with rates of 6.9% and 5.3% respectively.

Note that entertainment groups may sometimes continue on to Ireland following performances in the UK so some of these departures not initially identified in ISA may be due to travel through the CTA rather than them having travelled on a charter flight.

Individuals in transit

A transit visitor is a person who travels via the UK en route to another destination country[21].
Transit can either be air or land side. Airside transit passengers are those who do not need to change airports and do not need to pass through the UK border. Passengers cannot transit airside to Ireland or anywhere within the CTA. Landside transit passengers are those who need or wish to pass through the UK border and enter the UK (e.g. to change airport, to collect baggage or arrive at airports where no airside transfer is possible).

In transit passengers are identified within the data using information on travel movements:

- Transit flag and a passenger type to identify them as a transiting visitor.
- Departure and arrival airport, which are specific to this leg of the journey and recorded on the flight manifest
- Embarkation and disembarkation airport, which are where the passenger starts and ends their entire journey and are attached to each passenger

As well as landside transit passengers, in theory a passenger is in transit if their disembarkation is not in the UK, but this will only appear in the API if the passenger is booked for their entire journey on the same airline. In

[21] For details see:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/527411/UK_Visa_requirements_3_June_2016.pdf

addition, some airlines do not provide outbound API for in transit passengers but rather list the new individuals who joined the outbound flight. There may also be other issues relating to the data on in-transit passengers.

In part to compensate for the unknown quality of transit information, the ISA system gives the following individuals a status of “Individuals In-transit”:

- Those whose ISA manifest type is transit (options are inbound, outbound, transit, domestic)
- Those where the inbound and outbound occur within 48 hours

If the inbound manifest type is transit and there is no outbound manifest, the system uses the same date for outbound as inbound.

It should be noted that while the above groups are most likely to be transit events, there remains the possibility that some will be individuals on very short visits to the UK.

Finally, in some cases, an individual holds a transit visa. The ISA system deals with these individuals like any other visa-holder.

Glossary

Advance Passenger Information (API)
This refers to travel document and service information submitted by carriers in advance of departure for passengers and crew. Data is often self-declared by passengers to carriers at time of booking.

Common Travel Area (CTA)
The Common Travel Area (CTA) comprises the UK, Ireland and the Crown Dependencies of the Channel Islands and the Isle of Man. A person who has been examined for the purpose of immigration control at the point at which he or she entered the area does not normally require leave to enter any other part of it. However certain persons subject to the immigration control who enter the United Kingdom through the Republic of Ireland do require leave to enter.

Coverage
Coverage is a measure of the degree to which those routes that are in scope have systems in place that allow submission of data to the Semaphore system and hence to the Immigration Status Analysis system. It should not be confused with voyage level data receipt (previously described as 'completeness') - see below.

European Economic Area (EEA)
The EEA consists of the European Union member states as well as Iceland, Liechtenstein and Norway. Switzerland is also included here as although it is not formally a member of the EEA it has analogous status with respect to immigration control.

Initial Status Analysis (ISA) database
A detailed database developed for monitoring movements of non-EEA nationals that combines not just the API and TDI information required for exit checks, but also other sources of information including the main data on visas and other forms of permission granted for leave to remain in the UK such as extensions of leave in the UK.

Non visa national
A citizen of a country where there is no requirement to obtain a visa prior to travelling to the UK as a visitor. An **entry clearance** may be required for travel for other purposes, this being referred to as a **visa** in statistical publications to be in line with the terminology for 'visa nationals'.

Travel Document Information (TDI)
This refers to passenger information submitted by carriers or port operators at or shortly after the point of departure.

Visa national
A citizen of a country where there is a requirement that they obtain a visa prior to travelling to the UK including as a visitor. For the purpose of this report nationals of countries where visitors can obtain an electronic visa waiver in place of a visit visa are also viewed as visa nationals.

Voyage level data receipt (previously referred to as 'completeness')
Figures for voyage level data receipt are currently available for aviation and relate to the percentage of voyages where at least one passenger or crew message was received. This measurement does not mean that all data for every passenger was received.

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