



HM Government

Simplifying the transition to Individual Electoral Registration

An evaluation of data matching for the purposes of confirming electors on the Electoral Register – *Summary & Implications for Policy and Practice*

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1. Introduction

Under the current system of electoral registration an annual household canvass form is sent to each address, which is completed by one individual on behalf of everyone living at the property. From 2014 this system of registration will be replaced by one of Individual Electoral Registration (IER), with individuals making an application to register individually and providing personal identifiers (such as date of birth and National Insurance Number).

Ensuring that the registers are as complete and accurate as possible and that levels of completeness and accuracy do not decline under IER is a key aim of the Government. Previous Cabinet Office research identified the potential of matching the electoral register against data held by the Department for Work and Pensions (DWP) to be used to confirm the majority of existing entries on the electoral register, without requiring individuals to provide these personal identifiers. This process of 'confirmation' has the potential to simplify the transition to IER for the majority of existing electors, enabling limited resources to be focussed on the minority of electors that cannot be confirmed in this way, including those who are not currently registered to vote.

However, as earlier pilots had not set out to test this specifically, further evaluation was recommended and pilots were undertaken across 14 areas to test the effectiveness and reliability of confirmation. The key aims of the Cabinet Office evaluation of the pilots were to:

- Assess the potential match rate that could be achieved by comparing DWP data with Electoral Register data, to include analyses of the variation in match rate;
- Assess the accuracy of the matching process for the purposes of confirmation; and
- Examine the process of confirmation and related implications for policy and practice.

This report provides a summary of the main findings from the evaluation, outlining the key implications for policy and practice alongside some of the steps that are being taken which address these. The full evaluation is available to download from <https://www.gov.uk/government/publications/simplifying-the-transition-to-individual-electoral-registration>.

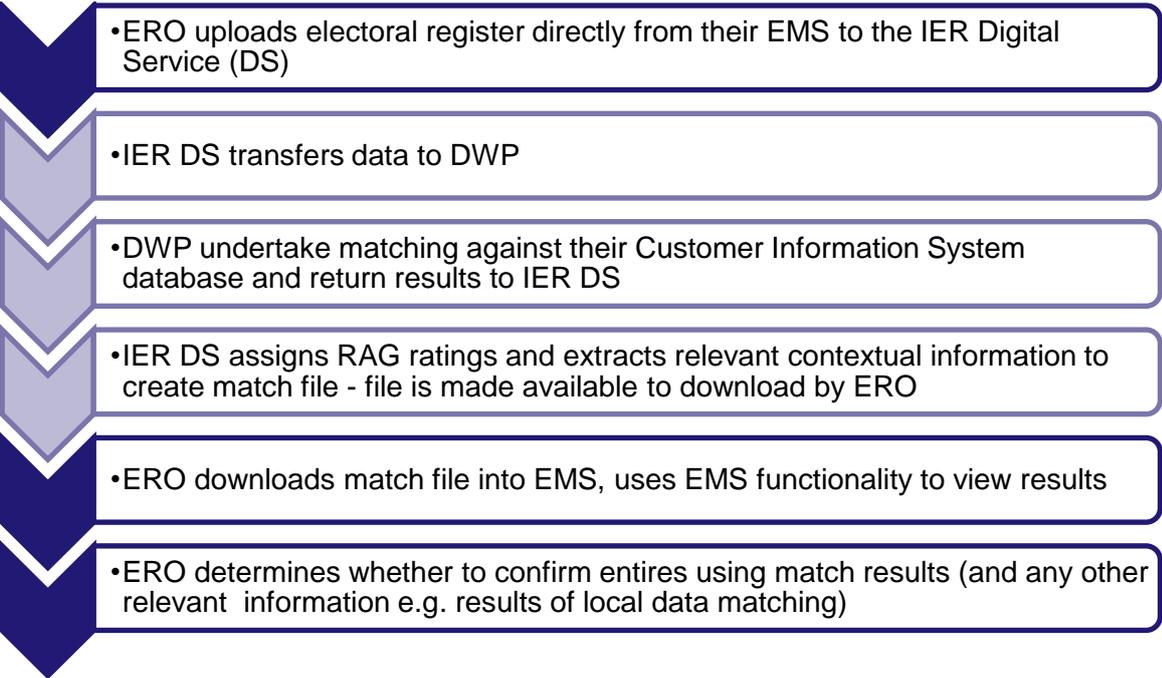
2. Methodology

The methodology for the pilots was developed in close collaboration with researchers from Electoral Commission (EC), which has a statutory responsibility to evaluate

them¹. The pilots sought to simulate the proposed process of confirmation, outlined in Figure 1, as far as possible. However, it is important to note that the digital solutions that will help deliver Confirmation were under development during the pilot and therefore it was not possible to replicate the process exactly. The key implications of this were that:

- a) The data was transferred via secure courier as opposed to directly through the 'IER digital service' – meaning that the process was more resource intensive and gave rise to the possibility that differences in the way the data was processed could have impacted on the results of the data matching. (Subsequent testing however indicates that this had no significant impact on the match rates)².
- b) The match files were provided to Electoral Registration Officers (EROs) in basic CSV format as opposed to reports within their Electoral Management Software (EMS)³ – meaning that EROs were required to analyse the data independently as opposed to using report functionality that will be available within their EMS.

Fig 1: Outline confirmation process



Notes: Steps in light blue require no action from the ERO. In live-running, once the steps outlined above are complete local areas will carry-out follow-up action, including writing to individuals who have been confirmed to notify them their details have been transferred to the IER register and issuing invitations to register for those individuals who have not been confirmed.

¹ The EC's evaluation can be accessed at: <http://www.electoralcommission.org.uk/publications-and-research/our-research>

² These tests involved passing the data for three areas through the IER service and comparing the match results of these files to those of the comparable files from the pilots (which had been transferred via courier and then manually formatted). The results showed no significant difference in the results (there was an approx 0.5 per cent increase in match rates passed directly through the IER DS).

³ The EMS is the software local areas use to process and store their Electoral Registers

2.1 The matching process

The matching itself was conducted within DWP using a matching algorithm specifically created for the pilots. The electoral registers from each area were matched against a snapshot of data from the DWP Customer Information System (CIS) which had been extracted at a similar time, ensuring that comparable data was used.

Prior to returning the results to Local Authorities the results of the DWP matching were converted into a simpler format including applying a scoring algorithm which assigned a basic 'Red, Amber, Green' (RAG) rating to each record. A green match indicated a positive match, an amber match indicated a possible match and red match indicated that no match could be found.

In addition to an overall RAG rating, further contextual information was included in the match (for example, details of whether a record had failed on the address match or the identity match). This process was carried out by the Government Digital Service (GDS) for the purposes of the pilot, using criteria developed by the Cabinet Office in conjunction with the Electoral Commission and DWP.

The pilot matching and scoring algorithms, as well as the format of the match files, were informed by feedback collated as part of the pilots, as well as the learning from the 2011 data matching pilots. In addition, following completion of the original pilot activity further refinements have been made to the matching algorithm, using the learning from the pilots.

Full details of the matching process can be found in Annex A of the full evaluation.

DWP Customer Information System (CIS) data

The DWP data used for the matching was a snapshot of the CIS database which includes details of individuals appearing in databases kept by the Secretary of State for Work and Pensions for the purposes of social security.

The source CIS database is updated daily and includes a broad coverage of the population who are eligible to vote, including anyone who has been issued with a National Insurance Number (NINO).

However, it is important to note that whilst the database has a broad coverage, it remains reliant on individuals having a recent interaction with and/or informing DWP (or other departments which such as HMRC which feed into DWP CIS) of changes in their circumstances e.g. moving home.

Therefore, whilst an individual may appear in the database they may not appear at their current address. This is particularly relevant for data matching for the purposes of confirmation because of the limited personal identifiers in the data which mean that identity matching is reliant on accurate address information.

2.2 Assessing the accuracy of Confirmation

One of the main aims of the pilot was to test the accuracy of data matching for the purposes of confirmation. In order to do this each participating area was asked to provide two versions of their electoral register to be matched against DWP data - their pre-canvass register (taken just prior to the annual canvass when the register is expected to be at its least complete and accurate⁴) and their post-canvass register (taken just after the completion of the annual canvass when it is expected to be at its most accurate and complete).

By comparing the results from the pre and post canvass registers it is possible to assess the proportion of individuals positively matched against DWP in the pre-canvass register who were subsequently confirmed as being resident at the same address during the annual canvass. This provides an indication of the accuracy of the matching, including the potential level of inaccuracies that might occur in any confirmation exercise as a result of population churn (i.e. where a positive match is correctly made but becomes inaccurate because an individual has moved home in the period between the original matching being undertaken and the electoral register being published).

2.3 Local data matching

Where they had the capacity to do so, a number of pilot areas also opted to use locally held data sets (for example Council Tax data or Housing Benefit data) to conduct supplementary data matching. Comparing the match results against locally held data aimed to provide further insight into both the accuracy of the data matching but also whether local matching has the potential to add to the confirmation rate (by matching individuals who could not be found within the DWP data set).

This matching was conducted separately, within the individual pilot areas, and therefore the exact processes, including the matching criteria⁵ and the data sources used, will vary between areas.

2.4 Evaluating the process of Confirmation

Throughout the pilots feedback from the participating areas was sought which was used both to inform the development of the pilots and for evaluation purposes. This included:

- Work with five 'beacon' pilot sites on initial development of the matching algorithm and match file.
- Cabinet-office led workshops which provided an opportunity for the Cabinet Office to update pilot areas on progress, to gain feedback from attendees and to provide a forum for pilot areas to share their experiences with other participating areas.
- Qualitative interviews conducted face to face with each of the pilot areas towards the end of the pilot.
- Testing of the refined algorithm with six pilot sites.

⁴ During the annual canvass a voter registration form is provided to every household to complete to update their information on the Register of Electors.

⁵ I.e. the data fields matched and the level at which a match was accepted.

3. Key findings & implications for policy and practice:

Overall, the results of the final evaluation support the findings presented in our preliminary evaluation report, demonstrating that the policy of Confirmation provides a reliable and effective method of transferring existing electors onto the new IER register, offering the opportunity to simplify the process for the majority of electors.

3.1 Match rates & accuracy

- *Overall over 70 per cent of electors in the pilot areas could be matched within DWP CIS data and findings showed that we can be confident in the accuracy of this matching - the vast majority of electors matched from the pre-canvass register (95%) were subsequently confirmed as resident at the same address in the annual canvass.*
- *There is however significant variation in Confirmation rates across areas, which has subsequent impacts in terms of the levels of resource required by different EROs during the transition to IER.*
- *The Confirmation Dry Run will provide an essential opportunity for the match rate for all EROs to be tested for the purposes of resource planning and will be used as part of the Cabinet Office funding formula for Local Authorities.*

Following initial pilot activities, and based on the learning from the pilots, some additional refinements were made to the pilot matching and scoring algorithm. Based on this refined matching algorithm, results show that overall 72 per cent of existing electors in the pilot areas could be positively matched against DWP data in the pre-canvass register and 73 per cent could be matched in the post-canvass register. Match rates varied between pilot areas, ranging from 58 per cent to 84 per cent in the pre-canvass match files and 61 per cent to 85 per cent in the post canvass match files⁶ (See table 3a overleaf). This has subsequent impacts in terms of the levels of resource required by different EROs during the transition to IER - areas with lower match rates are likely to require greater resources.

Whilst these results cannot be considered representative of all areas they provide a strong indication of the likely confirmation rate that can be achieved by matching against DWP data⁷. In summer 2013 every Local Authority will be required to participate in a Confirmation Dry Run (CDR) which will enable each ERO to complete

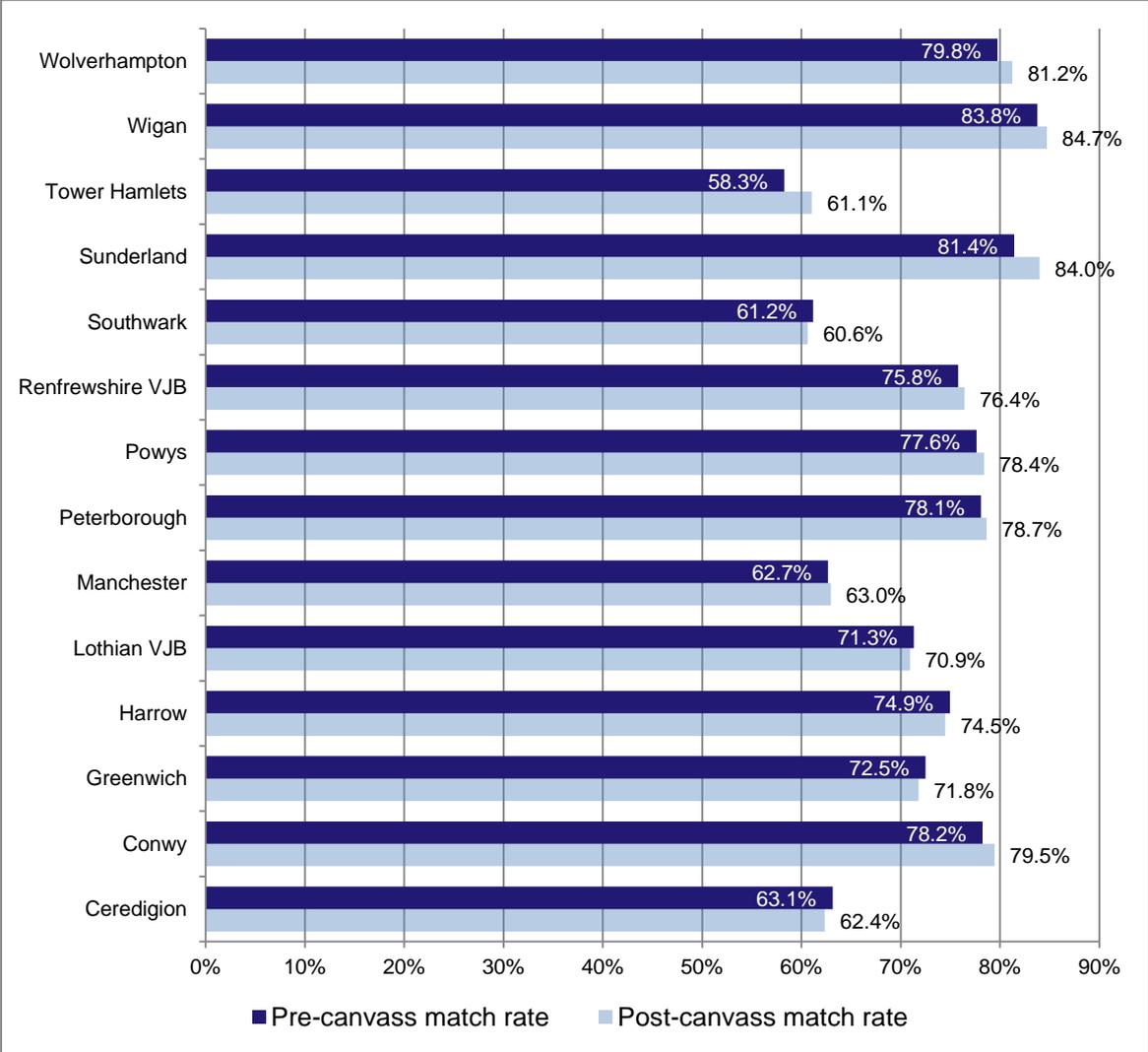
⁶ This compares to 71 per cent in the pre-canvass register (range 55% to 83% across pilot areas) and 72 per cent in the post canvass register (range 59%-85%) based on the original pilot algorithm.

⁷ The pilot areas included areas with relatively high populations of groups that analyses shows are less like to confirm therefore it is possible that the national match rate will be higher than that of the pilots.

a fully IT enabled dry-run of the confirmation process and to obtain indicative match results for their area. The results of this exercise will be used to help determine the CO funding allocations and enable EROs to effectively plan for the transition.

Assessments of the accuracy of the data matching, undertaken by comparing the results of data matching undertaken prior to the annual canvass with results immediately following the canvass, also demonstrate that we can be confident in the accuracy of the matching. Of the 71 per cent of electors that were confirmed in the pre-canvass register (using the pilot algorithm), 95 per cent were subsequently confirmed as resident at the same address during the annual canvass.

Table 3a: Match rates by Local Authority using ‘Refined Algorithm’



Notes: Lothian Valuation Joint Board (VJB) comprises four Local Authorities (East Lothian, Edinburgh, Midlothian and West Lothian). Renfrewshire VJB comprises three (East Renfrewshire, Inverclyde and Renfrewshire). Match rates varied across these areas e.g. in Lothian from 64% in Edinburgh to 82% in Midlothian in the post canvass match files.

3.2 Understanding the variation in match rates

- *Variations in match rates are likely to be driven in large part by population characteristics.*
- *With the notable exception of attainers who have higher match rates than other electors, a number of the groups that have traditionally been less likely to register appear less likely to be confirmed (i.e. students, private renters and people living in communal establishments).*
- *These individuals will receive invitations to register under IER and ensuring that resources are effectively targeted on the groups that have lower confirmation rates will be an important part of planning for the transition. Wider activities to maximise registration amongst these groups may also complement this activity.*
- *It is not possible to determine the exact causes for these groups having lower confirmation rates, however the accuracy/currency of address information held in the data sets is likely to be a key factor.*

Participants in the pilot reported that variations in match rates appear to be linked to population factors, for example areas that are known to have higher-population turnovers were also observed to have lower match rates, whilst areas with higher match rates tended to be those with more settled populations. Student areas and communal residencies were also observed as having lower match rates.

Owing to the limited personal information currently held on the register confirmation matching is reliant on matching address information, which may lead to failed matches even where an individual's details are held on DWP CIS⁸. Where an individual has recently moved it can be expected that the likelihood of either the register or DWP CIS containing out of date or inaccurate (and therefore conflicting) information may be greater, meaning that more mobile populations may be less likely to have their details matched.

In addition, for some segments of the DWP customer data base their interaction with DWP (or other Departments whose data feeds into CIS) is not reliant on having the correct address, meaning that the accuracy of DWP CIS address information will be reliant on individuals in the population providing notification of their change of address. In the case of students, as well as being a relatively mobile population, many students have different home and term-time addresses and may not have cause to notify DWP or others of their term-time address (e.g. where they choose to use their home address for official correspondence).

Overall this suggests that the currency/accuracy of the address data on either database is likely to cause records to fail to match, and as a result certain groups are less likely to be matched under confirmation, including more mobile populations. Comparisons of ward level match rates and data from the 2011 England and Wales

⁸ This is because the name is not unique enough on its own to enable accurate matching.

Census provide further support for this, showing that areas with either higher proportions of students (aged 16-74), higher proportions of people living in private rented accommodation and/or higher proportions of people living in communal establishments had relatively lower match rates⁹. These groups overlap with those that have been identified in previous research as less likely to be registered, although not all traditionally under-registered groups are less likely to confirm.¹⁰ For example, attainers were found to have higher match rates than other electors¹¹.

Whilst the currency/accuracy of address information is important other factors will also impact on match rates. For example, whilst the DWP CIS database has broad coverage some individuals will not appear in the data set and issues with data quality and the lack of standardisation between data sets may impact on match rates¹². These are discussed more fully in the complete evaluation.

Local data matching

- *Whilst data matching against DWP CIS data can confirm a majority of electors, some electors who are accurately included in the register will not be able to be matched within DWP data. Supplementary data matching against local data sets may be a useful tool for confirming additional electors who could not be matched within DWP data.*
- *Whilst many EROs already conduct similar local matching as part of their usual canvass activities, it cannot be assumed that all currently have the capability to do so. Developing guidance and/or sharing best practice across EROs is therefore likely to be important.*

As detailed above, whilst matching against DWP data is able to confirm a majority of existing electors, there remains a significant minority of people whose details are accurately included on the register but will not be able to be confirmed in this way. For example, comparisons of the pre and post canvass match results highlighted that around three in four individuals on the pre-canvass register who could not be matched within DWP data were subsequently confirmed as being resident at the same address in the canvass.

Results from the pilot suggest that supplementary data matching against local data sets may be a useful tool for confirming additional electors who could not be matched within DWP data¹³. However, whilst many areas already use local data as part of

⁹ See full evaluation for further detail.

¹⁰ ['Great Britain's Electoral Registers 2011'](#), Electoral Commission, 2011

¹¹ An attainer is someone who will turn 18 during the life of the register, based on the pilot algorithm the pre-canvass match rate for attainers was 79 per cent compared to 71 per cent for non-attainers.

¹² There is also some evidence that Welsh language may have a small impact on match results and therefore this will be monitored carefully in the Confirmation Dry-Run (See full evaluation for further discussion).

¹³ Whilst it was not a compulsory part of the pilot, where they had the capacity to do so, pilot areas were invited to use locally held data sets (for example Council Tax data or Housing Benefit data) to conduct similar secondary data checking. Five pilot areas carried out such matching, the results of which suggest that local matching (primarily against Council Tax records) added between seven and fifteen per cent to their overall match rates.

their usual canvass activities, not all currently have the capability to do so giving rise to the potential for inconsistencies in approaches across areas¹⁴.

As the availability and quality of local data sets is likely to vary, as is the additional resource required to undertake such an exercise, the ability to determine the extent to which local data matching is used remains at the discretion of the ERO. However, learning from the pilots emphasises the need for ERO guidance to incorporate detail on how local matching could be used, including for example how the quality of data sets can be assessed. The Confirmation Dry Run also provides a valuable opportunity to further develop our understanding of local matching capability and identify best practice (where areas chose to do so)¹⁵.

4. Next Steps

4.1 Confirmation Dry-Run

In summer 2013 every Local Authority in England, Wales and the Scottish Valuation Joint Boards will be required to participate in a Confirmation Dry Run (CDR). The CDR will enable each ERO to complete a fully IT enabled dry-run of the Confirmation process and obtain indicative match results for their area. These results will provide a more accurate assessment of the proportion of electors across England, Wales & Scotland that have the potential to be confirmed through data matching against DWP data. In addition, the results of this matching exercise will be used to determine the CO funding allocations for Local Authorities and will assist EROs to effectively plan for the transition.

In recognition of the importance of the CDR in determining resource allocations and assessing readiness for the transition to IER, in addition to our own internal monitoring, the Cabinet Office will be requesting that the Electoral Commission to conduct an independent evaluation of the CDR.

4.2 Support and guidance for EROs

The pilots have provided a valuable opportunity to test data matching for the purposes of confirmation and many of the lessons learned have already fed into the development of the policy and related systems (e.g. refinements to the matching and scoring algorithm). In addition, the Cabinet Office will work with the Electoral Commission and the Association of Electoral Administrators to incorporate the learning from the pilots into the information and support provided to EROs for the Confirmation Dry-Run and beyond. This will include, for example, developing the guidance on interpreting the match files to ensure that all EROs have enough clarity about the process to feel confident using the results of the data matching to

¹⁴ In addition, many areas who currently conduct local matching may do so manually.

¹⁵ There is no requirement for EROs to conduct local matching as part of the CDR or beyond, however the CO aims to use this as an opportunity to ask EROs about what local matching is currently undertaken/planned and where possible to identify examples of best practice.

determine which register entries can be transferred directly onto the IER register under the policy of Confirmation.

4.3 Activities to maximise registration

By simplifying the transition to IER for the majority of existing electors, confirmation enables limited resources to be targeted on maximising registration amongst those groups who cannot be confirmed, including those who are not currently registered to vote. The Cabinet Office is currently exploring ways in which the Government can assist Local Authorities, the Electoral Commission and other interested parties to identify ways to maximise registration amongst groups that are traditionally under-registered. This will build on work that has already been conducted in this area which includes:

- Commissioning and publishing qualitative research exploring the barriers and levers to registration amongst groups that are traditionally under-represented on the register, both under the current system of registration and under IER. This research can be accessed at <https://www.gov.uk/government/publications/under-registered-groups-and-individual-electoral-registration>
- Testing data matching to identify new electors – building on the data matching pilots carried out in 2011, The Cabinet Office is currently piloting a series of data matching exercises in 20 areas with a view to identifying unregistered eligible electors. This is being done by matching electoral registers against a number of public sector databases. Where potentially new electors are identified, the name and address of that elector will be given to the relevant ERO so that the elector can be invited to register. These pilots are targeting students, attainers and home movers and will run until mid April 2013 with a view to publishing the evaluation of the pilots in July this year.
- Targeting attainers, students and BME communities – the Cabinet Office has been working with organisations to pilot different approaches to encourage currently under-registered groups to register to vote. This has included design and delivery of an educational resource, developed in partnership with Bite the Ballot. Events were held at schools across the country to engage attainers about the reasons to register to vote and to encourage them to do so on the day. Events have also been held at some universities. Work has also been carried out with Operation Black Vote who have delivered a series of events in Hackney and Birmingham to encourage BME communities to register to vote. The learning and outcomes from these pilots will be used to inform the next steps of work to reach these under-registered groups and scale up the activity. The aim is to deliver this work through partnerships with a range of organisations including in the private, voluntary and community sectors.