Existing data about us is matched, linked and compared to help GPs use antibiotics better

A. NHS antibiotic prescribing research project

1. University researchers request the datasets they need to do their project

2. NHS Digital and CPRD collect, match and anonymise the datasets

3. University researchers analyse the data

4. Healthcare professionals and policy makers use the anonymous data for decision-making

PEOPLE

Identifiable data, e.g., name, NHS number, gender, date of birth, postcode
De-identified data, e.g., symptoms, referrals, prescriptions, cause of death

NHS PROVIDERS

Data about patient visits to A&E and out-of-hours clinics

GP PRACTICES

Healthcare professionals record patient data directly into the patient’s electronic health record. It is optional whether this is shared.

NATIONAL AND LOCAL GOVERNMENT

Data about relative deprivation of locations

ONS

Data about registered deaths

INTERNATIONAL ACADEMIC ORGANISATIONS and the PEOPLE who work for them

GOVERNMENT, PUBLIC SERVICE and NHS ORGANISATIONS and the PEOPLE who work for them, e.g., NHS Digital, the national provider of information, data and IT systems within health and social care in England, and Clinical Practice Research Datalink (CPRD), a research service supporting public health and clinical studies

EXTERNAL ACADEMIC ORGANISATIONS and the PEOPLE who work for them

1. University researchers request the datasets they need to do their project

2. NHS Digital and CPRD collect, match and anonymise the datasets

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ACADEMIC RESEARCH PUBLICATIONS

ANONYMOUS DATA

HEALTHCARE PROFESSIONALS

NATIONAL ANTIBIOTIC PRESCRIBING DASHBOARD

GP ANTIBIOTIC PRESCRIBING DASHBOARD

POLICY MAKERS and HEALTH STAKEHOLDERS

NATIONAL ANTIBIOTIC PRESCRIBING DASHBOARD

ACADEMIC RESEARCH PUBLICATIONS
B. DWP Confirm Your Identity

When you claim Universal Credit (UC) online DWP needs to check you are who you say you are before you can continue with your claim.

All the processes shown here are secure and automated.
C. Data matching
Linking data from different datasets or databases, or comparing data from one dataset with data from another

NHS antibiotic prescribing research project

1. Researchers require multiple datasets about single individuals to be linked together, for example:
   - Dataset from the GP
     - Name
     - Date of birth
     - Postcode
     - GJS79AH72
   - Dataset from the hospital
     - Symptoms
     - Test results
     - Referrals
   - Dataset from the ONS
     - Postcode
     - Date of death
     - Cause of death
     - JC 136734 T

2. NHS Digital use the identifiable data to link the identifiers, and then they delete the identifiable data
   - Name
   - Date of birth
   - Postcode
   - GJS79AH72
   - 1-4HW-QY

3. CPRD use the linked identifiers to link the de-identified data, and then they delete identifiers
   - Name
   - Date of birth
   - Postcode
   - GJS79AH72
   - 1-4HW-QY
   - JC 136734 T

4. This de-identified dataset is then shared with the researchers

It is identifiable data that connects us to information about our health, activities or relationships, so it matters who is involved in data linking and how the process is controlled.
DWP Confirm Your Identity

DWP need to verify a claimant’s ID before they can process an online UC claim.

1. The personal details the claimant has entered and any existing DWP record about them are unverified.

2. To verify an individual’s ID, DWP compare the unverified data they have with verified data from HMRC to see how well it matches.

3. If it is a good enough match, DWP verify the individual’s ID and save a record of this and discard the HMRC data.

If the match is not good enough the individual is offered an alternative way of verifying their ID.