

A. NHS antibiotic prescribing research project

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



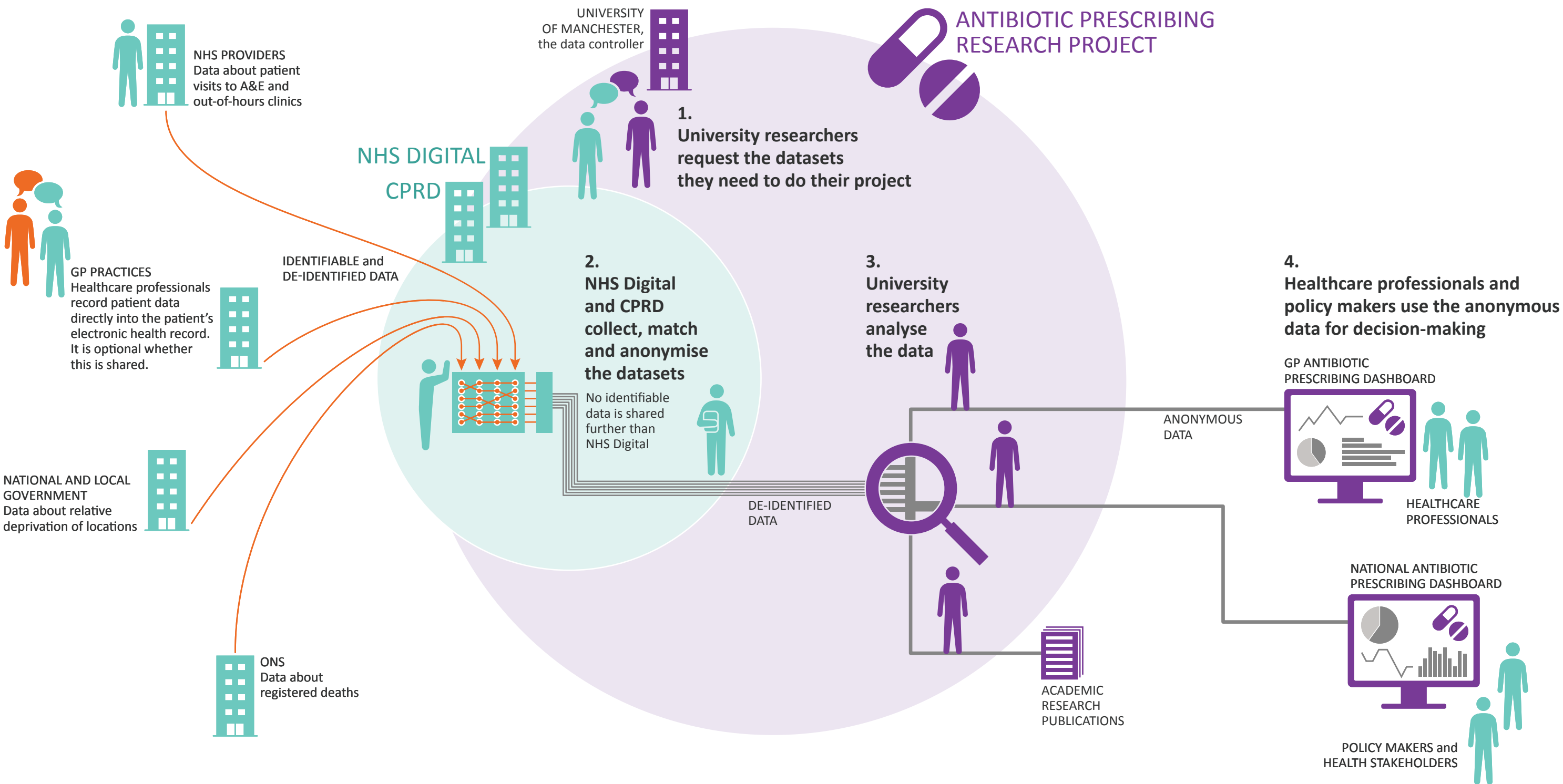
PEOPLE
Identifiable data, eg name, NHS number, gender, date of birth, postcode
De-identified data, eg symptoms, referrals, prescriptions, cause of death



GOVERNMENT, PUBLIC SERVICE and NHS ORGANISATIONS and the PEOPLE who work for them, eg 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



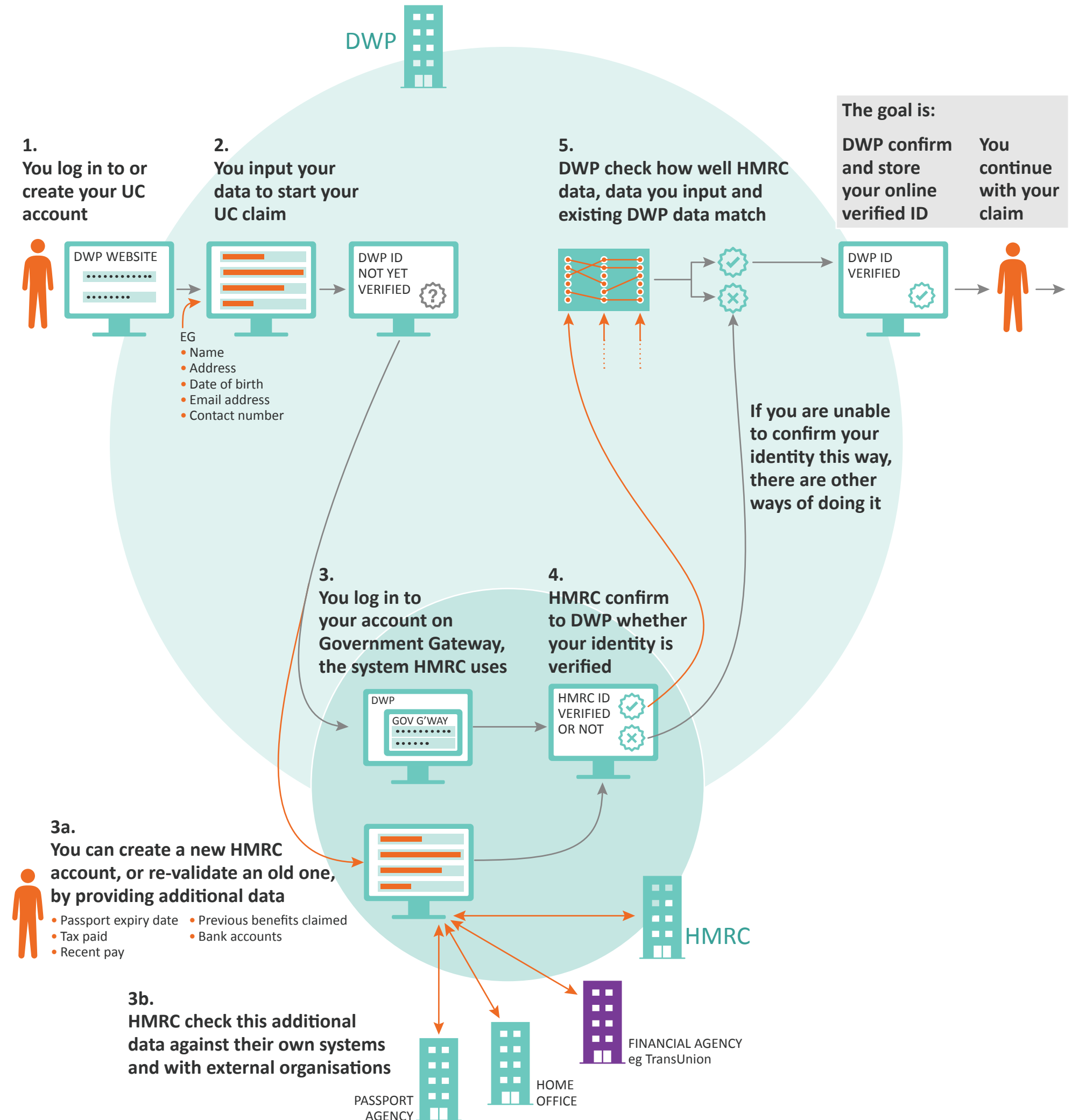
EXTERNAL ACADEMIC ORGANISATIONS and the PEOPLE who work for them



B. DWP Confirm Your Identity

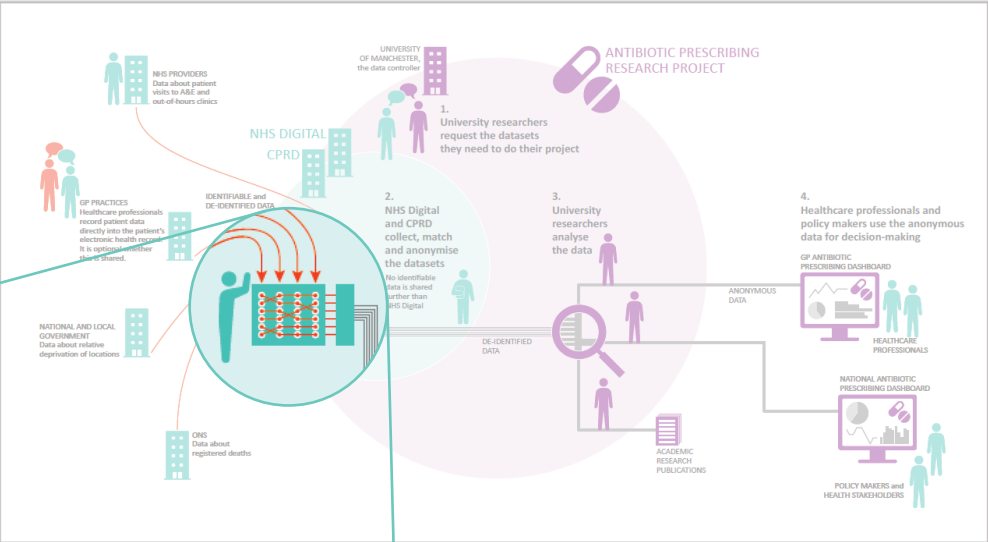
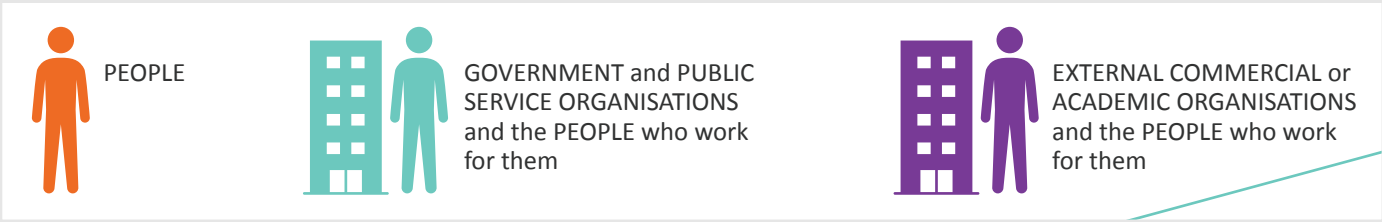
When you claim Universal Credit (UC) online DWP needs to check you are who you say you are before you can continue with your claim

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	Dataset from the hospital	Dataset from the ONS
Identifiable data	Name	Name	Name
	Date of birth	Date of birth	Date of birth
	Postcode	Postcode	Postcode
Identifier (Unique code from org.)	GJS79AH72	1-4HW-QY	JC 136734 T
De-identified data	Symptoms	Specialists seen	Date of death
	Test results	Procedures done	Cause of death
	Diagnoses	Admission date	
	Referrals	Discharge date	
	Prescriptions		



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
JC 136734 T
Person A

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



3. CPRD use the linked identifiers to link the de-identified data, and then they delete identifiers

-GJS79AH72-
-1-4HW-QY-
-JC 136734 T-
Person A
Symptoms
Test results
Diagnoses
Referrals
Prescriptions
Specialists seen
Procedures done
Admission date
Discharge date
Date of death
Cause of death

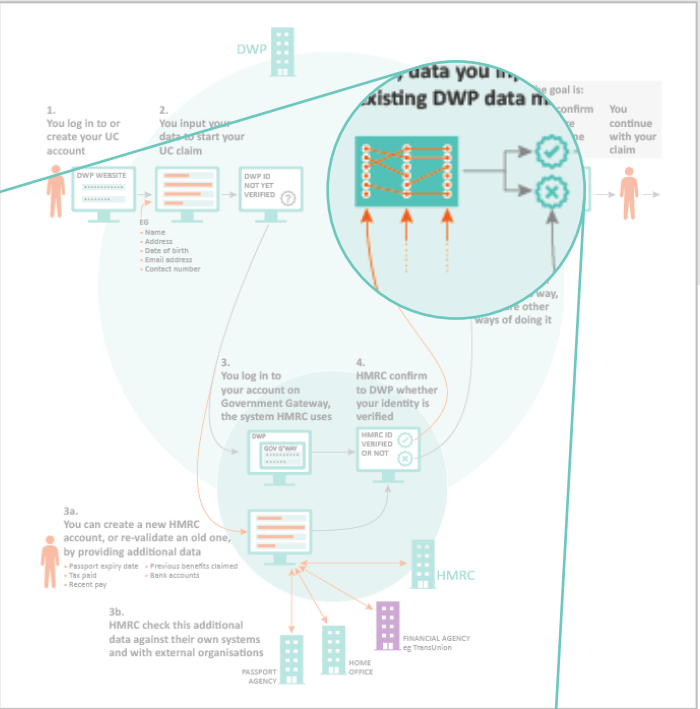
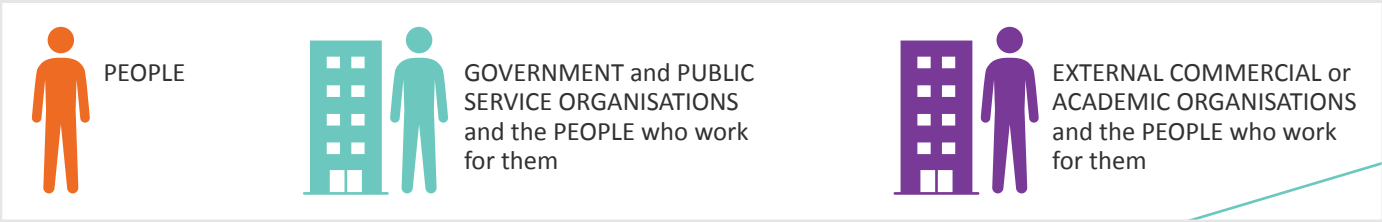


4. This de-identified dataset is then shared with the researchers

Person A
Symptoms
Test results
Diagnoses
Referrals
Prescriptions
Specialists seen
Procedures done
Admission date
Discharge date
Date of death
Cause of death

D. Data matching

Linking data from different datasets or databases, or comparing data from one dataset with data from another



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

Unverified data from claimant	Unverified data from DWP
<div>Unverified</div> <div>First name</div> <div>Last name</div> <div>Date of birth</div> <div>Address</div> <div>Postcode</div> <div>Email</div> <div>Phone number</div>	<div>Unverified</div> <div>Name</div> <div>Date of birth</div> <div>Postcode</div>

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

Verified data from HMRC	Unverified data from claimant	Unverified data from DWP
<div>Verified</div> <div>NI Number</div> <div>First name</div> <div>Last name</div> <div>Date of birth</div> <div>Postcode</div>	<div>Unverified</div> <div>First name</div> <div>Last name</div> <div>Date of birth</div> <div>Address</div> <div>Postcode</div> <div>Email</div> <div>Phone number</div>	<div>Unverified</div> <div>Name</div> <div>Date of birth</div> <div>Postcode</div>

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

Verified ID with HMRC
<div>Verified</div> <div>First name</div> <div>Last name</div> <div>Date of birth</div> <div>Address</div> <div>Postcode</div> <div>Email</div> <div>Phone number</div>

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