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# Good Practice in Data Analytics

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# Overview

1. Data Analytics – Definition
2. Challenges
3. Good Practice Examples
4. Running a Pilot/Project
5. Detection and Prevention
6. AppCheck – A tool available to you
7. Your Fraud Problems

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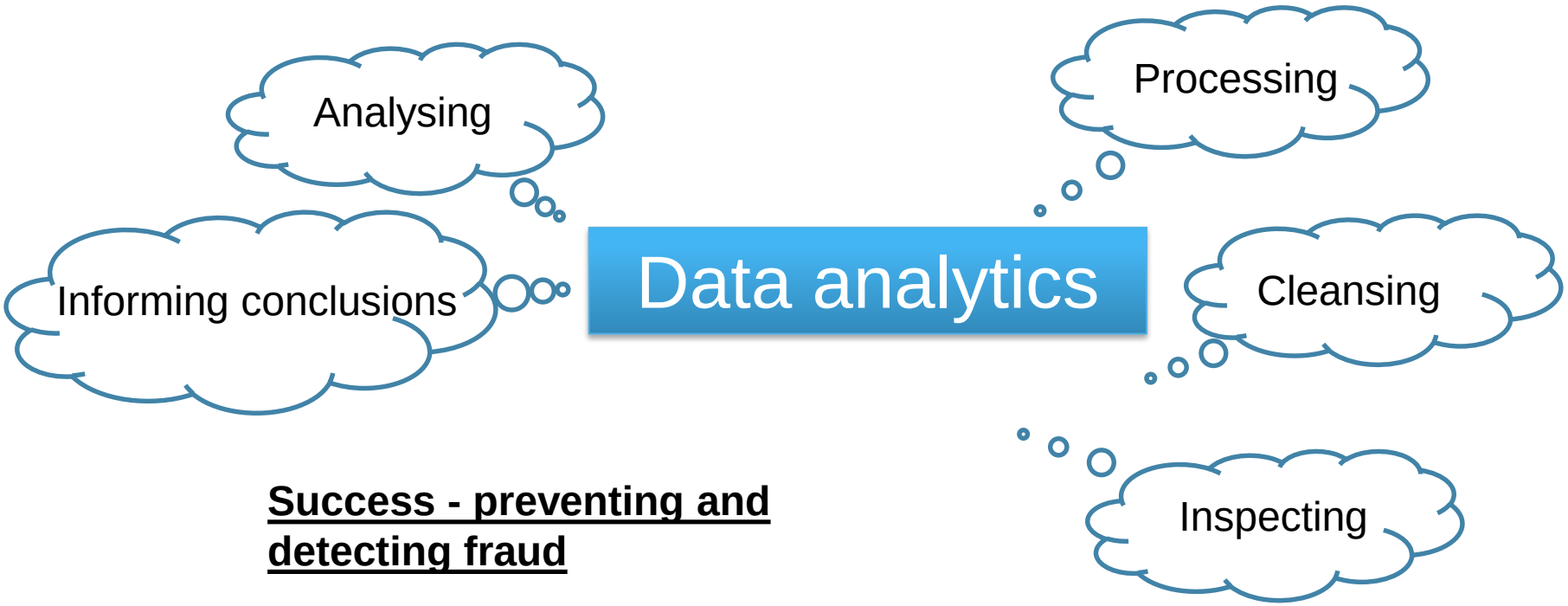
# Definition – a broad and ever evolving one!




**Success - preventing and detecting fraud**

- Data mining
- Predictive analytics
- Machine Learning
- Artificial Intelligence
- Data matching
- Outlier Analysis

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# Challenges - Which camp(s) are you in?

| | |
|---|---|
| **Legal issues prevent data sharing** | **A lack of available capability** |
| **Poor data quality** | **Capable and equipped with good data quality** |

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# Good Practice: Successful data analytics pilots

**Fraud Problem or Risk**

- Landlords not registering themselves and their rental properties with RSW

**Solution**

- Match RSW data (264,000 records) to:
  - Housing Benefit data with 'privately rented' flag (67,000 records)
  - LA Landlord information to append Landlord details
- Identify where privately rented properties were not registered
- Options to scale and bring into business as usual (BAU)

**Outcomes**

- Initial phase progressing 400 matches
  - Resulted in 268 (67%) registrations

Rhentu Doeth Cymru
Rent Smart Wales

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# Good Practice: Successful data analytics pilots

**Fraud Problem or Risk**

Recipients of English Local Authority benefits and services are fraudulently under-declaring or omitting their income, capital or property.

HM Revenue & Customs

**Solution**

- Match HMRC data:
  - Employment Earnings
  - Self Assessment
  - Stamp Duty Land Tax

- Match to NFI data:
  - Housing Tenants
  - Right to Buy
  - Housing Benefits
  - Council Tax Reduction Scheme
  - Personal Budgets
  - Payroll
  - Residential Care Home
  - Council Tax Single Person's Discount

**Outcomes**

The pilot is being trialed with 10 Local Authorities with an interim report to the Digital Economy Act (DEA) review board in May 2019. Subject to approval, matches will then be rolled out to all English Local Authorities and we will report back to DEA in April 2020.

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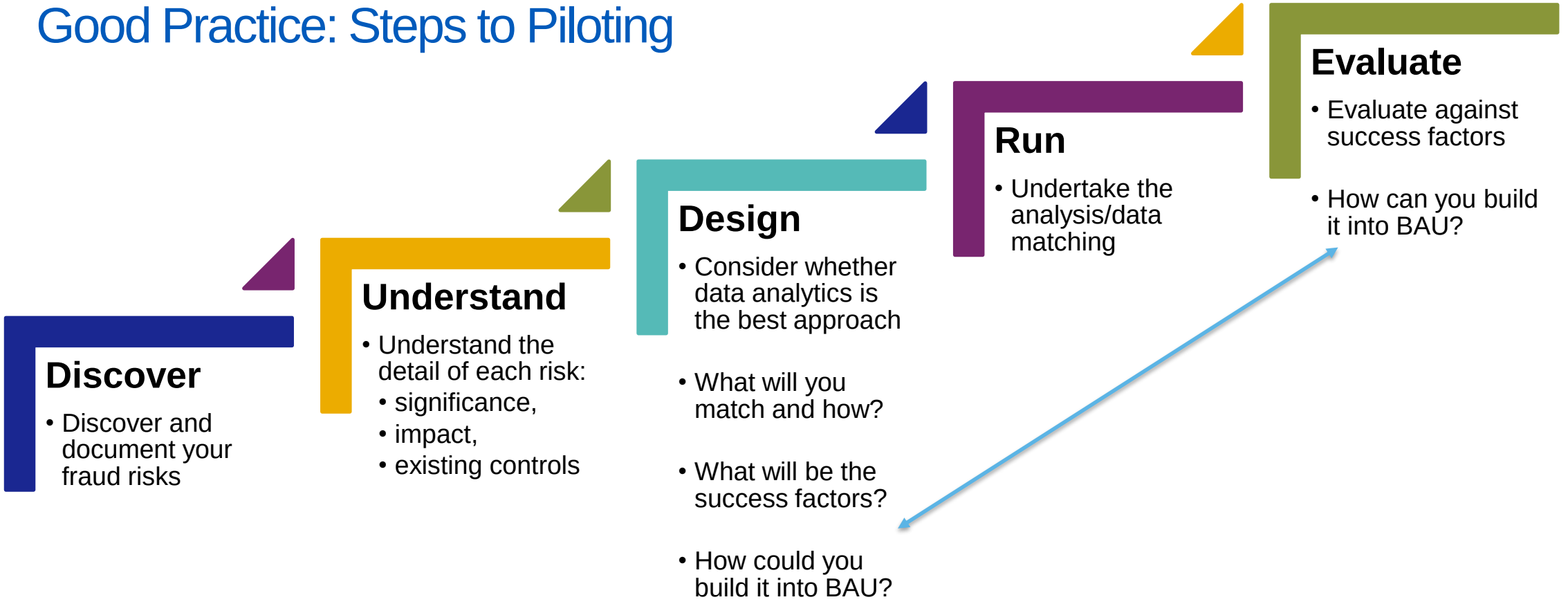
# Good Practice: Steps to Piloting



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# NFI Strategy

**National Fraud Initiative**

4 Year Strategy (2018 – 2022)

- Better targeting of existing and new fraud risks
- Improving communication and engagement with users to better understand, and therefore meet, customer need
- Increasing both the volume and frequency of data that is used in, or accessed through, the NFI
- Embracing new technologies and techniques to improve existing and develop new products
- Securing the extension to legislative powers to increase the usage and impact of the NFI

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# Detection **AND** Prevention

- Public sector data analytics relating to fraud in the UK has been largely focused on detection
- UK Legislation (PAA (Wales), LAAA, DEA) allows public bodies to share data for data matching and ICO regime is designed to facilitate data sharing not obstruct
- To address the changing counter fraud focus to prevention, in 2015 the NFI introduced AppCheck
- The challenge is to use data analytics more to prevent fraud

**Prevention +/-**

+ Stops fraud getting into your systems
+ No costly investigation
+ No lost £ (write offs)
- More administration at application stage
- £ benefits not always as visible

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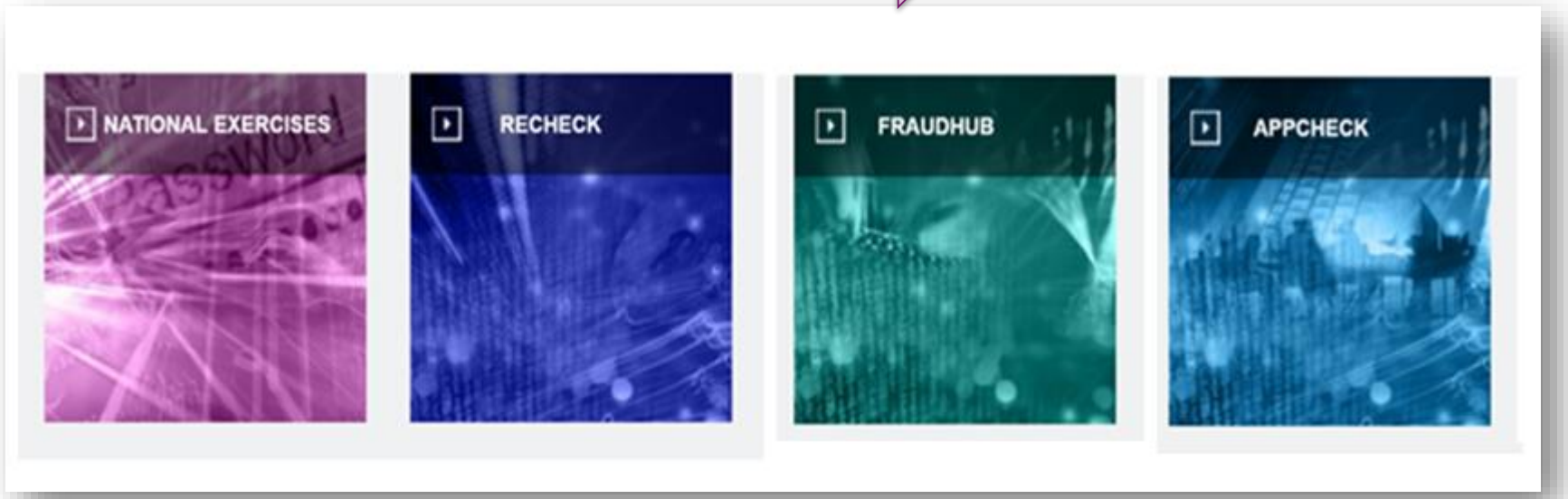
# NFI Portfolio

Fraud Prevention

Fraud Detection



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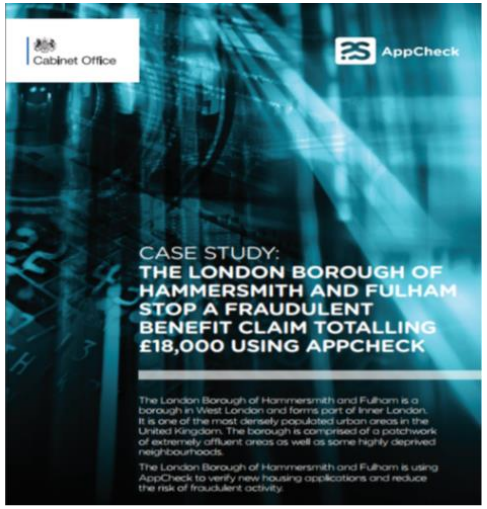
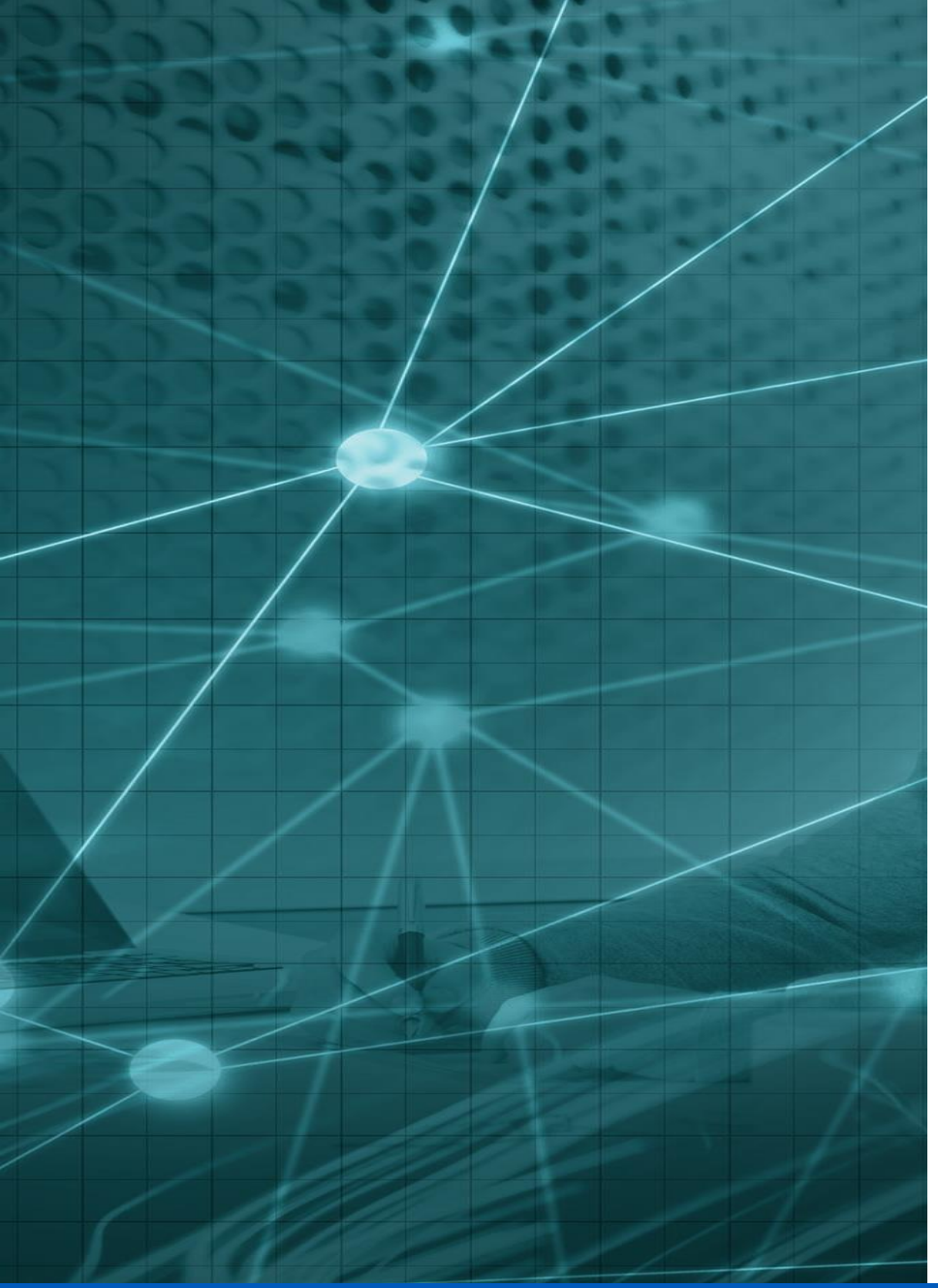
# AppCheck – Why should I use it?

- Fraud prevention capability stopping fraud entering systems
- Designed for use by public bodies, in particular local government
- Provides you with a LEGAL, CAPABLE, DATA RICH solution
- AppCheck annual membership cost is covered for Welsh bodies
- Case studies show it works





# AppCheck Demo

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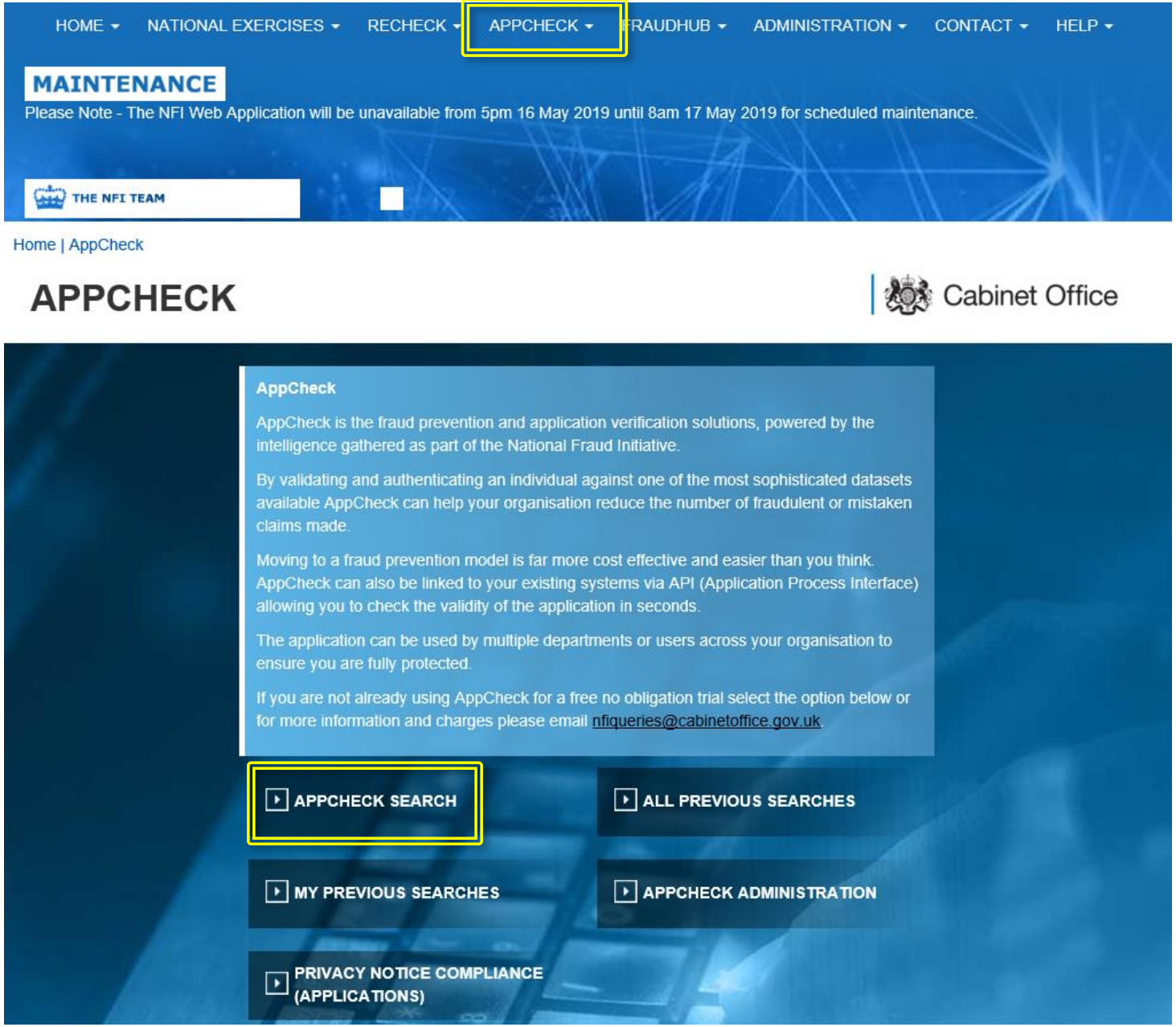
# Log in to the NFI web application and navigate to AppCheck



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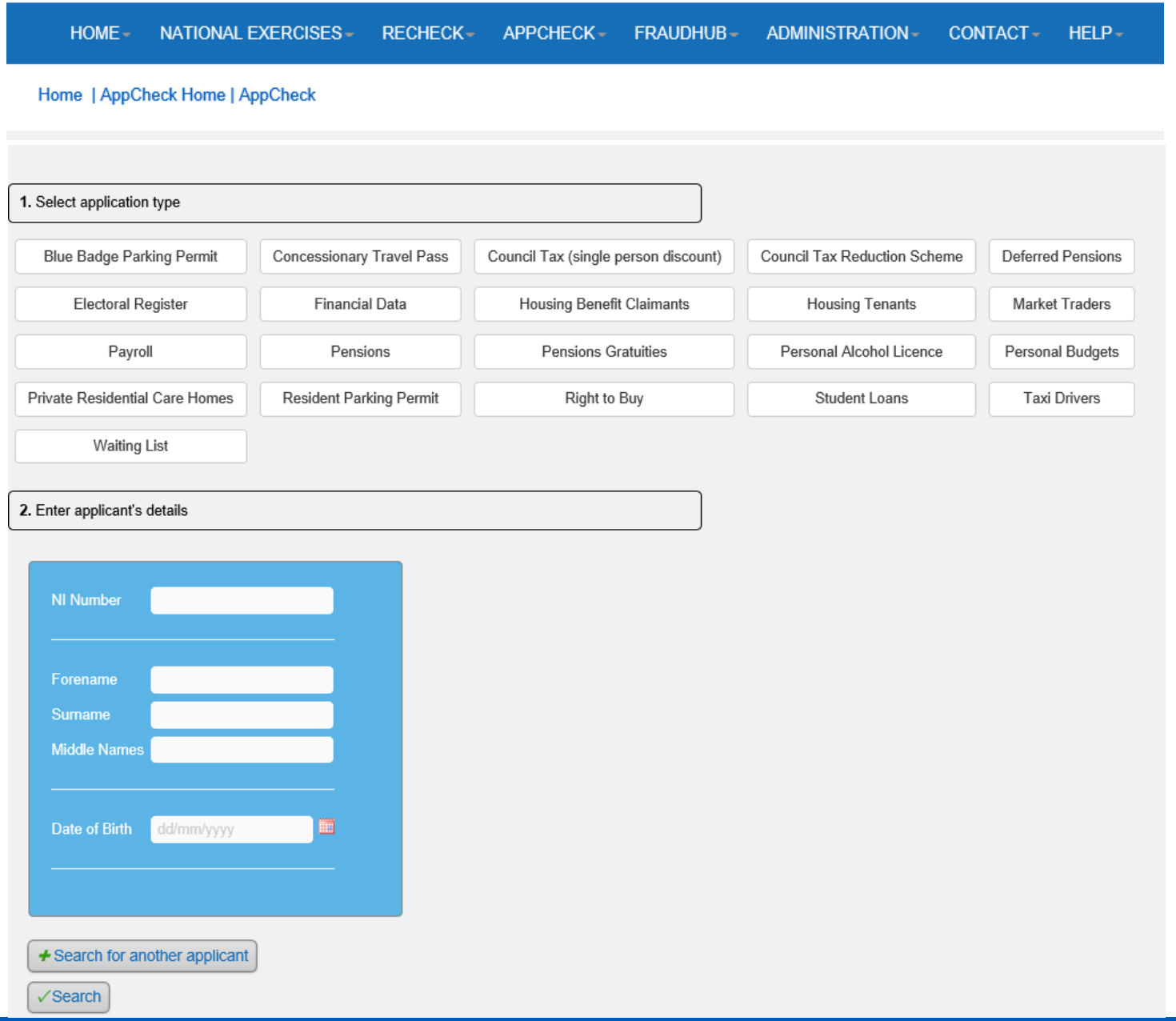
# You are presented with the AppCheck data entry screen



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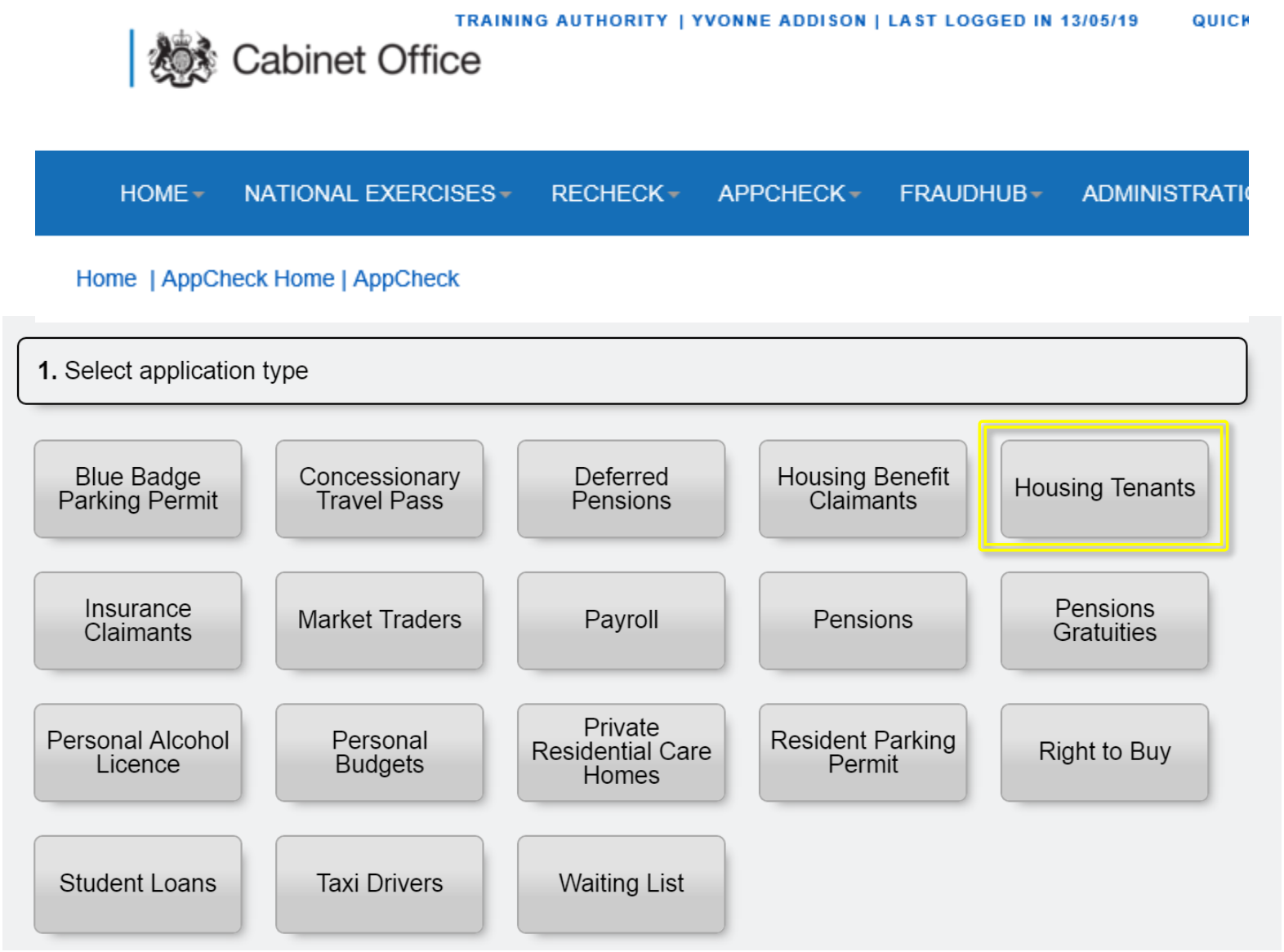
# Select the Application Type

## Example 1: Housing Tenancy Application



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# Enter the applicants details

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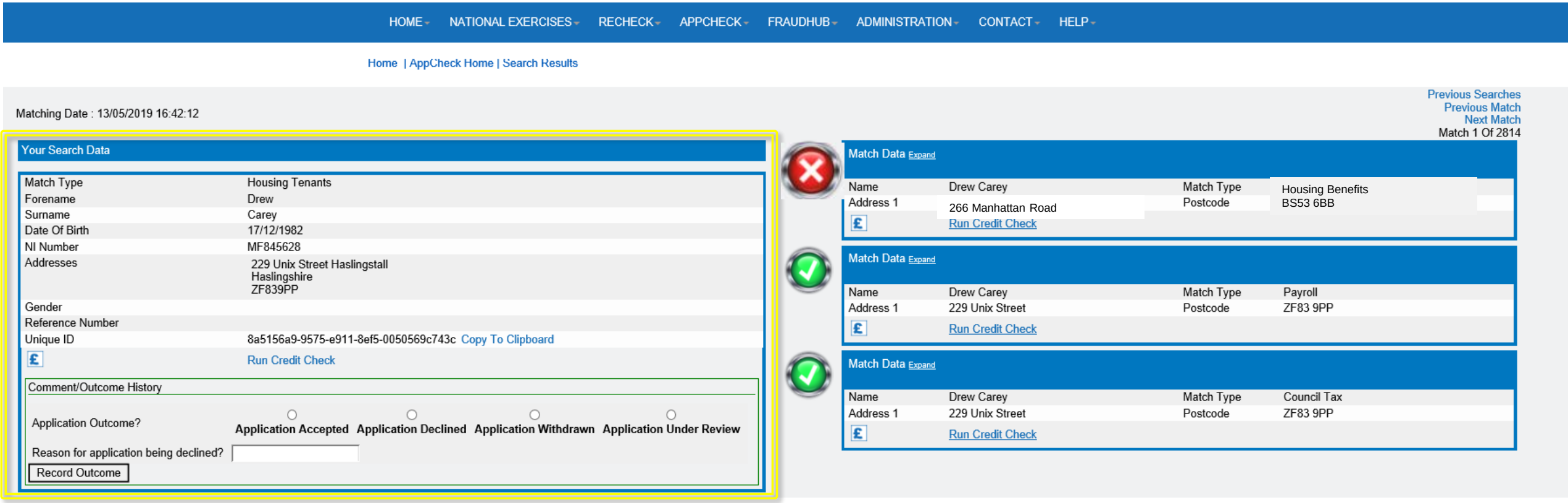
# The results are displayed side by side – Search data versus Matched Data



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# Result Indicators

**Verified**: the data match verifies the details of the application

**Review**: the data match contradicts the details of the application

**Potential Fraud**: the data match indicates the application may be fraudulent

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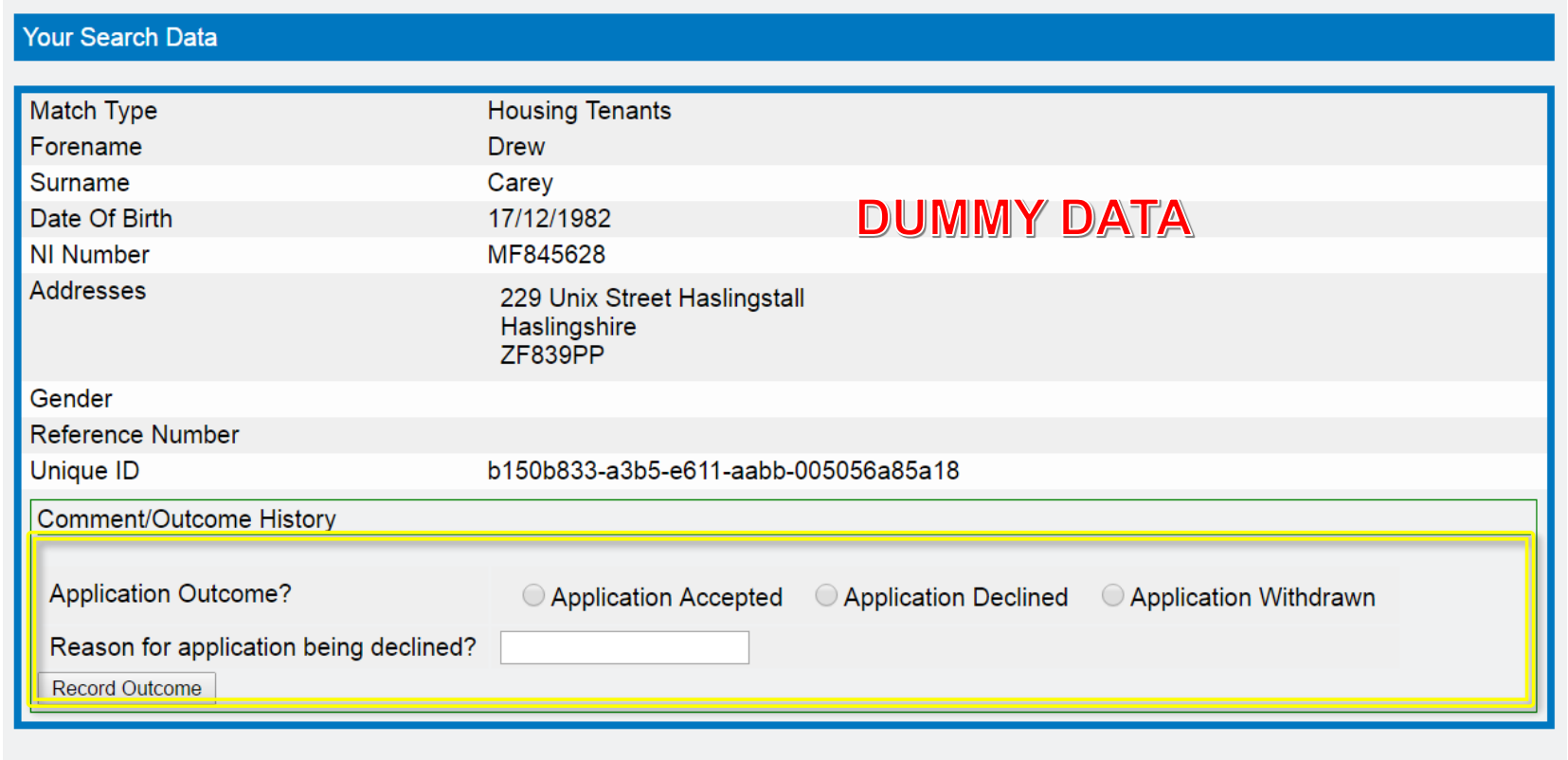
# Left hand side:

- Search details
- Outcomes recording



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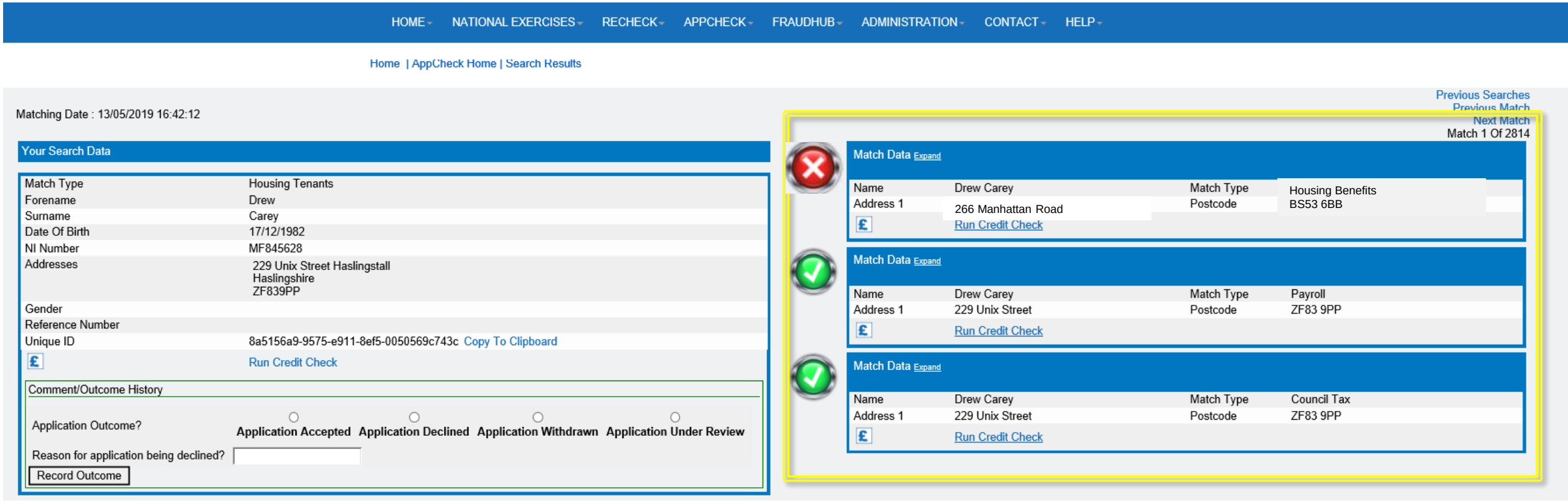

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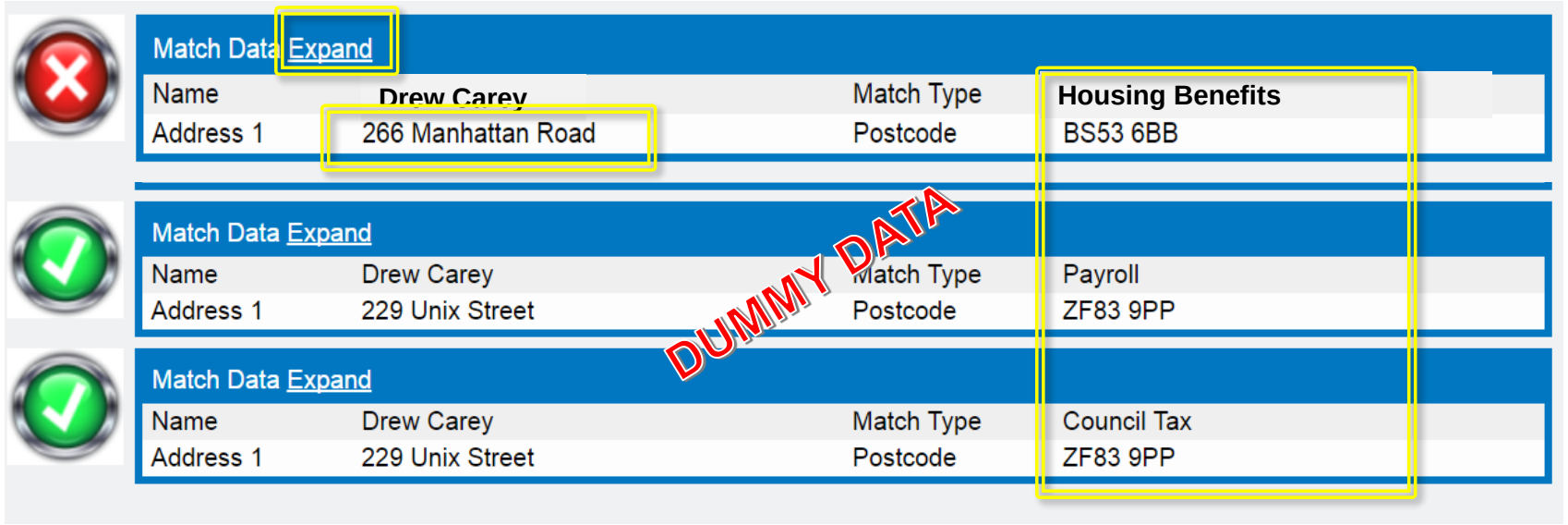
**Conclusion:**
**AppCheck has confirmed the applicant's details to a payroll record and a council tax record.**

**This provides assurance that the individual is who they say they are and have a footprint at the address.**

**However, AppCheck has also identified a current HB claim at a different address**



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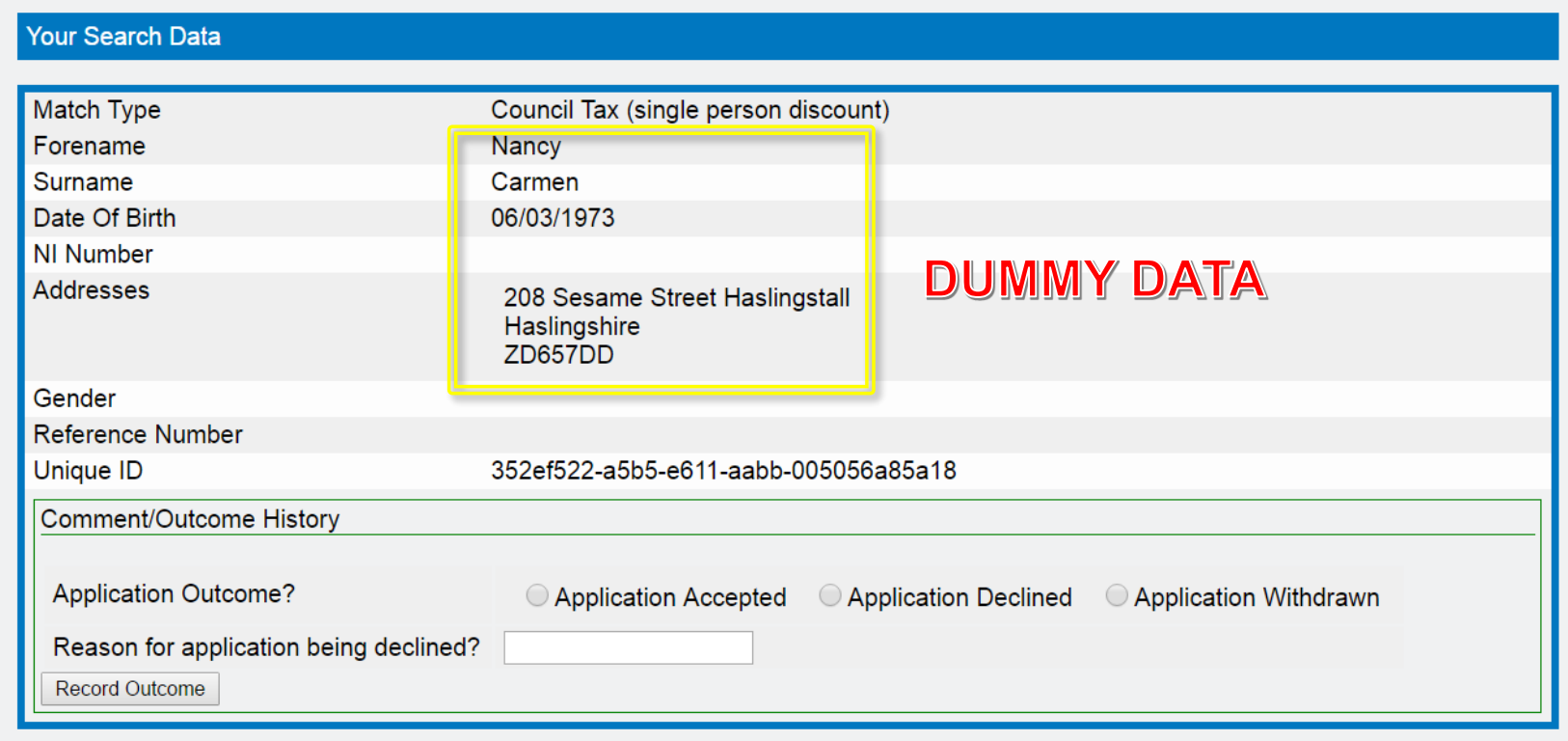
# Example 2 : Council Tax Single Person Discount Application

## Check the Search details



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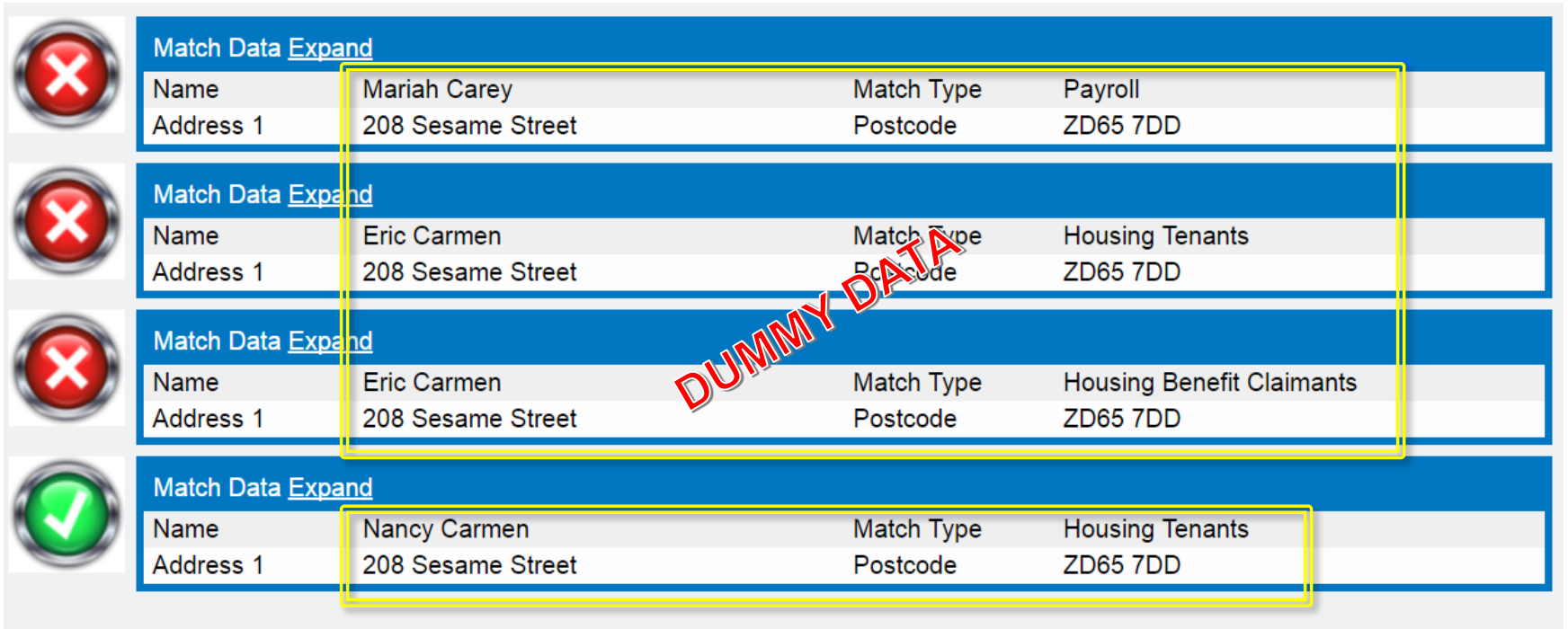
**Conclusion:** In this example, AppCheck has identified that the applicant is living at the property.

**However**, it has also identified **two** other individuals living at the property who may have not been declared and may invalidate the applicants ri[illegible] Single Perso[illegible] Discount.



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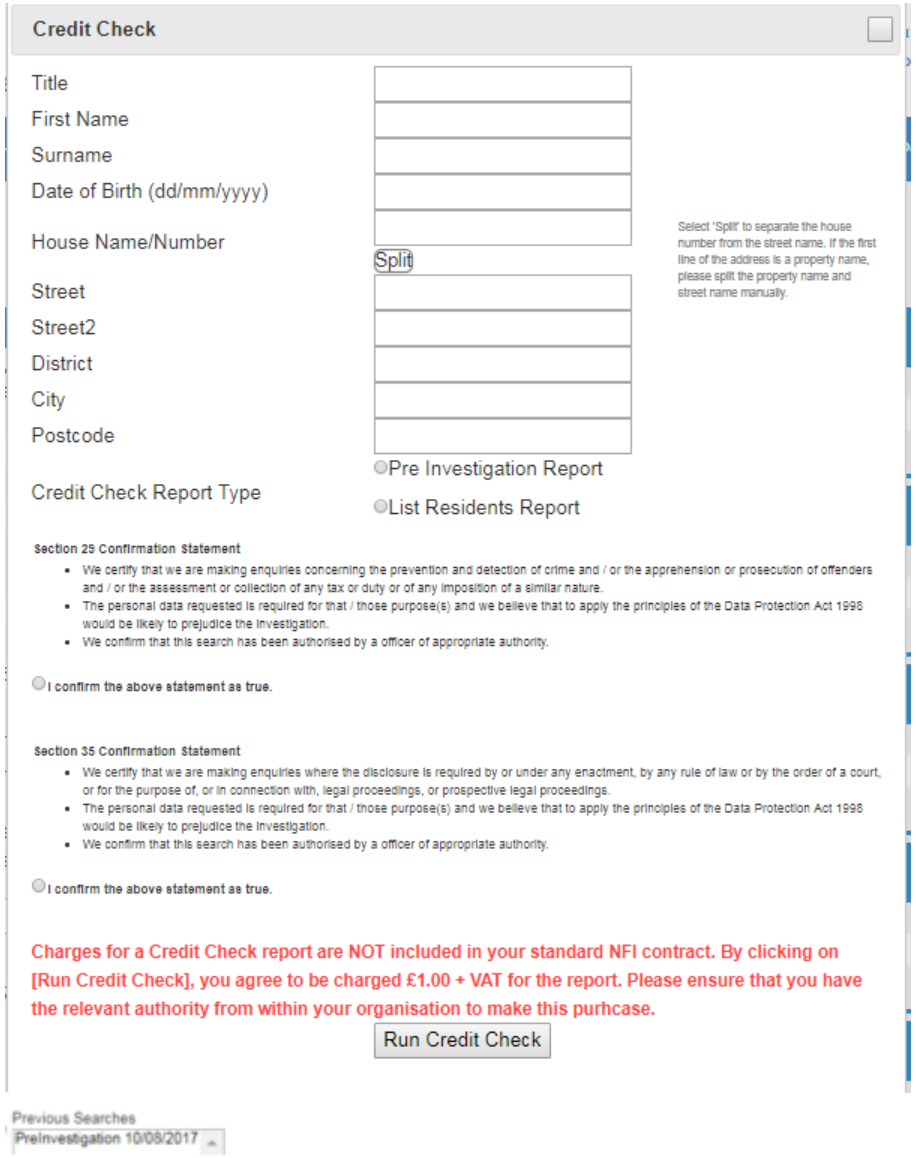
# Additional AppCheck functionality (fee applies)

## You can request a Pre-Investigation Credit Check or List of Residents Report

- A credit check form will appear on screen and will be pre-populated ready to send to CRA
- The report is returned in AppCheck



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# AppCheck can help you reduce your application fraud risks

CT Single Person Discount

Personal Budgets

Housing Tenancy

Housing Waiting List

Housing Benefit

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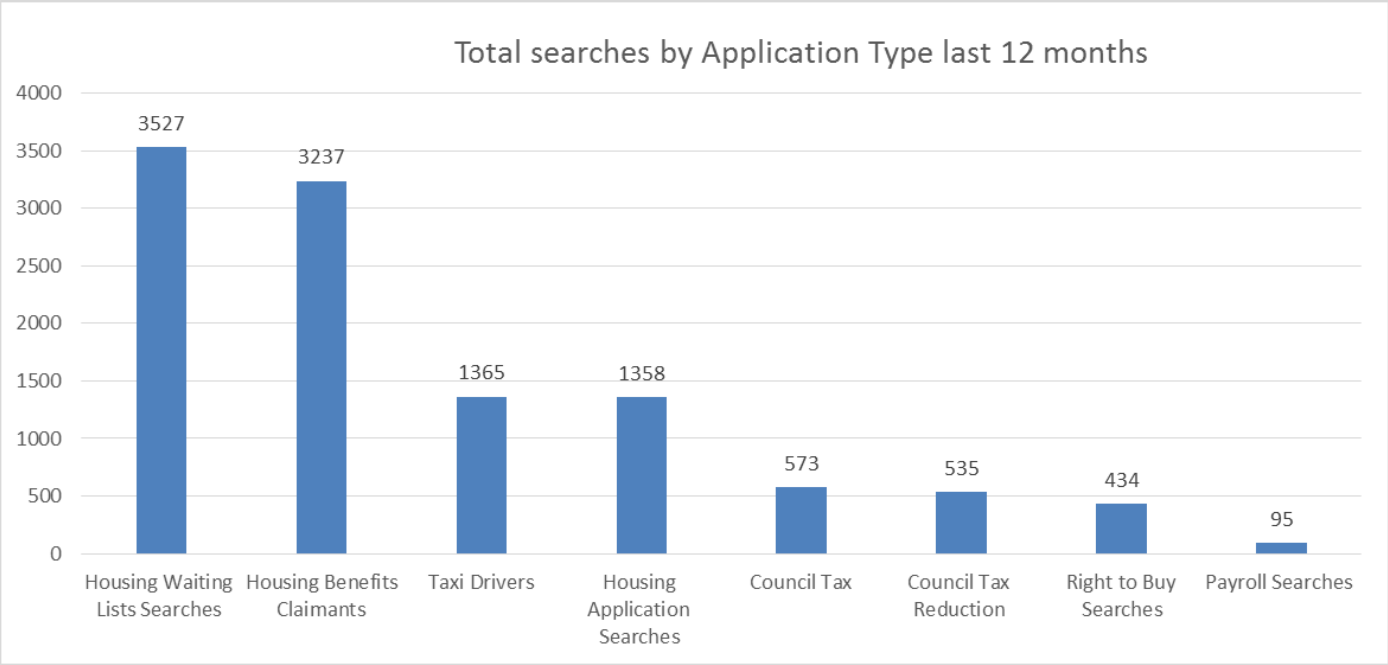
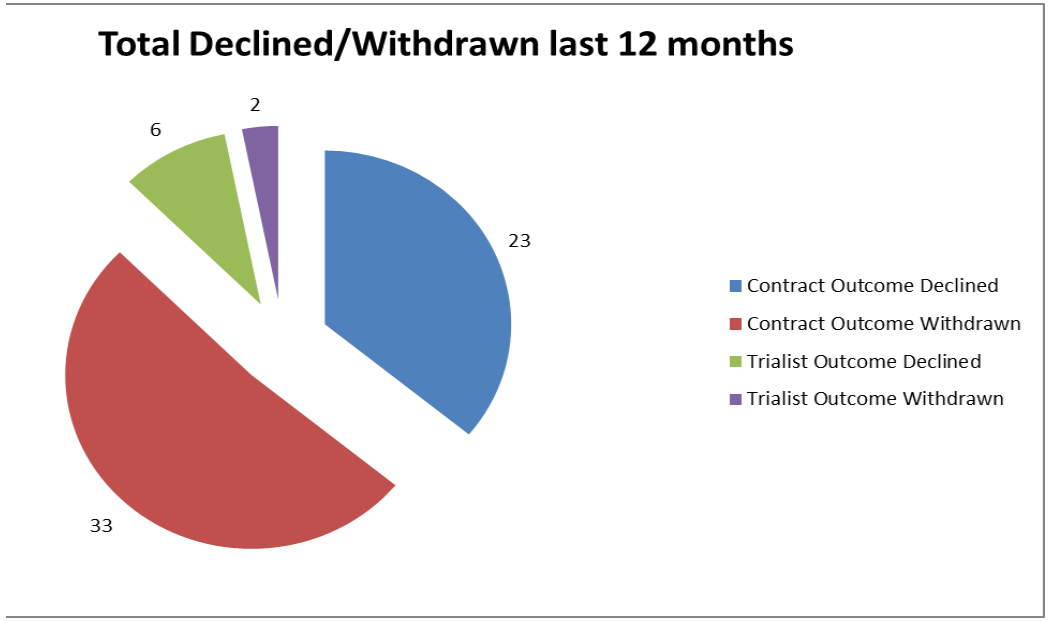
# Total searches by application type – English Bodies



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# Group Discussion

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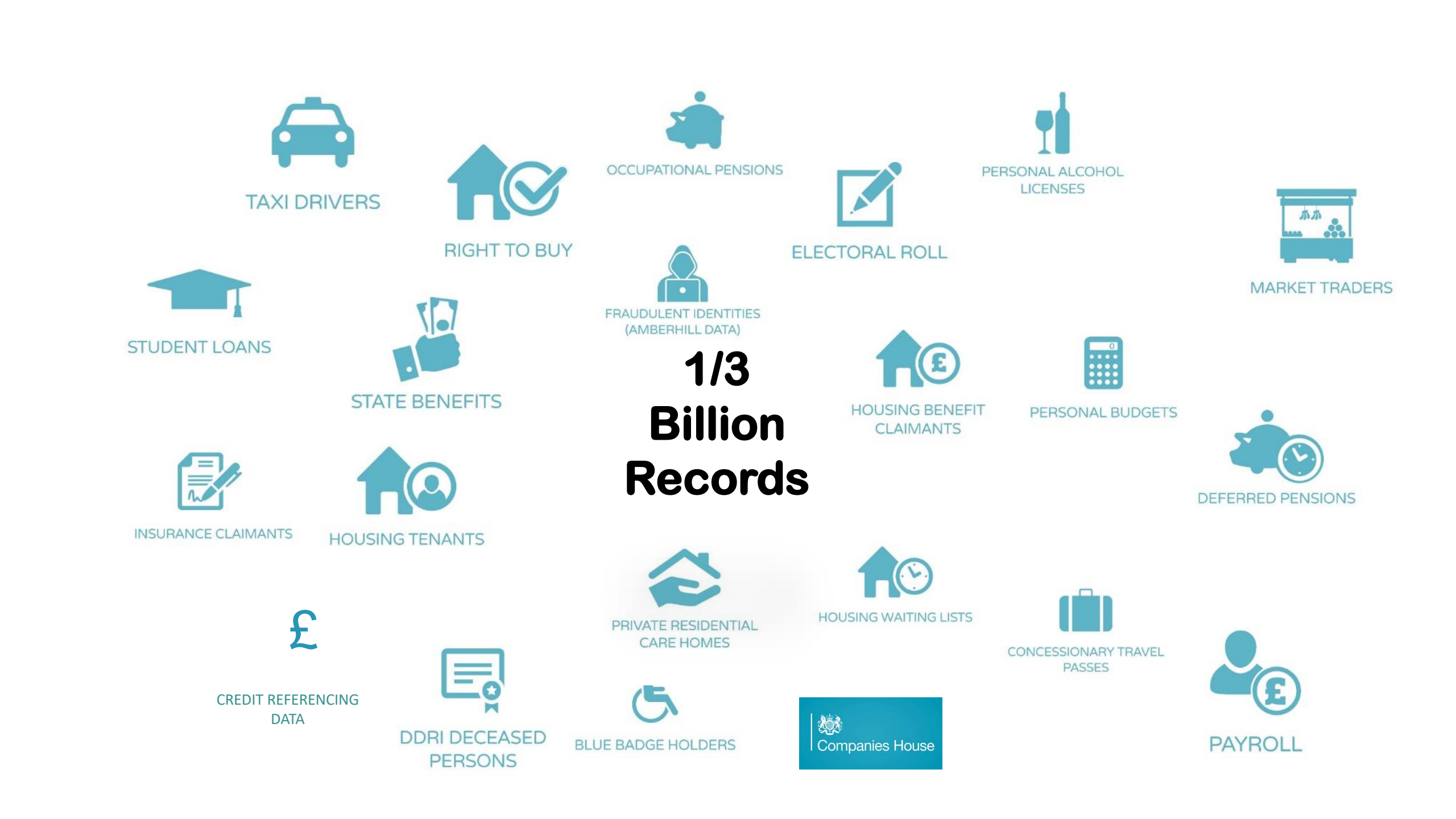
# DISCOVER - What risks are on your radar?


TAXI DRIVERS
RIGHT TO BUY
OCCUPATIONAL PENSIONS
ELECTORAL ROLL
PERSONAL ALCOHOL LICENSES
MARKET TRADERS
STUDENT LOANS
STATE BENEFITS
FRAUDULENT IDENTITIES (AMBERHILL DATA)
1/3 Billion Records
HOUSING BENEFIT CLAIMANTS
PERSONAL BUDGETS
DEFERRED PENSIONS
INSURANCE CLAIMANTS
HOUSING TENANTS
PRIVATE RESIDENTIAL CARE HOMES
HOUSING WAITING LISTS
CONCESSIONARY TRAVEL PASSES
CREDIT REFERENCING DATA
DDRI DECEASED PERSONS
BLUE BADGE HOLDERS
Companies House
PAYROLL

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# Group Discussion

List two fraud risks on your radar you think AppCheck specifically might help you address.

List two further fraud risks where AppCheck would not work and why.

(10 minutes)

One person to feedback from each group