HM Courts & Tribunals Service

AI, machine learning and the administration of justice in England and Wales: prospects, opportunities, challenges

HM Courts and Tribunals Service
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This presentation

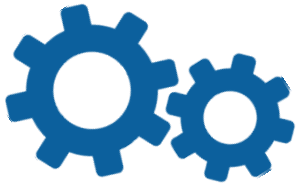
- Background on reform to the courts and tribunals in England and Wales
- Using technology and data to understand users of the courts and tribunals in England and Wales
- Current challenges and future opportunities

The system in England and Wales we are reforming

- Labour-intensive, paper-based systems which create error, duplication, inefficiency
- Processes that are hard to administer and even harder to navigate for people;
- Few modern, swift routes available for our people to resolve their issues

The system we are reforming

Our guiding principles



Building in partnership

Increasing accessibility

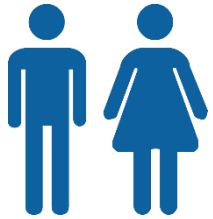
Being proportionate and segmented

Strengthening our strong, independent and trusted justice heritage

Increasing transparency and accountability

Securing financial sustainability

Designing for 2050 – not 2018



Putting people at the heart

“AI”? – a complicated and incomplete picture

Objectives, ethics and assurance

Descriptive analytics and models

Predictive analytics and models

Prescriptive analytics

Unsupervised (black box?) decision engines

Natural language processing

Supervised Machine learning

“AI”?

Insight

Targeted support for court users

Decision making

Robotic process automation

Chatbots and service bots

Text and data mining including object recognition

Statistics *Regression* *Decision trees*

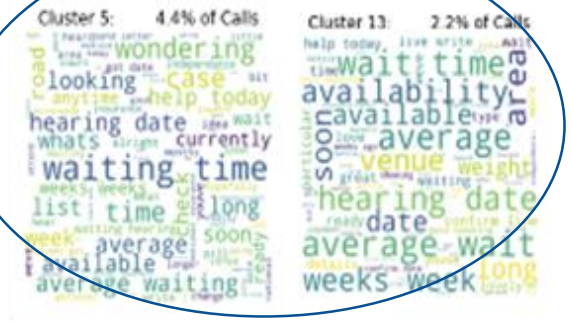
Data engineering, preparation and sourcing

Computing power and software

What is the issue I am trying to address?

Reducing failure demand and improve user experience – natural language processing of social security appeals calls

Waiting Time



Preparing for Court

Upper Tribunal Appeal

DWP Decision → DWP Reconsideration → Appeal to first tier tribunal → Submit appeal → Hearing Date Set → Hearing Day → Decision → Appeal to upper tribunal

Contact Information

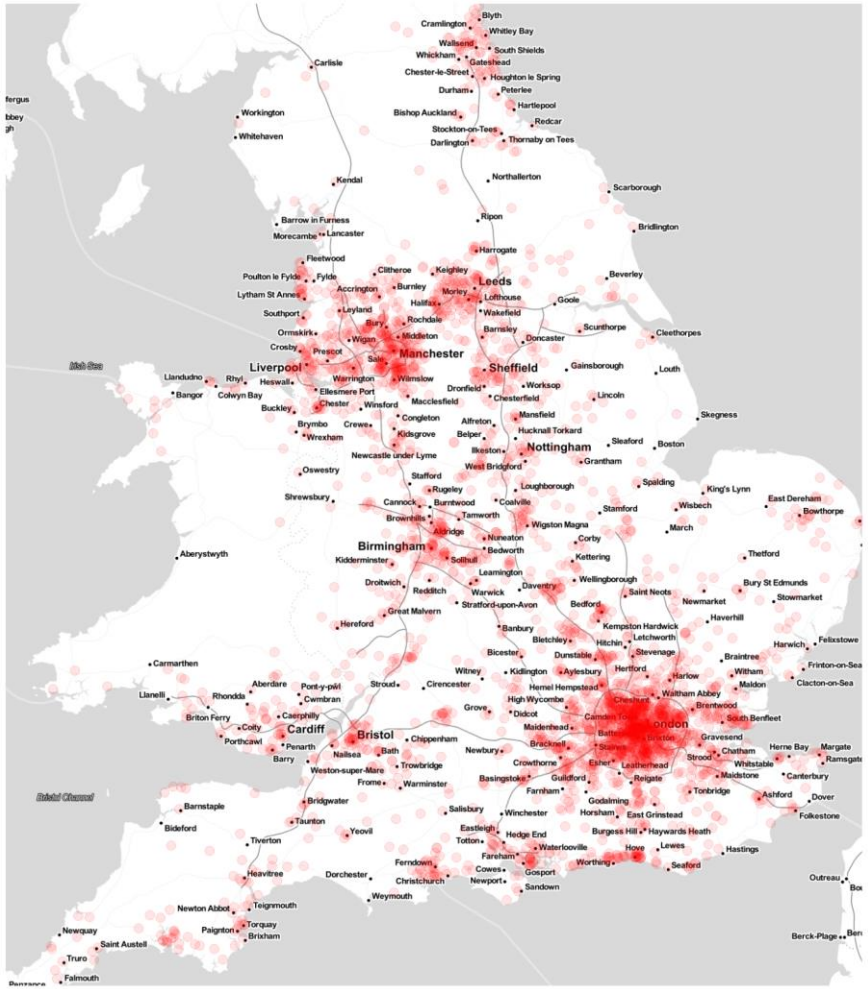
Support During Appeal

Getting to the Hearing

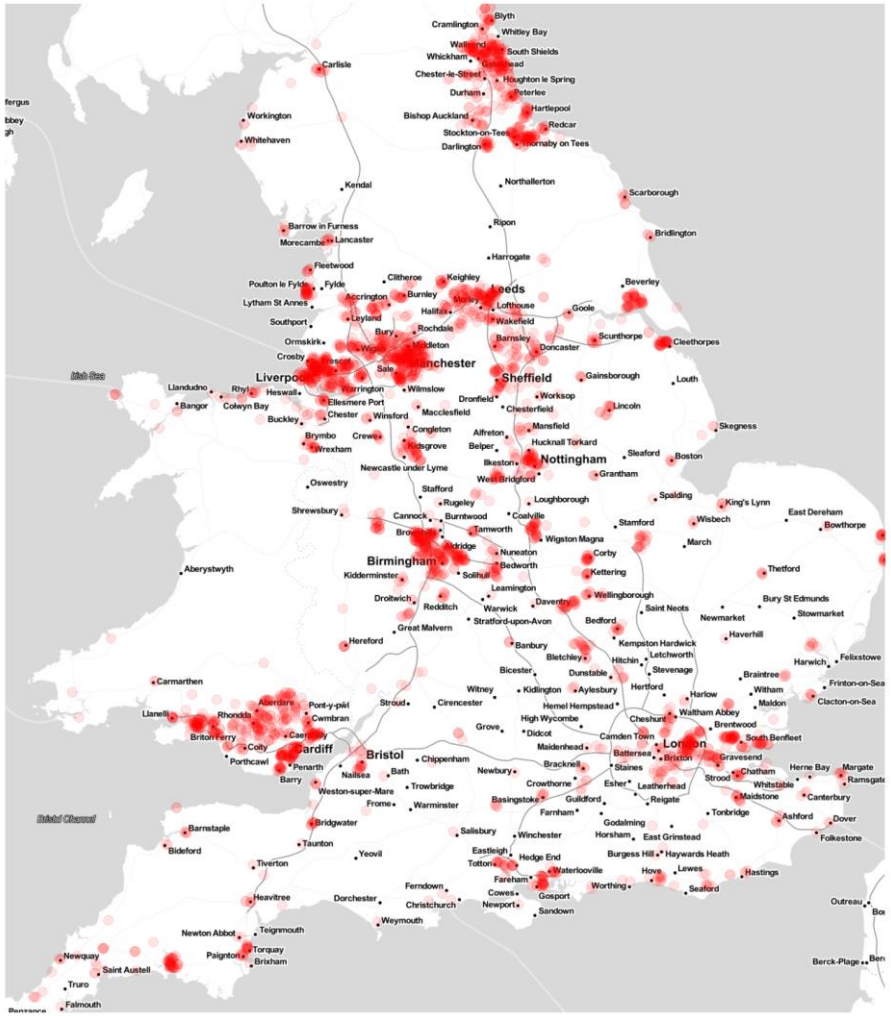
Support at the Hearing

Manipulating and analysing previously unused internal data to inform our administration – specified civil money claims

Top 10% of neighbourhoods by rate of individual claimants per population, for FY 2016-17



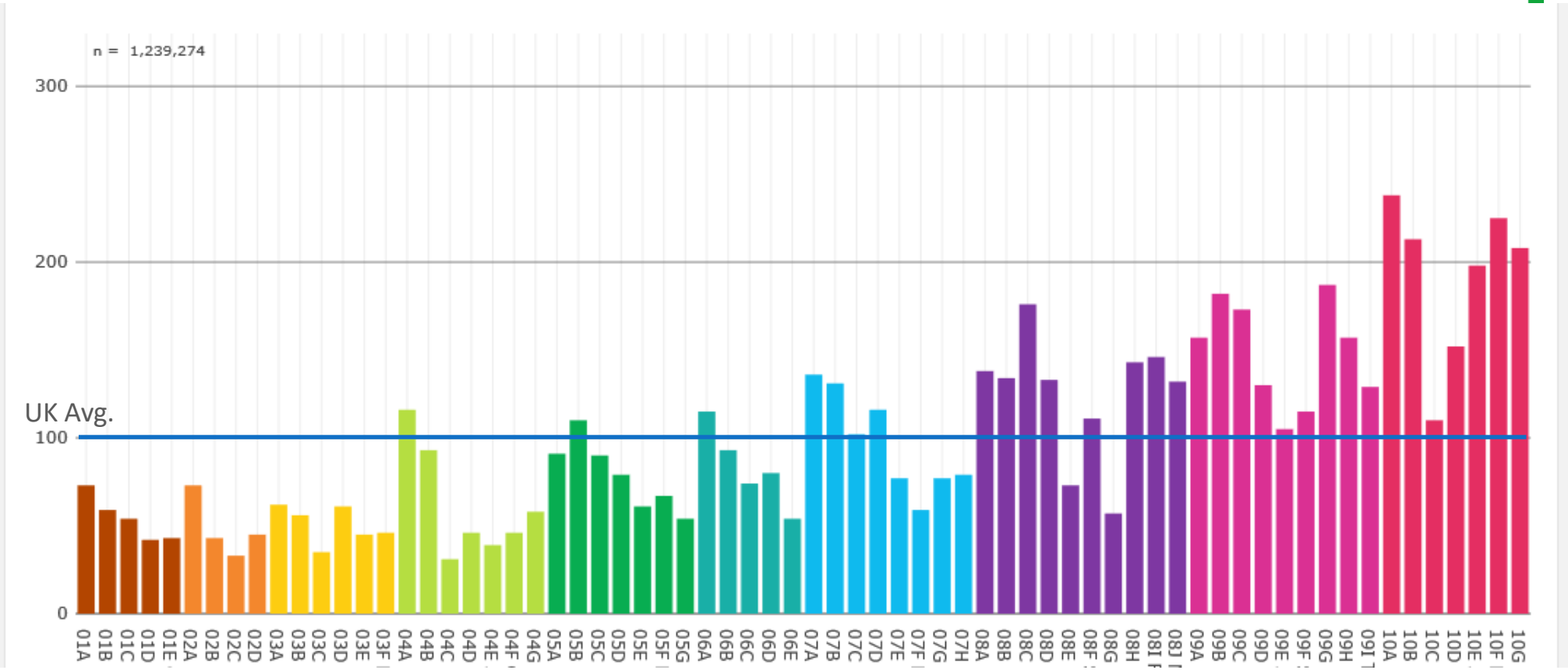
Top 10% of neighbourhoods by rate of defendants per population across England and Wales



Matching multiple data sources to understand what challenges users of the courts may have – specified civil money claims defendants

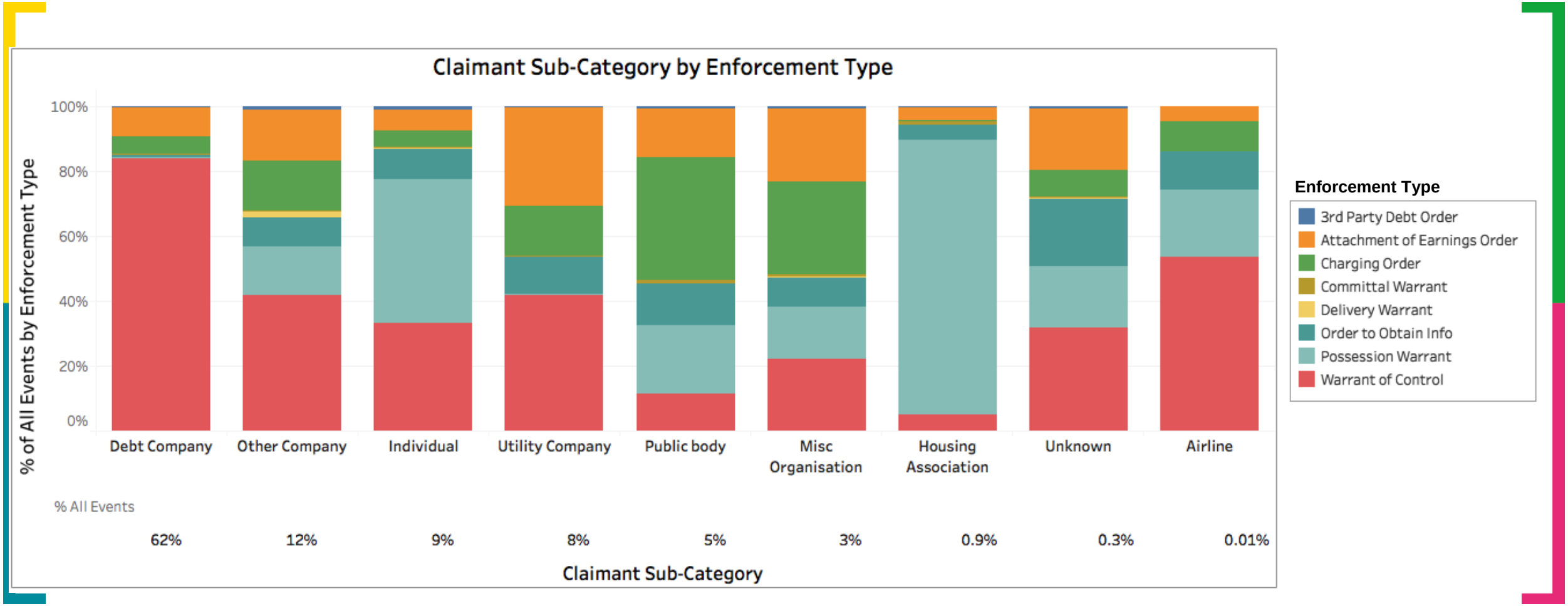
Index of defendants by external data source category, relative to the UK population

Less affluent groups 8, 9, 10 are over represented and more likely to be of low income, poorly skilled/educated



HMCTS analysis of Caseman data:
Specified-money defendants
In FY 2016-17
Estimated to be individuals
c1.2m in total

Data science to turn legacy data into an understanding of users to help redesign services – Civil Enforcement



60%

Garbage in, Garbage Out ('GIGO')

Context is key for training and implementation

Don’t forget the fundamentals – ‘what works’, quality assurance & ethics

The future for us

- Building better data in partnership with external organisations
- Opening up our data where appropriate and safe
- Sharing of understanding and approaches across legal sector
- Building new tools to help judges with the administration of justice (but not judicial decision making)
- With caution building new tools to support people-centric administration

Question - Do we need to define ‘AI’ and the associated language much more clearly? It is largely associated with decision making engines – but one huge opportunity across firms and administrators is doing simple things in a much easier way…..