Data-driven Adult Social Care Commissioning.
Modeling future demand for Extra Care Housing In Hampshire County

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With you today

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Environment

Context

- Our vision for Hampshire's residents is for them to **live long, healthy, and happier lives** with the **maximum possible independence**.

- We also recognise that for many older people a time may come when living at home is no longer safe or comfortable.

- As the demographic profile of the population in the County changes, and more people choose to remain in their own homes, there is a continuing need to **develop suitable housing options that provide alternatives to residential care**.

- Our ambition is to shift the balance of choice for older vulnerable people **towards housing and support options that promote independence**.

- Extra Care housing provides independent living with the **security of care and support staff** onsite 24 hours a day, seven days a week to meet assessed and emergency care needs.

People in Hampshire enjoy being part of strong, inclusive, resilient communities
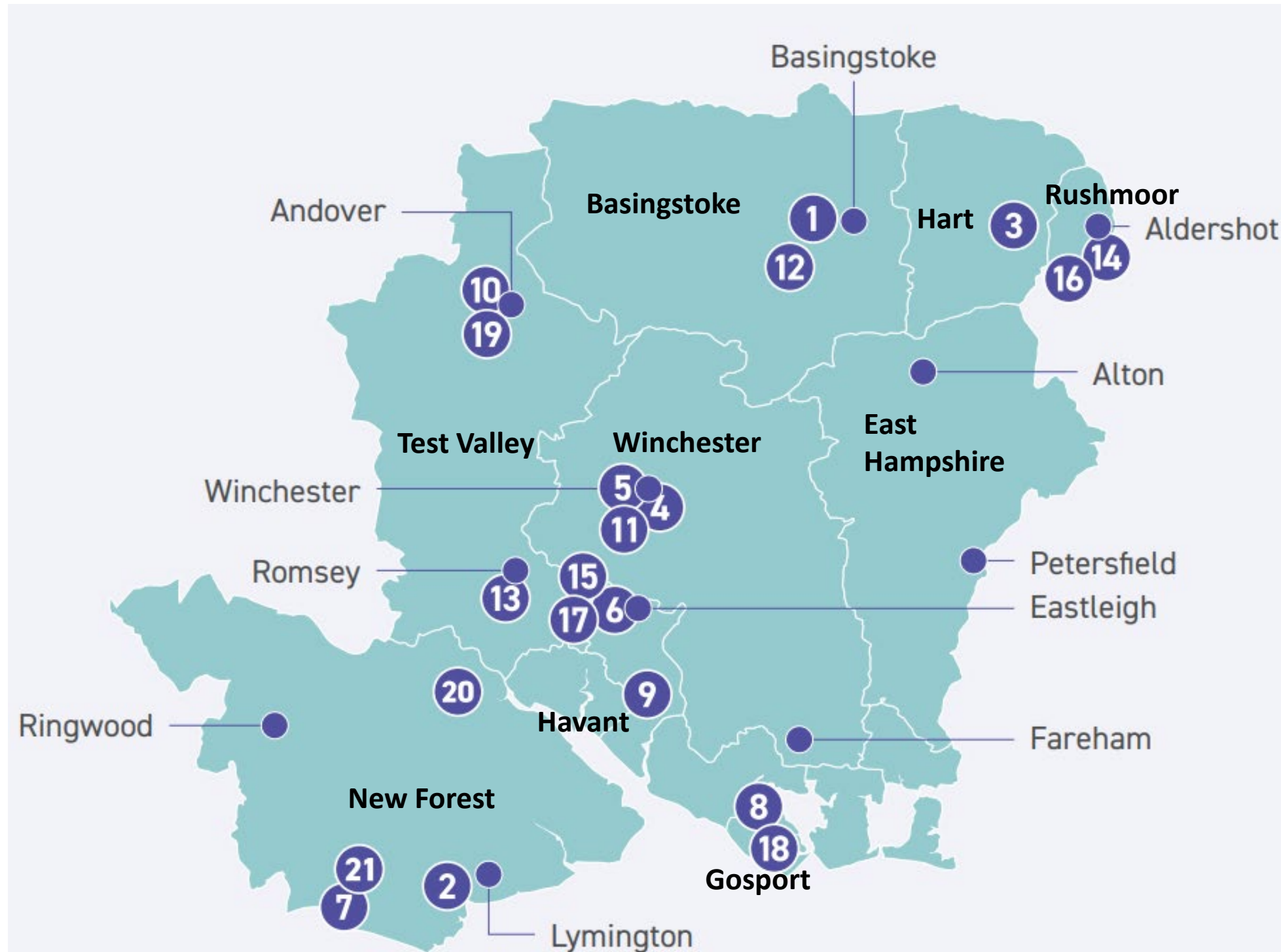
What is Extra Care Housing?

- Housing with primarily care for eligible people over the age of 55.

- Occupants/residents have specific tenure rights with agreements to cover provision of care, support, social, and community services.

- Can be provided by local authority, housing association or private landlord (e.g. Churchill and McCarthy & Stone).

- For local authority provided ECH, eligibility is dependent on both affordability and health issues.

The Business Case: Demand from diverting residents into Extra Care

- HCC carried out Older Adult's investigations in 2023

- One finding was that there could be potential to place more residents into Extra Care as opposed Residential care

- HCC place on average, **1000 residents** per year into Residential Care

- It is predicted that **10%** of these placements could be into Extra Care

- This would potentially increase the demand by 100 residents per year across Hampshire

Current Supply of ECH across the County

District	Total number of current flats
New Forest	168
Eastleigh	161
Test Valley	145
Basingstoke	115
Gosport	110
Winchester	107
Rushmoor	92
Hart	76
East Hampshire	0
Fareham	0
Havant	0

Total: 974

1. Abbey Court
2. Barfields Court
3. Campbell Place
4. Chesil Lodge
5. Danemark Court
6. Fernhill Court
7. Gore Grange
8. Juniper Court
9. Laburnum House
10. Lion Oak Court
11. Matilda Place
12. Newman Court
13. Nightingale Lodge
14. Place Court
15. Rowan Court
16. St. John's Court
17. Surrey Court
18. Spinnaker View
19. Warner Court
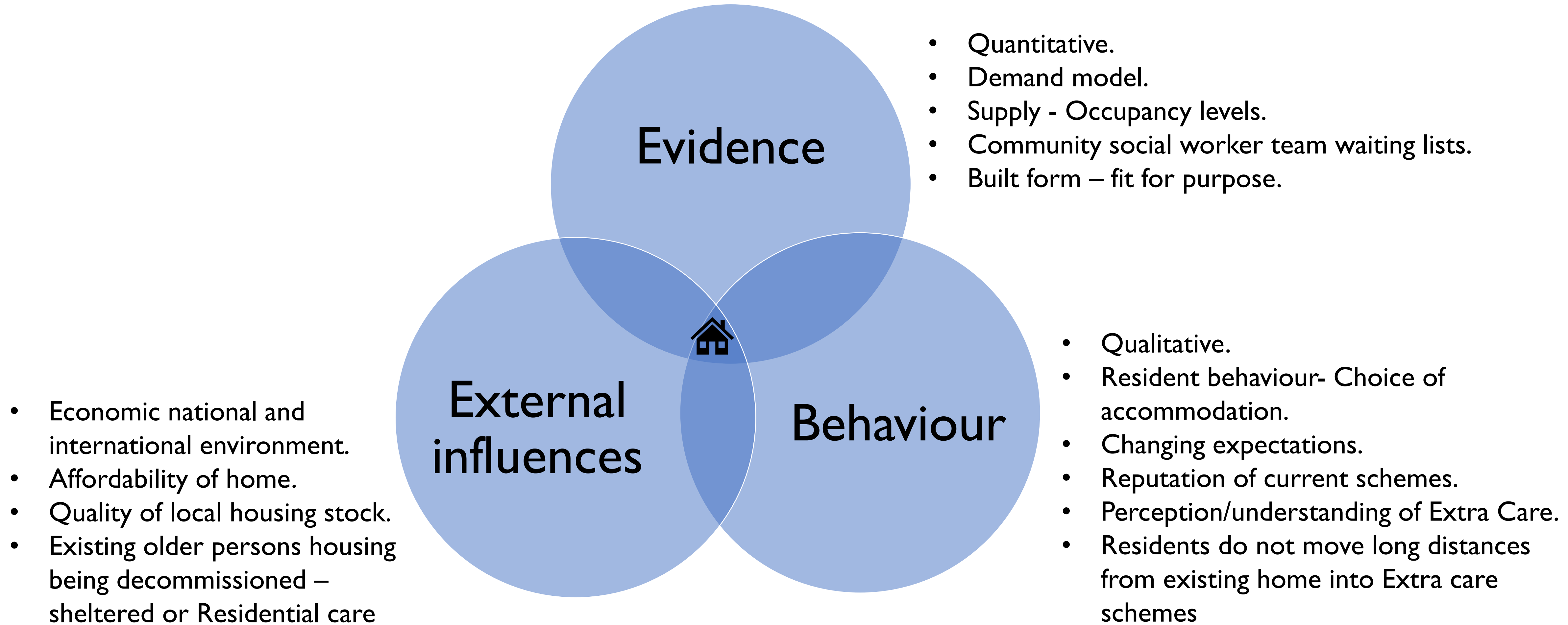20. Winfrid House
21. Wooldridge View

The challenge and need

- Understand the **current and predicted future demand** for Extra Care Housing of all tenures across Hampshire, not to just simply look at the demographics of residents.

- Develop a focussed understanding of **affordable tenures** under the definition in the National Planning Policy Framework.

- Influence the **development programme for future schemes**, which will include the location, design, size and tenure of the schemes; as well as the **sustainability of existing schemes**.

People in Hampshire live safe, healthy and independent lives

JS

If we build the schemes, will they come? 3 Pillars of Evidence

Evidence

- Quantitative.
- Demand model.
- Supply - Occupancy levels.
- Community social worker team waiting lists.
- Built form – fit for purpose.

External influences

Behaviour

- Economic national and international environment.
- Affordability of home.
- Quality of local housing stock.
- Existing older persons housing being decommissioned – sheltered or Residential care

- Qualitative.
- Resident behaviour- Choice of accommodation.
- Changing expectations.
- Reputation of current schemes.
- Perception/understanding of Extra Care.
- Residents do not move long distances from existing home into Extra care schemes

Adults' Health and Care

Key Findings from National Literature Review

Three published papers; Darton (2011), Callaghan & Towers (2014), and Darton (2022)

- Majority of residents are:
  - Female (66% of EC residents),
  - with an average age of late 70s
  - not previously lived alone (and therefore need to be in a 1 or 2 bed flat).
  - 47% of them entered EC after becoming widowed.
  - Mostly low ethnic diversity i.e. 97% from white British backgrounds

- 57% of residents commonly came from social rented housing

- 33% came from owner-occupied accommodation

- Residents have often **not received formal care** prior to entering EC housing. In many cases the residents are not known to council services until they need provision. Dalton (2011), found of the sample size reviewed:
  - **50% of EC residents previously had no home care**
  - **80% of EC residents previously had never spent a day in a day centre**
  - 92% of EC residents had previously not had an NHS therapist

ECH residents are not typically "known" to the Social Care system

Key findings from a qualitative perspective

Safety

- Trip hazards which can be easily avoided e.g. patterned (and non-patterned) carpet adjoining a laminate floor. This can appear as a step and can produce a fall.

Spatial Utility

- Small issues prevent residents from using the space more e.g. patioed gardens (the bricks cause falls). Communal Balconies also have large concreate slab flooring but with small gaps between each slab becoming a trip hazard.

Accessibility

- Additional *dropped kerbs* and *zebra crossings* in and around ECH buildings to help residents get out and about more.

# Analysis of Current Demand in ECH Housing

Total cohort in dataset: **1,169**

Age and Gender Analysis of **total cohort** reveal:

- Average age of resident when moved into ECH: **77 years.**

- Standard deviation of move in age: 11 years (i.e. data ranges from 66 years to 88 years).

- **45%** of people are aged between 80-100 on move in day.

- **19%** of people are aged between 85-100 on move in day.

- Of the people aged between 85-100 on move in day, **70% are women** and 30% are men.

- Ratio of **female to male inhabitants is 1.4:1**. Females make up 58% of inhabitants

- The median length of stay from date of arrival to date of death is 496 days or almost **3.5 years.**

Reduced Mobility is the most prevalent health condition in the current ECH cohort

Count of Medical Conditions
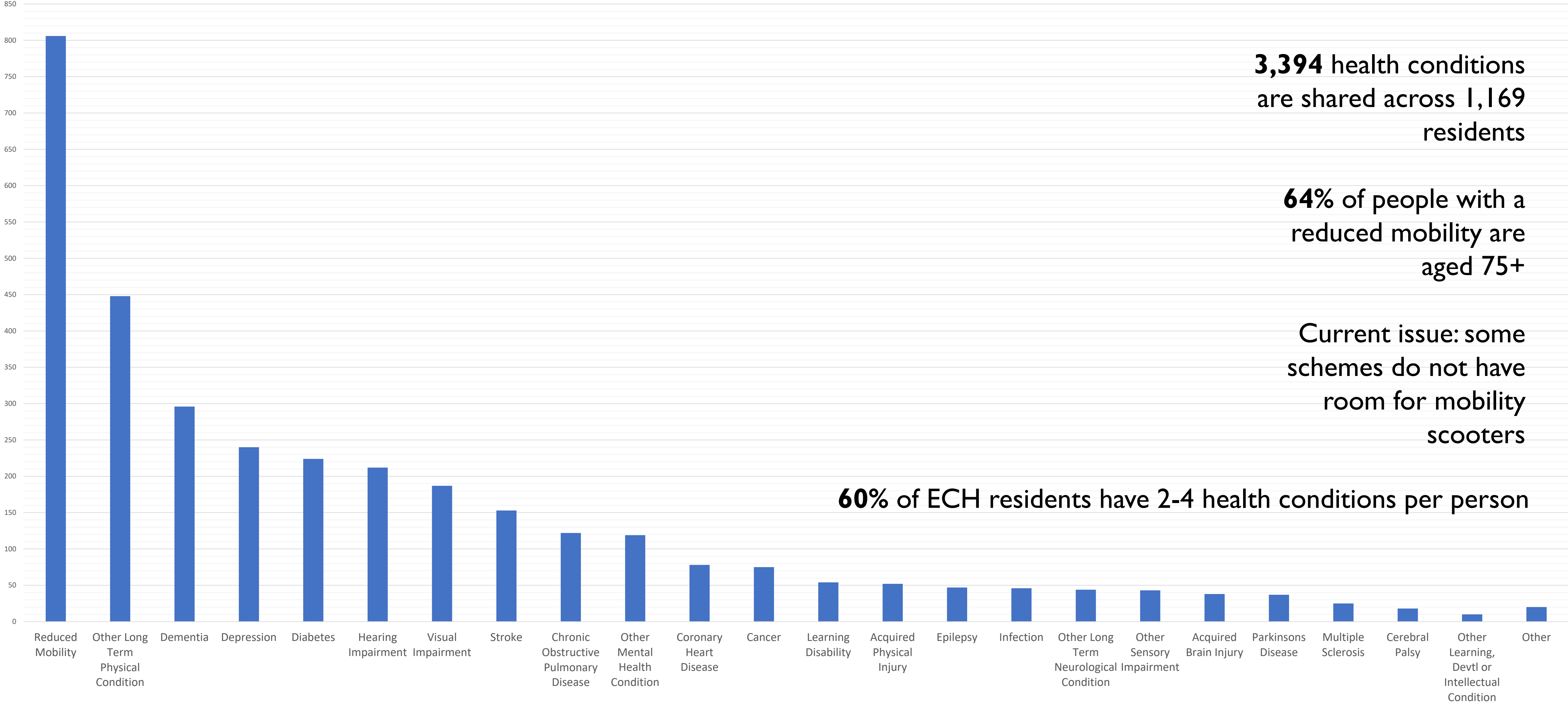
3,394 health conditions are shared across 1,169 residents
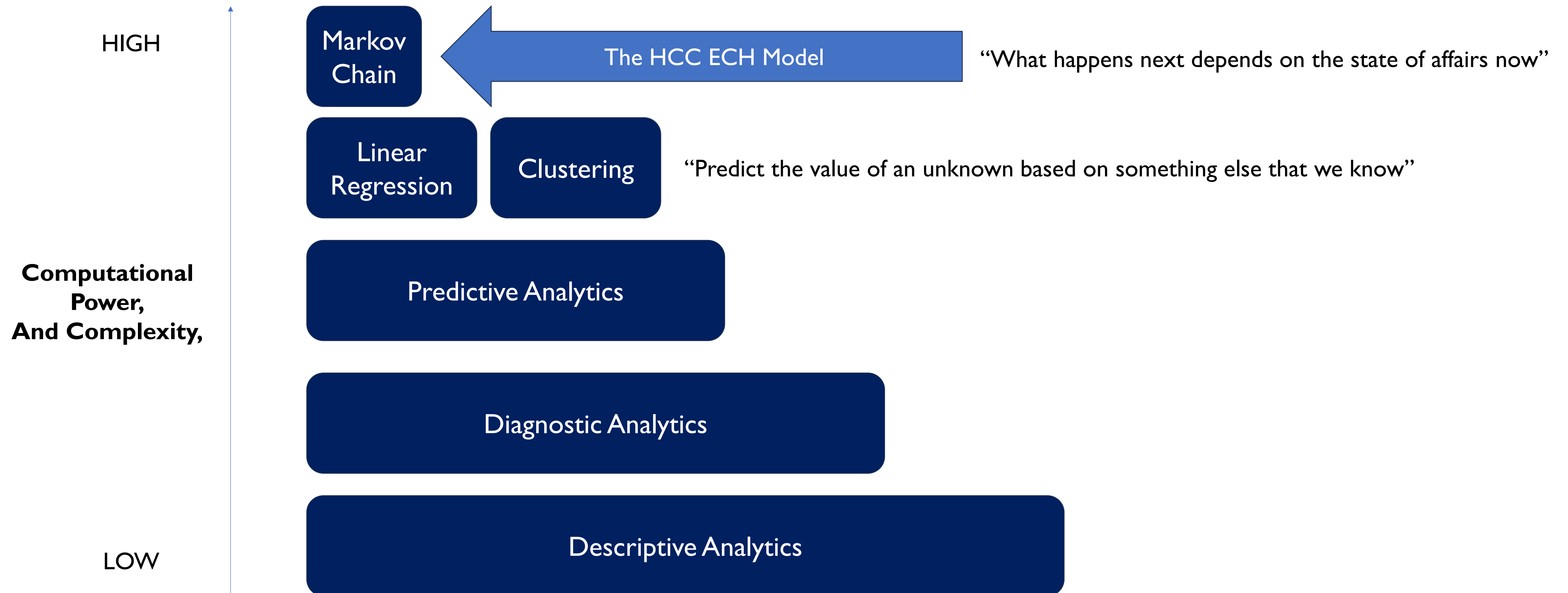
64% of people with a reduced mobility are aged 75+

Current issue: some schemes do not have room for mobility scooters

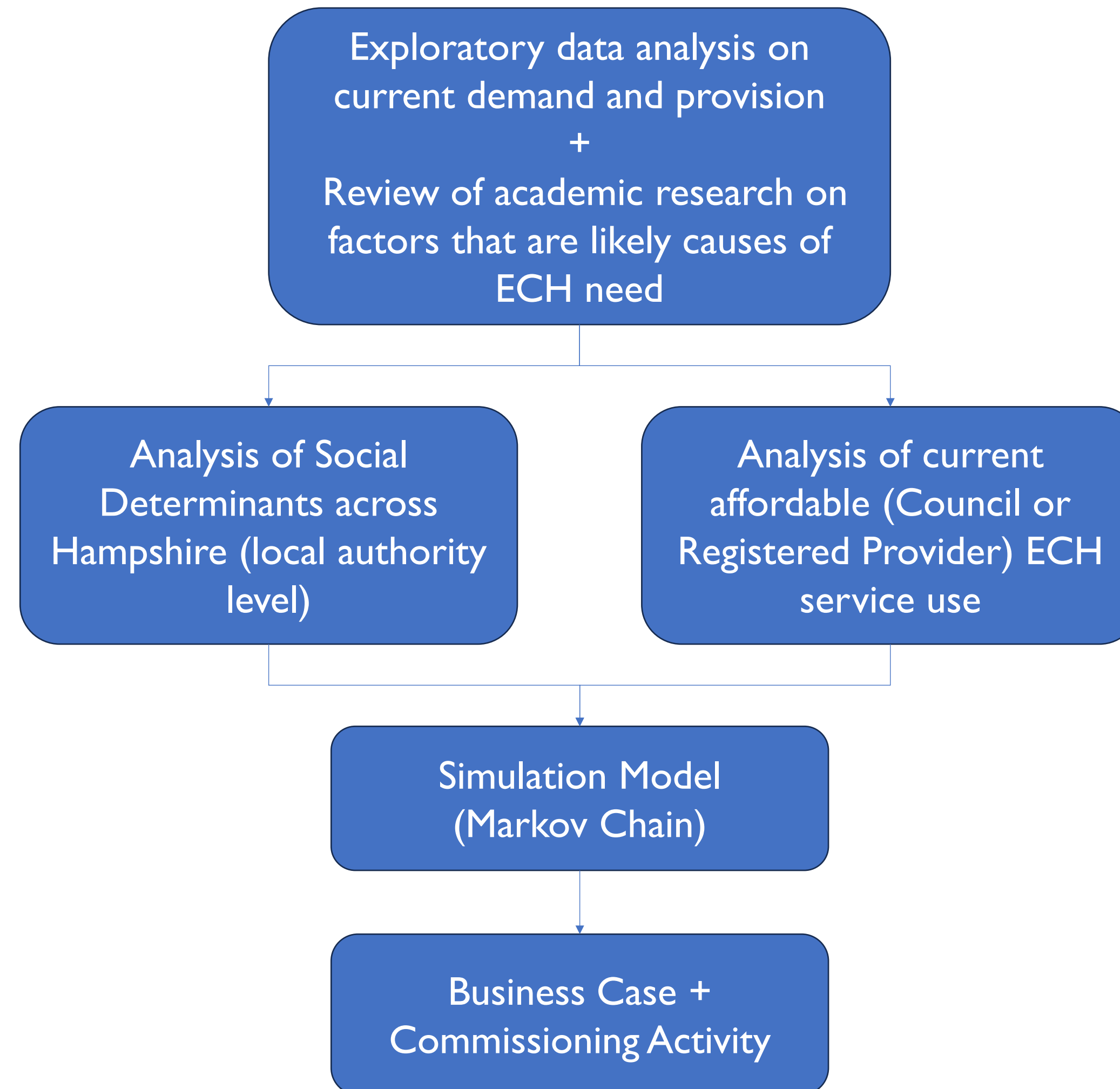**60%** of ECH residents have 2-4 health conditions per person

What type of data modelling was used?

HIGH

Computational
Power,
And Complexity,

LOW

Markov Chain

Linear Regression

Clustering

Predictive Analytics

Diagnostic Analytics

Descriptive Analytics

The HCC ECH Model

"What happens next depends on the state of affairs now"

"Predict the value of an unknown based on something else that we know"

The Process of Building the Data Model

Exploratory data analysis on current demand and provision
+
Review of academic research on factors that are likely causes of ECH need

Analysis of Social Determinants across Hampshire (local authority level)

Analysis of current affordable (Council or Registered Provider) ECH service use

Simulation Model (Markov Chain)

Business Case + Commissioning Activity

What the model was based on

- Simulation model predicting what the likely ECH demand is every year for the next **20 years.**

- Uses current cohort dataset of 1,169 past and present users of ECH as a baseline to establish:
  - Affordability e.g. pension credit and housing benefit
  - **-** health conditions e.g. dementia and diabetes
  - potential churn.

- Includes district/boroughs development plans as submitted in their local area plans.

- Uses small area forecasts for population projections provided by districts/boroughs.

A detailed view of the model structure
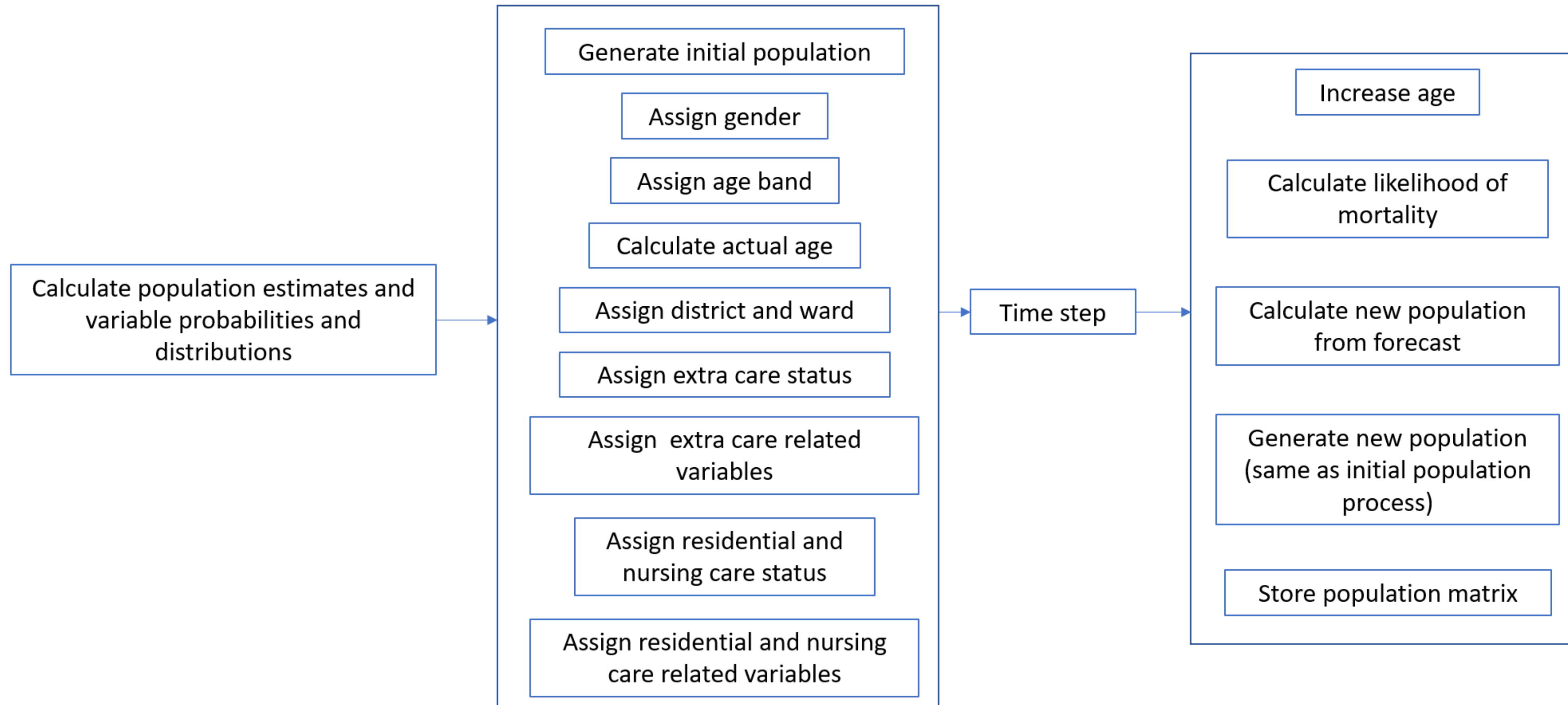
Heavy lifting involved!

- HCC have a population of over 1.4 million – model needs to run a simulation of the population characteristics and plausible changes every year

- Over 16 million data points per year/time step

- Computational time of approx. 25 minutes per time step - one run of the model can take up to a day.

- Large number of variables – as identified by Social Progress Index outcomes + current ECH service users

- Many calculations required

- Uses the planning approved ward level population projections over the next 10+ years
- including data on housing developments – with intended type and tenure

The Results

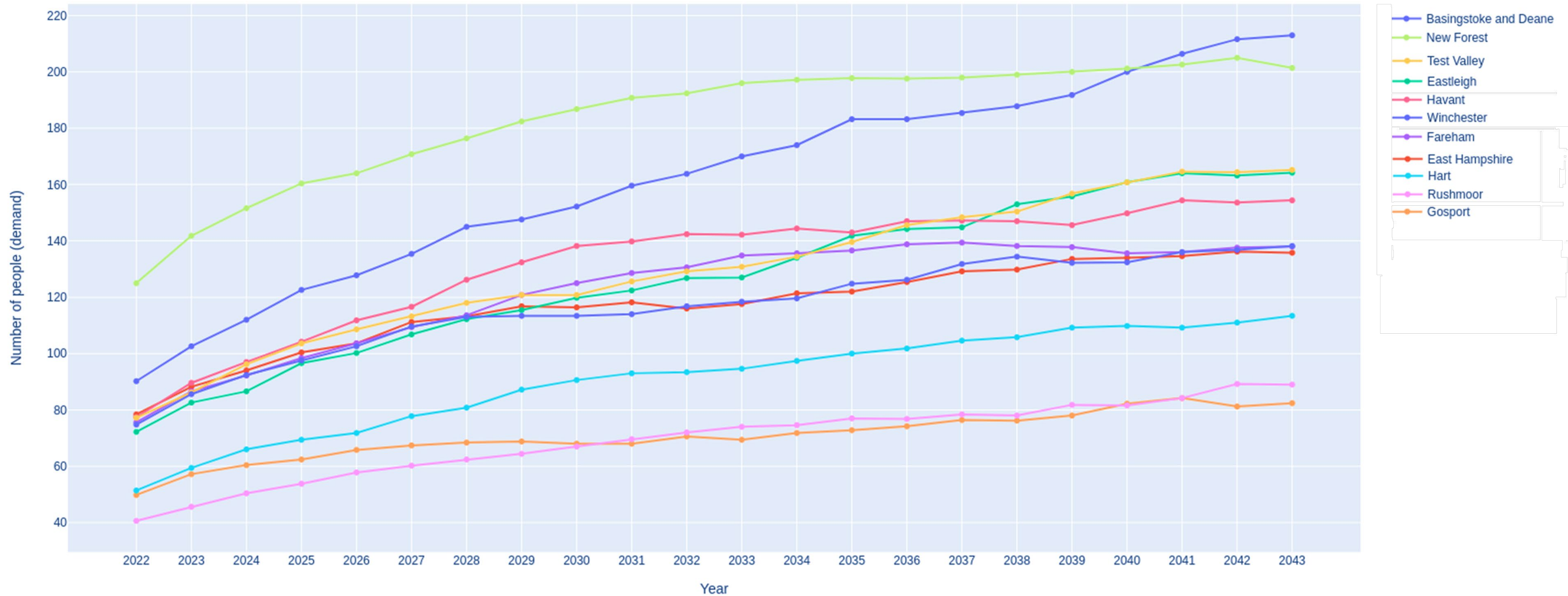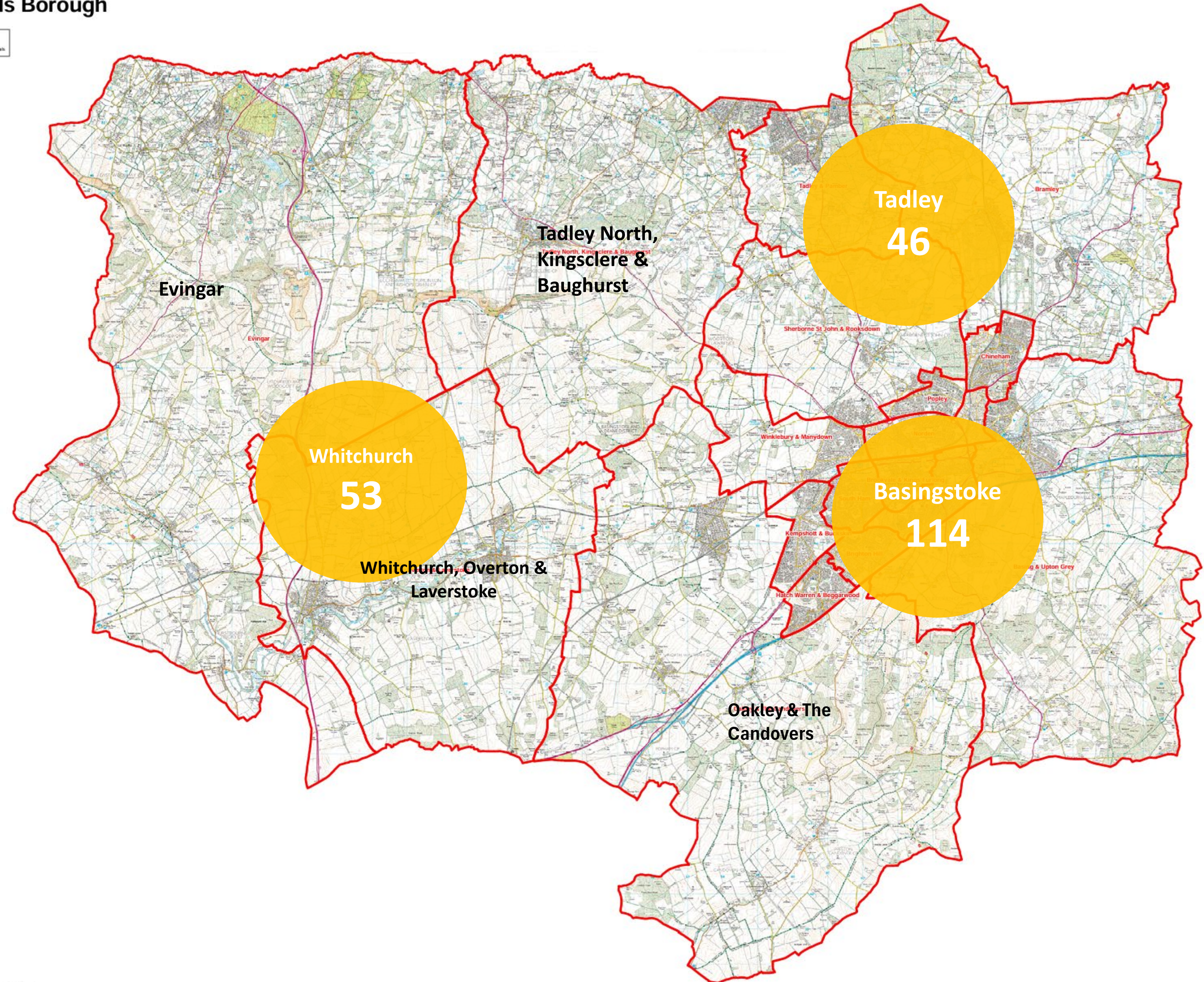# Overall demand prediction for ECH use in Hampshire 2022 - 2043

Total ECH demand by district/borough 2022 - 2043

Settlement based demand aggregated up from ward level e.g. Basingstoke & Deane

New Wards Borough

Legend

Basingstoke and Deane final proposals

Tadley
46

Tadley North, Kingsclere & Baughurst

Evingar

Whitchurch
53

Whitchurch, Overton & Laverstoke

Basingstoke
114

Oakley & The Candovers

Key findings and recommendations of this work:

There is a need to increase **1.6x** the capacity of ECH supply in the next **6** years.

By doing so, we have a better chance at managing demand over the next **20 years**

Basingstoke & Dean are likely to produce the highest need for ECH in 20 years' time, although **New Forest** has the highest need in the coming decade
.

Rushmoor and Gosport are likely to produce the lowest need, but Rushmoor has the current highest development potential.

We need to consider **female-friendly** provision

Practical Next Steps

- Total current capacity is **974** flats across the county

- Total predicted required by 2043 prior to flattening of the demand is **1,595**

- We need to build an additional **621** flats across the county.

- We currently have a pipeline of potentially 8 new Extra Care schemes across Hampshire, delivering approximately **526** new flats over the next approximate 10 years.

- The delivery of these flats are mostly via a S106 larger development site and therefore triggered by the build out rate of the homes, which in turn are driven by the economy.

- This means we will need to find land, procure a provider and seek planning permission to build an additional **95** units by 2043 to meet predicted demand.

Benefits of the approach we've taken

- Rigorous econometrics approach recognised by CQC, NICE and NIHR

- Uses aggregate level data not requiring sensitive client information

- Provides confidence intervals in addition to absolute value estimates

- Enables **ward level** forecasts

- Provides age-standardised estimates

- Allows for forecasting of type, tenure and key financial information related to EC housing

- Statistically robust and highest accuracy rate