The Department of Health in England is using System Dynamics to support policy development

- Inform robust decisions
- What are the best options for decision makers?

Current workforce allocation

Sample outputs

- Monte Carlo simulation was used to explore the uncertainty in the model results for each scenario.
- Different policies could be explored and the impact quantified.
- A Tableau data shackle was used to share the results with the decision makers. This has enabled the insights to be shared and thus supported the distribution of workforce intelligence.

Understanding the past and present

- An interactive presentation was developed using Prezi that provided context to the Horizon 2035 research activity.
- The Prezi considered the changes to the health and care system over the last 20 years.
- This includes changes in policy, workforce and population health.

Focal question

Thinking up to the year 2035, and taking a whole system view, what challenges may unfold over the next 20 years in terms of workforce demand and supply of skills, and how can these be mitigated?

- Horizon 2035 taxonomy
- The Horizon 2035 taxonomy is a set of definitions that cover the skills delivered within the health and care system.
- The taxonomy contains formal definitions of the workforce delivering wellness skills (16), the types of skills delivered (18), the skill level (5) and the types of demand sources that the skill are delivered to (7).
- The taxonomy has been developed with, and validated by, stakeholders from the health and care system.
- It offers a framework and language to describe the complex set of skills delivered within the health and care system.

Scenario generation

- Scenario development
- The scenarios were created in a stakeholder workshop, see: www.cfs.org.uk/whats-new/2014/02/05/
- The Horizon 2035 scenarios were created by over 50 sector experts and stakeholders from across health, social care and public health in a workshop.
- The scenarios were based on four dimensions chosen by the participants and deemed to be the most significant factors for the future of the health and care system.
- These were the economy, workforce flexibility, and self-care.

Elicitation

- Change in need due to physical long-term conditions (age over 45 to 65)
- Expert elicitation using the SHELF protocol was used to associate values with uncertain variables for each scenario.
- The elicitation workshops consisted:
  1. The percentage change in workforce effort as a result of Physical Long Term Conditions by 2035 above and beyond population growth and ageing.
  2. The percentage change in workforce effort as a result of Long Term Mental Health Conditions, by 2035.
  3. The change in workforce productivity in terms of skill outputs per skill unit in 2035.

Development approach

- Demand component
  - Future demands calculated based upon population change by age and gender, changes to population health and wellbeing, changes to workforce productivity and changes to service aspirations.

- Supply component
  - The supply component simulates the 14 Horizon 2035 workforce groups in terms of 24 distinct workforces and 31 different types of training.
  - Each workforce and training stock contains all inflows, delays, and attrition rates.
  - The supply component has been benchmarked against CfWs’ detailed workforce models.

- Scenario development
  - Six scenarios were constructed using different, plausible directions and combinations of the four dimensions. These scenarios are owned by the stakeholders who attended on the day.
  - Common workforce themes emerging from the scenarios include modelling skill mix to respond to these futures, changing responsibilities around demand, and the changing role of organisations and people across this system and the sectors within.

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- A series of workshops were held with system stakeholders to uncover how it was thought the system may evolve over the next 20 years.
- The four workshops covered healthcare, public health, social care and the whole system.
- During these workshops causal loop diagrams were developed that linked together the underlying system factors defined during previous horizon scanning activities.