
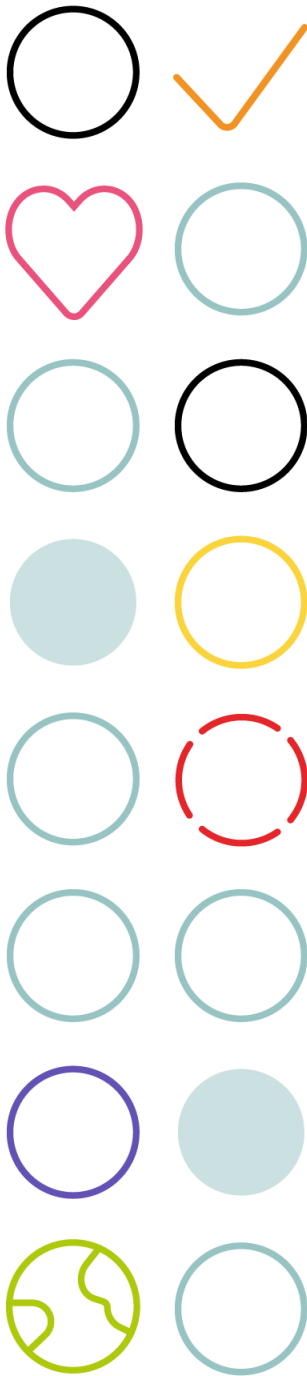
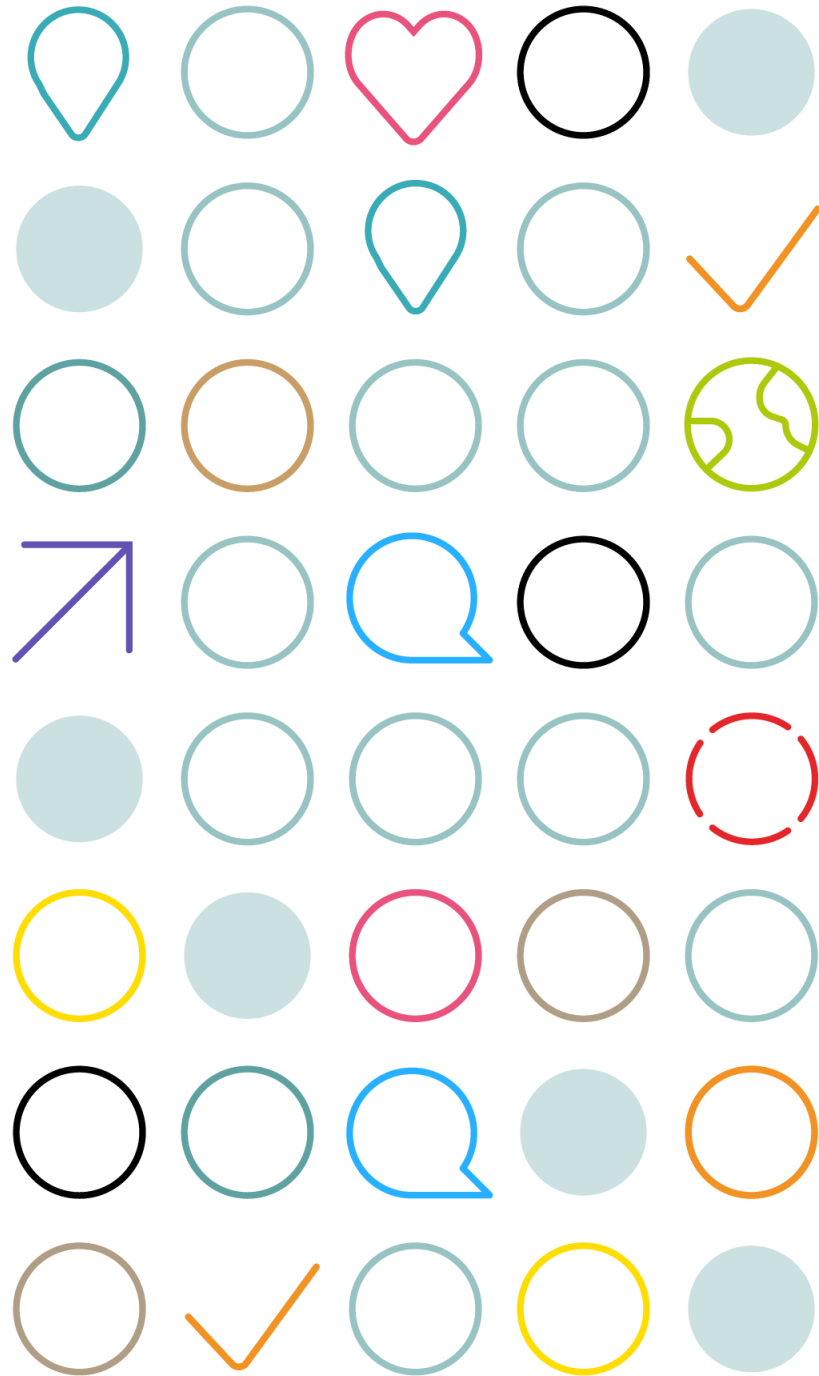


Cheshire West & Chester Council

# Using Data in Transformation and Change Programmes

 Play your part towards  
a Stronger Future





# What ingredients do we have?



## Centre of Excellence

Work in partnership to focus on Council-wide strategic priorities



## Dashboards and Automation

Deliver resilient and automated operational reporting



## Predictive Modelling

Use machine learning to analyse large corporate datasets and support early intervention



## Data Hive

Develop a data community and connect with other councils and partners



## Data Science Skills

Develop Python skills to manipulate, model, match and forecast data



*Underpinned by robust ethics*





# A real-life project

The council’s high needs sustainability programme wanted to understand the data to make informed decisions about future models of service delivery. There were a number of challenges:

- Multiple systems and spreadsheets
- Systems not always optimised
- Data quality issues
- No “single version of the truth”
- A hugely stretched business team



Synergy



EHC Hub



Spreadsheets



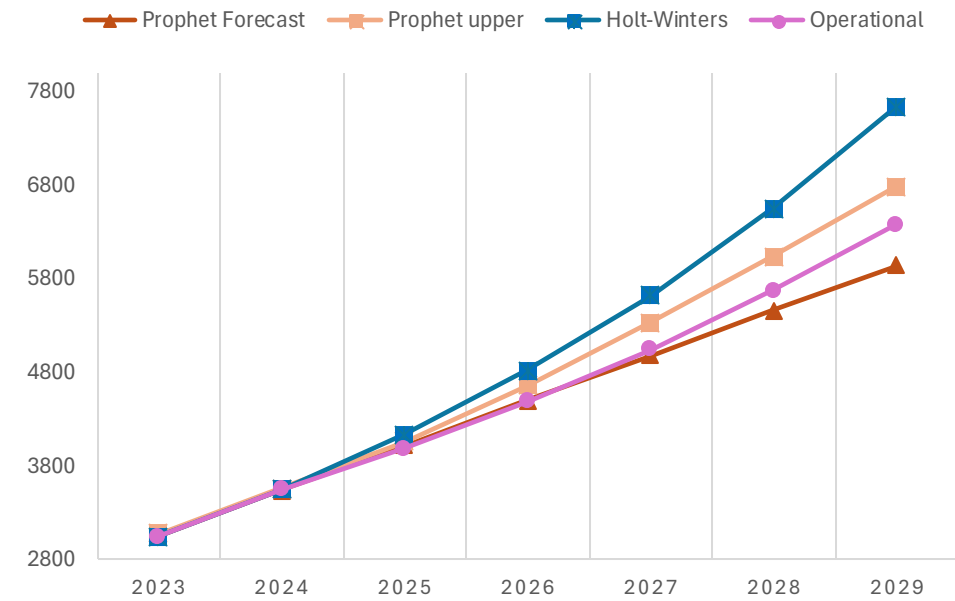
School Census



# How we delivered the right outcomes

- We took an agile, collaborative and iterative approach to delivery to build consensus
- We reported into the programme board to help shape the right questions
- We built a comprehensive data model
- We highlighted data quality issues to inform business process
- We tested and assured the data model with the project team:
  - We started by showing trends over time against key factors
  - We asked: was the model giving answers that made sense?
- We asked: what should we forecast? *There were a few options to choose from!*
- We developed multiple forecasts to compare the results of the different methodologies and plotted these against the service view of the data

EHCP PLANS PREDICTIONS\*





# What did we recommend?

**The option we recommended was the Prophet v2.0 approach.**

- This factors in saturation points and smooths with best fit known spikes in the data
- This also avoids runaway exponentials which produce wild results over time
- This provides a good fit to current testing
- The programme board agreed to use the Prophet v2.0 mid-point as the Council's baseline forecast

## Prophet (vers 2.0)

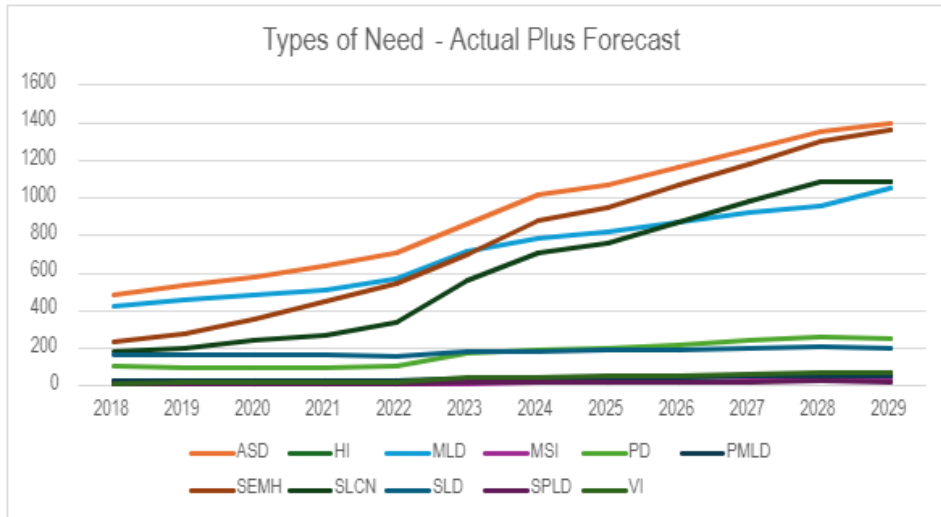
- Forecasts using 'changepoints' to smooth anomalous spikes to attempt to identify underlying trend
- Latest iteration increases sensitivity to sudden movements, offers an improved fit
- Factors in 'saturation point' in prediction of future taper
- Provides a lower and upper bound



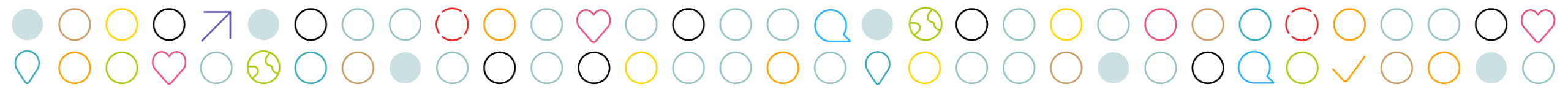
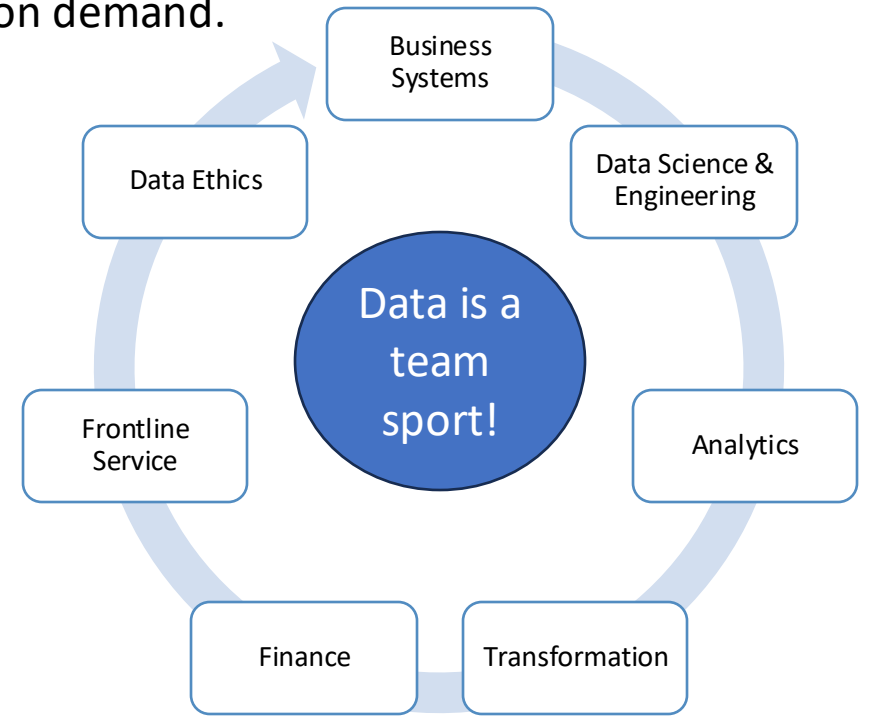
# Next steps

What next...?

The future forecast of total numbers of EHCPs answers part of the question but cost of provision is driven by additional factors such as the type of placements pupils move into. The forecast of need (below) can be used to inform future sufficiency planning, but current demand is dictating pupil placement in a range of high-cost provision. The challenge will be to proactively plan provision by need rather than reactively based on demand.



Modelling the financial forecast will need to consider how to take account of these additional considerations.



# Maternity Pay Calculator

What problem needed solving?

- Maternity pay calculations are still a very manual and time-consuming process.
- Demands on the team mean keep the hamster wheel turning.
- Limited time available to consider alternatives.

What have we developed?

- A proof-of-concept Power App to calculate maternity pay
- The next stage of development will link the app through to Power BI for reporting purposes

Employee name: Text input  
Employee Number: Text input  
Client: Text input  
MMP Start Date: 18/11/2024  
Start of EWC: 18/11/2024  
Start of 4th Week before EWC: 21/10/2024  
Start of 11th Week before EWC: 02/09/2024  
Start of 15th Week before EWC: 05/08/2024  
Buttons: Calculate SMP, Calculate OMP, Go to Options

Maternity Start: 02/12/2024, Maternity End: 01/09/2025, OMP 90% Topup End: 12/01/2025  
SMP 90% Daily Rate: 48.83, 90% SMP End: 12/01/2025, OMP 90% Topup Rate: 39.69  
SMP Standard Start: 13/01/2025, SMP Standard End: 31/08/2025, OMP 50% Start: 13/01/2025, OMP 50% End: 06/04/2025  
SMP Standard Daily Rate: 22.69, OMP 50% Rate: 49.18

Calculate 90% SMP Monthly Pay	Month	DaysInMonth	TotalPay
	2024-12	30	1464.9
	2025-01	12	585.96

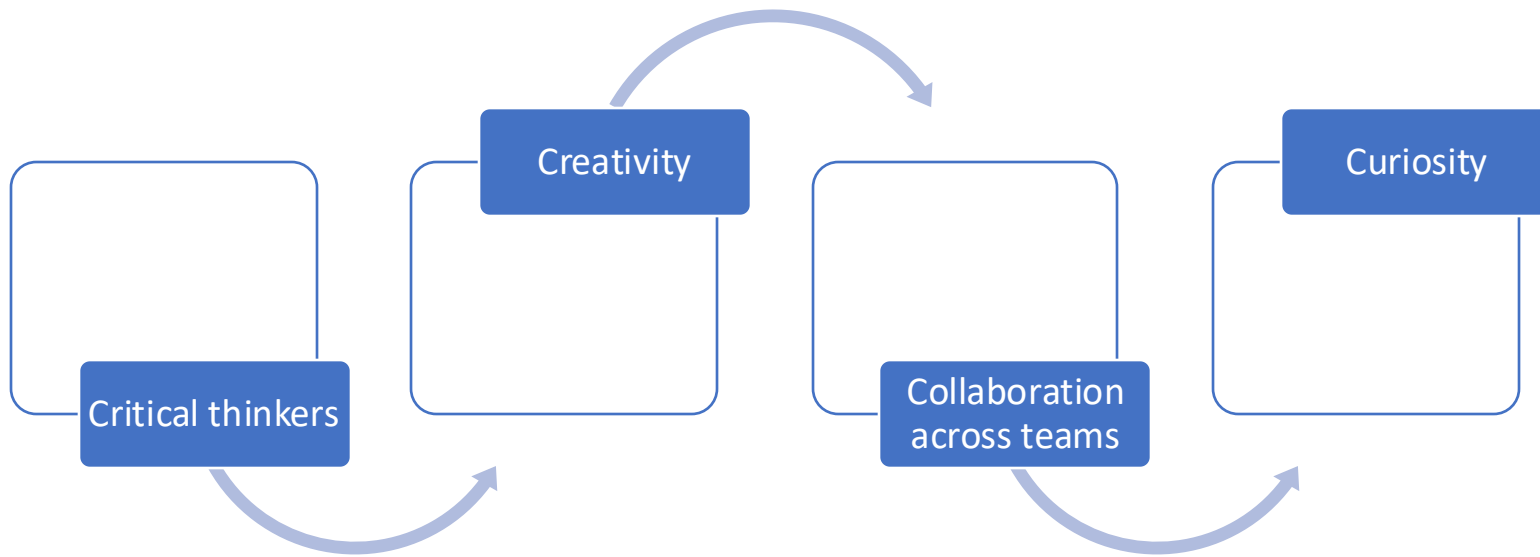
Calculate 90% OMP Monthly Pay	Month	DaysInMonth	TotalPay
	2024-12	30	1190.7
	2025-01	12	476.28

Calculate Standard SMP Monthly Pay	Month	DaysInMonth	TotalPay
	2025-01	19	431.11
	2025-02	28	635.32
	2025-03	31	703.39
	2025-04	30	680.7
	2025-05	31	703.39
	2025-06	30	680.7
	2025-07	31	703.39

Calculate OMP 50% rate	Month	DaysInMonth	TotalPay
	2025-01	19	934.42
	2025-02	28	1377.04
	2025-03	31	1524.58
	2025-04	6	295.08

Buttons: Go to SMP Calculation, Go to OMP Calculation, Go to Datalog

# Using Data to Support Transformation



It's not just about technology: we also need to understand processes and we need PEOPLE!

*Solving our problems together!*