Partnering to build capability and capacity

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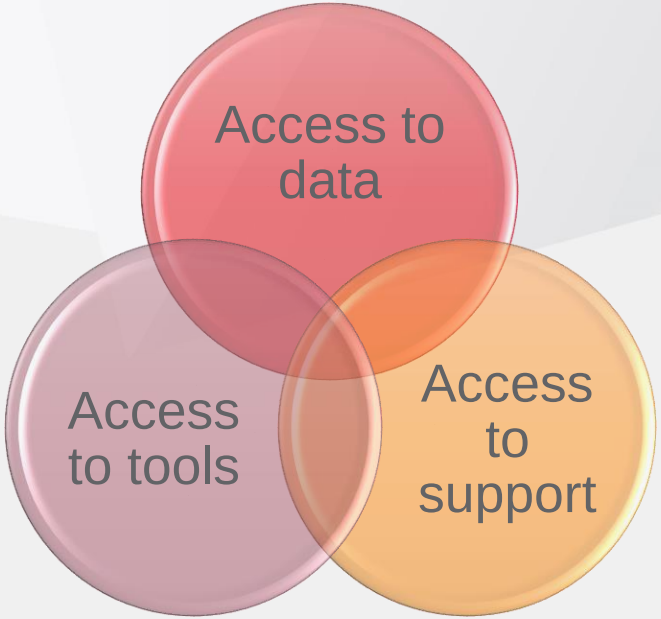
Some background stuff

- We are part of a big complex organisation with lots of academic links and lots of smart people
- Went live with a new data warehouse in late 2019 with near real-time access to all Cerner, iPM and 7 other core systems
- Three historical data repositories existing across the organisation servicing a variety of different uses and users both inside and outside the core analytics team
- Analytics team had re-formed bringing together teams from Digital Health (IT) and Finance into a single entity
- No formal governance around access to historical data repositories
- Unmet demand!!
- And then of course we had that global pandemic thing shortly afterwards……..

Democratising the data

Created what we call the ‘Trusted User’ framework to enable people outside the core analytics team to access things – but those things were different for different people….



Democratising the data – the building blocks

Governance

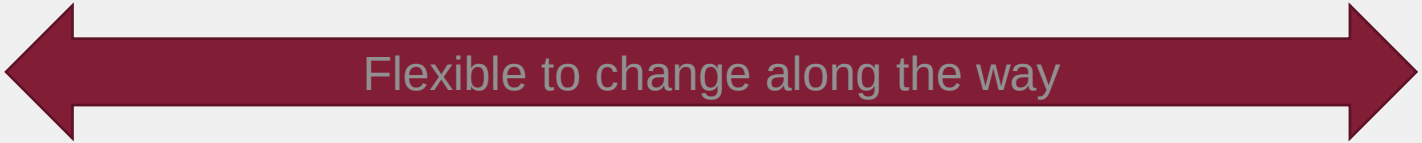
- Policy on Trusted users created
- Agreement created highlighting roles and responsibilities
- Matrix of who plays where when it comes to analytic projects to avoid conflict

Enablement

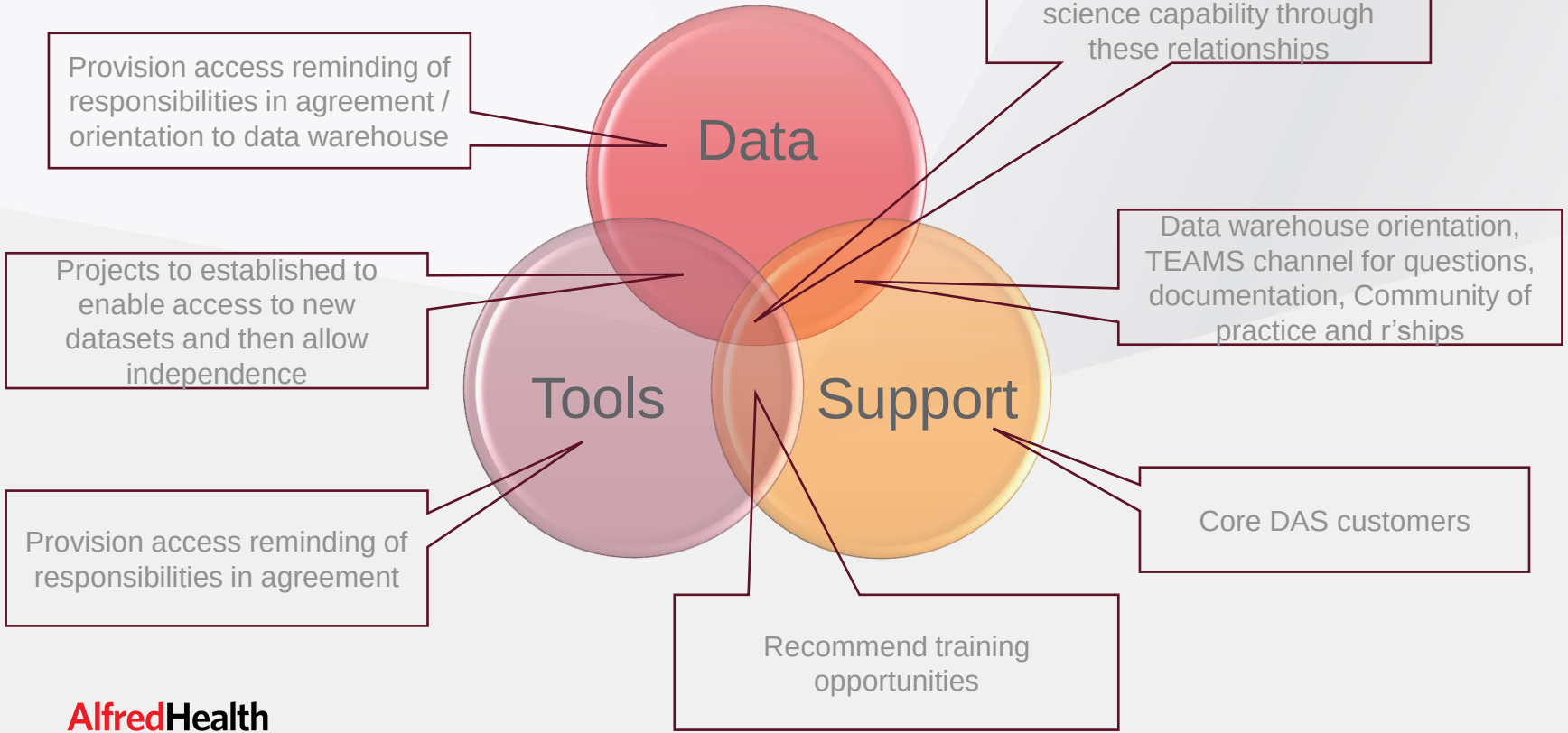
- Approach framed around enabling but not teaching
- Orientation to the warehouse, suggest training opportunities, some partnering with analysts where relevant and useful

Self-sustaining

- Creation of communication channels including Teams group, Community of practice
- Access to documentation



Democratising the data – the messy version



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The success stories

- Demand management where work that we might have otherwise needed to do gets done by trusted users
- Increased utilization of data assets as analysis that would never have got done gets done by TUs with specific interests
- Improving the efficiency of analysts outside the core analytics team
- Documented governance in relation to access to data repositories
- Improving DAS knowledge base by having closer working relationships with subject matter experts in the field.
- Building out of data science capability thru research partnerships

The success stories – building our data science capability

- Successfully flipped the relationship with research partners from one of data provider to partner in delivering data science projects
- Enabled access to data without it leaving Alfred Health domain using Azure workspaces
- External researcher partners were used either in a consultancy capacity whilst we delivered the work or through honorary employment arrangements
- Are able to fund 3 EFT within DAS to co-deliver these projects

Our data science capability….

Identifying patients for clinical trials and studies:
Our first test cases examined the efficacy and utility of using NLP/ML models to identify cancer patients for clinical trials or studies

Predicting patients eligible for Hospital In The Home (HITH)
Leveraging off the above using NLP pipeline to review current inpatients clinical notes and flag those suitable for HITH for clinical review. During a two-week non-interventional evaluation, daily predictions were sent to a clinical expert to complete a chart review and assess each patient's suitability for referral to HITH. During this period, our model correctly identified 38 suitable patients with only 5 resulting in a HITH admission. Of the 5 patients admitted to HITH, our model identified them on average 4.06 days earlier, representing a clear opportunity to increase utilisation of the service.

Our data science capability – more projects…..

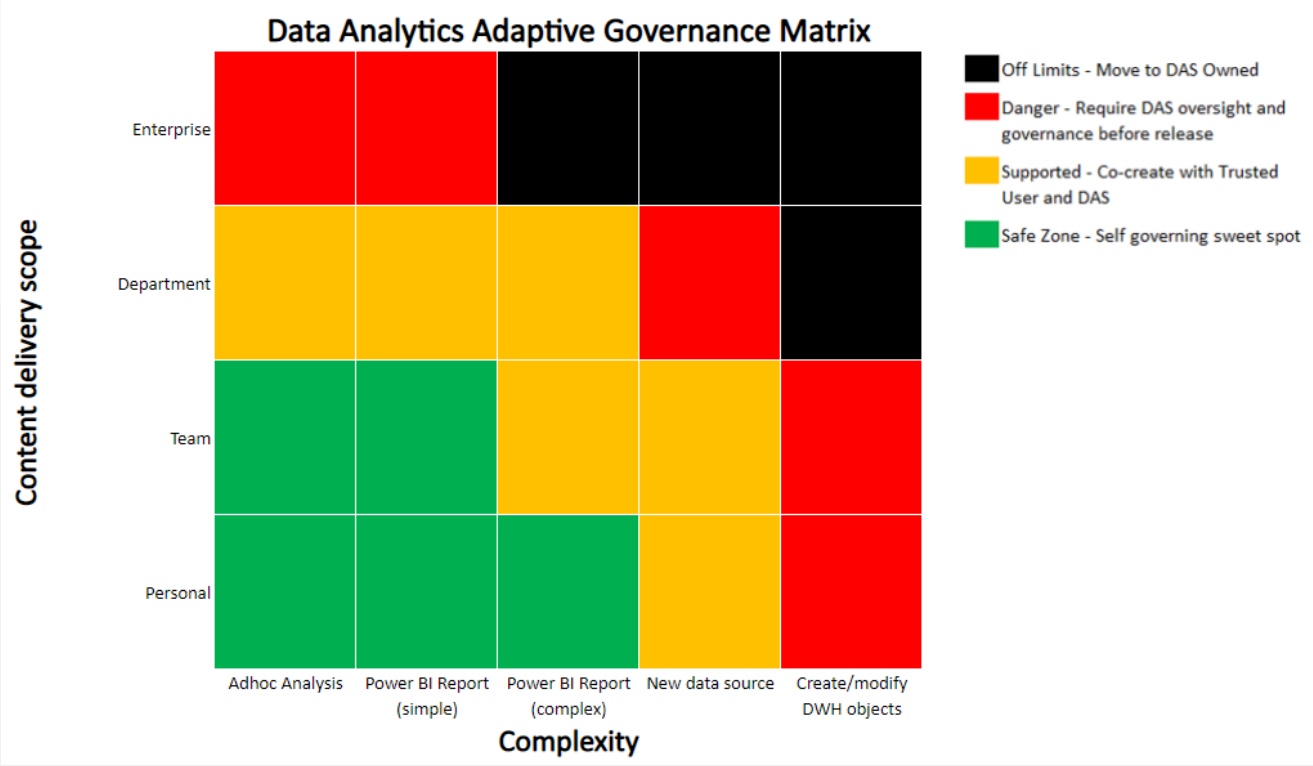
National Transfusion Dataset (NTD):
The National Transfusion Dataset will form the first integrated national dataset of blood use in Australia. Our role in the project is focused on trying to unearth novel information and patterns regarding blood transfusions and adverse reactions to blood transfusions, using AI. Thus far the pipeline we've constructed was able to detect over 97% of reported blood transfusion reactions by looking for references to a relevant reaction in clinical notes.

Development of a Large Language Model to accurately extract data from skin cancer histology reports:
Using OCR technology that can correct common errors, extract the text to allow electronic cataloguing and searching and it can even answer custom questions of clinical staff, such as "how many melanomas does this patient have and where are they located?"

Lessons we learnt along the way

- Trusted users that challenged our trust in them
- High failure rate in trusted users
- Trusted users that were ahead of us
- Changing the way the analytics team worked from delivery to support
- Flipping the data science capability from research to operational projects
- Challenged on who does what
- Be flexible and agile

Who does what – a framework approach



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Summary

- We really got a lot out of taking an open approach to partnering
- Embrace the ambiguity
- Questions!!!