

An analytics journey: experiences and lessons learnt

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Creating value from better use of our data

The challenge to address is implementation in a complex system, not just finding the right solution

- Growing demand and interest leading to lots of ideas and requests.
- How can we maximise the successes, whilst minimising the failures and frustrations?
- Challenge is to implement and build capabilities within:
 - operational / clinical practice
 - existing technical systems, and
 - our organisational processes

Starting point | Who we are

Challenges of trying to take on and learn new skills, in the context of ongoing BAU work

- Historically focused on administrative data and reporting
- A growing 'too hard basket' of innovative and high value solutions
- Significant capacity and capability gaps
- Creating the space to do different things ... adapt? grow? partner?

Partnerships | Bridging the internal – external divide

Difficult to implement external solutions; need to build our capabilities to enable these partnerships

Common challenges...

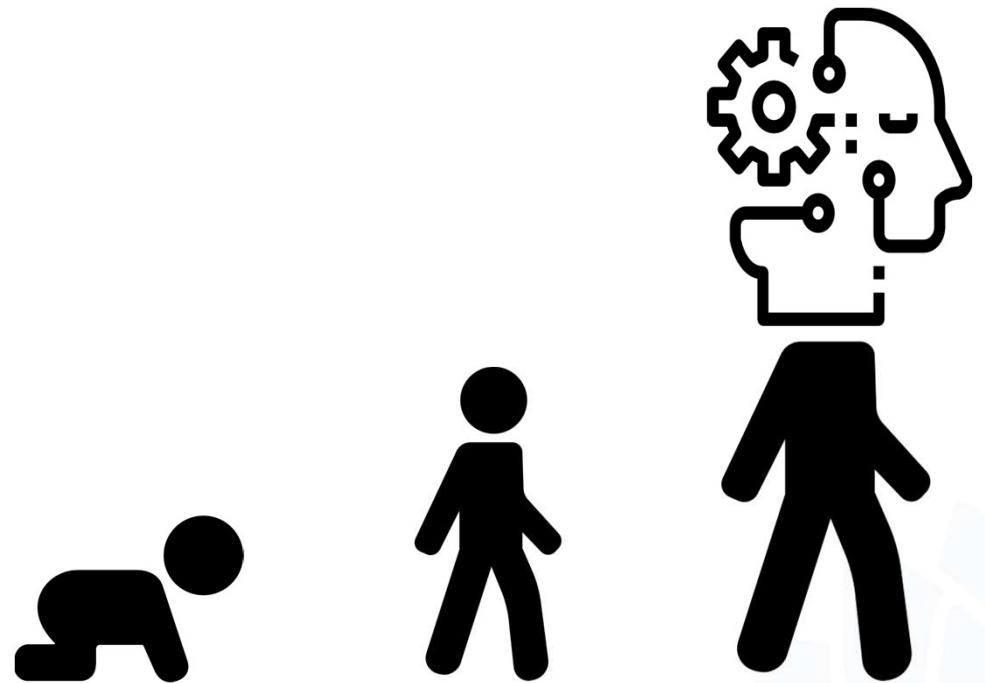
- “We just need the data”
- “We have the clinical engagement”
- “We want to work in partnership with you (for 3 months)”
- “This time will be different / We will make it easy for you”

Partnerships | Crawling before we can walk (like a robot)

Partnership with Sydney University to deploy solutions and build our capabilities

What are our fundamental challenges ...

- Build the skills of the organisation
- Get data out from the systems
- Get the insights out of the data
- Get the information back to the clinicians



Partnerships | providing information back to clinicians on their care

Stroke and Heart Failure dashboards to monitor, enable and prompt the delivery of evidence-based care

Patients treated in Stroke Units had 0.8 odds of a death or dependency outcome

Only around 50% of AU patients received Stroke Unit care.

70% of AU patients with known Atrial Fibrillation were not medicated for that risk factor.

Every 15 minutes less 'Door to Needle' time is associated with 5% lower odds of in hospital mortality.

Thrombolysis in 60 MINUTES (door-to-needle)



27% 2021

Door-to-needle within 60 MINUTES lags internationally



80%



61%

Partnerships | providing information back to clinicians on their care

Stroke and Heart Failure dashboards to monitor, enable and prompt the delivery of evidence-based care

Stroke dashboard from eMR data ...

- Door to Needle time
- If care is provided by specialist stroke unit
- Appropriate medications prescribed on discharge
- Swallow dysfunction screening
- Fever management
- Hyperglycaemia management



Partnerships | one-off innovation to sustainable & efficient development

Developing this was challenging and high-cost, now the bigger challenge is to shift into BAU

The process was high cost, non-repeatable, and had long time frames...

- Costly to extract and organise the data from eMR
- Significant work in data validation w clinicians
- Unique skills for Cerner extracts, hard to go back and refine

..Then repeat the process for Maternity, Heart Failure, Acute Coronary Syndrome

Partnerships | getting more value and insight from our stroke data

More use-cases arise from closing the loop and feeding the data back to clinicians

Shifting to the NSW Health Data Lake presents opportunities to build on what we have done

- Daily / hourly monitoring of indicators
- Task prompting and management
- Insights into treatment outcomes
- Informing funding adjustors for quality care
- Expansion to other specialties

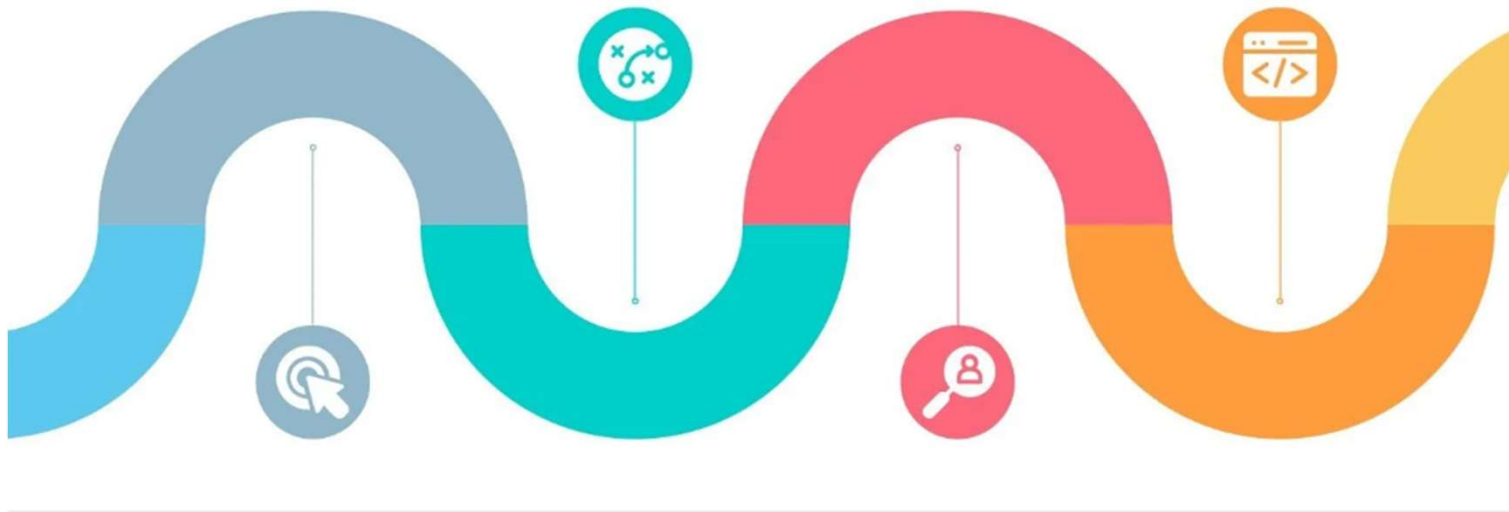
Internal | Supporting our clinical workforce

Priority now is to support clinical workforce productivity – helping address the limitations of eMR

Making it easy for clinicians to access regularly used information

- Monitoring routine nurse screening and other tasks
 - Eg Skin assessment, falls assessments, special diet, weight recorded
- Consolidating discharge task completion information in to one place
 - Delivery of test results; documentation started; medication reconciliation completed

Lessons learnt from the long journey of
development and implementation



Planning the trip | Building our own capabilities

A long journey of technical and organisational challenges

- Good to test & innovate, but sustainability and costs are key
- Internal capabilities needed - whether outsourcing, partnering or developing ourselves
- Building re-usable data assets using NSW Health Data Lake

Planning the trip | Looking after the BAU

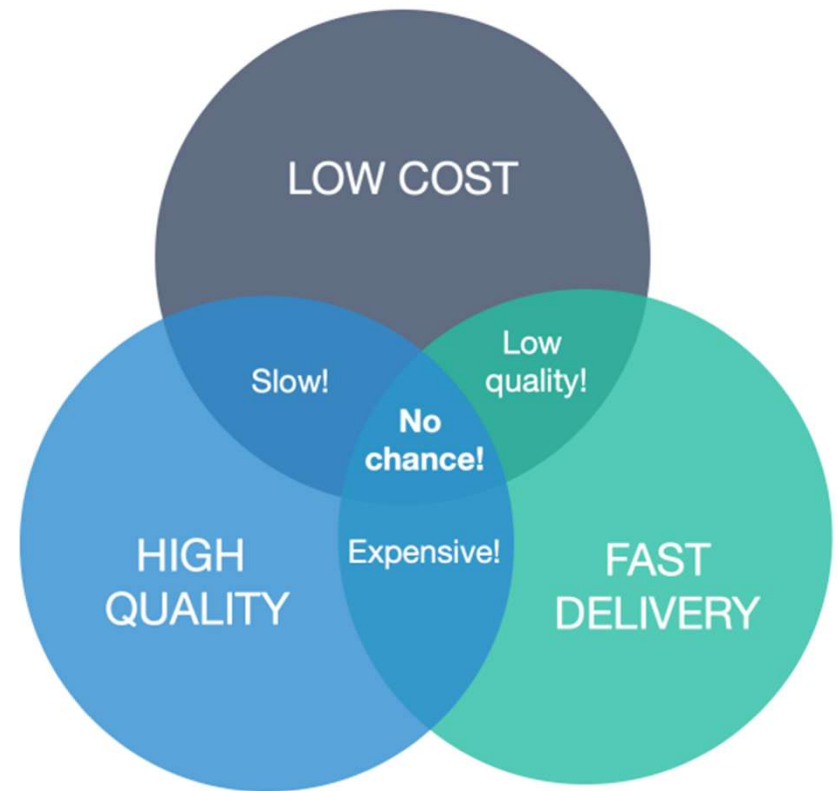
Creating room for innovation in the context of BAU demands.

- Mandatory reporting and requests don't go away
- Different skill sets required to BAU
- Investing in automating processes to free-up time

Planning the trip | is it going to be worth it?

Agreeing why we are embarking on the journey, and what we hope to get out of it.

- Alignment of expectations, timeframes and investment...
- Assessing effort v's value is difficult when innovating
- Can value actually be realised?
- Just get going (and have a get-out option)



Planning the trip | who needs to be on the journey?

Making sure we have the right people engaged and motivated to work through challenges

- Engagement is driven by the clinical champions
- Thinking forward to solution and implementation: who needs to be involved?
- Is it informed participation? Are they aware of the time and input you need them to give?

Planning the trip | who needs to be on the journey?

Making sure we have the right people engaged and motivated to work through challenges

- Actions are delivered by the back-room heroes
- They will identify lots of technical challenges
- Motivate them into problem solvers
- Appreciate the critical BAU tasks within their roles



The journey | navigating the different systems and gatekeepers

Data access challenges reflect the fragmentation in the health system, and the organic growth of eMR systems

- Many different data systems, with different gatekeepers
- Different approvals required for data access, as well as system access / integration / security
- Forward thinking – what systems are required to get the insights back into clinical workflows?

The journey | making the data usable ... and re-usable

Costs and effort of extracting and structuring the data make it beneficial to re-use

- Challenges in making eMR data usable
- NSW Health Data Lake offers new way of working
- Stick or twist? maximising the use of existing data models, or move on to the next solution?

Destination | Behaviour change, not deployment

The goal is to get improved outcomes, further support required to translate information into outcomes

- Just build it and they won't come – don't just focus on deployment
- Need to adopt the principles of improvement projects - champions need to be supported by implementers
- Be mindful that the solutions may only relate to a small part of the work of the clinical team



Summary | Adapting to working within a complex system

- Challenge is in implementation – need to consider the clinical, technical and organisational barriers to implementation
- Engage the range of experts – not just the champions
- Keep going – engage in the challenges, don't interpret them as blockers
- There are always unforeseen challenges and frustration – everyone needs to be prepared for the journey