

HEALTH CHECK FOR BUSINESS:

How business intelligence and sophisticated analytics became the cornerstone for decision making at NHDS.



“Analytics have been transformative. Minerra and Yellowfin BI have delivered a solution that provides mission critical insights — the organisation doesn’t function properly without it.”

NATIONAL HOME DOCTOR SERVICE.



The company

The National Home Doctor Service (NHDS) is Australia’s largest network of visiting home doctors, providing urgent, after-hours medical care to more than a million patients.

When general practices are closed, home visiting doctors treat acute, episodic conditions and carry starter packs of medications to facilitate immediate treatment while bulk billing patients for services.

The challenge

Borne out of the acquisition and merger of four separate Approved Medical Deputising Services (AMDS) organisations — each running its own set of systems — NHDS needed to consolidate multiple autonomous entities under a cohesive national operational structure.

NHDS appointed a project sponsor to lead the migration of the disparate systems to a single unified system. The objective of the unified system was to obtain a consolidated view of operations encompassing the number of patient bookings, met and unmet visits, patient cancellations, daily performance against plans and rostering efficiency. NHDS also needed a business analytics solution that worked with the unified system to deliver a clear picture of performance that also supported the digital transformation drive.

“We were dealing with three legacy systems – one of which was more mature than the other in terms of reporting capability,” said Buhler.

“No two days are alike for NHDS and fluctuations in patient needs are huge, so our requirement to really understand operational performance and use that information to improve patient outcomes by digitising processes and outputs was the driver for action. The first phase for us was to get a replication of what our users knew and were comfortable with, but we needed to determine whether to build out the reporting capability native to the current system, or to use a third-party tool. We recognised the need for a stronger architectural base than either legacy platform could offer,” he said.

The solution

NHDS was using a combination of manual spreadsheet entry and analysis, along with data exports from various sources. The organisation engaged Minerra and chartered them with assessing the current situation and delivering product-agnostic recommendations.

“Minerra was very good at grasping our business. They were engaged and enthusiastic from the beginning, in terms of being able to relate to all our users and to understand the problems they were trying to solve. Minerra recommended Yellowfin’s solution which suited our need to deploy rapidly and see immediate gains without incurring huge overheads up front.

Overall it was a straightforward decision, I was already familiar with Yellowfin and alternatives so the decision-making process could be both rigorous and rapid.

“Our initial key considerations were rapid deployment, value and the ability to upscale as the business required it. We knew that scalability was not an issue and, because we started the project with a small number of licenses, the financial burden was minimal. It allowed us to move forward without committing to any huge strategic decisions,” said the sponsor.



The first phase was rapid report prototyping, via an evolutionary and iterative process and extensive consultation with NHDS staff. The resulting reports drew information from call centre operations and patient booking systems and were made available to users via Yellowfin. This development approach allowed Minerra to build analytics that best met the information needs and decision-making requirements of each user. The Yellowfin solution enabled rapid implementation, where a custom system would require days of report writing to achieve the same results.

“That phase was really a case of proof-of-concept and it was a very collaborative process. The team at Minerra was dedicated to ensuring that our users gained what they needed from the system. They would come back to us with outputs and we would review internally. Often that process would uncover unforeseen gaps in the information we were after, so Minerra would go away and dig deeper to deliver the optimum outcome,” said the sponsor.

“The upshot was an ability to circulate daily reports to our leadership team, without a requirement for them to access the system directly, which was a key attraction of the Yellowfin solution. Information is presented in what we call ‘the daily flash’ – a sophisticated dashboard view of performance,” he said.

NHDS is a patient focused organisation that regularly identifies and explores opportunities for improvement, so it wasn't long before users were looking for further insights from available data. Learnings from the prototype phase were applied and Minerra created a data warehouse to facilitate ongoing ad hoc reporting and analysis.

The data warehouse was built using data warehouse automation, which eliminated most of the manual coding typically required in a project of this type and dramatically reduced both time and costs associated with the development effort. Prototyped reports were transitioned, and the Yellowfin reports modified to use the data warehouse as a source.



“We create hypotheses to explore candidate areas for improvement and then generate information to prove or disprove our moot strategy. Taking daily flash data plotted over time, we get a weekly or monthly view that lets us track trends and see how those strategies are working. The more we learn, the more we see opportunity for further insights,” said the sponsor.

This increased appetite has seen the system grow substantially from the initial scope.

“It’s a process of evolution, with new needs revealed over the course of implementation. These learnings inform the next phase of the project. We explore new opportunities, build a business case, move to new prototyping and work forward from there.

“It’s a new way of thinking for our business. It’s not a case of ‘we’ve got the data warehouse and we’ve got our reporting, so we’re done’. That’s not how analytics works — it’s constant evolution,” said the sponsor.

The system grew to incorporate support for the business development, operations and rostering functions of the business. By this stage, over 100 people within NHDS were using Yellowfin to consume intelligence. Information was also being made available to external parties, including providing Ambulance operators with appropriate visibility into NHDS capacity within a geographic area.

Support for marketing and finance functions followed. NHDS uses surveys to determine the effectiveness of its services, so results were drawn into the data warehouse to enable ongoing analysis. For the finance team, the incorporation of billing data into the warehouse makes it possible to send essential information back to Medicare in a fraction of the time that it was previously taking.

The system now also provides access to data that supports the rostering, operations and clinical teams. NHDS has moved to an unlimited server licensing model and is using analytics to deliver value across the entire organisation.



Most recently, acquisition of a similar business in Canada required (summary level) replication of the data warehouse and core reporting functionality. Again, opting to use Yellowfin enabled rapid deployment, with a fully functioning roll-up replication up and running in under a week.

The project sponsor said the implementation was an ongoing process of education that has delivered benefit across the entire organisation.

“From the very beginning – with the executive team able to use the system so easily – there was an appetite for more. They wanted more information, but also the ability to slice and dice it, so that lead to the data warehouse development. This was a good thing, but we were caught by surprise at the level of interest early on and the need to provide more insights. Every step has delivered fresh insights which, in turn, informed the next phase of the project. The end-point is a whole-business view that has become a solid foundation for decision-making.

“There are so many efficiency gains, as people are freed up from inputting data and can now focus on the outputs. For instance, our digital marketing team were using Excel to tidy up data and send out NPS survey links – that’s gone from a several-hour process down to 15 minutes. Now they use that time to analyse results and can do their actual jobs. It’s really given us clarity around some functional roles, which was not an objective from the outset, but has been a positive outcome.

“This has been transformative. Minerra and Yellowfin BI have delivered a solution that is mission critical for our business – the organisation doesn’t function without it,” said the sponsor.



Benefits

- The project development approach supported the unique needs for decision making for each user across the NHDS business
- An evolutionary or iterative methodology delivered a path for learning, meeting immediate information requirements and delivering fresh insights to inform the next phase
- Consolidated daily view of operational performance provides a business-wide snapshot and allows the leadership team to track trends on strategies designed to prove or disprove hypotheses
- Before Yellowfin, the ‘Daily Flash’ report took between two and four hours each day and for a senior NHDS strategy analyst to manually prepare. Using the Yellowfin Dashboard created by Minerra, the Daily Flash report is generated automatically, runs in a few seconds and has significantly expanded in scope, allowing trends in KPIs to be tracked and providing a longer-form view. This resulted in a gain of 75 days per year of senior analyst time.
- Quarterly and ad hoc GST statements provided to doctors by the finance team previously took 2-3 days to compile. Using analytics functionality developed by Minerra, the finance team now uses Yellowfin to access the same information instantly, with the confidence of 100% accuracy, requiring no further reviewing or manipulation.
- Short response time reporting ensures that information is delivered when most needed
- Streamlining reporting inputs has delivered both time savings and clarity around the function of some roles, as team members are freed up to perform – including the digital marketing team decreasing NPS data collation from hours to 15 minutes per day
- Scalability permitted an easy path from four to +100 users
- Data warehouse automation saved both time and resources, and enabled streamlined replication
- NHDS patients are receiving a better, more customised set of services, based on ongoing analysis and evaluation of system performance data.



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