Capital & Coast District Health Board

Revolutionizing nursing and patient care with Qlik

By Emma Williams, Care Capacity Demand Management Program Manager, Capital & Coast District Health Board, New Zealand

Capital & Coast District Health Board (CCDHB) is based in Wellington, New Zealand's capital city. We have around 2,800 nurses and midwives who serve a population of approximately 300,000 people from the greater Wellington region.

As services experience an increase in the acuity of patients, we need to increase care capacity. To better match capacity to care with patient need, we are implementing a national program called Care Capacity Demand Management (CCDM). This program ensures we have the right nurses in the right place, at the right time.

The CCDM program was developed as a result of a national inquiry into nursing and midwifery staffing conducted at the request of the New Zealand Nurses Organization in 2006. District Health Boards (DHBs) are required to fully implement the program by 2021. Implementation is in partnership between DHBs and health unions.

The program has three core aims: (1) to deliver quality patient care, (2) to ensure a quality work environment, and (3) to ensure we are making the best use of our resources.

The only way to make sure these aims are met is to ensure we have a much deeper understanding of the needs of patients, detailed insights about our nurses and midwives and an organization-wide commitment.

My clinical experience has helped me to understand that information is critical to getting the understanding and insights needed. Qlik Sense and Qlik Sense Mashups have made it so much easier to meet the core aims by making essential information available. The transparency that information offers has helped us gain an organizational commitment to the CCDM program.

Solution Overview

Customer Name
Capital & Coast District Health Board

Industry
Healthcare

Geography
Wellington, New Zealand

Function
HR

Business Value Driver
Patient Intelligence, Reimagined Processes

Challenges
- Needed deeper understanding of the needs of patients to deliver better patient care and ensure the right nurses are in the right place at the right time
- Wanted to pull insights from multiple data sources including TrendCare, a workplace planning and workload management system used by every DHB

Solution
Introduced Qlik and Qlik Sense Mashups

Results
- Ward to board transparency
- Increased data completeness
- Data-driven improvements and enhanced decision making
- Improved patient care and staff work experience

Data at the center of it all

The program is underpinned by a nationally-defined set of metrics called the Core Data Set, and by validated patient acuity information which is held in the TrendCare workforce planning and workload management system. TrendCare is the Ministry of Health's approved acuity tool that every DHB is required to use to assist in the implementation of the program. TrendCare metrics are included in the Core Data Set.

The use of TrendCare means that we focus on acuity-based, not ratio-based staffing (ratio-based staffing allocates the number of nurses to beds and does not take into account changes in patient acuity). It is vital that we match our nursing and midwifery resources and workloads to the acuity of our patients to ensure both patient and staff safety.

Each DHB has a CCDM Council that governs the program. Our Council is chaired by our Chief Nursing Officer and key CCDHB staff also attend. The CCDM Council works in full partnership with nursing and midwifery unions. The Council supplements the national Core Data Set with metrics looking more closely at how we roster and manage our staff and it monitors Core Data Set results monthly.

All areas that use TrendCare for monitoring patient acuity have also set up Local Data Councils (LDCs). The program has established almost 30 LDCs, each comprising of a group of frontline clinical staff who use the Core Data Set to identify improvement opportunities and monitor success.

Making data invaluable – the CCDM Dashboard

To make the LDCs work effectively and use the time of busy clinical leaders effectively, we needed to make their Core Data Set results instantly available. We did this through a combination of Qlik Sense apps and a Qlik Sense Mashup. Without this, clinical leaders would find it difficult to access the data, and time-consuming to present results from a number of different reporting systems. The use of data may have been devalued but this approach has made data invaluable.

Our CCDM Dashboard and apps – which went live in April 2019 – pull results from multiple data sources including TrendCare, payroll, rostering, incident management and patient administration and make them available in one place. It allows full transparency about what is happening in our wards over time for both our patients and staff (for example, it enables us to produce monthly results as required by the national reporting program).

Nurses and midwives can access the data. They understand the high level of integrity demonstrated by making this information available and appreciate the commitment to being open and transparent.

Insights from Qlik are also available to the CCDM Council and executive management. We literally have information from the ward to the board.

Making data useful – in-built data literacy

The dashboard helps us to "tell the story" with the data. The design is clean and simple, making it easy for users to triangulate results and test assumptions. Users can also easily monitor the success of changes and improvement initiatives. If they want to explore the results further, they use a link from the dashboard that takes them to the relevant sheet of the appropriate app.

We make extensive use of control charts in the dashboard, as we need to not only see a snapshot of a point in time but understand if we are making progress and ask "if not, why not?". How to read control charts is an important element of our data literacy training and it turns out they're not that frightening!

Information buttons against every measure provide details about where the data comes from and why the measure is important. We've also built a data glossary into a Qlik app to help us talk the same language.

Finally, the dashboard is printable, so all of the information is displayed on designated CCDM boards within the clinical areas along with current improvement projects and CCDM updates. The reach of the information goes well beyond those with access to Qlik.

Change is happening

The combination of strong clinical and operational governance, supporting software and great Qlik developers is creating real and positive change. A big part of my job, and the job of my team, is talking to clinical leaders and taking them through the benefits of CCDM, TrendCare and Qlik. As they start to tell their own stories with data, the message of how good this program is for patients and staff alike spreads through the DHB. I'm pleased to say that we have the right relationships across the organization to make this work.

With this change comes a hunger to know more. We run data literacy training for nursing and midwifery leaders and are getting requests to expand this to general managers, accountants and other staff. Through Qlik and our data literacy work, we really are enabling a DHB data-driven, decision-making culture. People have become increasingly comfortable asking what the data is saying and working out how to use it to deliver the best patient care within a safe and effective workplace.

Because we've invested in staff development with data literacy initiatives, people are asking some really good questions – where the data came from, what they can do with it and how they can move things forward. Importantly, these questions are leading to action – we are seeing improved rates of data completeness.

As staff learn more about what we are doing, the more they want access to the data. At CCDHB we have been conservative in our purchase of Qlik licenses, starting with 200 and growing to our current 600. Most of that demand is driven by the CCDM program and it is not stopping.

The learning never stops

CCDM is continuous improvement in action. In addition to our data literacy program, we have a Core Data Set group that focuses on enhancing our ability to work with the data and improve its quality.

It also informs future development, including guiding new metrics to add to the dashboard, suggesting priorities for new Qlik applications, encouraging benchmarking with other DHBs and hospitals. All of this feeds back into data literacy work creating a virtuous cycle of improvement. In every meeting we all learn something new. Insights come from everywhere.

The value of fairy dust

The speed of which we have moved the data from raw to insight-enabled has been outstanding. All projects need fairy dust to be successful and we've had our fair share. I am in awe of the commitments people have made to turn this into a reality. Many thanks to the spreaders of fairy dust: Qlik and mashup developers from within CCDHB and Acumen BI, the fantastic team of CCDM and TrendCare coordinators and data literacy educators, the unwavering CCDM Council and all of the wonderful clinical leaders across the organization who have taken up this challenge over the last two to three years. Everyone has been amazing!

Our chief nurse says that with analytics and the CCDM program, we are helping to develop the world of nursing and midwifery and I honestly believe the use of Qlik within the CCDM program is practice changing.

Emma Williams, Care Capacity Demand Management (CCDM) Program Manager

As a midwife in community and hospital settings for over 23 years, I understand very well the challenges that healthcare professionals face every day. For the last two years, I have been the CCDM Program Manager driving the establishment of Capital & Coast DHB's CCDM program with a passionate determination to drive excellence in health and a strong focus on patient and whanau/family centered care, as well as a commitment to ensuring our working environments are safe for our staff.

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About Qlik

Qlik is on a mission to create a data-literate world, where everyone can use data to solve their most challenging problems. Only Qlik's end-to-end data management and analytics platform brings together all of an organization's data from any source, enabling people at any skill level to use their curiosity to uncover new insights. Companies use Qlik to see more deeply into customer behavior, reinvent business processes, discover new revenue streams, and balance risk and reward.

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