



**Mr Tony Dunn**  
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# NSW HEALTH

NSW Health – the New South Wales Government Department responsible for the provision of public health services throughout Australia's most populous State – is progressively reforming its information systems as part of an ongoing wider program to raise the overall quality of health care.

## Industry

Government

## Business Issue

NSW Health wanted to be able to increase the flow of timely and accurate information to allow staff to operate at maximum efficiency.

## Solution

NSW Health used SAS® Strategic Performance Management including data integration and aggregation tools to develop and deploy WAND – a tool for Nursing Unit Managers to oversee patients in their wards, and an operational dashboard for Hospital managers to help focus on critical issues. Both tools update the information for operational data sources every 15 minutes.

## Benefits

Eliminating NSW Health's dependence on manual processes and inaccurate out-of-date information has seen increased efficiency, improved patient flow and the ability to schedule resources with optimal effectiveness.

## Background

The Department is one of the State's largest and accounts for 28 per cent of all NSW Government expenditures – some AUD\$11.26 billion in the 2005-06 financial year.

The Department's service infrastructure comprises 230 public hospitals in eight geographic area health services, together with many other radiology and specialist departments and independent units.

During 2004-05, NSW hospitals, including Emergency Departments, admitted some 1.3 million bed-allocated patients and treated or otherwise addressed about ten times that number of non-admitted patients.

As part of the progressive reform of its information systems the Department embarked, in 2005, on a series of initiatives designed to improve the flow of information for what the Department calls its 'front line' – the more than 55,000 nurses, doctors and others who look after patients around the clock.

For these busy professionals, accurate and timely information is vital if the wards are to operate at optimum efficiency and the highest possible standard of care is to be delivered.

## Performance management

One such initiative in this series has involved the use of SAS® Strategic Performance Management including data integration and aggregation tools to develop and deploy WAND – a Ward Activity and Nursing Display for the

Orthopaedic, Trauma and Post Natal wards of Westmead Hospital in the Sydney West area health service.

The initiative was led by Tony Dunn, who is the Sydney-based Director of the Department's Demand & Performance Evaluation Branch, together with input by systems and software experts from SAS Australia and from the global management consulting, technology services and outsourcing company, Accenture.

The decision to select SAS® Strategic Performance Management was derived through a process where all Performance Improvement programs underway throughout NSW Health were evaluated. The strong level of success and sophistication of the Hunter New England 'Balanced Scorecard Program' emphasized both SAS technical completeness and Vendor commitment that was being sought for the new program.

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In considering the technical requirements for the program, NSW Health also sought to ensure the Business Information Strategy Pilot deliverables could be elegantly integrated with other critical Performance initiatives. SAS® Strategic Performance Management fits all these criteria.

As Tony Dunn explains, "This is a very big and complex organisation. We have lots of data systems and lots of different information systems. It is a very

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**Nurse Unit Manager**  
D4A, Westmead Hospital

disparate environment and this has made it difficult to deliver quality information to the front line in a timely manner.”

WAND was first deployed as a proof-of-concept project – one of a dozen such – and was found so successful in those first few wards that the word quickly spread and Tony Dunn’s team is being pressured to industrialise it and provide it across the State.

Outlining the background, he said, “The wards were dependant on manual processes – whiteboards, post it notes, pagers – being fed by information from numerous sources which, when they received it was already a day or more out of date.

“Worse, whiteboard writing gets accidentally rubbed out, old information can be overlooked, pagers don’t get answered – there is lots of potential for mistakes.

“The majority of the information the wards need was there electronically but it was on numerous, non-integrated systems – some of them very old.

“The reports the wards were getting were based on information that was too old to be worth correcting if it was wrong and too late to act upon for things like optimum bed allocation and the scheduling of doctors for pre-discharge procedures.

“This could easily mean a patient might be kept in hospital a day longer than necessary, with all the inconvenience to the patient and wastage of Department resources that that

implies. At the other end of the process – admissions – staff can now see when a patient is expected and prepare things accordingly.”

### **Eliminating outdated information**

“In addition, wrong information was not always being corrected, which impacts the Department’s statutory reporting obligations to the NSW Treasury, to the Premier’s Department and to the Commonwealth.”

One very tangible benefit of being able to plan ahead relates to the scheduling of ambulances. The cost of a NSW ambulance journey is significantly discounted if it is scheduled with 24 hours notice and, thanks to WAND, this is now much more commonly the case.

The proof-of-concept solution was a dashboard – displayed on a large screen in the middle of the ward – providing aggregated information from multiple sources and updated every 15 minutes.

WAND is fed from the ‘listening’ software specially developed by SAS to monitor the traffic on the Department’s own HL7 technology – Health Language communications protocol. This software monitors all the traffic passing backwards and forwards across the infrastructure and recognises and ‘grabs’ what it needs to present for display on the dashboard.

Tony Dunn said this approach was very significant. “We are not interrogating the various systems or replicating anything in order to get the appropriate information and this is a huge advantage.

“By avoiding interrogation we face much less risk of the systems being slowed down and therefore potentially crashing. And replication can be clumsy.

“The approach is totally passive. It’s just listening to the data that is going around, picking up what it wants, and contributing it to the dashboard display. This is cost effective, low impact, high result.”

Tony Dunn said the undertaking was complex with many difficult technical issues. “It wasn’t just plug-and-play and SAS and Accenture must have found it very tough due to our tangled environment.

“At the end of the day, however, what started out as a proof-of-concept is now something that, in the wards that are using it, the staff tell us has made for far greater efficiency – greatly improved patient flow. And there is pressure for us to roll it out, generally.”

Tony Dunn and his team and the SAS and Accenture people who have played a part are naturally happy with the way things have turned out.

### **The users speak**

But with any new system, of course, the people whose views carry the most weight are the ones who use it on a day to day basis – the people in the front line. And the praise has not been stinted. For example: “This tool has the potential to save me hours a day answering phones and chasing pagers and pieces of paper. It gives me more time to care for patients,” Nurse Unit Manager - D4A, Westmead Hospital.



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