



Industry

State
Government

Business Issue

WA Health needed accurate forecasts of hospital services demand for planning and resource allocation

Solution

SAS® Forecasting for Desktop

Benefits

It underpins health services strategic planning to deliver safe, high quality public health care in WA

Western Australia Department of Health forecasts patient demand with SAS

The healthcare system in Western Australia, like other states, is experiencing a growing number of patient admissions and emergency department (ED) overcrowding. To help mitigate this, the WA Department of Health models and forecasts state-wide hospital activities (inpatient, ED and outpatient) for strategic planning and reform.

Overcrowding in EDs indicates hospitals are unable to adequately cope with demand. The ability to accurately predict future demand enables sustainable strategies to be implemented to allocate resources more effectively and efficiently. This ultimately leads to improved safety and quality of care for patients and staff, and sustainability of the healthcare system.

Developing sustainable strategies

WA Department of Health's Dr Bella Mai is part of the team responsible for modelling and forecasting hospital activities in Western Australia. Their analysis takes into account key influencing factors in the modelling such as patient age, place of residence, admission type (emergency or elective), stay type (same day or multiple days), major disease category, ED discharge disposition and ED triage category.

"It is important to determine future health services demand and influencing factors so we can develop strategies to ensure we operate most effectively and efficiently to avoid inefficiency associated costs or strains on patient care," she says.

The Department provides forecasts for all public hospitals in the State. "Based on our modelling, clinical planners can plan for the demand by arranging the required infrastructure, or ensuring they have the right staff, technology and facilities in place." Dr Mai says.

Comparing scenarios helps with resource allocation

The ED modelling found that, for example, if 'business as usual', ED demand would grow by around 5 per cent per year over the next five years. However, Dr Mai says that while predicting ED demand is necessary for strategic planning, as with forecasting in general, the predictions are viewed as short-term forecasts.

"Our models and forecasts need to be updated regularly as more data becomes available and as the situation changes," she says. "For example, there may be changes to health policy and practice or there may be external factors to consider, such as the effects of the mining boom ending. These changes may be considered for the scenario modelling."

"We can either include data translated from expert opinions or conduct a comparative scenario model comparing WA activity with other states," Dr Mai says.

"Previously the Department had to outsource the services of demand modelling which was costly and time consuming," she says. "But





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Planning for the future

The Department also produces capacity modelling to optimally redistribute the demand to the supply. The results assist the State’s hospital services to reconfigure reflecting the reform direction – to provide the right care, at the right time, and in the right place. They are also helping new hospital plans to estimate potential future demand and resource allocation before the hospital is built.

In Brief

The Clinical Modelling team at the WA Department of Health produces the state-wide hospital services modelling and forecasting for the purpose of health services strategic planning and reform, which underpins the development of the WA Health Clinical Services Framework and modelling for workforce, infrastructure, financing and technology.

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Dr. Bella Mai
Principal System Modeller



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