

## LMS Consolidation Aids Compliance Reporting for Australian Health System

New South Wales Health System (NSWH)  
Best Advance in Learning Measurement  
January 2018



### Company Background



Company At-a-Glance	
Headquarters	Chatswood, New South Wales, Australia
Year Founded	1914
Revenue	Not for Profit Organization. 2016 – 2017 Budget for Health Care System: \$22 Billion AU.
Employees	170,000
Global Scale	Australia, New South Wales
Customers/Output, etc.	NSW Health, a department of the New South Wales Government, supports the executive and statutory roles of the Minister for Health, the Minister for Medical Research, and the Minister for Mental Health and provides health care for Australia's New South Wales State.
Industry	Health
Stock Symbol	Non-Profit Organization
Website	<a href="http://www.heti.nsw.gov.au/">http://www.heti.nsw.gov.au/</a>

## Budget and Timeframe

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Overall budget	\$100,000
Number of (HR, Learning, Talent) employees involved with the implementation?	12
Number of Operations or Subject Matter Expert employees involved with the implementation?	12
Number of contractors involved with implementation	5
Timeframe to implement	7 months
Start date of the program	July 1, 2014

## Business Conditions & Business Needs

NSWH had 15 different Learning Management Systems, making it difficult to pull a consistent set of reports on compliance training across the state. Other aspects made reporting even more difficult:

- 79 mandatory compliance courses (online, classroom, documents).
- 31 Local Health Districts (LHDs) that needed to report compliance training on a local basis to follow up with employees on a local basis.
- A target audience of 170,000+ health care providers in various roles with varying training requirements.
- More than three million course enrollments.

Compliance training is critical for NSW, which provides health care to millions of patients in New South Wales. With course titles such as BloodSafe: Transporting Blood, Hand Hygiene, Basic Life Support Assessment, and “Infection Prevention and Control Principles, the importance of compliance training is clear.

Another problem that NSWH had to address was the time-consuming nature of reporting. Pulling together a large volume of data from different sources with different audience requirements was difficult each month. NSWH leaders estimate that it took 2-3 employees up to 180 hours each month to combine compliance reporting for regulatory purposes.

With the highly complex and critical nature of those reports, NSWH had to develop a better solution to meet reporting needs.

## Overview

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NSWH partnered with Seertech Solutions to consolidate its LMSs into one LMS, iLearningPlus (iLP), to meet compliance reporting needs. By consolidating and automating compliance reporting, NSWH would be able to offer both an overall summary of course-completion progress and a more tailored and standard set of dashboard reports for LHDs.

The goals of this project were:

1. Consolidate compliance reporting by working with the 31 LHDs to agree on a common set of reporting requirements.
2. Reduce the number of resources, cost, and time required to complete monthly and ad-hoc reporting.
3. Provide clear and objective data to act on to help ensure compliance training gets completed.
4. Ensure that NSWH healthcare practitioners are trained to provide quality patient care and front-line services.

NSWH leaders wanted to see both a platform savings by reducing the number of LMSs to one and a cost reduction for monthly reporting of at least 50%. The savings would be shifted to providing better patient care and services.

## Design of the Program

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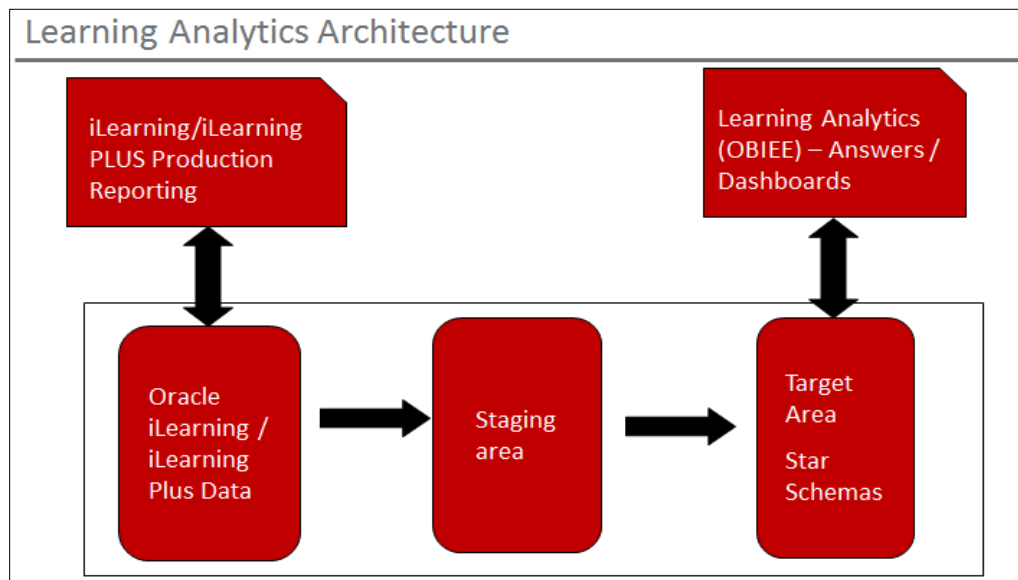
As a solution to reporting challenge, a custom learning analytics dashboard was created to ensure that NSWH was able to:

- Provide clear, one-page reports on overall course-completion progress for statewide leaders and 31 LHD stakeholders.
- For stakeholder analysis, provide useful visualizations that include pie charts, line, and bar charts for trends and scatterplots.

- Ensure that courses could be added or removed from the required list as needed. The number of courses changed from  $\approx 65$  to  $+80$  as the program rolled out.
- Provide daily data for potentially 1,000s of course status and user data.
- Ensure that dashboard pages would load quickly – less than two minutes – for stakeholders.

To meet those objectives, Oracle Business Intelligence Enterprise Edition was used to pull in and display data in user-friendly dashboards for program stakeholders.

**Figure 1: Learning Analytics System Architecture**



Source: NSWH 2018

## Delivery of the Program

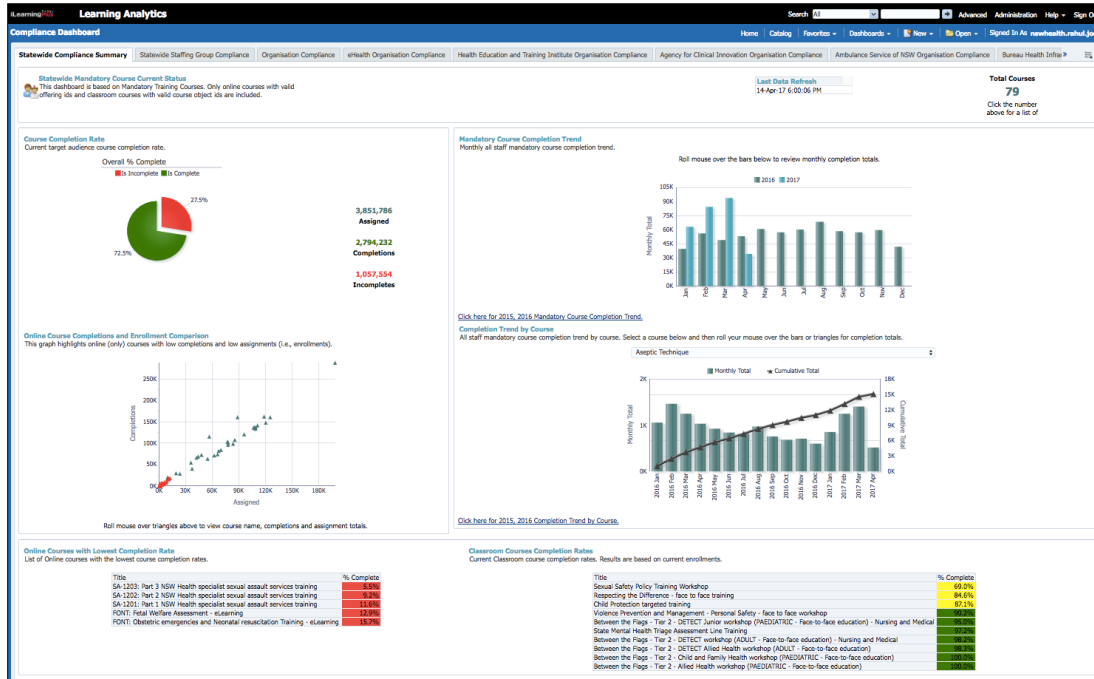
NSWH senior management and stakeholders worked with the project team to gather reporting requirements across the network. The requirements were analyzed and various dashboards/reports defined in consultation with NSWH Project Managers.

The reports and then dashboards were designed for optimal-screen rendering. This design was an iterative process with testing to ensure data and reports were calculated to match what was in the NSWH iLP LMS. Approximately 400 hours were required for this implementation.

# 2017 Excellence Awards Case Study NSWH

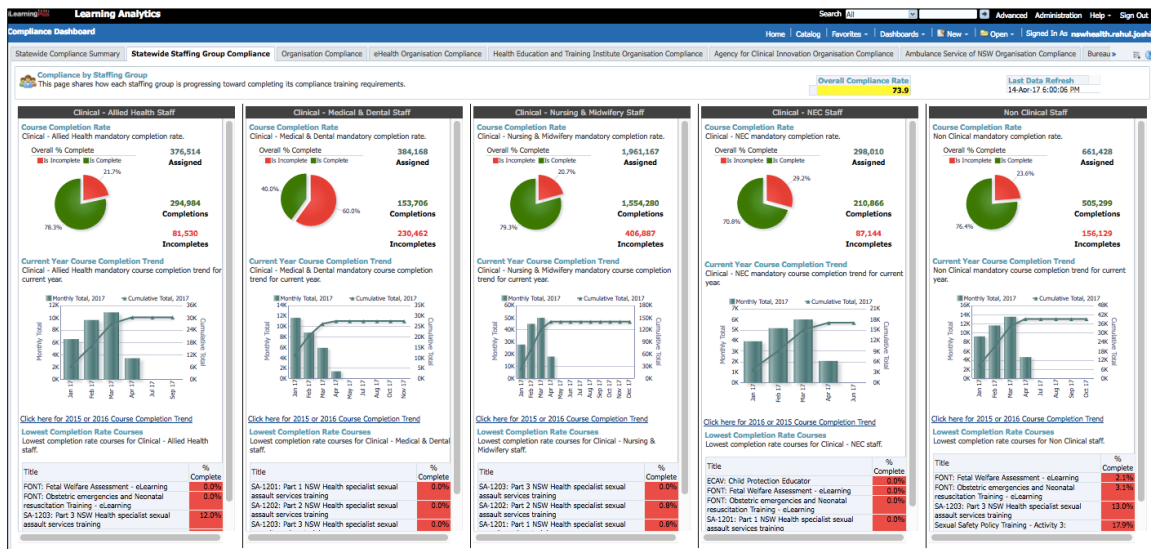


Figure 2: Statewide Compliance Summary Dashboard Page



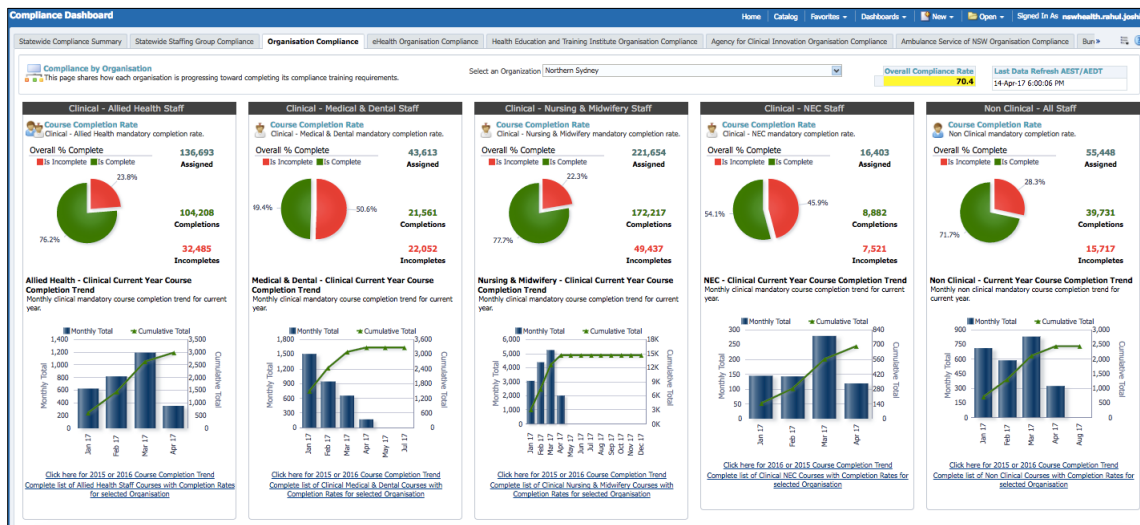
Source: NSWH 2018

Figure 3: Statewide Staffing Group Compliance Dashboard Page



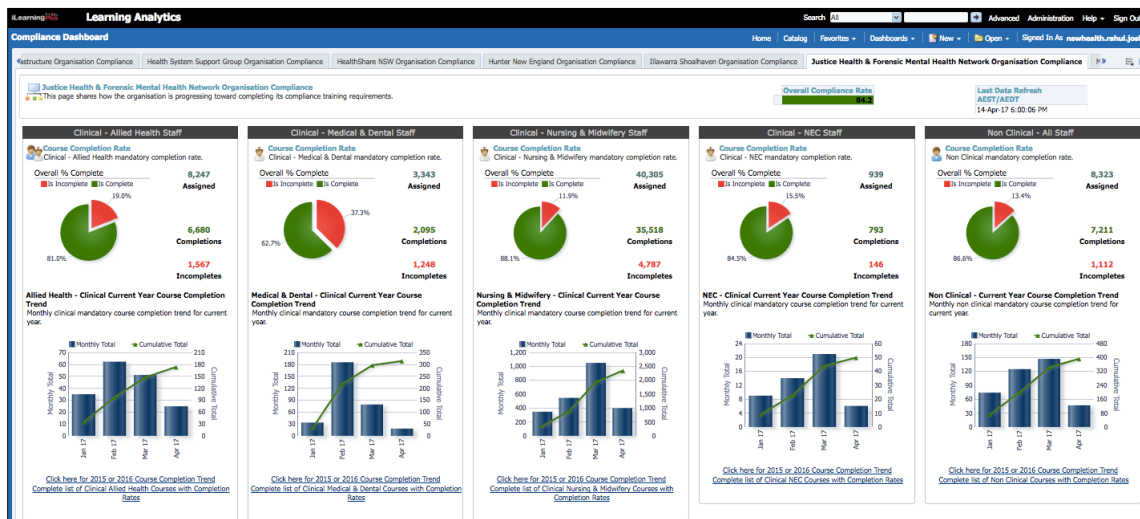
Source: NSWH 2018

Figure 4: Organization Compliance Dashboard Page



Source: NSW 2018

Figure 5: Local Health District (LHD) Sample Dashboard Page (1 of 31)



Source: NSW 2018

## Change Management Efforts

During deployment, the project team faced both process and technical challenges.

NSWH needed to help its organization move from individual-reporting structures into a combined statewide dashboard. This challenge was overcome through a significant amount of consultation with LHD leadership and stakeholders via working groups and

advisory groups to gain consensus on a unified way to move forward across the state. This process was largely done by emphasizing the potential benefits of a single LMS platform and a centralized dashboard for reporting.

Prioritization happened through a strong-governance structure. Priorities are presented and determined on a monthly basis through a governance forum that determines network priority. LMS administrators meet monthly; eHealth meets weekly with the HETI system owner; Senior LHD leaders (advisory forum) meet quarterly.

Another challenge that had to be overcome was the sheer volume of data that needed to be displayed on a dashboard. Such a large amount of data could take several minutes to render the complete dashboard. To reduce that time, caching agents were set up for key LHD stakeholders to run daily. The agents are scheduled to run during off-peak hours, optimizing the use of server resources and minimizing its peak load.

Finally, questions came from dashboard consumers as about the age of data on the dashboard. To answer that question, data-refresh analyses were added to each dashboard to show the last time the data was updated.

## **Measurable Benefits**

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Starting integration with the HCM platform to centralize and standardize content was important yet allow each business to deliver individual content. The assets then are combined into a measurable benefit across the whole organization.

Overall, the estimated annual savings with the deployment of iLearningPlus are \$900,000 and savings from the report preparation more than \$10,000 for a total savings of \$910,000 each year.



Figure 6: Monthly Usage Trend



Source: NSWH 2018

Since the implementation of the compliance dashboard, NSW Health has experienced measurable improvement in reporting. More than 100 Learning Analytics Consumers and some LHDs are running the dashboard daily and providing the latest learning data to executives. The average number of reports, typically 8 to 12 per dashboard, was 1,464 per month across all LHDs and hit a high of 3,278 reports for one month.

NSW Health measured the ROI by comparing the time invested in building the dashboards with the number of hours saved in manually compiling an information pack required for the executive meeting every month. It used to take approximately 180 hours each month to prepare data for the meeting. Compared to approximate 400 hours that were spent for the project, the ROI was fantastic!

The investment paid for itself in less than three months, and data can be pulled from the dashboards in less than 10 minutes. In addition, executives have access at any time to the latest figures compared to stale data manually compiled in a spreadsheet or presentation slides.

## Overall

During this project, the team learned three key lessons:

1. **Importance of working hard.** Creating standard dashboards would not have been possible without working hard to gain consensus among the many stakeholders and would have created a deficit in usage even prior to the dashboards being deployed.



2. **Quick, accurate reports.** Dashboards and underlying reports had to be accurate and render in less than two minutes to be useful to stakeholders.
  - The mandatory course list changed throughout the process and different types of courses, online and classroom, and documents had to be included. This challenge required regular audit checks of the mandatory-course list and completion data to be sure that dashboard visualizations reflected the completions in the LMS.
  - No one wants to wait for a dashboard to load. With so many online and mobile apps available, learning-analytics consumers expect that the dashboard will load quickly like other apps even when pulling in more than 1,000s of facts per second. Slow analytics can lead to poor end-user perception and reduced dashboard usage.
3. **Percent compliance.** After working with NSW Ministry of Health Regulators, it was determined that the measurement of learning success should focus more on the percent compliance calculated as the number of enrolled learners compared to the number of learners completing the require course.

The future looks good for NSWH learning analytics to meet continued compliance reporting needs.

NSW Health will continue partnering with Seertech Solutions to streamline and reduce overall cost of the LMS and get smarter with leaning analytics to get the data required for evidence-based decision making. NSW Health recently agreed to an additional \$30k+ project to further improve the compliance dashboards by using iLearningPlus' new capability, improving employee targeting to speed up dashboard analyses, and redesigning layouts to reduce the need to scroll down on a dashboard to see the entire page.

The goal is to continue using learning analytics to report on NSW efforts to meet compliance training standards to help ensure the delivery of better patient care.



## About Brandon Hall Group

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