

HealthRoster benefits realisation

7 JUNE 2018



NEW SOUTH WALES AUDITOR-GENERAL'S REPORT

PERFORMANCE AUDIT

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In accordance with section 38E of the *Public Finance and Audit Act 1983*, I present a report titled **'HealthRoster benefits realisation'**.

A handwritten signature in black ink, appearing to read 'Margaret Crawford'.

Margaret Crawford

Auditor-General
7 June 2018

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Section one

HealthRoster benefits
realisation



Executive summary

The NSW public health system employs over 100,000 people in clinical and non-clinical roles across the state. With increasing demand for services, it is vital that NSW Health effectively rosters staff to ensure high quality and efficient patient care, while maintaining good workplace practices to support staff in demanding roles.

NSW Health is implementing HealthRoster as its single state-wide rostering system to more effectively roster staff according to the demands of each location. Between 2013–14 and 2016–17, our financial audits of individual LHDs had reported issues with rostering and payroll processes and systems.

NSW Health grouped all Local Health Districts (LHDs), and other NSW Health organisations, into four clusters to manage the implementation of HealthRoster over four years. Refer to Exhibit 4 for a list of the NSW Health entities in each cluster.

- Cluster 1 implementation commenced in 2014–15 and was completed in 2015–16.
- Cluster 2 implementation commenced in 2015–16 and was completed in 2016–17.
- Cluster 3 began implementation in 2016–17 and was underway during the conduct of the audit.
- Cluster 4 began planning for implementation in 2017–18.

Full implementation, including capability for centralised data and reporting, is planned for completion in 2019.

This audit assessed the effectiveness of the HealthRoster system in delivering business benefits. In making this assessment, we examined whether:

- expected business benefits of HealthRoster were well-defined
- HealthRoster is achieving business benefits where implemented.

The HealthRoster project has a timespan from 2009 to 2019. We examined the HealthRoster implementation in LHDs, and other NSW Health organisations, focusing on the period from 2014, when eHealth assumed responsibility for project implementation, to early 2018.



Conclusion

The HealthRoster system is realising functional business benefits in the LHDs where it has been implemented. In these LHDs, financial control of payroll expenditure and rostering compliance with employment award conditions has improved. However, these LHDs are not measuring the value of broader benefits such as better management of staff leave and overtime.

NSW Health has addressed the lessons learned from earlier implementations to improve later implementations. Business benefits identified in the business case were well defined and are consistent with business needs identified by NSW Health. Three of four cluster 1 LHDs have been able to reduce the number of issues with rostering and payroll processes. LHDs in earlier implementations need to use HealthRoster more effectively to ensure they are getting all available benefits from it.

HealthRoster is taking six years longer, and costing \$37.2 million more, to fully implement than originally planned. NSW Health attributes the increased cost and extended timeframe to the large scale and complexity of the full implementation of HealthRoster.



1. Key findings

Business benefits identified for the project accurately reflect business needs

NSW Health has a good understanding of issues in previous rostering practices and systems. Business benefits identified in the business case are consistent with business needs identified through interviews conducted with NSW Health staff. We found no evidence that there are crucial business needs or issues with the previous rostering systems that are not being addressed by HealthRoster. In 2015, prior to the first LHD implementations, NSW Health completed a program review of HealthRoster and found that the majority of business requirements had been met.

HealthRoster is delivering some functional business benefits

In the clusters where HealthRoster has been implemented, it is delivering functional business benefits including:

- removing the risk of unsupported legacy systems failing
- ensuring that staff are rostered to comply with their employment award conditions
- two stage approval for payroll expenditure.

LHDs are improving rostering practices

Between 2013–14 and 2016–17, our financial audits of individual LHDs had reported control issues with rostering practices and systems, including unapproved timesheets and salary overpayments needing retrospective adjustments. Three of four cluster 1 LHDs have been able to reduce the number of roster related internal control issues since they implemented HealthRoster. For example, HealthRoster includes a two-step approval process which has reduced unapproved time sheets and retrospective payment adjustments.

NSW Health is not yet measuring the value of some achievements

NSW Health also expects HealthRoster to deliver other business benefits. These include reducing overtime and better management of staff leave to improve working conditions for staff, better use of staff skills and potentially better outcomes for patients. NSW Health is unable to measure the value of these benefits as baseline measures were not defined, either state-wide or at each LHD, prior to implementing HealthRoster. NSW Health is also yet to define any state-wide benefits targets or report against them.

Although NSW Health has developed a statewide benefits realisation strategy, it is not fully implemented. We found that several LHDs that were planning their HealthRoster implementations in early 2018, had largely not made progress in benefits planning beyond completing benefits planning workshops in 2017. For example, only one LHD in cluster 3 had their benefits realisation plan approved by their executive officers.

Clusters 1 and 2 could use HealthRoster more effectively to get all available benefits

NSW Health conducted post-implementation reviews for clusters 1 and 2 and found that LHDs in these clusters were not fully using all of HealthRoster's features, such as building effective demand based rostering templates to maximise business benefits.

HealthRoster is taking six years longer, and costing \$37.2 million more, to fully implement than originally planned

In 2009, the NSW Government approved the HealthRoster business case with a capital cost of \$88.6 million and implementation planned between 2011 and 2013. NSW Health has since approved two changes to the project time frame and budget. As a result, the capital cost has increased by 42 per cent to \$125.6 million, with implementation commencing in 2015 and running to 2019.

NSW Health attributes the increased cost and extended time frame to the large scale and complexity of the full implementation of HealthRoster. In 2011–12, during the early stages of project development, NSW Health restructured its governance of health organisations and established state-wide shared services groups. It also had to do more customisation of the HealthRoster system than planned to meet its business requirements.

NSW Health has addressed the lessons learned from earlier implementations to improve later implementations

NSW Health is capturing lessons learned from each implementation of HealthRoster and applying these to future implementations. This allows NSW Health to incrementally adjust its approach to ensure a smoother implementation experience for LHDs in future implementations. For example, changes to NSW Health's implementation approach since cluster 1 include early engagement with LHDs to plan each local implementation and increased focus on ensuring that LHDs have benefits realisation plans in place prior to implementation.



2. Recommendations

By December 2018, NSW Health should:

1. Review the use of HealthRoster in Local Health Districts in clusters 1 and 2 and assist them to improve their HealthRoster related processes and practices
2. Ensure that Local Health Districts undertake benefits realisation planning according to the NSW Health benefits realisation framework
3. Regularly measure benefits realised, at state and local health district levels, from the statewide implementation of HealthRoster.

By June 2019, NSW Health should:

4. Ensure that all Local Health Districts are effectively using demand based rostering.



1. Introduction

1.1 About HealthRoster

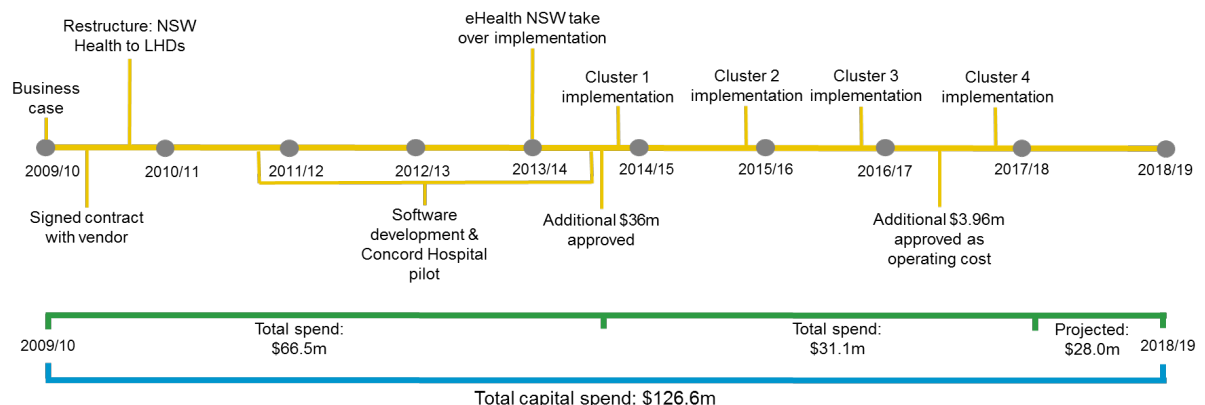
HealthRoster is a state-wide staff rostering system that allows managers to more effectively roster staff according to the demands of each location. Rosters are built based on the number and skill level of staff required to provide quality patient care. As rosters are being built, managers are alerted if staff are over or under utilised or if there are potential award violations. HealthRoster will support over 130,000 individual nursing, midwifery, medical and allied health professionals as well as non-clinical staff in local health districts and other NSW Health agencies.

HealthRoster is expected to provide the following business benefits over previous rostering systems:

- improved financial control of payroll expenditure
- greater access to workforce data to facilitate workforce planning
- improved access to rosters for frontline staff.

In 2009, the NSW Government approved the HealthRoster business case. Between 2011 and 2014, NSW Health developed the HealthRoster system which was piloted at Concord Repatriation General Hospital. LHDs, and other Health organisations, were grouped into four clusters for implementation commencing in 2015 (Exhibits 1 and 2).

Exhibit 1: HealthRoster timeline



Source: Audit Office research 2018.

Exhibit 2: HealthRoster implementation clusters

Cluster	NSW Health organisations	Rollout period
Cluster 1	eHealth NSW, HealthShare NSW, Northern NSW LHD, Mid North Coast LHD and Sydney Children's Hospital Network	Q1 2015 to Q4 2015
Cluster 2	Northern Sydney LHD, NSW Health Pathology, Western NSW LHD , Illawarra Shoalhaven LHD and Sydney LHD	Q4 2015 to Q4 2016
Cluster 3	South Eastern Sydney LHD, South Western Sydney LHD, Central Coast LHD, Nepean Blue Mountains LHD, Southern NSW LHD, Murrumbidgee LHD and Albury-Wodonga LHD	Q4 2016 to Q4 2017
Cluster 4	Hunter New England LHD, Western Sydney LHD , Far West LHD and Justice Health and Forensic Mental Health Network	Q4 2017 to Q4 2018

Note: The audit team visited the NSW Health organisations indicated in bold.

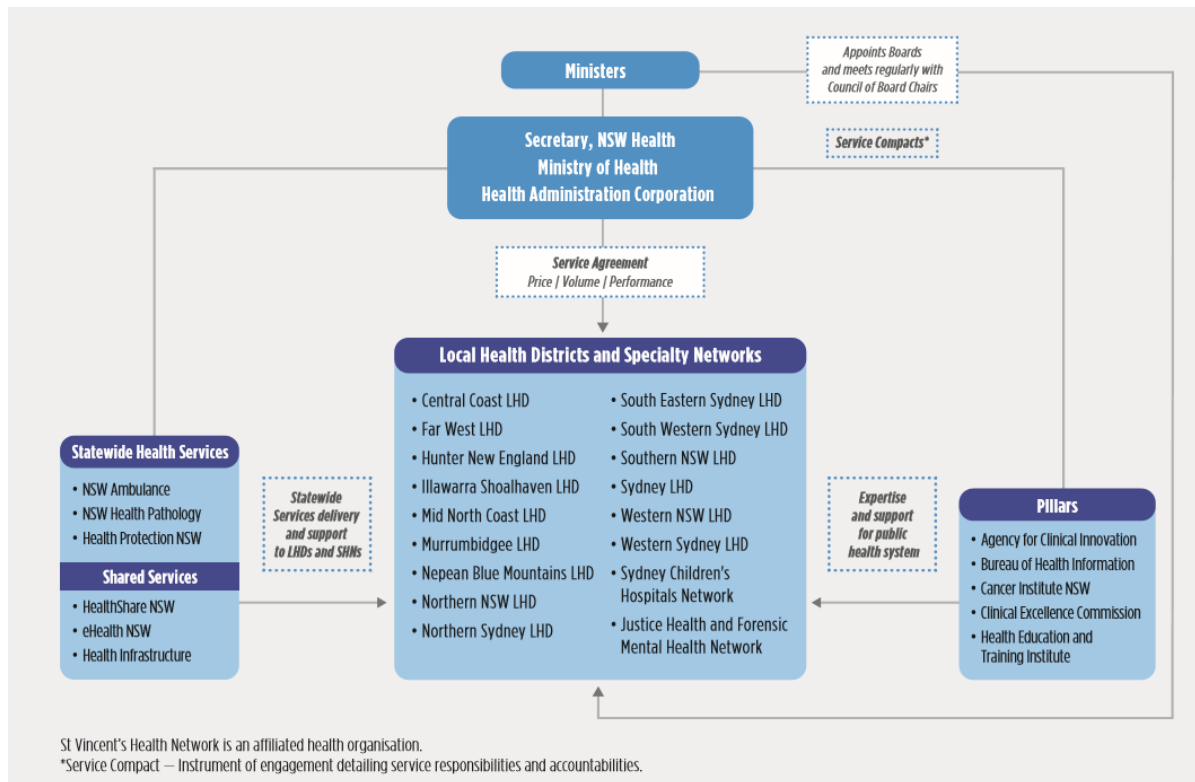
Source: NSW Health 2016.

1.2 NSW Health

NSW Health comprises the Ministry of Health and various NSW Health organisations including Statewide Health Services, Shared Services groups, Local Health Districts (LHDs), and Speciality Health Networks (Exhibit 3).

Within NSW Health, eHealth leads technology improvements in business and clinical systems in consultation with LHDs and specialty networks. In 2014, eHealth took over implementation of HealthRoster from the Health System Quality, Performance and Innovation Division of the Ministry of Health.

Exhibit 3: NSW Health organisation chart



Source: NSW Health 2017.

1.3 NSW Health workforce management strategy

HealthRoster is one element of NSW Health's workforce management strategy. The strategy includes system improvements for recruitment, training and development and the availability of more workforce management data to support decision making.

In parallel with these system improvements, NSW Health is also focusing efforts on changing business practices to align systems and practices around workforce management. In 2009, NSW Health commenced the Rostering Best Practice Program. In 2012, NSW Health released the rostering best practice guidelines based on the following six principles:

- sufficient and appropriately skilled staff are rostered to provide appropriate patient care and to meet anticipated service demands
- rosters must conform to regulatory requirements
- staff should be rostered fairly whilst still maintaining appropriate flexibility to meet staffing needs
- rosters should ensure adequate supervision, training and clinical handover
- appropriate governance structures should be put in place to oversee roster planning, creation, approval, monitoring and reporting

- rostering practices are based on co-operation between rostering managers and staff, in order to promote fairness in rostering and to deliver appropriate care to patients.

The Rostering Best Practice Team worked in collaboration with the HealthRoster project and LHD implementation teams to standardise rostering practices prior to implementing HealthRoster.

1.4 About the audit

The audit assessed the effectiveness of the HealthRoster system in delivering business benefits. We assessed whether:

- expected business benefits of the HealthRoster system were well-defined
- the HealthRoster system is achieving business benefits where implemented.

The HealthRoster project has a timespan from 2009 to 2019. We examined the HealthRoster implementation in LHDs, and other NSW Health organisations, focusing on the period from 2014, when eHealth assumed responsibility for project implementation, to early 2018.

Our audit methods included data analysis, document review and interviews with staff from LHDs and other NSW Health organisations, the NSW Ministry of Health and other stakeholders.

We conducted interviews at two LHDs in each of clusters 1, 2 and 4 (indicated in bold in Exhibit 2). We did not conduct interviews at LHDs in cluster 3 as they were mid-way through the HealthRoster implementation.

See Appendix 3 for more detailed information about the audit.



2. Expected business benefits



Business benefits identified for HealthRoster accurately reflect business needs.

NSW Health has a good understanding of the issues in previous rostering systems and has designed HealthRoster to adequately address these issues. Interviews with frontline staff indicate that HealthRoster facilitates rostering which complies with industrial awards. This is a key business benefit that supports the provision of quality patient care. We saw no evidence that any major business needs or issues with the previous rostering systems are not being addressed by HealthRoster.

2.1 Issues experienced in previous rostering practices and systems

NSW Health assessed business needs to inform the development of HealthRoster

The business case for HealthRoster included an analysis of issues in current rostering practices as well as system issues. Practice issues included the large time commitment from senior staff to develop and manage rosters. A roster change often required several telephone calls to locate an employee willing and able to fill a vacant shift. This contributed to managers being unable to effectively plan ahead for their staffing needs, and to some staff being rostered on back-to-back shifts without adequate breaks.

System issues included disparate and unsupported legacy systems and functionality that did not ensure that staff were rostered in compliance with their respective employment awards. Where LHDs used multiple systems, they were not connected, resulting in users entering the same information multiple times. Getting an accurate view of resourcing needs required manual consolidation of information from several different systems. As a result, some LHDs relied on overtime and agency staffing to meet demand fluctuations. NSW Health recognised that these practices were not sustainable and could put patient care and the well-being of staff at risk. A review of rostering practices by NSW Health concluded that a state-wide rostering system was required to support rostering as well as reporting.

HealthRoster has been designed to support NSW Health's rostering best practice principles. For example, HealthRoster requires managers to develop a demand model that forecasts staffing needs before they can add staff to the roster. HealthRoster also eliminates time consuming data entry tasks required under previous rostering systems.

2.2 Functionality and business benefits

NSW Health defined business benefits for HealthRoster that accurately reflected business needs

Project documentation clearly articulates what the system will and will not address in relation to issues identified in previous rostering practices and systems. Issues that are not addressed in HealthRoster are either being addressed in NSW Health's payroll system or are issues that require a change in business practices by LHDs.

The HealthRoster business case addressed the issues in previous practices and systems and defined expected business benefits. For instance, a state-wide system would reduce reporting effort as users would no longer enter information manually in multiple systems and perform a reconciliation of these multiple data sources to run reports. This also means that reports could be produced in a timely manner to facilitate workforce planning to meet fluctuations in demand.

Exhibit 3 provides a summary of the issues identified in previous rostering practices and systems that HealthRoster addresses and the relevant business benefits.

Exhibit 3: Issues in previous rostering practices and systems and business benefits defined

Issues identified in previous rostering practices and system	Does HealthRoster address this?	Relevant business benefit
Disparate systems	Yes	Reduced licensing costs Reduced maintenance expenses Improved data quality More timely reporting
Technology that is not supported	Yes	Reduced support costs
Time consuming data entry in multiple systems	Yes	Reduced payroll processing costs Reduced data entry time
Rosters not complying with award conditions	Yes	Reduced nursing overtime and agency costs Reduced medical overtime Reduced medical locum fees Improved staffing levels and skills mix
Time consuming reconciliation processes	Yes	Reduced reporting effort
Rostering and adjustments being done manually	Yes	Time savings for nursing unit managers
Unable to analyse state-wide data	Yes	Reduced reporting effort Improved workforce management Improved tracking of skills

Source: Audit Office analysis 2018.

Prior to cluster 1 implementations, NSW Health engaged a consultant to assess HealthRoster's suitability in meeting business requirements. The review concluded that 23 of 25 key business requirements were being met through either the HealthRoster system or related systems for leave and payroll. The two remaining requirements were only desirable, such as the ability to set up warning alerts for specific award conditions. The HealthRoster system provides functionality that is common to all LHDs, but is not intended to address all rostering needs of LHDs.

Stakeholders were consulted in developing the HealthRoster business case

NSW Health consulted stakeholders from a range of levels and groups across NSW Health to define business needs and benefits while developing the business case. Stakeholders included senior executive staff, such as chief executive officers and directors of workforce, as well as clinical and frontline users of the system, such as nursing workforce managers and junior medical officers.



3. Project implementation



In the period examined in this audit since 2015, NSW Health has applied appropriate project management and governance structures to ensure that risks and issues are well managed during HealthRoster implementation.

HealthRoster has had two changes to its budget and timeline. Overall, the capital cost for the project has increased from \$88.6 million to \$125.6 million (42 per cent) and has delayed expected project completion by four years from 2015 to 2019. NSW Health attributes the increased cost and extended time frame to the large scale and complexity of the full implementation of HealthRoster.

NSW Health has established appropriate governance arrangements to ensure that HealthRoster is successfully implemented and that it will achieve business benefits in the long term. During implementation, local steering committees monitor risks and resolve implementation issues. Risks or issues that cannot be resolved locally are escalated to the state-wide steering committee.

NSW Health has grouped local health districts, and other NSW Health organisations, into four clusters for implementation. This has enabled NSW Health to apply lessons learnt from each implementation to improve future implementations.

3.1 Project management and governance arrangements

Full implementation of HealthRoster will take longer, and cost more, than originally planned

In 2009, the NSW Government approved the HealthRoster business case with a capital cost of \$88.6 million and implementation planned between 2011 and 2013. NSW Health has approved two changes to the project time frame and budget. As a result, the capital cost has increased by 42 per cent to \$125.6 million and implementation will run from 2015 until 2019.

NSW Health realised during the project development phase that the vendor for HealthRoster was not able to deliver the solution as defined in the business case and significant customisation of the software was required to meet NSW Health's business needs. After this customisation, NSW Health implemented HealthRoster in cluster 1 LHDs and Health organisations.

After cluster 1 implementation, NSW Health reviewed its implementation approach and concluded that the remaining budget was not sufficient to complete the project due to the complexity and effort required to implement HealthRoster state-wide. For example, project timelines were impacted by delays in recruiting staff and additional time required to test the system to ensure that it produced accurate outcomes.

The two changes required to timeframe and budget were managed in accordance with NSW Health's change management policies. NSW Health advised that it has worked with the vendor to resolve the problems experienced under the provisions available in the HealthRoster contract.

In 2015, the first change was the result of the cluster 1 post-implementation review noted above. NSW Health extended the implementation timeframe by three years and added \$31 million for implementation support and day to day system support.

HealthRoster was intended to be hosted centrally. As the number of users increased with each group implemented in cluster 1, it became clear that the system could not support a centralised database without compromising overall system performance. As a result, NSW Health decided to implement a local instance of HealthRoster at each LHD so as not to delay implementation. In 2016, this change resulted in the timeframe extending by another year due to the extra effort required to support separate instances of HealthRoster at each LHD.

The configuration of each local instance of HealthRoster has been kept substantially the same, to ensure that it could be brought together as one centralised system in 2018–19 if practicable. Additionally, NSW Health is frequently loading data from each LHD into a centralised data warehouse. This is allowing NSW Health to analyse state-wide data to generate reports and realise the business benefit of reduced reporting effort.

NSW Health has effectively managed these challenges to implement HealthRoster implementation and meet business needs. Exhibit 5 compares the HealthRoster implementation with a comparable system implementation previously audited by this office.

Exhibit 5: Comparison of comparable system implementation with HealthRoster

Comparable system implementation	HealthRoster implementation
System did not meet the expectations of users	Good understanding of previous issues and system implemented that meets expectations of users
Issues were not resolved adequately	Issues are logged and resolved during implementation. Lessons learned are captured to improve future implementations.
Lack of project and governance controls	Clear project and governance controls. Steering committees at state-wide and local level provide oversight and direction
Program change management was not independent of the vendor	Change management is managed by NSW Health

Source: Audit Office analysis 2018.

NSW Health has a good process to raise issues during LHD implementation

NSW Health has a good process in place to identify and raise issues and these are being actively managed through the maintenance of a risks and issues log during system implementation. The process for identifying issues is documented in the project management templates that LHDs use during implementation. Issues logged included concerns with the accuracy of payroll data and some industrial awards not being included in HealthRoster.

All cluster 1 and 2 LHDs we interviewed advised that risk and issues logs were maintained during implementation. Our review of these logs show that some issues have remained open even though they had been resolved. For example, Mid North Coast LHD's risk and issues log indicates that 41 issues were raised during implementation, of these 34 (83 per cent) were resolved during implementation. Change requests were raised for two of the seven open requests, whilst the others were resolved but not formally closed. It is important to revisit risk and issue logs after project implementation to ensure that all issues are resolved and ensure project documentation is up-to-date.

Exhibit 6: Analysis of risk and issues logs for selected LHDs

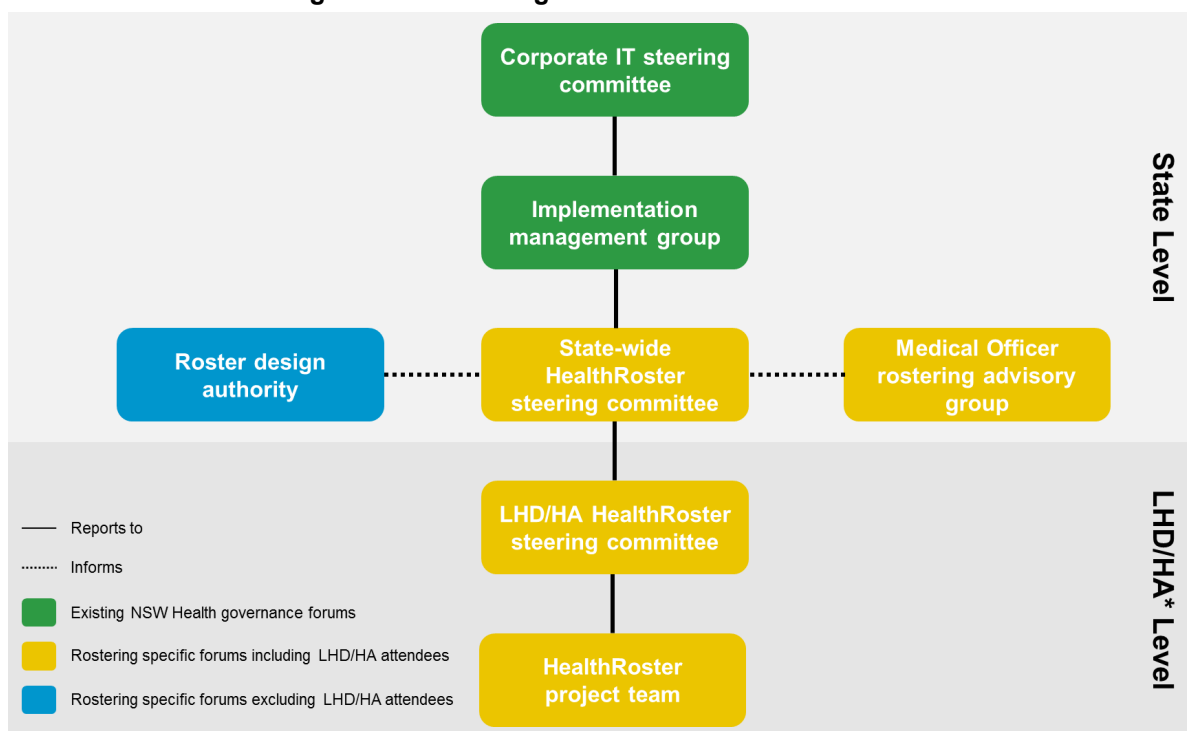
LHDs	Raised	Resolved during implementation	Percentage (%)
Cluster 1			
Mid North Coast	41	34	83
Sydney Children's Hospitals Network	46	38	83
Cluster 2			
Western NSW	23	21	91
Sydney	48	39	81

Source: Audit Office research 2018.

Project governance arrangements support successful project implementation

Project governance arrangements are in place to ensure that risks are actively managed and that all key stakeholders are involved in decision making throughout HealthRoster implementation. Local steering committees include representation from both local health districts and the Ministry of Health. This arrangement allows the HealthRoster project to leverage expertise from within the local health district and facilitates their engagement with the project. Local steering committees also play a key role in championing and driving the changes to rostering practices that are needed to realise the benefits of the HealthRoster system.

Exhibit 7: HealthRoster governance arrangements



* HA: Health Agencies excl. eHealth/Healthshare, NSW Minister of Health.

Source: NSW Health 2017.

The state-wide steering committee includes senior health executives from LHDs and the Ministry of Health. The role of the state-wide steering committee is to monitor the overall status of the project and resolve issues that cannot be resolved locally. Both the local and state-wide steering committees are operating in accordance with clearly defined terms of reference.

NSW Health set up the Rostering Design Authority group to consider and approve changes to the configuration of HealthRoster. LHDs that wish to raise a change request must follow a change control process.

NSW Health captures lessons learned and applies them to subsequent implementations

NSW Health has actively sought to identify issues in early implementations, through the use of issues logs and post-implementation reviews. The lessons learned from these activities include:

- LHDs having appropriate project management controls in place. NSW Health has developed project documentation templates for LHDs to use. One LHD that we visited in cluster 4 had already developed a business case and project plan for HealthRoster prior to system implementation
- LHDs leveraging the expertise of the Rostering Best Practice Team to improve rostering practices prior to system implementation
- LHDs ensuring that the project is appropriately resourced. NSW Health is providing more guidance on the level of resourcing required for system implementation. The template for the project plan also includes a specific section on resourcing for LHDs to complete
- LHDs planning for the change management required to ensure that HealthRoster implementation is successful. Local steering committees are set up to champion change across LHDs.

NSW Health also holds an annual knowledge sharing forum so that LHDs can learn from each other.



4. Benefits realisation



NSW Health has a benefits realisation framework, but it is not fully applied to HealthRoster.

NSW Health can demonstrate that HealthRoster has delivered some functional business benefits, including rosters that comply with a wide variety of employment awards.

NSW Health is not yet measuring and tracking the value of business benefits achieved. NSW Health did not have benefits realisation plans with baseline measures defined for LHDs in cluster 1 and 2 before implementation. Without baseline measures NSW Health is unable to quantify business benefits achieved. However, analysis of post-implementation reviews and interviews with frontline staff indicate that benefits are being achieved. As a result, NSW Health now includes defining baseline measures and setting targets as part of LHD implementation planning. It has created a benefits realisation toolkit to assist this process from cluster 3 implementations onwards.

NSW Health conducted post-implementation reviews for clusters 1 and 2 and found that LHDs in these clusters were not using HealthRoster to realise all the benefits that HealthRoster could deliver.

By September 2018, NSW Health should:

1. Ensure that Local Health Districts undertake benefits realisation planning according to the NSW Health benefits realisation framework
2. Regularly measure benefits realised, at state and local health district levels, from the statewide implementation of HealthRoster
3. Review the use of HealthRoster in Local Health Districts in clusters 1 and 2 and assist them to improve their HealthRoster related processes and practices.

By June 2019, NSW Health should:

4. Ensure that all Local Health Districts are effectively using demand based rostering.

4.1 Benefits realisation approach

NSW Health has a benefits realisation framework

NSW Health's Benefits Realisation Framework provides direction and guidance in the different phases of benefits realisation for all business and clinical information systems projects including HealthRoster. NSW Health's benefits realisation framework is consistent with the NSW Government Benefits Realisation Framework.

NSW Health has tailored its benefits realisation framework for its requirements and has clearly defined responsibilities in the benefits realisation process.

NSW Health has not applied its benefits realisation framework effectively for the HealthRoster implementation but it is making progress towards ensuring that benefits are measured, tracked and recorded

NSW Health did not measure baselines or set targets for benefits realisation before implementing HealthRoster for LHDs in cluster 1 and 2. The first version of NSW Health's benefits realisation management framework was implemented in August 2015. The framework is applicable to HealthRoster implementation and requires project teams to define baseline measures prior to implementation so that the achievement of business benefits can be objectively measured and tracked.

NSW Health recognises that the planning phase is pivotal to the success of benefits realisation where baseline data and target benefit measures are defined prior to implementation. LHDs are now expected to define their business benefits. NSW Health provides LHDs with a benefits realisation toolkit that includes templates for the benefits realisation plan, key concepts and outcomes and benefits map. These templates are being used for cluster 3 implementation onwards. Refer to Exhibit 9 for examples of HealthRoster benefits and how they might be measured.

Exhibit 9: Examples of HealthRoster Benefits and how they might be measured

Benefit Expected	How it could be measured
Decreased agency usage	Agency FTE per pay cycle Agency \$ per month
Decreased overtime usage	Overtime FTE per pay cycle Overtime \$ per month
Improved accountability for roster accuracy	Number of rosters submitted without two step sign-off per pay cycle Decrease in unfilled duties and FTE
Increased payroll accuracy	Number of late roster submissions per pay cycle Number of roster input errors per pay cycle Number of retrospective adjustments per month
Decreased overpayment transactions	Number of payments by transaction, by cost centre
Better management of staff leave	Outstanding leave balance (hours) Outstanding leave balance (\$) Number excess ADO's (days) per category

Source: Audit Office research 2018.

NSW Health has been proactive in contacting LHDs to schedule benefits planning workshops and offer assistance, however LHDs have largely not made progress in benefits planning beyond completing benefits planning workshops in 2017. For example, only one LHD in cluster 3 has had their benefits realisation approved by their executive officers.

Exhibit 10: Cluster 3 LHDs implementation and benefits planning status

Cluster 3 LDHs	Implementation status as at 31 January 2018	Benefits planning status
South Western Sydney	In progress	Benefits planning deferred till after project implementation.
South Eastern Sydney	In progress	Benefits realisation plan approved in December 2017 by LHD executive.
Central Coast	Implementation completed	Benefits planning workshop completed in August 2017. No further progress since then.
Nepean Blue Mountains	In progress	Benefits planning workshop completed in August 2017. No further progress since then.
Southern NSW	Implementation completed	Director of workforce declined an offer to conduct benefits planning workshop.
Murrumbidgee	In progress	Benefits planning workshop completed in July 2017. No further progress since then.

Source: NSW Health.

NSW Health is implementing a reporting module

As benefit target measures were not defined prior to HealthRoster implementation, NSW Health is unable to objectively report against the achievement of these targets. NSW Health has started to think more broadly about how to report the achievement of benefits at a state-wide level. In the early part of 2018, it introduced a new HealthRoster module, RosterPerform. This is a management rostering dashboard that reports against operational key performance indicators to improve reporting capabilities across NSW Health.

HealthRoster is delivering some functional business benefits

HealthRoster had improved on previous rostering practices and systems in the following areas:

- it ensures that staff rosters comply with their employment award conditions
- users preferred its visual nature compared to previous systems
- it reduced instances of retrospective adjustments
- the two-step approval process has improved roster governance.

Managing staff fatigue and safe working hours

In November 2017, NSW Health published the Junior Medical Officer (JMO) Wellbeing and Support Plan which includes new safe working hour standards. The development of this plan was informed by data extracted from HealthRoster. NSW Health assessed JMO working patterns to identify where fatigue was more likely to occur. Based on this analysis, NSW Health developed two safe working hour standards which are now being built into HealthRoster. As a result, HealthRoster will warn roster creators when they are adding shifts that are in breach of the new standards. This will assist in preventing staff fatigue. NSW Health is continuing to analyse data from HealthRoster to assist in the development of additional safe working hour standards.

LHDs are improving internal controls

Between 2013–14 and 2016–17, our financial audits of individual LHDs had reported internal control issues with rostering practices and systems. Some LHDs have been able to reduce these issues since the implementation of HealthRoster. Issues included unapproved time sheets, lack of use of monitoring reports and inappropriate user access profiles defined in the system.

HealthRoster has provided functionality not available in previous rostering systems, including a two-step approval process that has assisted LHDs in reducing issues such as unapproved timesheets, approval outside of delegation and salary overpayments. Some frontline and clinical staff advised that the employee online portal was a useful tool to check their recorded time prior to payment and has resulted in fewer incorrect payments being made.

LHDs in clusters 1 and 2 are not using all features of HealthRoster

NSW Health conducted post-implementation reviews for clusters 1 and 2 and found that LHDs in these clusters were not fully using all of HealthRoster's features, such as building effective demand based rostering templates to maximise business benefits.

Section two

Appendices



Appendix one – Response from agency



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Audit Office of NSW
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SYDNEY NSW 2001

Our ref H18/31451

Dear Ms Crawford

Performance Audit Report on HealthRoster Benefits Realisation

Thank you for your letter of 24 April 2018, seeking a response from NSW Health on the final performance audit report on HealthRoster Benefits Realisation. NSW Health supports the recommendations made in the report, with responses against each individual recommendation provided in the attached table.

The staged implementation of the HealthRoster system is a core organisational priority for NSW Health, as it will replace multiple legacy systems across the State and enable a number of benefits for our patients, our staff and for the efficiency of our health system as a whole. HealthRoster supports management across NSW Health in planning staffing needs to match the expected demand for healthcare services and supports consistent rostering and compliance with award conditions. HealthRoster is also used to draw insights into the effectiveness and efficiency of our rostering practices.

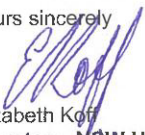
I am pleased to see that this performance audit has acknowledged that HealthRoster is delivering these and many other functional business benefits. I acknowledge that as found in the audit report, there is scope to refine our approach to measuring the broader benefits the system delivers and to enhance the training and support for our staff in using the new system.

As the audit report highlights, the complete implementation of the system has taken longer than initially expected. This reflects the scale of statewide implementation across 22 Local Health Districts and other NSW Health Organisations.

The Ministry of Health has also recently issued the '*Framework for Rostering in NSW Health 2018-2023*' as a guidance document to staff, to improve workforce management decision-making and to develop rostering capability across the state. Once the HealthRoster system has been completely implemented across the state, this *Framework* will be used as the mechanism to monitor our ongoing use of the system and to deliver further benefits for NSW Health.

I appreciate the efforts of the NSW Audit Office in conducting this performance audit and for your ongoing engagement with NSW Health.

Yours sincerely


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Secretary, NSW Health

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NSW Health response to Performance Audit Recommendations

Audit Recommendation	Position	Commentary
By December 2018, NSW Health should:		
1 Review the use of HealthRoster in Local Health Districts in clusters 1 and 2 and assist them to improve their HealthRoster related processes and practices.	Supported	Rostering Improvement Activities have already been completed with all cluster 1 and 2 LHDs and a further round of work of roster improvement targeting any outstanding process issues raised during audit with these LHDs will be undertaken by December 2018.
2 Ensure that Local Health Districts undertake benefits realisation planning according to the NSW Health benefits realisation framework.	Supported	<p>All LHDs using HealthRoster have been asked to complete a Benefits Management Framework. Progress to complete the Framework, then against the benefits plans, will be reported monthly to the Statewide Rostering Steering Committee.</p> <p>All existing and future LHD Benefit Realisation Plans will be reviewed to ensure that they are consistent with the State level benefits realisation framework.</p> <p>LHDs will be asked to report to the Statewide Rostering Steering Committee on progress towards completion of a Benefits Management Framework from July 2018 onwards.</p>
3 Regularly measure benefits realised, at state and local health districts levels, by the statewide implementation of HealthRoster.	Supported	A set of benefits measures will be agreed by LHD management and MoH and measurements for all LHDs will be reported to the Statewide Rostering Steering Committee by December 2018

Audit Recommendation	Position	Commentary
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By June 2019, NSW Health should:

4	Ensure that all Local Health Districts are effectively using demand based rostering.	Supported	<p>The program will commence gathering metrics by LHDs around demand based rostering in July 2018 at the Steering Committee level.</p> <p>Monitoring and reporting against the Framework for Rostering in NSW Health 2018 – 2023 will be used as mechanism to track effective demand based rostering going forward once the program completes.</p>
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Appendix two – About the audit

Audit objective

The Audit assessed the effectiveness of the HealthRoster system in delivering business benefits. We assessed whether:

1. expected business benefits of the HealthRoster system have been well-defined
2. the HealthRoster system is achieving business benefits where implemented.

Audit criteria

We addressed the audit objective through the following criteria:

1. Expected business benefits identified for the project accurately reflect business needs and addresses issues experienced in previous rostering systems:
 - a) business benefits identified for the project accurately reflect business needs and addresses issues experienced in previous rostering systems
 - b) significant variations to the expected business benefits have been justified and approved.
2. The HealthRoster system is achieving business benefits where implemented:
 - a) significant issues raised during system implementation are being addressed
 - b) resolutions and lessons learnt are being applied effectively to all HealthRoster implementations
 - c) business benefits are being measured, tracked and recorded.

Audit scope and focus

The audit assumptions are as follows:

1. Benefits include the expected outcomes or objectives of the HealthRoster system, savings, financial and non-financial benefits such as more coordinated patient care, and better management of staff work practices.
2. The type and value of benefits of the HealthRoster system may be different for each location and this should have been defined and verified.
3. Government guidelines include:
 - a) NSW Treasury: Guidelines for Capital Business Cases, December 2008
 - b) Department of Finance, Services and Innovation: Benefits Realisation Management Framework, October 2015 Version 2
 - c) ICT Assurance Framework, September 2016.

We examined the HealthRoster implementation in LHDs, and other NSW Health organisations, included in cluster 1, 2 and 4, excluding eHealth NSW, HealthShare NSW, Justice Health and Forensic Mental Health Network and NSW Health Pathology.

We focused on the project implementation period from 2015 to early 2018.

Audit exclusions

The audit did not look at:

- other ICT systems currently been implemented by eHealth
- initial cost benefit analysis to gain approval for the project
- whether the system implemented matched the originally scoped version
- local health districts where HealthRoster is currently being implemented
- HealthRoster implementations in eHealth NSW, HealthShare NSW, Justice Health and Forensic Mental Health Network and NSW Health Pathology
- question the merits of government policy objectives.

Audit approach

Our procedures included:

1. Interviewing staff from:
 - eHealth, the Ministry of Health and selected local health districts. We have visited sites and interviewed staff from the LHDs involved in cluster 1, 2 and 4 implementations. This excludes eHealth NSW, HealthShare NSW, Justice Health and Forensic Mental Health Network and NSW Health Pathology.

Implementation cluster	Hospital	LHDs
Cluster 1	The Children's Hospital at Westmead	Sydney Children's Hospitals Network
Cluster 1	Port Macquarie Base Hospital	Mid North Coast LHD
Cluster 2	Royal Prince Alfred	Sydney LHD
Cluster 2	Dubbo Base Hospital	Western NSW LHD
Cluster 4	Westmead Hospital	Western Sydney LHD
Cluster 4	Broken Hill Base Hospital	Far West LHD

2. The audit involved consultation with other stakeholders including:
 - Department of Finance, Services and Innovation.
3. Examining:
 - a) The HealthRoster business case
 - b) eHealth Program & Change Management Office (PCMO) Benefits Management Framework
 - c) Documentation substantiating approval for any significant variations from original business benefits or objectives
 - d) Documentation that articulates the business needs addressed and not addressed by HealthRoster
 - e) Documentation for consultation process followed
 - f) Guidelines and policies on processes to be followed to approve significant variations to expected benefits
 - g) Documentary evidence justifying and supporting the approval of significant variations to expected benefits
 - h) Policies/guidelines of processes to be followed to log issues during system implementation
 - i) Issues, lessons learnt log
 - j) The review and reporting process for benefits realisation
 - k) The benefits realisation register
 - l) Benefits monitoring report documentation for LHDs selected for site visits

- m) Documentation articulating how business needs that were not intended to be addressed by HealthRoster will be addressed.
- 4. Analysed data:
 - a) Supporting benefits defined and achieved
 - b) relevant key performance indicators for the HealthRoster project (such as trends in unplanned overtime pre- and post- implementation)
 - c) relevant to the project held by eHealth and selected local health districts.
- 5. We also examined:
 - a) Supporting benefits defined and achieved
 - b) documentation from other stakeholders obtained throughout the audit such as research and studies, statistical data and analysis
 - c) International and Australian research on benefits realisation management in comparative service industries and systems.

The audit approach was complemented by quality assurance processes within the Audit Office to ensure compliance with professional standards.

Audit methodology

Our performance audit methodology is designed to satisfy Australian Audit Standards ASAE 3500. Performance engagements and other professional standards. The standards require the audit team to comply with relevant ethical requirements and plan and perform the audit to obtain reasonable assurance and draw a conclusion on the audit objective. Our processes have also been designed to comply with requirements specified in the *Public Finance and Audit Act 1983* and the *Local Government Act 1993*.

Acknowledgements

We gratefully acknowledge the co-operation and assistance provided by staff at the Ministry of Health, eHealth and the Local Health Districts that we visited.

Audit cost

Including staff costs, travel and overheads, the estimated cost of the audit is \$320,000.



Appendix three – Performance auditing

What are performance audits?

Performance audits determine whether State or local government entities carry out their activities effectively, and do so economically and efficiently and in compliance with all relevant laws.

The activities examined by a performance audit may include a government program, all or part of an audited entity, or more than one entity. They can also consider particular issues which affect the whole public sector and/or the whole local government sector. They cannot question the merits of government policy objectives.

The Auditor-General's mandate to undertake audits is set out in the *Public Finance and Audit Act 1983* for State government entities, and in the *Local Government Act 1993* for local government entities.

Why do we conduct performance audits?

Performance audits provide independent assurance to the NSW Parliament and the public.

Through their recommendations, performance audits seek to improve the value for money the community receives from government services.

Performance audits are selected at the discretion of the Auditor-General who seeks input from parliamentarians, State and local government entities, other interested stakeholders and Audit Office research.

What happens during the phases of a performance audit?

Performance audits have three key phases: planning, fieldwork and report writing.

During the planning phase, the audit team develops an understanding of the audit topic and responsible entities and defines the objective and scope of the audit.

The planning phase also identifies the audit criteria. These are standards of performance against which the audited entity, program or activities are assessed. Criteria may be based on relevant legislation, internal policies and procedures, industry standards, best practice, government targets, benchmarks or published guidelines.

At the completion of fieldwork, the audit team meets with management representatives to discuss all significant matters arising out of the audit. Following this, a draft performance audit report is prepared.

The audit team then meets with management representatives to check that facts presented in the draft report are accurate and to seek input in developing practical recommendations on areas of improvement.

A final report is then provided to the head of the audited entity who is invited to formally respond to the report. The report presented to the NSW Parliament includes any response from the head of the audited entity. The relevant minister and the Treasurer are also provided with a copy of the final report. In performance audits that involve multiple entities, there may be responses from more than one audited entity or from a nominated coordinating entity.

Who checks to see if recommendations have been implemented?

After the report is presented to the NSW Parliament, it is usual for the entity's audit committee to monitor progress with the implementation of recommendations.

In addition, it is the practice of the NSW Parliament's Public Accounts Committee to conduct reviews or hold inquiries into matters raised in performance audit reports. The reviews and inquiries are usually held 12 months after the report is received by the NSW Parliament. These reports are available on the NSW Parliament website.

Who audits the auditors?

Our performance audits are subject to internal and external quality reviews against relevant Australian and international standards.

The Public Accounts Committee appoints an independent reviewer to report on compliance with auditing practices and standards every four years. The reviewer's report is presented to the NSW Parliament and available on its website.

Periodic peer reviews by other Audit Offices test our activities against relevant standards and better practice.

Each audit is subject to internal review prior to its release.

Who pays for performance audits?

No fee is charged for performance audits. Our performance audit services are funded by the NSW Parliament.

Further information and copies of reports

For further information, including copies of performance audit reports and a list of audits currently in-progress, please see our website www.audit.nsw.gov.au or contact us on 9275 7100.

OUR VISION

Our insights inform and challenge government to improve outcomes for citizens.

OUR PURPOSE

To help parliament hold government accountable for its use of public resources.

OUR VALUES

Purpose – we have an impact, are accountable, and work as a team.

People – we trust and respect others and have a balanced approach to work.

Professionalism – we are recognised for our independence and integrity and the value we deliver.

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