



Health Prototyping Centre



# Blacktown Lab Reconfiguration

CASE STUDY

An initiative between eHealth NSW, Health Infrastructure, HealthShare NSW and NSW Health Pathology.



**Client name**

NSW Health Pathology

**Location**

Blacktown Hospital

**Product/service delivered**

The Health Prototyping Centre was used to rapidly prototype and configure the Pathology Lab in Blacktown Hospital, co-designing the space with pathology lab staff, facilities staff, the vendor team and implementation team.

**Key benefits of using the Health Prototyping Centre**

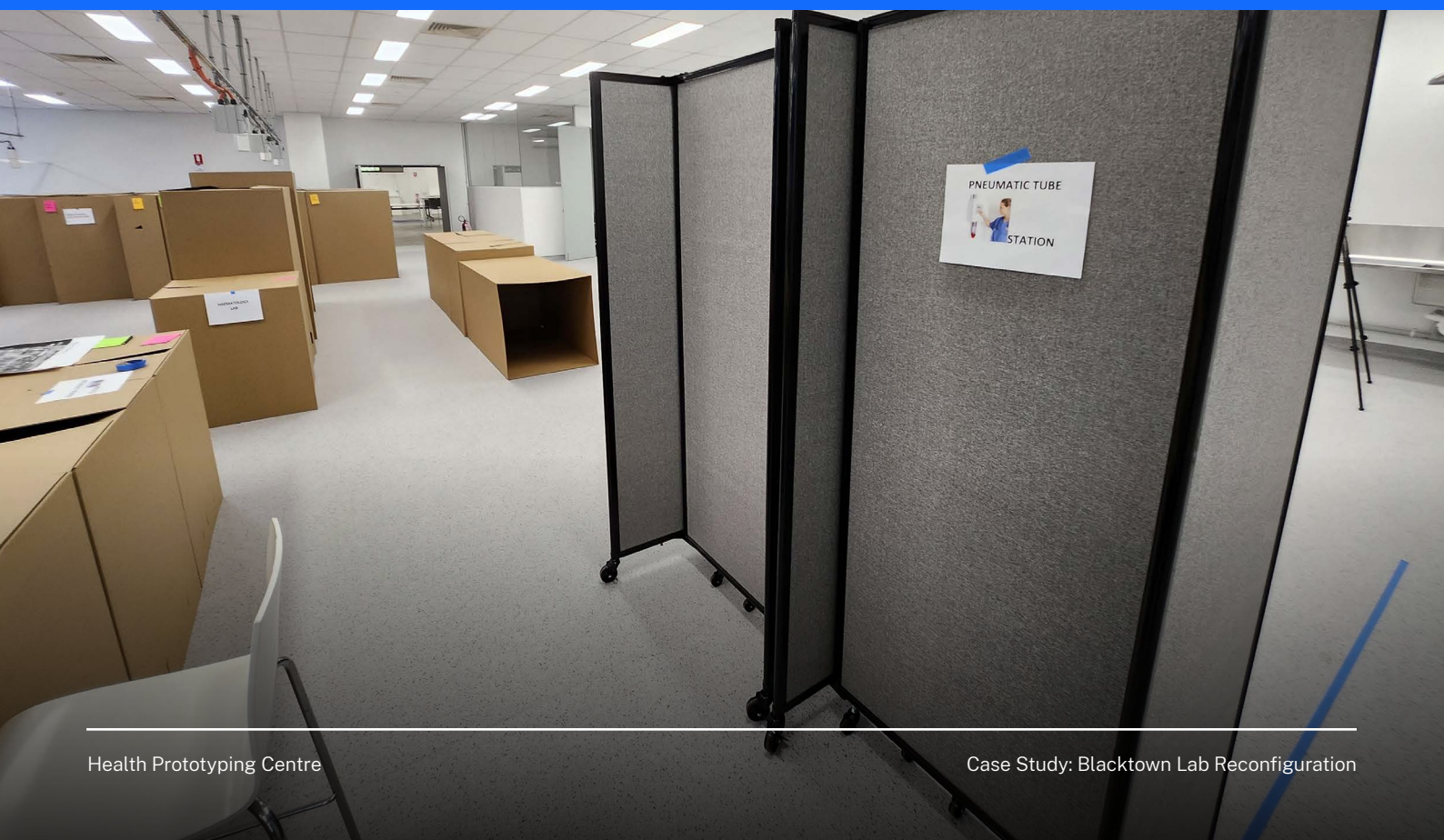
- Provides a dedicated space, including a range of clinical simulation suites and equipment replicating common pathology, acute care and home care settings
- Allows teams to focus on problem solving away from everyday working environments
- Enables the easy simulation of workflows
- Provides a team of technical and design experts to support the evaluation
- Supplies tools and technology to support the development of prototypes
- Includes replication of the NSW Health technology stack to support integration and functional testing
- Supports the recruitment of test users for projects –both patients and clinicians

## The challenge

Pathology labs and their equipment are in a constant state of renewal. These changes are driven by many forces influencing the demand for and delivery of pathology services. While renewal is important, constant changes to the lab equipment presents challenges to the design and operation of successful workflows within the larger lab environment.

Blacktown Pathology Lab is in the process of installing several new pathology instruments which use automation to assist with sample analysis workflows. However, these machines will require dramatic changes to the lab layout.

It is essential to test and understand the optimal layout/configuration ahead of the equipment installation to prevent workflow disruptions and avoid delays and costly rework –often in the form of further additions or renovation to hospital infrastructure. It's essential to test and understand the optimal layout ahead of installing equipment to prevent workflow disruptions and avoid delays and costly rework. From a human perspective, testing allows lab staff to get a taste of their new environment ahead of implementation. They're also able to provide early feedback while changes can still be made.





## The plan

Lab configuration designs were initially created in consultation between the successful equipment vendor and NSW Health Pathology. However, there are limitations to exploring new designs on paper only, so the Health Prototyping Centre (HPC) was called upon to prototype the design.

The agreed prototyping approach was to use low-fidelity materials (i.e., cardboard, tape, string) to show the design at full scale. This allowed the teams to see the total footprint

of the instruments and lab furniture while enabling them to be easily moved, changed or discarded. Coloured tape was used to show structures like pillars, cable trenches and other lab elements that would affect how staff can move in the space and where machines could be placed.

Over two days, lab staff were able to come to the HPC, speak to the vendor and facilities planners, share their workflows and co-design the lab layout.



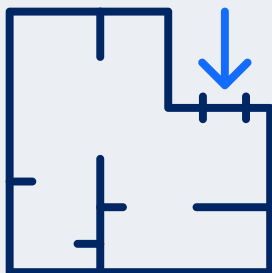


*“The team’s experience of the Health Prototyping Centre (HPC) was fantastic and provided the ideal space for us to test new configurations of lab instruments for the NSW Health Pathology Lab at Blacktown.*

*The HPC provided several advantages for our team. The space allowed stakeholders to step away from the day-to-day grind of working in a pathology lab. This location combined with low-fidelity prototypes made from cardboard, tape and post-it notes gave participants the creative license to design the lab configuration that would work for them and the wider lab team. Finally, the space allowed us to accommodate a diverse group of stakeholders from across the lab environment. This helps break down silos and lead to better, collective decision-making.*

*Overall, the space allowed the team to find out what did and didn’t work early on and has provided more confidence to the lab team that they’ve created a winning design for their lab ahead of implementation. The team also identified what they need to start changing now which should make the transition easier.”*

**Dr Alex Garrett, Service Designer, NSW Health Pathology**



## **The outcome**

The collaboration between the project team and the lab, vendor, and facilities staff helped develop an appropriate design via rapid prototyping and iteration. The team collectively understood how the lab technicians currently work, how they will use the new automated machine workflows and how the remaining lab space will be configured. The team will be using the lessons learned to deliver the new lab configuration in August - September 2023.



## The benefits

The NSW Health Pathology team used the Health Prototyping Centre (HPC) because it helped them to:

- Co-design laboratory settings with the people who use them, giving invaluable insights into how the spaces are really used
- Rapidly test multiple layouts and simulate workflows in real-world settings instead of paper
- Easily visualise a new space at 1:1 scale, allowing people to immerse themselves in the set-up and not rely on imagination
- Promote a sustainable approach with the re-use of cardboard for future lab layouts
- Sign off on lab redevelopment layout with evidence and support of a wide range of Pathology staff
- Simplify endorsement and fast-track decisions



To find out more about the Health Prototyping Centre and how your project can access its facilities contact [ehnsw-hpc@health.nsw.gov.au](mailto:ehnsw-hpc@health.nsw.gov.au)