

# Westmead Research Hub

## Innovation Pipeline

The Westmead Research Hub undertakes projects that encourage collaboration by sharing both physical resources and brain power of its members. The goal of the Hub is to grow Westmead Health Precinct as a world leader in health and medical research by exercising our strength in numbers.

The Westmead Health Precinct (WHP) is fast-developing into Australia's premier health, education, medical research, and training destination. WHP is leading the way in the exploration, translation, and innovation of some of the most promising areas of healthcare. These areas include but are not limited to cell and gene therapies, translational cancer research, phage therapy, and infectious diseases including significant COVID-19 research programs. Westmead's complimentary cutting-edge research infrastructure, coupled with our unique capability in administering clinical trials, provide the ecosystem for what will likely produce a paradigm shift in the way healthcare is delivered in the future – from rare genetic diseases to the most prolific illnesses plaguing our community.

The Westmead Health Precinct is one of the largest health, education, research, and training precincts in Australia and a key provider of jobs for the greater Parramatta and western Sydney region. More than \$3 billion has been committed by the government, universities, and the private sector to upgrade and expand the precinct's health services, education, and medical research facilities over the coming years.

### How to use this Document

All Westmead-led IP currently available for partnering is listed in this document, which is updated regularly. Our IP has been categorised into Therapeutics, Medical Devices, and Diagnostics. Details of each patent family and its development stage are indicated. For many of these, non-confidential one-page flyers are available. For any questions or more information, please enquire with the contact correlated with the lead IP owner found on the back page of the document. Alternatively, you can contact James Linton, Westmead Research Hub program manager (contact info on back page), or [info@wrh.org.au](mailto:info@wrh.org.au).



THERAPEUTIC OR DELIVERY				Discovery	Invitro POC	Invivo POC	Leadoptimisation	Pre-clinical	Clinical
Indication	Description	Lead / Owner	IP Status						
AAV engineering	Marsupial species mAAV genes for production of rAAV virons and chimeric capsids	CMRI, SCHN	3x Patent (including EP validated and nationalised)	•	•	•			
AAV engineering	Localised and targeted codon optimisation method that enables improved gene expression	CMRI	PCT	•	•	•			
AAV engineering	Novel selection platform for screening large AAV libraries	CMRI	3x National Phase	•	•	•			
Anti Microbial Resistance	Repurposing existing protein inhibitor as an antifungal	WIMR, WSLHD	Provisional	•	•	•			
Anti microbial resistance	Bacteriophage nano-carriers and inflammation	WIMR, WSLHD, USYD	Provisional	•	•	•			
Anti microbial resistance	Conjugative plasmids to protect microbiota	WIMR, WSLHD	Provisional	•	•	•			
Cardiac disease	Biologic for heart failure after myocardial infarction	USYD, VCCRI, WSLHD, WIMR	Provisional	•	•	•	•	•	
Cardiac disease	Myocardial cells for heart repair	WIMR, USYD, WSLHD	Provisional	•	•	•	•		
Gene delivery	AAV-PiggyBac (PB) transposon method to enable stable expression of a transgene	CMRI, SCHN	4x Patent (including EP validated and nationalised)	•	•	•			
Gene expression	AAV mini-promoter for expression of larger genes	CMRI, SCHN	1x Nat Phase; 2x Patent	•	•	•			
Gene therapy	28 novel retinal/CNS AAV capsid polypeptides capable of efficiently transducing human cells	CMRI, SCHN	PCT	•	•	•			
Gene therapy	Liver-specific clinical cassette for expression of transgenes in liver cells	CMRI, SCHN	3 X Nat Phase	•	•	•			
Gene therapy	Novel AAV capsid polypeptides and methods of production that facilitate efficient transduction of human cells	CMRI, SCHN	3 X Nat Phase	•	•	•			
Infectious disease	Novel composition and methods for treating Hepatitis B and D	USYD, WIMR, WSLHD	3 X Nat Phase	•	•				
Infectious disease	Phage-drug conjugate	USYD, WSLHD, WIMR	Provisional	•	•				
Infectious disease	Phage for inflamatory treatment	WSLHD, WIMR	PCT						
Kidney disease	Use of dynamin ring stabilisers as a therapeutic	CMRI	6 X Patent	•	•	•			
Kidney disease	Novel Insulin Modulator	WIMR, WSLHD	PCT	•	•	•			
Oncology	Methods to reduce cell proliferation and induce apoptosis of cancer cells	CMRI	3 X Nat Phase	•	•				
Oncology	CART against HIL3 antigen	WIMR, USYD WSLHD	PCT	•	•	•			
Oncology, infectious disease, transplant	Adoptive T-cell therapy targeting fungal infections post-HSCT	USYD, WSLHD, WIMR, NSWHP	US Patent	•	•	•	•	•	•

Indication	Description	Lead / Owner	IP Status	D	IVT	IVV	LO	PC	C
Oncology, infectious disease, transplant	Adoptive T-cell technology – modulating T cells to target cancerous, viral and fungal antigens	USYD, WSLHD, WIMR, NSWHPw	3 x Nat Phase	•	•	•	•	•	
Oncology, viral infections	Repurposable endocytosis inhibitor for improving immuno-oncology outcomes and/or viral prophylaxis	CMRI	PCT	•	•				
Ventricular arrhythmia	Connexin 45 inhibition for therapy	WSLHD, WIMR	Patent	•	•				

## MEDICAL DEVICES

Name	Description	Lead / Owner	IP Status	Concept	POC	Prototype	Product Validation	Registration	Sales
Acute care Rehospitalisation Risk Prediction Tool	Algorithms and Web-based Decision Support Tool (WDST) to predict risk of unplanned re-admission or re-presentation to ED within 30 days of discharge from hospital.	CSIRO	Available for License	•	•				
Aurora	Microwave ablation catheter for treatment of ventricular tachycardia	WSLHD, USYD	PCT	•	•	•			
Babycam	Mobile based Telemonitoring system for babies and children	CSIRO	Available for License	•	•	•			
CALD Assist™	CALD Assist can assist clinicians communicate with people with limited English proficiency. Developed by Western Health in partnership with CSIRO, CALD Assist does not replace professional interpreters, but can assist overcome basic language barriers when interpreters are not available.	CSIRO/Western Health	Free app downloadable from Apple App store and Google play Store,	•	•	•	•	•	•
CAPAIBL	CAPAIBL is a technology that performs quantitative PET measurements without the need of a MRI. It provides clinical researchers with convenient, reliable and objective PET image analysis.	CSIRO	Commercially partnered. Some availability for research purposes	•	•	•	•		
CSIRO Healthy Diet Score	Digital tool for assessing the healthiness of an individuals diet against the Australian Nutrition Guidelines	CSIRO	Commercially partnered in certain areas	•	•	•	•	•	•
CSIRO Low Carb Diet	Diet and lifestyle platform/program for diabetes management	CSIRO	Commercially partnered in certain areas	•	•	•	•	•	
curAIBL	Quantitative analysis of MRI T1w scans. It provides clinical researchers with convenient, reliable and objective PET image analysis.	CSIRO	Commercially partnered. Some availability for research purposes	•	•	•	•		
eCo App	Patient Electronic Consent Capture App	CSIRO	Available for License	•	•	•	•		
Glaucoma Treatment Device	Low cost device for treatment of glaucoma and delivery of therapies	WSLHD	PCT	•	•	•			



Name	Description	Lead / Owner	IP Status	C	P	PT	PV	R	S
GT-Scan	Finding optimal targets for CRISPR/Cas or zinc-finger nuclease systems in genome engineering applications	CSIRO	Available for License	•	•	•			
Health-e Minds	Managing mental health of people with serious mental illness	CSIRO	Available for License	•	•				
Medtex Platform	NLP Platform used for medical text processing	CSIRO	Available for License	•	•	•			
MICardiac assistant	Mobile App to deliver to deliver individually personalised heart health education tips and support to prevent heart disease	USYD	Open Source & Copyright Protection						
MICE Platform	Medical Image Communication App	CSIRO	Available for License	•	•	•	•		
Monitoring Catheter	Catheter for monitoring and early detection of pericardial effusion	WSLHD	PCT	•	•	•			
MoTHER	Mobile Health Platform based on MOTER v2 - portal and apps - for delivering a mobile health program for management of gestational diabetes	CSIRO	Available for License	•	•	•			
MR based radiation therapy planning	Radiotherapy guided by MRI, application to Prostate and Cervical cancers	CSIRO	Available for license	•	•	•	•		
Mu catheter	Microwave catheter for renal artery denervation with intraprocedural feedback	WSLHD, USYD	5 X Patents, 4 X PCT	•	•	•			
Ontoserver	FHIR Terminology Server	CSIRO	Available for License	•	•	•	•	•	•
Pathling	FHIR server designed to support analytics-enabled apps and augment tasks related to health data analytics.	CSIRO	Available for License	•	•	•			
Patient Admission Prediction Tool (PAPT)	An automated method of predicting patient demand in a medical facility during a specified time period	CSIRO	Available for License	•	•	•	•		
Patient Flow Simulation Models	Discrete event simulation models for various patient flow analytics projects	CSIRO	Available for License	•	•				
PD Buddy	Mobile Health Platform based on MOTER v2 - portal and apps - for delivering a mobile health program for management of Peritoneal Dialysis	CSIRO	Available for License	•	•	•			
PISTOL	Resorbable bone stent technology for fracture healing	SCHN	Patent	•	•	•			
Predicting risk of patient deterioration	Algorithms and Web-based Decision Support Tool (WDST) Real time prediction of risk of patient deterioration using routinely captured patient data including physiological data such as vital signs in electronic medical records.	CSIRO	Available for License	•	•				

Name	Description	Lead / Owner	IP Status	C	P	PT	PV	R	S
Resus Right	Pediatric resuscitation training device	USYD, WSLHD	PCT			•	•	•	
Rotate Plate	External rotation guided growth device	SCHN	Nat Phase	•					
Teledental Screening System	Capture of dental images using mobile phones and grading images for dental health management	CSIRO	Available for License	•	•				
TextCare	Enabling physicians to stay in contact with their patients via text messaging	USYD, WSLHD	Copyright Protection						
VariantSpark	Framework for applying Spark-based Machine Learning methods to whole-genome variant information	CSIRO	Available for License	•	•	•			

## DIAGNOSTICS

Name	Description	Owner	IP Status	Concept	POC	Prototype	Product Validation	Registration	Sales
Clusterin diagnostic	Protein based diagnostic for allograft rejection	Mt Sinai, WSLHD, WIMR	Nat Phase	•	•				
Fibrosis progression test	Genetic test for predicting rapid liver fibrosis progression	WSLHD, USYD	Nat Phase	•	•	•	•		
Glaucoma shunt	Ocular implant and method of production	WSLHD	Provisional	•					
Motion correction software	Data-driven method for rigid motion correction in CT imaging	USYD, WSLHD	Patent	•	•	•	•		
Shigella Diagnostics	PCR based diagnostics for Shigella species identifications	WSLHD	PCT	•	•	•			
Telomere length (cancer)	Algorithm for measurement of telomere length	CMRI	3x Nat Phase	•					

## Key Contacts



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