

HERSTON INFECTIOUS DISEASES INSTITUTE

This Strategic Plan (the Plan) outlines the direction for the Herston Infectious Diseases Institute (HeIDI) from 2020 to 2024. The Plan has been developed in the context of the *Metro North Hospital and Health Service Strategic Plan 2020 – 2024*, supports the direction of the *Metro North Hospital and Health Service Research Strategy 2017 - 2022*, and as centre for innovation and translational research, HeIDI is nominated within MN32 as an important step in the journey of Metro North Hospital and Health Service to become the premier health service provider in the Southern Hemisphere.

The Plan builds on the priorities and achievements of each of the partner organisations – the Metro North Hospital and Health Service, the University of Queensland and Pathology Queensland – and has been developed in consultation with these partners, along with public health and other Herston Precinct stakeholders such as the QIMR Berghofer and CSIRO.

OUR VISION |

To be recognised as a world-leading, collaborative infectious diseases clinical research institute, translating and evaluating novel diagnostic, therapeutic and management innovations into evidence informed clinical practice – our three pillars are translational research, education and clinical excellence.

OUR PURPOSE |

To deliver innovative infectious diseases research that achieves clinical excellence in the surveillance, diagnosis and management of serious infections that impact on our community, prevents and monitors healthcare-associated infections, and promotes partnerships between industry, government and academic institutions. HeIDI will build on existing strong linkages with public health to enable an integrated system-wide response to emerging infectious disease threats.

FOREWORD

Metro North Hospital and Health Service is a recognised leader in the provision and delivery of world class healthcare. The largest of the hospitals in Metro North is the Royal Brisbane and Women's Hospital – a hospital that has been recognised for both of the last two years as one of the top 100 hospitals in the world.

HeIDI will build on this international standing, and a history of clinical excellence, education and research spanning over 150 years on the Herston Precinct - home to many of Queensland's major infectious diseases and microbiology services and resources. By harnessing an exciting critical mass of talented, multi-disciplinary infectious diseases researchers and clinicians on the Herston Precinct, HeIDI will deliver on a platform built of a combination of mature, existing capabilities.

The need to leverage this opportunity is clear. Infectious diseases are the most truly global threats to health, and extending beyond the next pandemic, antimicrobial resistance is a significant global issue with the potential to completely alter the landscape of modern healthcare. The establishment of HeIDI, and the delivery of this Strategic Plan, mark an important step towards innovating and influencing future healthcare for the people of Queensland, Australia and beyond.

HeIDI32

- A nationally and internationally recognised centre of excellence in infectious diseases research, with translation and implementation of research outcomes at a level that assists patients and clinicians in every day practice
- Provider of leadership in infection prevention and infectious diseases care, training and education, influencing policy and practice across Queensland and Australia
- Achieving high value care by adding to the knowledge base for health improvement
- State-of-the-art facilities, enabling cutting edge care, supporting collaborative, multidisciplinary working
- Innovating new diagnostics and technology enabling better patient management and increased capacity in times of disease outbreak
- Operationally sustainable through multiple and diverse funding sources including philanthropy and commercialisation
- Strong, international brand awareness with collaborators and clinical partners across Queensland, Australia, the Asia-Pacific and the Middle East.

OBJECTIVES	<p>OBJECTIVE 1: Enhance the translational and clinical research response to the current and future pandemics, and preparedness for future infectious disease threats caused by known and novel agents.</p>	<p>OBJECTIVE 2: Improve the outcomes of patients with serious infections in our community.</p>	<p>OBJECTIVE 3: Lead the prevention of healthcare-associated infections throughout Queensland by developing and sharing scalable solutions.</p>
STRATEGIES	<ol style="list-style-type: none"> 1. Enhance capacity in Queensland for mass-throughput rapid testing by deploying a pandemic laboratory, including R&D for rapid diagnostics, novel assays, novel specimen types, sample pooling and non-clinical samples 2. Implement and evaluate real-time molecular genomics to inform rapid and effective infection control and public health responses 3. Conduct phase II-IV clinical trials of therapeutics and host-response modifiers for COVID-19 and other novel or emerging infections 4. Develop, implement and evaluate innovative interventions to answer fundamental questions about respiratory virus transmission and optimal PPE use 5. Develop a comprehensive high-consequence infectious diseases plan that is then scalable to other hospitals and health services in Australia 6. Design and develop a physical environment that ensures optimal care for patients and safety for healthcare workers including the development of new high-containment facilities 7. Engage with policy and governance units in Queensland to provide evidence-based advice to address priority infectious disease issues as they arise. 	<ol style="list-style-type: none"> 1. Engage clinicians, scientists and consumers to promote clinical excellence in the prevention and management of infectious diseases of significance to the community of Queensland 2. Provide a physical and social setting for clinicians, scientists, researchers, public health and policy experts to converge and collaborate for innovative new approaches to prevent infections and manage infectious diseases 3. Systematically evaluate outcome data for serious infections to identify opportunities for intervention 4. Conduct high-potency, pragmatic clinical trials of novel therapeutics and dosing/selection of current therapeutics 5. Influence the development of policies and procedures to ensure best practice across all clinical services in Queensland 6. Build local capacity for high-potency infectious diseases research in partner organisations on the Herston Precinct in line with HeIDI's goals 7. Develop a research governance framework that ensures equitable, ethical access to clinical trials and other clinical research for people in Queensland with the greatest need, including First Nations People 8. Partner with our diverse community to identify and co-design strategies that address their needs. Ensure all treatment, policy and research is culturally appropriate and uses a strengths-based approach. 	<ol style="list-style-type: none"> 1. Establish an innovative, Queensland-wide coordinating centre to translate infection prevention and control evidence into optimal clinical practice 2. Design, implement and evaluate novel approaches to preventing serious infections through well designed studies that examine both effectiveness and implementation 3. Support implementation and scale-up of evidence-based infection prevention and control strategies to improve clinical practice and patient outcomes 4. Evaluate and implement novel technologies in infection prevention by partnering with industry.
KPIs	<ul style="list-style-type: none"> • Establish a Research Advisory Committee to assess the research needed to address the unmet needs in infectious disease outbreak planning • Enrol at least 20% of patients with an infectious disease outbreak in a clinical study. 	<ul style="list-style-type: none"> • Establish a multidisciplinary advisory group to discuss management of difficult to treat bloodstream infections • Reduce the all-cause mortality in patients with bloodstream infection by 10% 	<ul style="list-style-type: none"> • Establish the Metro North Infection Surveillance and Prevention Team • Establish a formal process for Statewide healthcare-associated infection prevention guidelines
OBJECTIVES	<p>OBJECTIVE 4: Develop a comprehensive view of the epidemiology and clinical impact of infections in Queensland beyond currently notifiable diseases</p>	<p>OBJECTIVE 5: Identify and implement rapid diagnostics to improve outcome and optimise resource use in serious infections</p>	<p>OBJECTIVE 6: Create a legacy by training the next generation of infectious diseases clinicians and researchers.</p>
STRATEGIES	<ol style="list-style-type: none"> 1. Optimise current data and develop new sources for surveillance of antimicrobial resistance and other significant organisms in our region 2. Identify, collate and analyse clinical and laboratory and public health data to develop a comprehensive view of the state of play of serious infections and antimicrobial resistance in Queensland and our region 3. Improve data analysis, visualisation and reporting to ensure information drives meaningful change for patients and the broader community. 	<ol style="list-style-type: none"> 1. Partner with clinical laboratories to implement and evaluate novel rapid diagnostic platforms for serious infectious diseases 2. Promote and fund basic translational research into novel rapid diagnostic tests for infectious diseases 3. Ensure multi-disciplinary implementation of diagnostics to achieve practical clinical utility of rapid and novel diagnostics in the real world 4. Partner with regional, rural and remote sites (including Aboriginal and Torres Strait Islander Health Services) to provide deployable rapid diagnostics for infection anywhere in Queensland where there is a clinical need. 	<ol style="list-style-type: none"> 1. Support the development of an appropriately skilled clinical and laboratory workforce to meet the demands of current and emerging trends in infectious diseases 2. Provide a pathway for all clinicians engaged in HeIDI to gain research qualifications 3. Ensure all members of the multidisciplinary team have an opportunity to develop skills by participating in health services, clinical and laboratory translational research.
KPIs	<ul style="list-style-type: none"> • Determine the incidence of bloodstream infections in Queensland by organism type and antibiotic susceptibility 	<ul style="list-style-type: none"> • Roll-out at least one new rapid diagnostic test for infectious diseases annually 	<ul style="list-style-type: none"> • Increase the number of students who have completed higher-degrees by research (M. Phil and PhD) by 2025. • Increase the number of graduating students who successfully obtain fellowship funding.