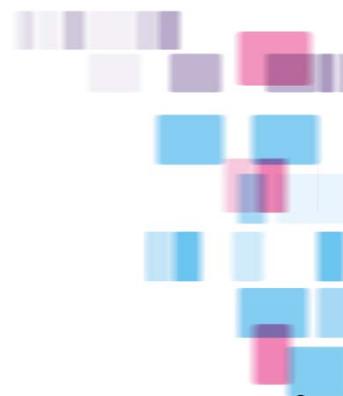


NSW Health Pathology Research and Innovation Framework

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1 Research and Innovation: establishing a framework

High quality research drives innovation. It advances our understanding of the world around us, delivers change and improvements. Research and innovation lie at the heart of NSW Health Pathology's efforts to create better health and justice systems.

In medical science, research not only improves our knowledge of the human body, but leads to significant breakthroughs once thought impossible. In forensic and analytical science, research is advancing how crimes are being solved and better protecting our communities. It is also evolving how unexplained and unexpected deaths are handled, helping loved ones gain vital answers to help minimise grief.

The breadth of knowledge and expertise across NSW Health Pathology is extensive. Importantly, it's being applied daily by our clinicians and scientists, who are important partners in research and innovation, to deliver excellence in service and outcomes.

2 Introduction

Research and innovation are of critical importance if NSW Health Pathology is to realise its vision of *“leading through innovation and collaboration to deliver excellence in service and outcomes”*

Through implementing the following Research and Innovation (R-I) Framework, NSW Health Pathology aims to be an **innovative research powerhouse** led by an **interconnecting network of leading specialists**.

NSW Health Pathology's Research and Innovation (R&I) Framework aims to;

- **Support the development** of new diagnostic capabilities, forensic analysis methods and models of service delivery.
- **Enhance patient outcomes** through applied research.
- **Facilitate, support and acknowledge** the innovative contributions NSW Health Pathology (NSWHP) researchers make to understanding disease pathogenesis, improving service delivery and enhancing patient outcomes.

3 Key Principles

For NSW Health Pathology's R&I Framework to successfully deliver improvements for the State's health and justice system, in particular patients, clinicians, and LHDs, it will be underpinned by the following key principles.

- **Research and innovation is part of core business and will be integrated into the existing pathology and forensic governance and organisational structures.**
- We will be positioned at the forefront of new tests and emerging technologies, as well as the generation of new knowledge, supporting the translation of research into practice.

- 
- We will build strong research collaborations between our research groups and by networking with scientific, clinical and/or forensic colleagues within universities, medical research institutes, hospitals, industry and other health services.
 - We will determine the future role of technology and identify emerging trends to design innovative models of service delivery, and high-quality, safe, patient-centred pathology and forensic services.
 - We will embed a culture of research and innovation.
 - We will train the next generation of researchers by supporting the professional development of staff and academic collaborators in research, supporting research trainees supervised by research-trained staff.
 - We will contribute to valuable national and international research.
 - We will support high quality, peer-reviewed, scientifically sound, ethically approved research and endeavour to promote and acknowledge all research successes.

4 Research Supported

The R&I Framework aims to ‘facilitate, support and acknowledge’ the innovative contributions our colleagues make to both research and service delivery. Celebrating the successful and important changes derived from research will increase the profile of research both within NSW Health Pathology and externally. Communication and collaboration between NSW Health Pathology researchers, and their external research partners, is essential to ensuring research translates into practice.

NSW Health Pathology will support the following research:

- Applied research that relates to delivery of pathology, forensic or corporate research.
- Basic science, clinical, population and public health research, and research translation that has clinical or forensic applications.
- Research on quality use or appropriate ‘cost-effective’ use of pathology tests by clinical services.
- Clinical trials, health surveillance and population research that involves substantial pathology testing.
- Provision of data, expertise and infrastructure for facilitation of approved research undertaken by groups.
- Economic evaluation research on the impact of new technologies, methodologies or changes to clinical service provision, as well as the impact of new facilities/infrastructure integrated with diagnostic and analytical services that enable quality research.

5 Framework and Implementation Measures

The Research and Innovation framework closely aligns to the NSW Health Pathology Strategic Plan for 2014-2018. The Framework and implementation measures are developed using the following (balanced scorecard) approach:

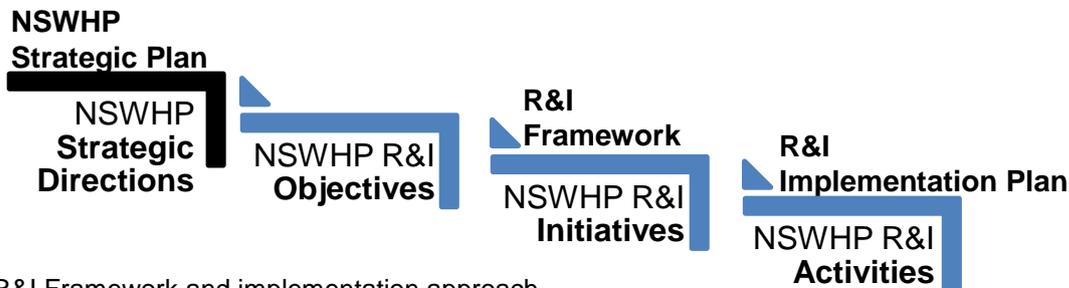
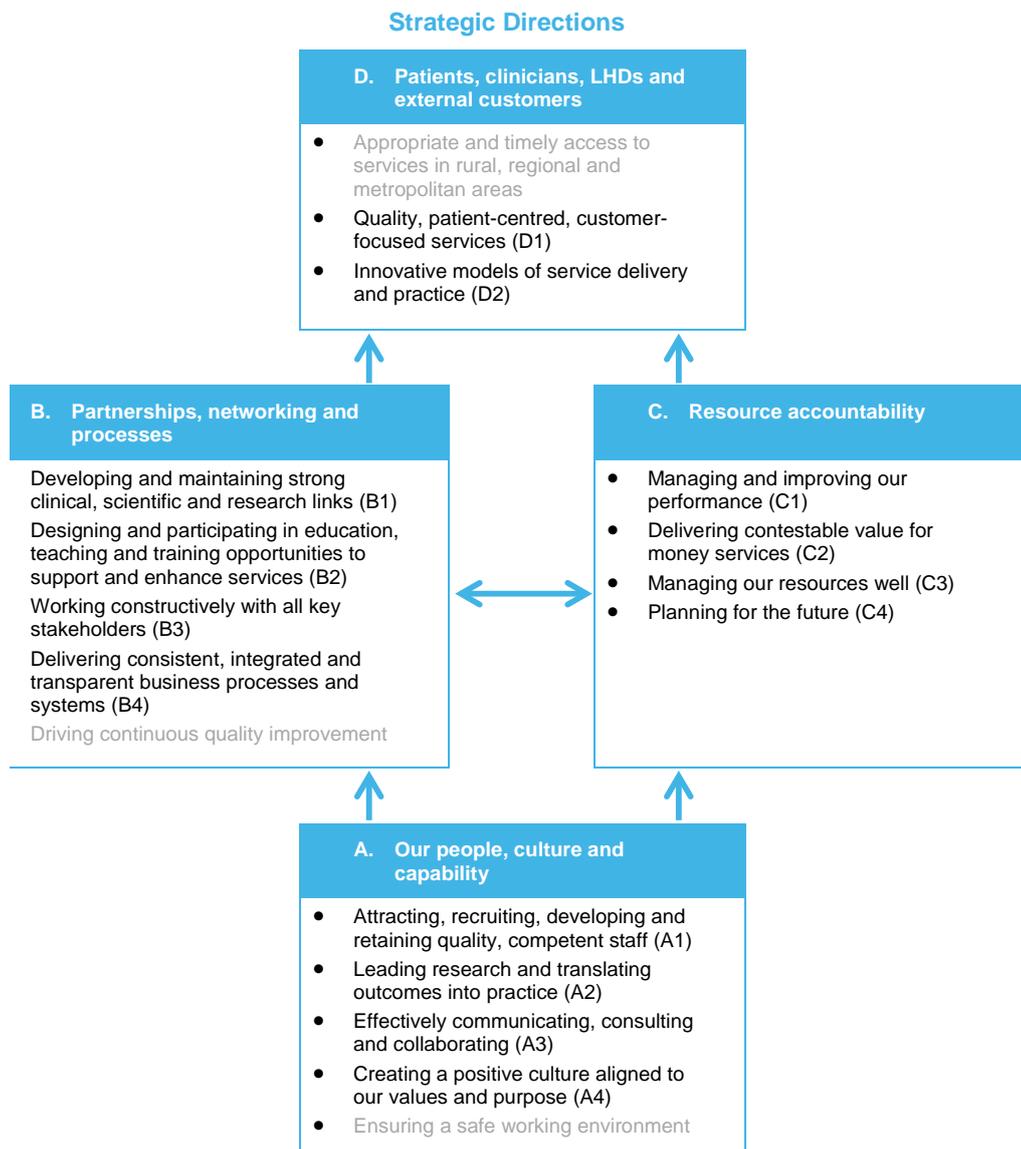


Fig 1. R&I Framework and implementation approach

5.1 NSW Health Strategic Directions



5.2 The NSW Health Pathology R&I Framework Objectives

The following objectives ensure NSW Health Pathology optimises the use of its resources and focuses decisions about research and innovation in areas that will deliver most benefit to the NSW public health and justice systems, and pathology in general.

There are nine overarching R&I objectives for all initiatives set within the R&I Framework. Each objective relates to a NSWHP strategic direction.

NSW Health Pathology Strategic Directions

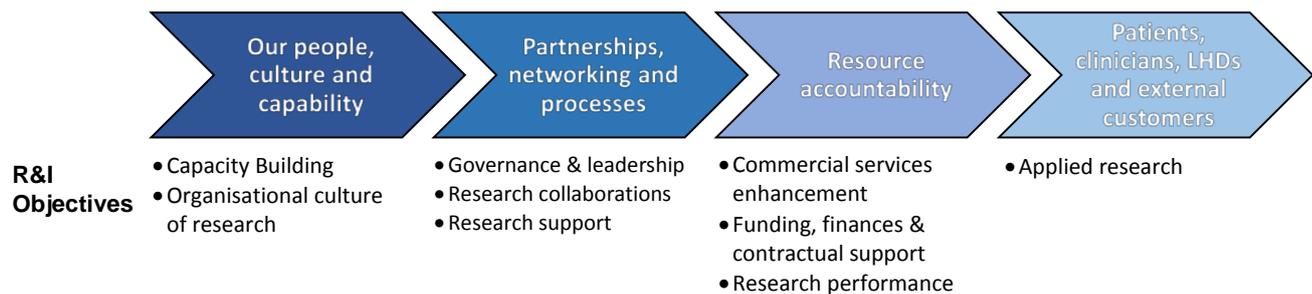


Fig 2. R&I framework key objectives under each NSWHP strategic direction

The R&I objectives have been defined as;

- **Capacity Building** - Be leaders at the forefront of new technological advancements in service delivery and clinical care through building a workforce that has the expertise to research and innovate. To build capacity in systems and processes, enabling NSWHP to be an access point for research for the health and justice systems.
- **Organisational Culture of Research** - Encourage, empower and promote the workforce to use their expertise to research improved methods of service delivery and/or improved patient outcomes.
- **Governance & Leadership** - To lead, advocate and ensure the role of research and innovation transparently aligns to improvements in service delivery and patient outcomes.
- **Research Collaborations & Communications** - Foster collaborations both within and across our organisation to Local Health Districts, medical research institutes, clinical/contract research organisations, law enforcement bodies, universities and other government organisations.
- **Research Support** - Provide support to the needs of all types of research, and researchers, within and across the translational pipeline.
- **Commercial Services Enhancement** – To develop/improve financially sustainable mechanisms around ‘research as a service’, enabling ongoing support for research.
- **Funding, Finances & Contractual Support** - Formalise systems to support research and research-related commercial services, through efficient and effective processes.
- **Research Performance** - Transparent reporting, monitoring and evaluation of research initiatives against relevant strategic directions.
- **Applied Research** – To support research, and the translation of research, into customer-focused outcomes, such as patient, clinician, LHD, NSW Health and other government key priority areas.

5.3 NSW Health Pathology R&I Initiatives

Each objective has one or more initiatives that support the delivery of the NSWHP Strategic plan. The following outlines each of the initiatives and describes in brief some of the current associated activities. Activities will change over time.

Our people, culture and capability

CAPACITY BUILDING

- Quality assurance & ongoing quality improvement (A1)
- Supporting research careers (A1)

Activities include supporting professional development of NSWHP employees interested in pursuing research as a career, encouraging ongoing quality improvement training for current researchers and enhancing service delivery through teaching initiatives.

ORGANISATIONAL CULTURE OF RESEARCH

- Building accountability framework (A2)
- Defining culture of research and innovation (A4)
- Promotion and dissemination of research activities (A3)
- Research and innovation incentives (A1)

Activities involve creating an R&I organisational culture, embedding research as part of performance reviews/PDs/recruitment-selection criteria, and developing reportable KPIs for ensuring the translation of research into practice. Communication of research opportunities, promotion of research activity, acknowledging and supporting current NSWHP researchers.

Partnerships, networking and processes

GOVERNANCE & LEADERSHIP

- Governance & consultation mechanisms (B4)
- Research & Innovation framework (B4)

Activities include the development of the framework, implementation/communication plan to support the framework's rollout, and establishment of an R&I Advisory Committee to provide guidance.

RESEARCH SUPPORT

- Assist in the advancement of the state-wide biobanking and genomics strategies (B1)
- ICT infrastructure & data analysis (B3)
- Research policies & procedures (B4)
- Assay development (B4)

Accommodating researchers within the NSWHP service, activities include generating policies, procedures and templates on conducting research within NSWHP facilities, as well as supporting the development of research data storage, a state-wide biobank and genomics service.

RESEARCH COLLABORATIONS & COMMUNICATIONS

- Innovation think-tank (B3)
- Promotion of research & services (B1)
- Service enhancement through teaching (B2)

Activities include the promotion of research and research-related services externally, encouraging networking opportunities for NSWHP researchers, encouraging academic affiliations through the award of clinical academic or conjoint academic titles or employing some university academics with clinical (pathology) appointments, and assisting IP Committee to develop processes for identifying and enhancing commercialisation opportunities.

Resource Accountability

COMMERCIAL SERVICES ENHANCEMENT

- Enhancing commercialisation opportunities (C4)
- Develop new innovative commercial services (C1)
- Research as a service (C2)

Activities involve identifying and exploring new commercialisation opportunities, assisting in the development of new, innovative, commercial services and developing business support systems for new contract research.

FUNDING, FINANCES & CONTRACTUAL

- Coordinate and build research infrastructure (C4)
- Discretionary funding for research (C3)
- Assist with management of trust funds (C3)

Activities include assisting with the coordination of business cases for research infrastructure and funding support, developing internal processes for managing internal funding and processes to assist local trust fund committees with supporting high quality research.



RESEARCH PERFORMANCE

- Performance reporting (C1)

Activities are around activity metrics collection, collation and reporting, monitoring all NSWHP research activity.

Patients, Clinicians, LHDs and External Partners

APPLIED RESEARCH

- Ensure forensic and analytical science service is integrated in all R&I initiatives (D1)
- Establish research priorities (D2)
- Translating research into practice (D2)

Activities include supporting research into emerging fields and areas of organisational and national interest such as FASS-based research, improvements to blood management systems, imaging data informatics, genetics etc., as well as assisting with the introduction of new tests/technologies into clinical practice.

5.4 Alignment of R&I Initiatives to NSWHP Strategic Direction

The following outlines each of the initiatives as they relate to the strategic direction of NSWHP.

A. Our people, culture and capability
<p>A1: Attracting, recruiting, developing and retaining quality, competent staff</p> <p>A1.1: Supporting research as a career (<i>Objective: Capacity Building</i>) A1.2: Research and innovation incentives (<i>Objective: Capacity Building</i>) A1.3: Quality assurance and ongoing quality improvement (<i>Objective: Capacity Building</i>)</p>
<p>A2: Leading research and translating outcomes into practice</p> <p>A2.1: Building accountability framework (<i>Objective: Organisational culture of research</i>)</p>
<p>A3: Effectively communicating, consulting and collaborating</p> <p>A3.1: Promotion and dissemination of research activities (<i>Objective: Organisational culture of research</i>)</p>
<p>A4: Creating a positive culture aligned to our values and purpose</p> <p>A4.1: Defining culture of research and innovation (<i>Objective: Capacity Building</i>)</p>
B. Partnerships, networking and processes
<p>B1: Developing and maintaining strong clinical, scientific and research links</p> <p>B1.1: Assist in the advancement of the state-wide biobanking and genomics strategies (<i>Objective: Research Support</i>) B1.2: Promotion of research and services (<i>Objective: Research Collaboration & Communications</i>)</p>
<p>B2: Designing and participating in education, teaching and training opportunities to support and enhance services</p> <p>B2.1: Service enhancement through teaching and training (<i>Objective: Research Collaboration & Communications</i>)</p>
<p>B3: Working constructively with all key stakeholders</p> <p>B3.1: ICT infrastructure and data analysis (<i>Objective: Research Support</i>) B3.2: Innovation think-tank (<i>Objective: Research Collaboration & Communications</i>)</p>
<p>B4: Delivering consistent, integrated and transparent business processes and systems</p> <p>B4.1: Generate research policies and procedures (<i>Objective: Research Support</i>) B4.2: Assay development (<i>Objective: Research Support</i>) B4.3: Governance and consultation mechanisms (<i>Objective: Governance & Leadership</i>) B4.4: Develop and circulate a research and innovation framework (<i>Objective: Governance & Leadership</i>)</p>
C. Resource accountability
<p>C1: Managing and improving our performance</p> <p>C1.1: Reporting on research performance (<i>Objective: Research Performance (metrics)</i>) C1.2: Develop new innovative commercial services (<i>Objective: Commercial Services Enhancement</i>)</p>

<p>C2: Developing contestable value for money services C2.1: Research as a service (<i>Objective: Commercial Services Enhancement</i>)</p>
<p>C3: Managing our resources well C3.1: Assist with management of trust funds (<i>Objective: Funding, Finance and Contractual Support</i>) C3.2: Processes for using discretionary funds for research (<i>Objective: Funding, Finance and Contractual Support</i>)</p>
<p>C4: Planning for the future C4.1: Coordinate and build research infrastructure (<i>Objective: Funding, Finance and Contractual Support</i>) C4.2: Enhancing commercialisation opportunities (<i>Objective: Commercial Services Enhancement</i>)</p>
<p>D. Patients, clinicians, LHDs and external customers</p>
<p>D1: Quality, patient-centred, customer-focused services D1.1: Ensure FASS is integrated into all R&I initiatives (<i>Objective: Applied Research</i>)</p>
<p>D2: Innovative models of service delivery and practice D2.1: Establish research priorities (<i>Objective: Applied Research</i>) D2.2: Translate research into practice (<i>Objective: Applied Research</i>)</p>

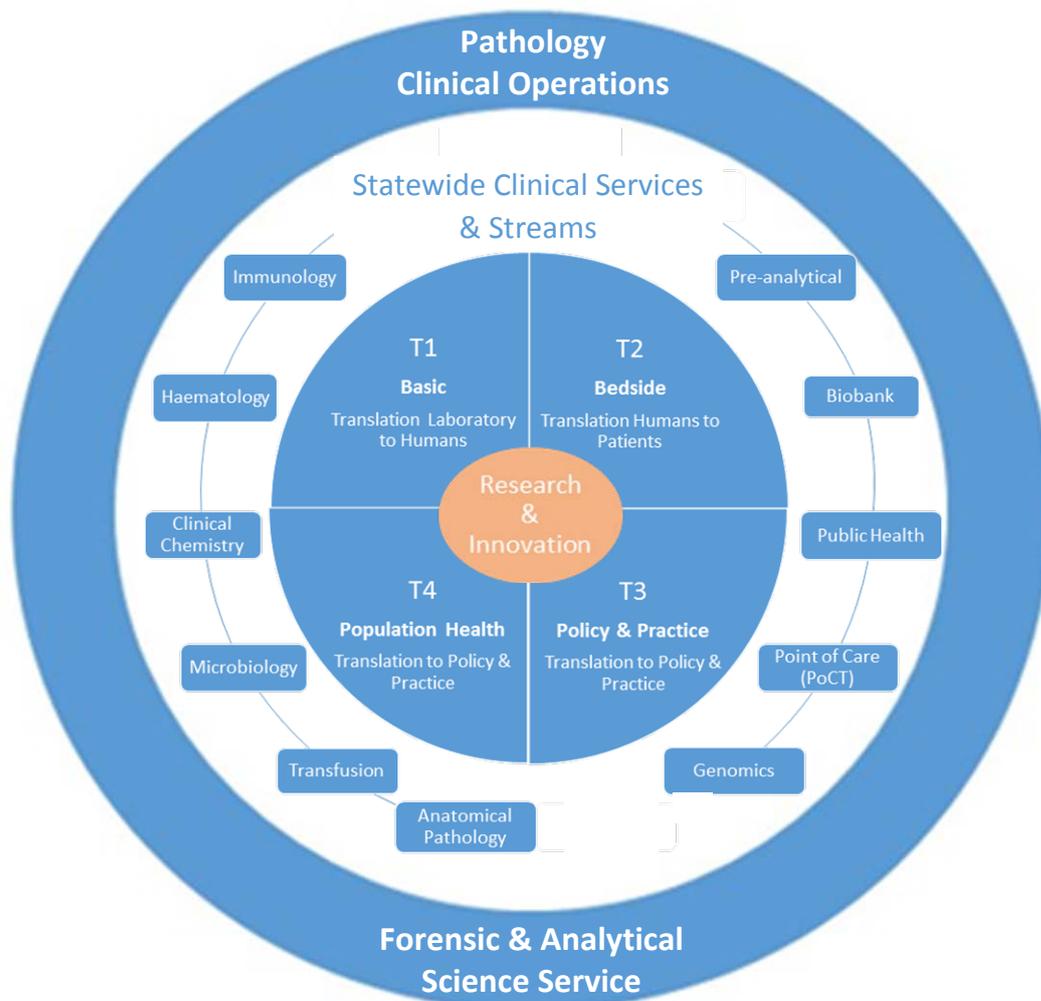
6 Governance Structure

Implementation of NSWHP's R&I Framework falls under the portfolio of the Executive Director, Clinical Governance and Quality. The Executive Director, Clinical Governance and Quality will report to the Strategic Leadership Team (SLT) on implementation progress.

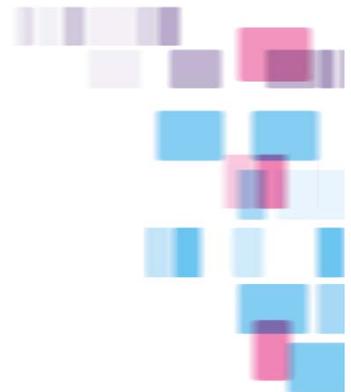
Reporting to the NSWHP's Executive Director, Clinical Governance and Quality, the Research and Innovation Project Manager will lead the implementation of the Framework.

6.1 The R&I Advisory Committee

The Research and Innovation (R&I) Advisory Committee will act in a consultative role, communicating new opportunities, and providing strategic direction and implementation oversight. Representation in the R&I Advisory Committee is geographically dispersed, comprised of representatives from across NSW Health Pathology Clinical Operations, Clinical Streams and Service Platforms. Membership will also include representation from across the translational research pipeline. Figure 1 below provides a map of membership representation.



3. Map of R&I Advisory Committee Representation



The R&I Advisory Committee shall consist of:

- Executive Director, Clinical Governance and Quality (*Chair*)
- Project Manager, Research and Innovation (*Secretariat*)
- Nominated representative from Corporate Strategy & Reform
- Research representatives from each Clinical Stream
- Research representatives from state-wide services; Forensic Analytical and Science Service (FASS), Genomics, Public Health, Biobanking and Point of Care Technology (PoCT).

Research and Innovation Working Parties will form, as needed, to assist the Project Manager with implementing the framework operationally across clinical streams and state-wide services. Activities may include, but not be limited to, central activity metrics collection/reporting, governance policy development and research promotion/dissemination of information.

The following figures outline governance structure.

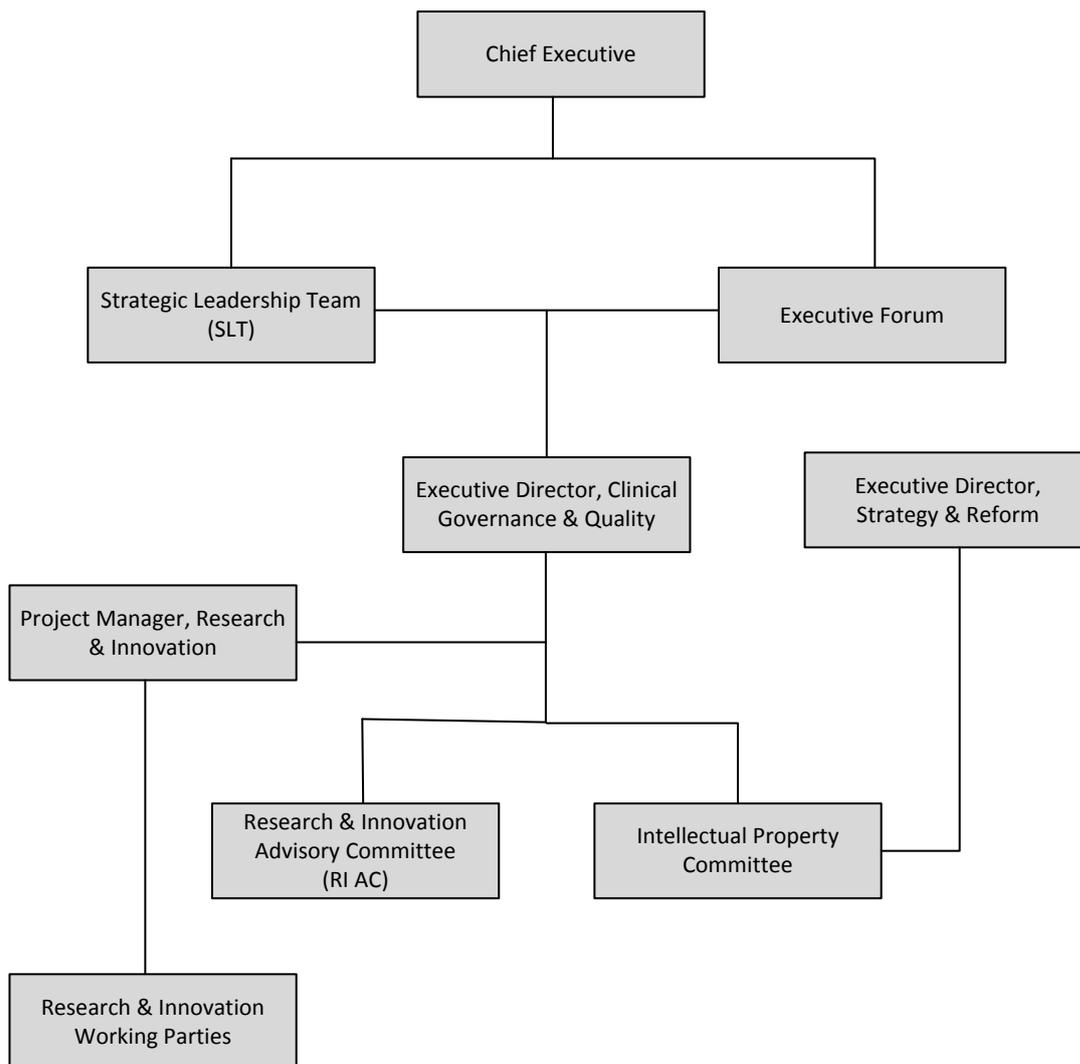


Fig 4. Research & Innovation Governance Structure

6.2 Implementation of the Framework

The R&I Framework will be implemented under a continuous improvement cycle. The R&I Advisory Committee will act in an advisory role, determining new opportunities and monitoring the implementation program for efficiency and effectiveness. To reflect the dynamic environment of the research industry, re-planning and re-setting of key priorities and performance targets will occur, as required.

A long-term and 12-month operational plan will facilitate the implementation of the framework, ensuring transparency of implementation progress.

7 Roles and Responsibilities

7.1 Executive Director, Clinical Governance and Quality

The Executive Director, Clinical Governance and Quality will:

- Act as R&I Advisory Committee Chair
- Provide advice and advocate on behalf of researchers to NSW Health Pathology Strategic Leadership Team
- Encourage, initiate and support research collaborations across NSW Health Pathology
- Advocate to break down barriers to collaboration and welcome new research partnerships
- Represent NSW Health Pathology research to external parties when necessary

7.2 Research and Innovation (R&I) Project Manager

The R&I Project Manager will:

- Support the Executive Director, Clinical Governance and Quality with embedding a Research and Innovation (R&I) framework across NSW Health Pathology.
- Act as the secretariat for the R&I Advisory Committee
- Complete the NSW Health Pathology R&I Framework, develop an implementation plan for the framework and lead implementation of identified initiatives
- Review current NSWHP research efforts, including external collaborations, to develop a better understanding of current activities and initiatives, and their funding.
- Establish reporting and monitoring structures, systems and processes to maintain a research database
- Develop initiatives, systems and processes to capture and drive innovation
- Develop relevant research and innovation governance policies and procedures
- Assist with research innovation communications across the networks
- Develop research and innovation KPIs



- Work with the finance team to establish financial models to assist researchers with assessing research funding costs and evaluating contracts
- Support work that aims to translate research into practice

7.3 Research and Innovation (R&I) Advisory Committee:

The R&I Advisory Committee will:

- Monitor the R&I Framework implementation plan, identifying gaps in activity and advising on priorities based on the NSWHP strategic directions.
- Facilitate communication of research activity between research groups and facilities, assisting with establishing cross-network research collaborations where possible
- Provide recommendations to the NSWHP Strategic Leadership Team (SLT) on appropriate models and methods for best identifying and supporting current and upcoming NSWHP researchers.
- Share research activity, outcomes and information on the development and implementation of new processes, technologies and tests across NSW Health Pathology
- Provide a forum for reviewing evaluations of emerging technologies and innovative corporate processes, and advocating for their adoption.
- Provide a forum for evaluation and advocacy of research in emerging and neglected diseases
- Assimilate research material required for an annual research report
- Advise on National, State and local grant applications/business case developments
- Promote partnering in funding opportunities
- Advocate for the introduction of NSWHP policies, procedures and supporting systems that impact on research activity.
- Advise on specific research and innovation issues that may impact on NSWHP researchers
- Provide advice on the potential for implementation of innovations such as new models of care.
- Identify and advise on how to address barriers for research across the organisation
- Advise the NSWHP Strategic Communications team about new media opportunities surrounding NSWHP research and/or researchers.

8 Version History

The approval and amendment history for this document must be listed in the following table.

Version No	Effective Date	Approved By	Approval Date	Risk Rating	Sections Modified
V1.0	27/03/2017	Executive Director, Clinical Governance & Quality	7/03/2017	Medium	New Framework

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9 References

- Gleeson, M. (2014; amended 2016). NSW Health Pathology Research and Innovation Framework 2016: Report on the Development of a Research and Innovation Framework and Principles for Research “Research for the Future”. (unpublished)

10 Review

This policy will be reviewed by 7th March 2018.

11 Risk

Risk Statement	If changes are made to the value which NSW Health Pathology places on the integration of ‘Research and Innovation’ into core business, organisational operations may not align to expectations.
Risk Category <i>Choose one category</i>	Leadership and Management

12 Further Information

For further information, please contact:

Policy Contact Officer	Position: Research and Innovation Project Manager
	Name: Amanda M. Koegelenberg
	Telephone: (02) 4920 4033
	Email: Amanda.koegelenberg@health.nsw.gov.au

13 Appendix

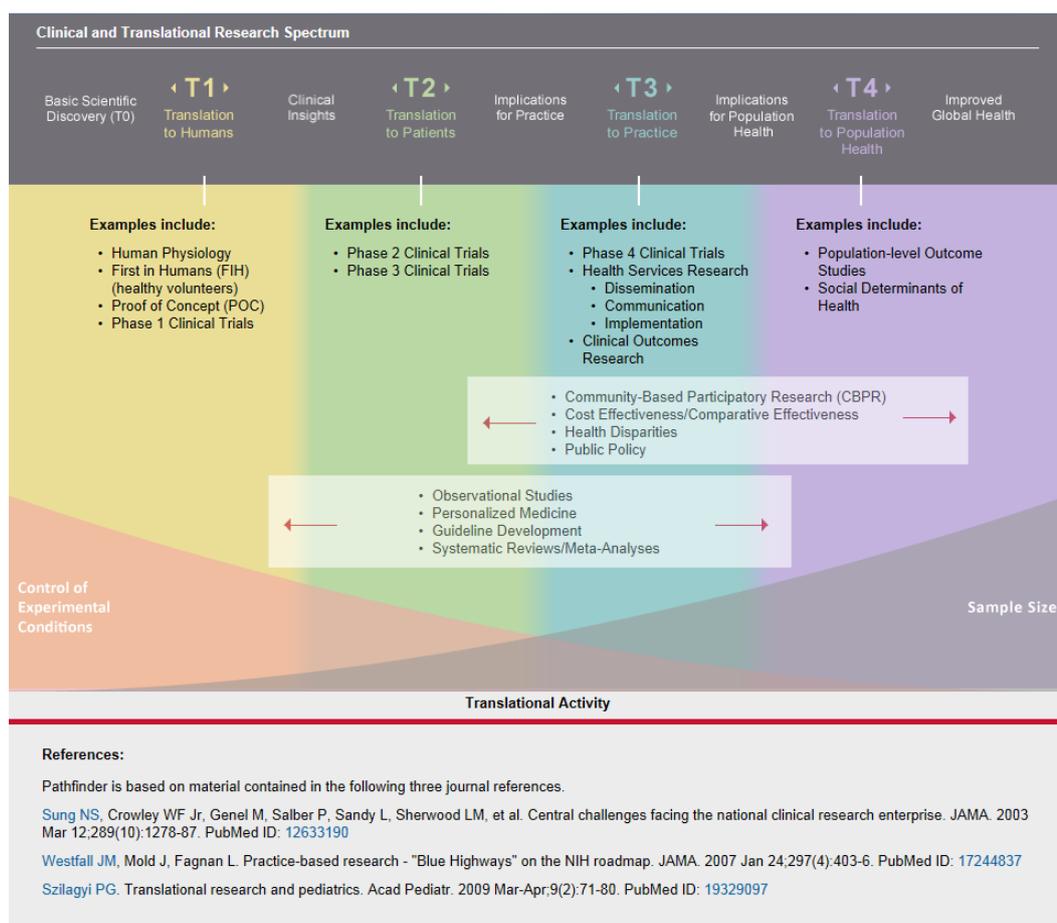
13.1 R&I Framework Background

The development of a Research and Innovation (R&I) Framework commenced in late 2013, following a review conducted by Professor Maree Gleeson in 2012. The draft framework, titled; “NSW Health Pathology Research and Innovation Framework - Report on the Development of a Research and Innovation Framework and Principles for Research”, was developed in 2014 and later amended in 2016 to reflect changes to the organisational structure.

13.2 R&I Framework Purpose

The NSW Health Pathology Research and Innovation (R&I) Framework provides a transparent process for governing, monitoring and managing research and innovation activities within NSW Health Pathology. The purpose of the framework is to outline how NSW Health Pathology will embed research and innovation as part of core business, positioning itself as a flexible organisation, supporting the development and implementation of new, innovative models of service delivery into practice.

13.3 Research Translation Framework



Harvard Catalyst - Pathfinder, *Clinical and Translational Research Spectrum*, viewed 22 December 2016, <https://catalyst.harvard.edu/pathfinder/>