

SURGICAL EDUCATION, RESEARCH & TRAINING (SERT) INSTITUTE

# STRATEGIC PLAN 2019-2021





The Royal North Shore Hospital (RNSH) Surgical Education Research and Training (SERT) Institute is a clinician initiative established to promote, assist and encourage the engagement of surgeons in academic activities that will result in improvement in patient outcomes and clinical care. This initiative was identified to overcome barriers developed in recent years that impact on the capacity surgeons to be involved in academic research, clinical auditing, clinical leadership, teaching, mentoring, administration and clinical governance processes and roles within the hospital. The SERT Institute was established in 2017 with the support of the Northern Sydney Local Health District (NSLHD) Chief Executive and the University of Sydney.

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**The RNSH SERT Institute in partnership with**



**Health**  
Northern Sydney  
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# Foreword



Surgeons have a challenging career pathway involving many years of intense high-level study, demanding schedules and long hours of work. Surgeons need to be highly motivated and skilled to combine work, study, research and other academic activities both during their training and afterwards as part of their surgical practice.

Surgeons are highly motivated and passionate about their work, providing support where appropriate to foster a strong and positive surgical culture and promote academic engagement. For visiting medical officers (VMOs), who often work across several locations scheduling education, training and research activities can be challenging. While acknowledging this challenge, most surgeons still appreciate that academic activities are crucial to improving patient care, as it ensures the highest level of surgical practice and participation in the training of future surgeons.

The SERT Institute will adopt a creative and supportive approach to working with surgeons, assist with academic research, identify opportunities for collaborations, establish platforms and environments that promote sharing of knowledge and skills, in addition to supporting and developing a surgical culture that will stimulate and grow academic engagement.

The SERT Institute is progressing steadily through ongoing consultation with surgeons and academic partners. We are confident we can provide creative and strategic solutions that will make the NSLHD the most dynamic place for surgeons to work.

A handwritten signature in black ink that reads "Tom Hugh." The signature is written in a cursive, flowing style.

**Professor Thomas Hugh**

Director of the RNSH SERT Institute

Chair of Surgery, Northern Clinical School - University of Sydney

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# Introduction

This document outlines the strategic direction for **The Surgical Education, Research Training (SERT) Institute** from 2019 – 2021.

Strategies were developed following a broad consultation process with surgeons, trainees, key stakeholders and academic partners. The SERT Institute goal is to improve and enhance surgical academia across the Division of Surgery at Royal North Shore Hospital and beyond.

It is widely recognised that many RNSH surgeons are proactively engaged and hold academic lead roles on the campus. Many are planning to or are already undertaking a variety of research activities. Some also participate in surgical committees, have membership with surgical organisations and associations, while others provide higher degree supervision as well as student and junior medical officer (JMO) mentoring. In addition, a number of surgeons support the Surgical Skills Centre training and the University of Sydney Master of Surgery course. Many surgical departments are also actively involved with surgical auditing and analysis activities through the Data Analysis & Surgical Outcomes (DASO) Unit.

These are all areas that require strengthening and ongoing development that the SERT Institute will promote and collaborate on with surgical specialty services across the RNSH Campus. We will strengthen partnerships, in addition to recognising and promoting surgical achievements by RNSH surgeons.

Expected benefits for RNSH from the SERT Institute activities outlined in this strategy include:

- Increased mentoring and support for surgeons (at all levels) in relation to clinical practice, education, research and training.
- Enhanced skills development around audit and research with likely concomitant benefits to patients.
- Clear academic advancement pathways for new and existing surgeons.
- Improved collaboration with internal and external stakeholders.
- Enhanced reputation of RNSH as a centre for both clinical and academic surgical excellence.

The presence of barriers to conducting academic surgical activities is problematic across the whole public healthcare system and is not confined to RNSH. By identifying and finding ways to overcome these barriers, the SERT Institute aims to develop an academic surgery model which could act as a blueprint to improve surgical practice in other public hospitals.

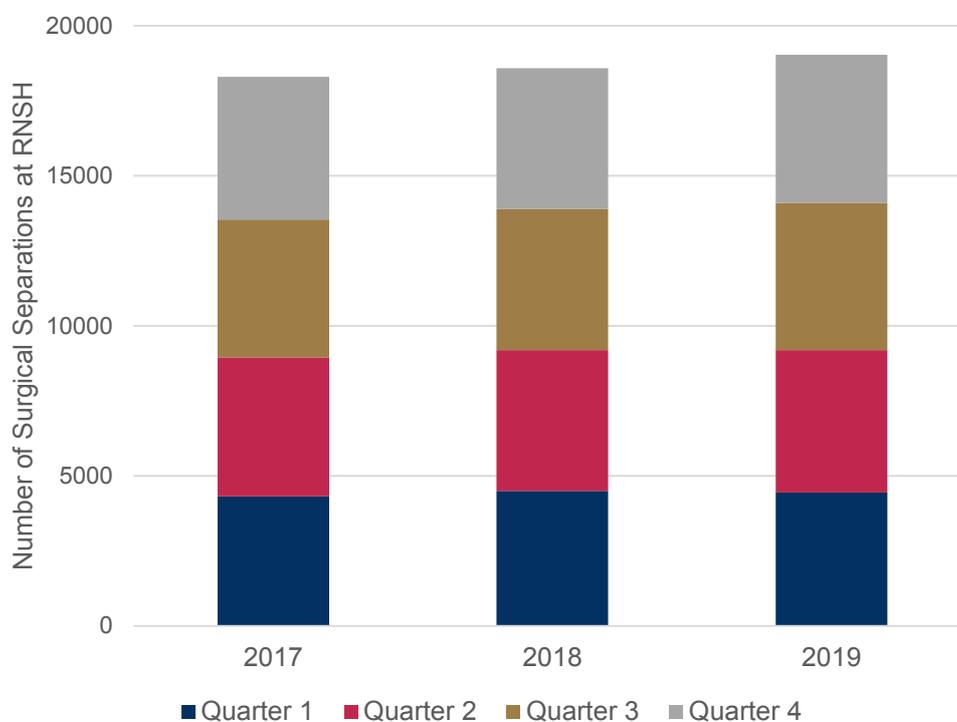
# Setting & Context

## Surgery at North Shore

Royal North Shore Hospital (RNSH) is a large tertiary referral and teaching hospital that provides high-quality healthcare services with state-of-the-art technology and equipment. It employs over 5,000 staff in the lower North Shore of Sydney alone serving approximately 5% of the Australian population.

RNSH hosts a number of NSW statewide specialist services that include an Acute-care Burns Unit, a Neonatal Intensive Care Unit and an Interventional Neuroradiology Unit. It is also a highly recognised and well respected centre for major trauma and cancer care.

The surgical workload at RNSH is impressive with an average of 4,659 surgical separations every quarter.



NSLHD Report Central Admitted Patient Dataset, accessed February 2020

Uniquely, North Shore Private Hospital (NSPH) is co-located with RNSH. Both public and private surgical services have expanded over the last 20 years to meet the local community needs and a growing population. However, the co-location of a private and public hospital on one campus has resulted in a change in the distribution of surgical cases undertaken, with a significant proportion of elective surgical procedures transitioning to the private healthcare sector. This growth of elective surgery outside of the public sector has also been aided by the expansion of a number of other private hospitals within a 20km radius of RNSH.

The impact of a relative decrease in elective surgery activity at RNSH has resulted in a proportional increase in emergency and trauma procedures, acute and highly complex surgery, and some cancer and specialised interventional procedures. This change has had an unintended negative impact on the capacity of academic surgery on the Northern campus as further detailed below.

## Academic Surgery

**Academic surgery** has a specific meaning in a university context often referring to academic appointments in a medical school department of surgery<sup>4</sup>. However, at RNSH the term is used in a broader sense to include any activity undertaken by surgeons that extends beyond the provision of surgical care for patients. These activities include clinical audit, clinical and basic research, teaching and mentoring of students and Junior Medical Officers (JMOs), as well as range of other administrative and committee activities.

The RNSH Division of Surgery and Anaesthesia (DoSA) has 13 surgical departments, each providing a diverse range of tertiary surgical services. These comprise the following:

- Orthopaedics
- Ophthalmology
- Cardiothoracic Surgery
- Urology
- Colorectal Surgery
- Vascular Surgery
- Neurosurgery
- Endocrine Surgery
- Breast/Melanoma Surgery
- Upper Gastrointestinal Surgery
- Hand and Peripheral Nerve Surgery
- Burns, Plastics and Reconstructive Surgery
- Otolaryngology, Head and Neck Surgery

All of the above specialty departments engage in various levels of education and training to support the next generation of surgeons. In the current health care system in NSW all surgeons face significant barriers to academic engagement. A challenge for the SERT Institute will involve collating the level of academic surgery activities currently undertaken at RNSH and identifying strategies on how to best improve and support these activities across all departments.

The SERT Institute will focus on stakeholder engagement to understand the needs of RNSH surgeons in order to support surgical academic activities and surgical training.

This work commenced in 2017, when the SERT Institute was established and involved:

- consulting with surgeons, support staff and directors of surgical training.
- undertaking a quantitative survey of activities.
- conducting a systematic literature review on this subject.

These activities not only identified enthusiasm to participate in surgical academia and research at RNSH if infrastructure was made available, but also identified some unique barriers and limitations for surgeons. For example, several senior surgeons expressed the need to strengthen links with the Northern Clinical School, and consideration of supporting and facilitating the granting of honorary Sydney University academic positions.

The Sydney Medical School and the Northern Clinical School (NCS) at RNSH are responsible for coordinating medical education across the local health district. The post-graduate **Sydney Medical Program** conducted through the NCS and RNSH provides students with early exposure to surgical terms and teaching. However, surgical teaching and mentoring in the current healthcare climate is challenging as it mostly relies on surgeons employed as Visiting Medical Officers (VMOs) in the public hospital system. A VMO appointment is the most common contractual arrangement in NSW, and < 10% of surgeons are either salaried Staff Specialists or university-funded Clinical Academics. Partly as a result of the increasing demands of a private practice, VMO consultants have less time to engage in academic activities within the public hospital system than in previous times. In many public hospitals across the Sydney metropolitan (teaching and tertiary referral hospitals in particular) this situation has led to reductions in surgical departmental infrastructure, which subsequently impacts on teaching and research capability and capacity.

At RNSH a number of surgeons have remained active in providing leadership, supporting education and training and pursuing scholarships and grants to conduct surgical research. However, there are clear barriers and few incentives for most VMO's to be actively involved with the public hospital beyond providing patient care and treatment.

## Moving Forward

Today's healthcare service structures necessitate that surgeons have both a public and private practice. It is therefore realistic to expect a reduction in their availability, participation and capacity to support teaching and research in the public hospital setting. Alternate strategies need to be explored to entice surgeons back to the public sector to share knowledge, build skills and support the development of future surgeons and the future of the public health care system.

These activities should not be limited to traditional academia such as clinical teaching and research. They could include participation in clinical audits, hospital-wide leadership programs and roles, rewarding and productive administrative roles, as well as patient advocacy forums. Currently, the average consultant surgeon's engagement level in the public healthcare sector is highly dependent on individual interests and their private practice workload.

An opportunity to encourage and enhance surgical engagement at RNSH exists through the SERT Institute, a dedicated support service which will unquestionably provide many rewards for the surgeon, surgical trainee and the public hospital system.

Addressing the issues and barriers outlined above requires radical initiatives, creative solutions and the development of a new model of service delivery for surgical education and research. The establishment of an enabler such as the SERT Institute can steer and support change and the balance of public and private responsibilities is a beginning.

The RNSH Surgical, Education, Research and Training Institute was founded in 2017 under the leadership of Professor Tom Hugh, with the support of the NSLHD and the Clinical Head of the Division of Surgery and Anaesthesia (DoSA), Dr Michelle Mulligan.

# Achievements

Achievements and highlights of the SERT Institute from 2017 – 2019 include:

- Establishment of the SERT Institute Executive Committee
- Appointment of a dedicated Surgical Research Officer available to all surgeons and trainees
- Appointment of a Clinical Informatics Lead within the SERT Institute
- Development of an interactive and dynamic SERT Institute web page with links to all surgical departments and to individual surgeon websites
- Increased surgeon participation in SERT Committees and meetings
- Increased surgeon participation in clinical teaching, mentoring and administration
- Recruitment and appointment of Clinical Academic Leads for each surgical department
- Ongoing negotiations with the NCS in relation to the running of the Sydney Clinical Skills and Simulation Centre ([SCSSC](#)) at RNSH
- Increased supervision of PhD, masters and medical students
- Increased mentoring and administering of medical student, surgical registrar and fellow education in both clinical and research areas
- Increased support for the Master of Surgery Program- coursework, research and post-doctorate degrees
- Establishment and expansion of the Data Analysis and Surgical Outcomes (DASO) Unit at the RNSH DoSA
- Facilitation and support for the implementation of REDCap (a secure and international standard clinical database system) at the RNSH

# Strategic Alignment

The strategic direction of the SERT Institute aligns with the **NSW State Health Plan – Towards 2021**<sup>1</sup>

- **Direction two:** Providing world-class clinical care
- **Strategy one:** Supporting and developing our workforce
- **Strategy two:** Supporting and harnessing research and innovation

In addition the SERT Institute aligns and supports both the **NSLHD Strategic Plan 2017-2022**<sup>2</sup> and the **NSLHD Research Strategy 2019-2024**<sup>3</sup>.

## NSLHD Strategic Themes and Objectives

- **2a:** Improve quality and safety of care
- **3a:** Evaluate and apply information and knowledge to improve clinical, business and organisational practices
- **3b:** Promote enquiry and research to develop, share and apply new knowledge
- **4b:** Develop a rigorous approach to innovation for continuous improvement and transformational change
- **5a:** Develop our culture to engage and empower our people
- **5b:** Develop our talent to ensure confident and capable people

## NSLHD Research Strategic Priorities

- Grow our research
- Engage our community
- Improve research leadership and career development
- Build research infrastructure
- Enhance research partnerships
- Increase research impact

The SERT Institute's primary goal is for RNSH to be recognised as a leading **Surgical Academic Centre of Excellence** in NSW and Australia-wide, with surgeons highly engaged in both clinical practice as well as a broad range of academia related activities.

# Strategic Approach

The aim and focus of the SERT Institute is to establish a supportive and expertise-rich environment that nurtures and facilitates academic activities within and across RNSH surgical departments. It aims to grow the SERT Institute into a hub of surgical interaction and engagement where surgeons connect, become involved in mentoring, research, conceive innovations and form interest groups. In addition, the Institute will provide support with writing funding and grant applications, planning and conducting clinical trials and increasing advocacy involvement.

## VISION

That RNSH will continually review and improve surgical care to achieve the best possible outcomes for patients by developing an environment where surgeons at all levels enthusiastically engage in scientific education, training, mentoring and research

## PURPOSE

To create a stimulating and dynamic environment for Surgical Academia at RNSH. Promoting surgical education, training and research activities that enable surgeons to develop both academic and leadership roles, improve decision making, surgical practice and patient outcomes

## INITIATIVES

1. Increase engagement and participation in academic activities across the RNSH campus
2. To promote RNSH as a leading surgical academic centre of excellence where surgeons are engaged in both clinical practice and non-clinical activities including research, teaching and administration
3. Establish new academic career pathways and opportunities for surgeons
4. Create a hub for surgical research, innovation and career development
5. Strengthen surgical academia at RNSH by enhancing both internal and external collaborations, and sourcing appropriate funding opportunities
6. Develop a centralised unit for surgical data and audit activity to improve data management and governance processes and systems

# Strategic Initiatives

The SERT Institute executive together with RNSH Executive and strategic partners developed six strategic initiatives to implement between 2019 – 2021. As the profile of the Institute expands and grows within the surgical community these initial strategies are expected to further develop and strengthen in alignment with future healthcare planning and changes in surgical practice and training requirements.

<b>Initiative 1</b>	<b>Increase engagement and participation in academic activities across the RNSH campus</b>
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## Rationale

An essential activity of the SERT Institute is to increase engagement with surgeons, JMOs, students and support staff. Identifying, understanding and resolving barriers to advancing and promoting academic surgery activities at RNSH will increase surgeon’s participation.

Actions	Indicators and Measures
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- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Proactively engage with RNSH surgeons and key stakeholders to understand individual and departmental needs and barriers to participating in surgical academic activities.</li> <li>• Apprise surgeons of SERT Institute activities, key contacts, information, resources, and the assistance available through the Institute for academic activities and introduce DASO unit resources.</li> <li>• Survey academic surgery activities underway or planned in each individual department.</li> <li>• Develop online engagement tools that promote, facilitate and support surgical academic activities at RNSH.</li> </ul> | <ol style="list-style-type: none"> <li>1. Number of stakeholder engagement meetings.</li> <li>2. An issues, barriers and solutions report.</li> <li>3. Catalog of current research underway and planned by each surgical department.</li> <li>4. The development and upload of online resources.</li> <li>5. The number of online articles posted each month.</li> <li>6. Quantity of social media (Twitter, Facebook, Instagram) content uploaded and the number of followers.</li> <li>7. SERT Institute website (and social media) number of ‘hits,’ ‘followers,’ ‘clicks,’ ‘likes,’ ‘shares’ and ‘comments’</li> <li>8. Number of enquiries for information or material from the RNSH Communications Department and the media.</li> <li>9. An annual review and assessments of how the SERT Institute online platforms are used to access content for relevant audiences.</li> </ol> |
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## Initiative 2

**To promote RNSH as a leading surgical academic centre of excellence where surgeons are engaged in both clinical practice and non-clinical activities including research, teaching and administration.**

### Rationale

The SERT Institute needs to maintain visibility with surgeons at RNSH and across the RNSH campus, to promote the SERT Institute vision, support surgeons and surgical trainees, increase collaboration opportunities and advocate for academic surgery at RNSH.

A high visibility and profile will keep the institute at the forefront of surgeons surgical planning as an important and valuable partner that can support future research, training and academic activities and aspirations.

### Actions

- High visibility for the SERT Institute through individual meetings, training forums, the SERT website and social media platforms. In addition to the SERT Institute-linked publications, conference, workshop and seminar promotion of events, web links to important institutions, university partners and key stakeholders that support the advancement of clinical academic research
- The SERT institute will also monitor and support the following key areas:
  - Publication of research guides and literature that provide direction to JMOs and students undertaking and or participating in research activities. Including publications on the SERT website and the BioRxiv (non-peer reviewed) platform
  - Promote events, conferences, workshops, seminars and lectures on the SERT Website.
- Establishing and strengthening formal links between the SERT Institute, the Northern Clinical School, NSLHD Research Office and the Kolling Institute.

### Indicators and Measures

1. Maintain a record of the number and type of SERT-supported meetings, forums and events.
2. Number of collaborations on research activities, publications authored or facilitated by the SERT Institute.
3. Assistance and support given to surgical JMOs, medical and research students.
4. Publication of manuscripts relating to the development and work of the SERT Institute, DoSA and DASO.
5. Record of SERT Institute supported grant application and successful grant acquisitions.
6. Promotion of publications by RNSH surgical departments and surgeons.
7. Advertising and website promotion of surgical education activity.

## Initiative 3

## Establish new academic career pathways and opportunities for surgeons

### Rationale

Surgical engagement in education, research and training academic activities has been known to strengthen surgeon career prospects, it can also be a motivator for surgeons to engage in academic activities. It improves networking and collaboration opportunity links to a wider surgical and academic community and raises the RNSH profile, the ability to attract, recruit and retain the best surgeons and future surgical trainees.

### Actions

- Explore the challenges for surgeons to engage in surgical academia and identify foundational strategies for surgical career pathways that will attract and strengthen recruitment of surgeons and surgical trainees.
- Support training opportunities through establishing academic clinical surgical leadership roles seeking opportunities that will encourage and support senior surgeons involved in academic activities.
- Seek opportunities to secure real estate that can accommodate the future vision and expansion plans. This will involve:
  - Liaising with the University of Sydney to create academic appointments, within both new and existing surgical roles
  - Connecting surgeons to academic institutions and developing a research student's pool to work on projects
  - Providing ongoing research support to the RNSH surgical departments to maximise their engagement and research output
  - Ensuring sufficient support and mentoring for JMO's and students is in place with surgeons and research sponsors
  - Assisting with ethic's submissions for projects
  - Supporting with grant submission and professional writing.

### Indicators and Measures

1. Incorporation of research and teaching expectations in all medical position descriptions.
2. Increased number of academic clinical leadership roles across surgery
3. Promote and advertise training opportunities through the SERT website
4. Create network opportunities that foster and strengthen early career surgeons.

## Initiative 4

## Create a hub for surgical research, innovation and career development

### Rationale

The SERT Institute will work towards creating an academic research hub that encourages surgical communication, interaction and engagement and cross collaborations on research and training projects.

It will also encourage surgeons and surgical trainees to embed research in clinical practice as they advance along the surgical career trajectory. In addition, support the development of senior surgeon leadership, mentoring and teaching skills by guiding them in their support roles and the creation of a progressive learning culture.

### Actions

- Engage regularly with JMOs and students.
- Establishing a repository of projects available for students and JMOs.
- Maintaining links with the University of Sydney Surgical Society and similar groups that promote the interests of students and JMOs.
- Identifying and supporting new opportunities for young Academic Surgeons by encouraging University-linked surgical positions with combined RNSH/NSPH appointments.
- Enhance teaching of medical students and surgical trainees at both RNSH/NSPH by strengthening links with the Northern Clinical School.
- Help and advice on **submitting human ethics and governance applications** through the local RNSH Research Office. By developing guides, reference information, forming and strengthening relationships between the SERT Institute and the Research Office. (Note: currently limited human resource available at RNSH to support this strategy).
- Providing assistance with **experimental design**.
- Explore the possibility and need for assistance with **statistical analysis**. The SERT Institute aims to provide basic advice in this area and connections to more advanced expertise.

### Indicators and Measures

1. Establish a repository of projects.
2. Identify new research opportunities for young academics.
3. Number of surgical training and teaching sessions provided to medical students and trainees annually.
4. Monitoring of surgery grant application outcomes.
5. Number of supported ethics submissions and outcomes.
6. Number of requests for statistical analysis support.
7. Development of ethics applications guides.

## Initiative 5

# Strengthen surgical academia at RNSH by enhancing both internal and external collaborations, and sourcing appropriate funding opportunities

### Rationale

Academic activities thrive on interpersonal interactions and partnerships. By providing accommodation that promotes innovative and creative thinking, teaching and learning opportunities for surgeons and trainees, a learning culture will be cultivated and strengthened once again on the RNSH Campus and entice VMO's back into supportive roles in the public hospital.

### Actions

- Explore suitable accommodation/space to serve as a convenient base for surgeons/VMO's between public and private healthcare services. Supporting office and learning/educational requirements and creative and innovation thinking space for research.
  - Provide surgeons from different surgical disciplines with a dedicated, accessible space that encourages face to face interactions and enable them to instruct, advise, challenge, think, design and create new surgical ideas.
- Encourage regular and ad hoc meetings that lead to the development of interest and advocacy groups related to specific clinical problems.
- Identify research 'champions' in each surgical discipline that can foster clinical and translational research and teaching.
- Promote research activities/publications that can be shared via the SERT Institute webpage.
- Promote interdisciplinary collaboration (scientific and clinical) by linking surgeons with research ideas to academics and research scientists with the appropriate skills and background.
- Identify funding partners to support research and development and aid surgeons in their application for research funding.

### Indicators and Measures

1. Permanent accommodation secured for the SERT Institute for current and future expansion plans.
2. Number of ad hoc meetings supporting research, training or clinical solutions.
3. Identified research champions across all surgeries.
4. Number of surgical research collaborations and publications annually on SERT Website.
5. Surgical related grant funding opportunities identified and applied for.

## Initiative 6

# Develop a centralised unit for surgical data and audit activity to improve data management and governance processes and systems

## Rationale

The asset value of data is ever increasing with the sheer amount of data being collected and the exponential advancements being made in data capture, management, storage, analysis and reporting technologies. Because of this opportunities to use reliable and valid quality data and information to improve outcomes and care are greater than ever. For surgeons in particular, robust, valid, relevant and real-time data is needed to help reduce complications, improve patient outcomes, minimise hospital stay, and reduce overall costs.

## Actions

- Develop a collaborative approach to surgical audit and data activities by establishing key networks and links with already existing data sets, and data management and governance bodies both internally and externally.
- Ensure that audit processes for all surgical departments meet RACS models of Best Practice for Surgical Audit.
- Overcome barriers to surgeons participating in data and audit activities by providing appropriate and relevant support and increasing access to resources at all levels throughout the Division of Surgery.
- Develop processes for reviewing surgical audit and data management needs.
- Coordinate surgical data management and audit staff so that there is consistency, where possible across the Division, ensuring the same quality data service is being received by all departments.
- Develop and standardise systems used for analysis and reporting of data management and audit processes and outcomes.
- Develop special data support and audit capability for focused surgical audits that will foster clinical research.

## Indicators and Measures

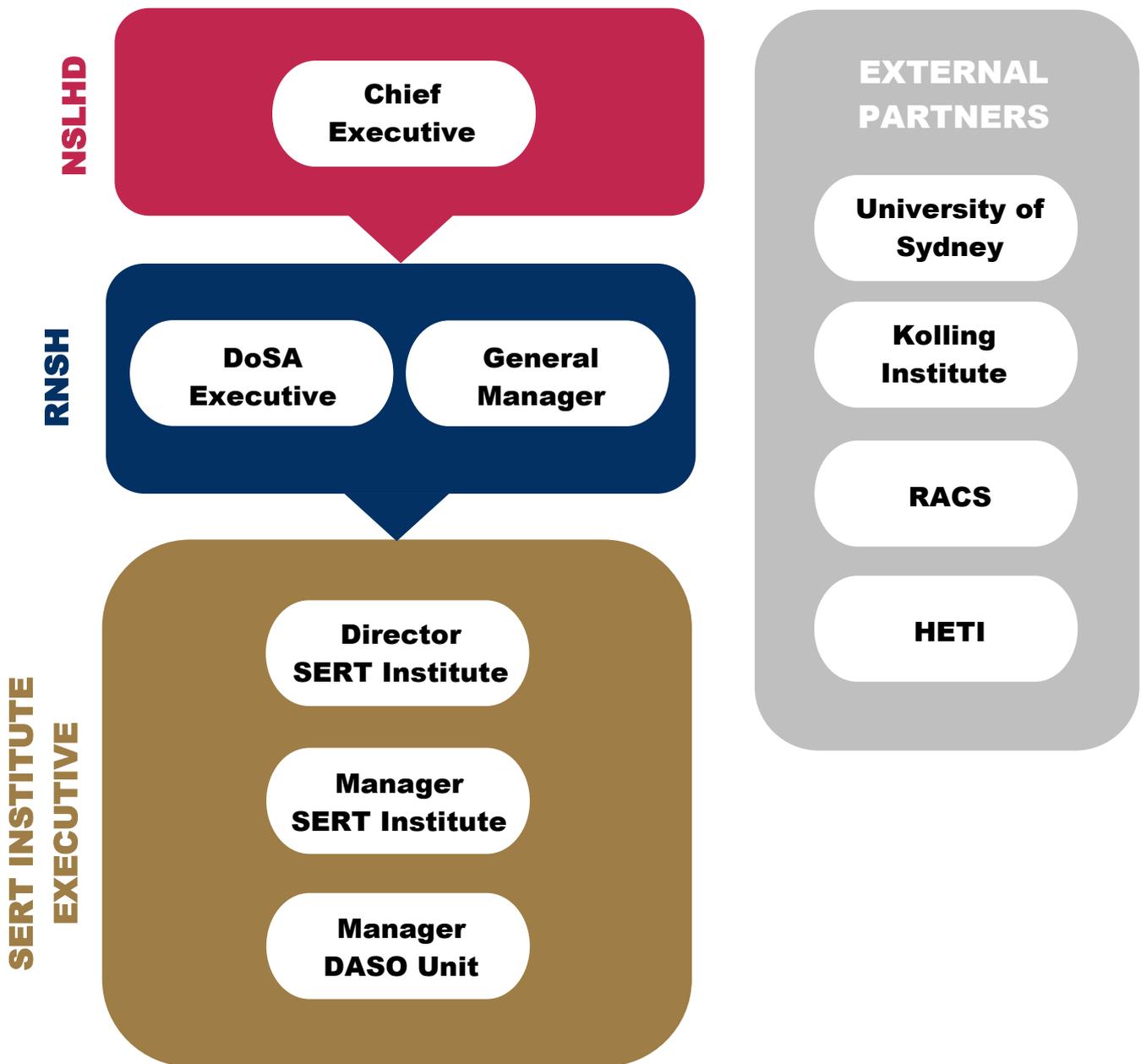
1. Increase in the number of resources to support data management and clinical audit in surgical departments.
2. Establish a catalogue of current surgical data assets and clinical registries participated in at RNSH.
3. Centralise and secure data collection and reporting processes for surgical departments
4. Increase the skill capacity of data resources within RNSH.
5. Integrate data local processes and systems with other surgical data collections.

# Resources

1. NSW State Health Plan – Towards 2021, NSW Ministry of Health, 2014
2. NSLHD Strategic Plan 2017-2022, Northern Sydney Local Health District, July 2017
3. NSLHD Research Strategy 2019-2024, Northern Sydney Local Health District, August 2019
4. Rosengart *et al.* The seven attributes of the academic surgeon: Critical aspects of the archetype and contributions to the surgical community. *Am J Surg.* 2017, 214(2):165-179

# Appendix A: Governance

## Governance Structure



## Annual Reporting

The SERT Institute will produce an annual progress report in line with RNSH reporting requirements. The Key Performance Indicators (KPI's) outlined in this strategic plan will form the bases of the report. The report will be distributed following the endorsement from the NSLHD and RNSH SERT Institute Executive.

- NSLHD Executive Team
- RNSH SERT Institute Executive

# Appendix B: Abbreviations

Abbreviation	Definition
RNSH	Royal North Shore Hospital
NSPH	North Shore Private Hospital
NSLHD	Northern Sydney Local Health District
SERT	Surgical Education, Research and Training
VMO	Visiting Medical Officer
DoSA	Division of Surgery & Anaesthesia
JMO	Junior Medical Officer
DASO	Data Analysis and Surgical Outcomes
NCS	Northern Clinical School
SCSSC	Sydney Clinical Skills and Simulation Centre
REDCap	Research Electronic Data Capture
RACS	Royal Australasian College of Surgeons



