



In consortia with:



**INDEPENDENT HOSPITAL PRICING AUTHORITY
TEACHING, TRAINING AND RESEARCH COSTING STUDY
PUBLIC CONSULTATION PAPER
DECEMBER 2014**

COMMENTS CLOSE 30 JANUARY 2015

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Version and approval history

Version	Date	Author / Editor	Modifications
1.0	8 December 2014	Paxton Partners / IHPA	Version accepted by CEO for circulation to IHPA TTR Working Group
2.0	18 December 2014	Paxton Partners / IHPA	Updated version accepted by CEO for release to public

List of abbreviations

Abbreviation	Description
ABF	Activity Based Funding
FTE	Full-Time Equivalent
HR	Human Resources
HREC	Hospital Research Ethics Committee
IHPA	Independent Hospital Pricing Authority
PGY1	Post graduate year 1
PGY2	Post graduate year 2
PGY3+	Post graduate year 3 and above
SST	Site Support Team
T&T	Teaching and Training
TTR	Teaching, Training and Research
TTR CSTG	Teaching, Training and Research Costing Study Technical Group
TTRWG	Teaching Training and Research Working Group

1. Background and study context

Paxton Partners has been engaged by the Independent Hospital Pricing Authority (IHPA) to conduct a Teaching, Training and Research (TTR) costing study to inform the development of a TTR classification (the costing study). The costing study will span approximately 15 months, beginning in September 2014 and concluding in December 2015 and includes a six month data collection period beginning in early 2015.

The purpose of this public consultation paper is to provide an outline of the background, scope and proposed approach to the costing study, so that interested parties can learn about the work IHPA is undertaking and provide written feedback if desired.

This paper does not provide comprehensive details of all aspects of the costing study. Instead, certain aspects have been emphasised – such as the high-level costing methodology and approach to data collection. Feedback of these topics will help to determine the best approach to delivering the costing study.

Feedback and comments in response to the consultation questions posed throughout this document can be provided by emailing: submissions.iHPA@iHPA.gov.au. The public comment period will be open until 30 January 2015.

1.1 Structure of this document

This document includes the following sections:

- **Section 1 - Background and study context:** outlines the background and objectives of the project, determinants of the Consulting team's approach and key deliverables;
- **Section 2 - Costing study project approach:** provides an overview of the methodology and approach to be used in the costing study;
- **Section 3 - High-level costing methodologies:** details the proposed high-level costing methodologies for teaching and training, and research;
- **Section 4 - Data collection:** an overview of the type of data that will be collected and data sources;
- **Appendix A - List of consultation questions:** summarises the consultation questions that are the focus of this consultation paper;
- **Appendix B - Proposed TTR data items:** provides a list of the expected TTR data items that will be collected; and
- **Appendix C - Glossary of terms.**

1.2 Project objective

The overarching objective of the project is to undertake a TTR cost and activity data collection across a representative sample of Australian hospitals, and thereby develop a costed data file to inform the development of a TTR classification.

The costing study should:

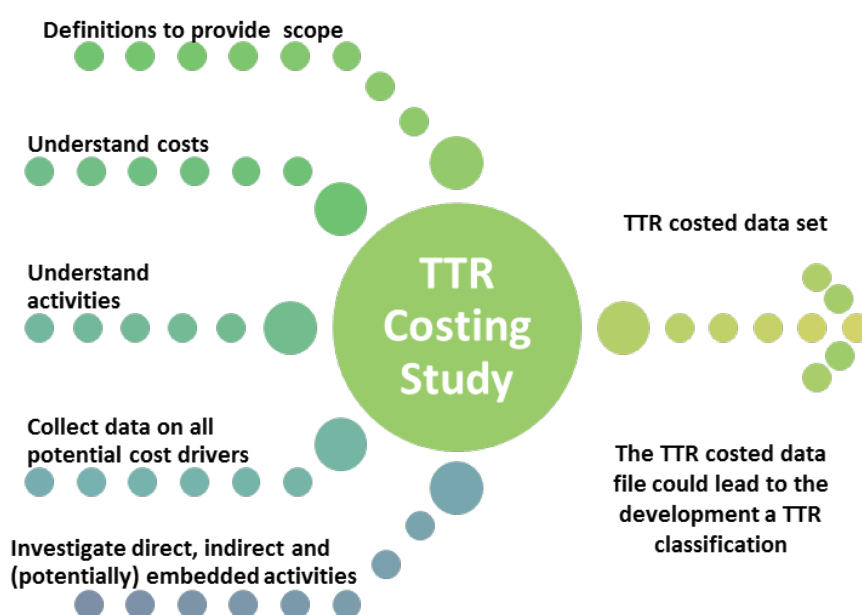
- Improve our national understanding of the similarities and differences in TTR provision between different hospitals, states and territories and geographic locations;
- Improve participating sites' understanding of the nature and costs of TTR delivery; and
- Ultimately provide a tool for hospitals to use for planning purposes and states and territories to use in their funding systems.

1.3 Study context

In June 2013 IHPA initiated a project to define TTR and identify associated cost drivers for activity based funding purposes (the Definitions and Cost Drivers project¹). This project established nationally consistent, broadly accepted definitions for ‘teaching and training’ and ‘research’, identified a range of potential cost drivers for both concepts and provided a framework for developing a classification for teaching and training (T&T).

Figure 1 illustrates how the outcomes and recommendations of the Definitions and Cost Drivers project have informed the scope and approach to undertaking the costing study (as described in Section 2) and the role of the costing study in the development of a TTR classification.

Figure 1: Role of the costing study in development of a TTR classification



1.3.1 Definitions of TTR

Recommendation 1 of the Definitions and Cost Drivers project stated that “any further work conducted by IHPA on T&T be undertaken on the basis that the term ‘teaching and training’ describes:

“the activities provided by or on behalf of a public health service to facilitate the acquisition of knowledge, or development of skills. These activities must be required for an individual to:

- attain the necessary qualifications or recognised professional body registration to practice;
- acquire sufficient clinical competence upon entering the workforce; or
- undertake specialist / advanced practice

in medicine, dentistry, nursing, midwifery or allied health.”

In addition, Recommendation 7 of the Definitions and Cost Drivers project stated that “any future work to develop a classification for T&T activities should aim to collect data on all trainee professional groups that are in-scope of the definition of T&T for ABF purposes.”

¹ Independent Hospital Pricing Authority (2014). ‘Define Teaching, Training and Research and Identify Associated cost drivers for ABF purposes – Final Report’, accessible from <http://www.ihipa.gov.au/internet/ihipa/publishing.nsf/Content/ttr-final-report-2014-html>.

Recommendation 4 of the Definitions and Cost Drivers project provided that “any further work conducted by IHPA on research be undertaken on the basis that the term ‘research’ describes:

“the activities undertaken in a public health service where the primary objective is the advancement of knowledge that ultimately aims to improve consumer and patient health outcomes and/or health system performance. The activity must be undertaken in a structured and ethical way, be formally approved by a research governance or ethics body, and have potential for application outside of the health service in which the activity is undertaken.”

and that for ABF purposes, the definition of research relates to:

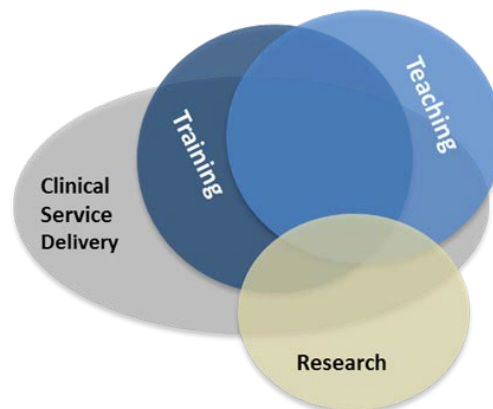
“the public health service’s contribution to maintain research capability, excluding the costs of research activities that are funded from a source other than the state or territory or provided in kind”.

These definitions of ‘teaching and training’ and ‘research’ will provide the scope and parameters of the costing study.

1.3.2 The direct, indirect and embedded nature of TTR

The Definitions and Cost Drivers project noted that there is an overlap between TTR and the delivery of patient care, as illustrated in Figure 2.

Figure 2: Conceptual relationship between clinical service delivery, teaching, training and research activities



Recommendation 10 of the Definitions and Cost Drivers project stated that “any further work to identify the costs associated with teaching and training should attempt to separately identify its associated direct, indirect and embedded cost components”. These concepts were defined as follows:

- **Direct activities** – are distinct and separable activities which occur outside of an episode of care but are directed towards skills and knowledge development (in the case of T&T) or the generation of new knowledge (in the case of research). In the T&T context, direct activities include lectures, tutorials and workshops (for example). In the context of research, it includes those activities that relate to the conduct of research.
- **Indirect activities** – are those ‘back office’ administrative and coordination activities undertaken by a health service that are essential to facilitate TTR. These activities may include utilities, maintenance, the coordination of student placements, rotations, educational program development or negotiation with higher education providers.
- **Embedded activities** – which describe where TTR occurs in conjunction with patient care.

The direct, indirect and embedded nature of TTR has broad implications for the costing study. Whilst the feasibility of capturing direct and indirect T&T has broad support, it remains unclear whether the

embedded component of T&T can be separately identified. The feasibility and practicality of identifying embedded T&T as part of the costing study is discussed further in Section 3.5.

The Definitions and Cost Drivers project highlighted that public health services are predominately seen as facilitators of research, by providing the facilities, governance, administrative and labour resources for research to take place. The definition of ‘research’ for ABF purposes, as described in section 1.3.1, provides the scope and parameters of the activity and cost data collection for the costing study, which is the public health service’s contribution to maintain research capability, excluding the costs of research activities that are funded from a source other than the state or territory or provided in kind. As a result the costing study will focus on the costs and activities associated with maintaining research capability, and thus indirect research, rather than the research project activities themselves.

Table 1 summarises which types of TTR activity are of interest in the costing study.

Table 1: Coverage of TTR activities

Type of TTR activity	Included for T&T	Included for research
Direct – distinct and separable activities, occurring outside of an episode of patient care (e.g. lectures, tutorials and conduct of research)	Yes	No
Indirect – ‘back office’ administrative and coordination activities that facilitate TTR (E.g. utilities, maintenance and placement management).	Yes	Yes
Embedded – activities that occur in conjunction with patient care (E.g. ward rounds and clinical trials).	Feasibility will be assessed following site consultations	No

1.3.3 Classification framework for teaching and training

Recommendation 12 of the Definitions and Cost Drivers project stated that “The scope of a future classification for teaching and training activities should be defined by two primary criteria:

1. The professional group in which a trainee is employed (or placed); and
2. The phase of teaching and training in which the individual is engaged.”

These criteria will need to be accounted for in the costing methodology and final costed TTR data file to inform TTR classification development.

1.3.4 Research data availability

The Definitions and Cost Drivers project noted that obtaining data on research activities for the purpose of cost driver analysis was problematic, and ultimately restricted the analysis of research cost drivers to an exploratory level only. In total, research data was obtained for eight facilities / Local Hospital networks (LHNs).

The scope and approaches to data collection used in the costing study will need to take into account the difficulties encountered in the Definitions and Cost Drivers project.

2. Costing study project approach

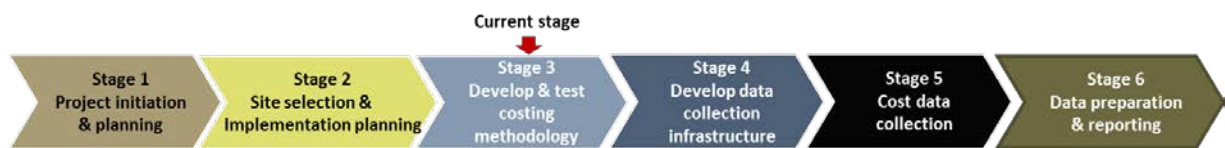
This section provides an overview of the methodology that will be employed to deliver the project.

2.1 Project approach and deliverables

The proposed methodology reflects an understanding of the large and diverse nature of stakeholders that operate in the TTR sector, the complexities associated with procuring TTR data and the need to understand how TTR activities are provided by (or on behalf of) public health services.

To achieve the project requirements a six stage methodology will be employed, as illustrated in Figure 3. Public consultation will occur during Stage 3.

Figure 3: Project methodology summary



The key objectives relating to each stage include:

- **Stage 1:** to confirm the project schedule, deliverables, timeframes, task responsibilities and to agree arrangements for governance, stakeholder engagement, quality assurance and risk management;
- **Stage 2:** to select and recruit a representative sample of health services (hereafter referred to as ‘participating sites’) to take part in the costing study;
- **Stage 3:** to carry out consultations with sites, peak bodies and the public to inform the development of a robust and credible costing methodology and data collection processes;
- **Stage 4:** to develop a Data Collection Toolkit (encompassing a Data Request Specification², Data Collection Process and Data Quality Assurance Framework) and carry out a data collection pilot test with a sub-sample of participating sites;
- **Stage 5:** to train sites (and jurisdictions where relevant) in the use of the Data Collection Toolkit and secure data submission processes, and to support sites through the period of live data collection; and
- **Stage 6:** to provide a robust, representative and accurate costed TTR dataset to IHPA for classification purposes, and to report to IHPA on the process, findings and key outcomes of the costing study.

2.1.1 Key project deliverables

The project deliverables of the costing study will include:

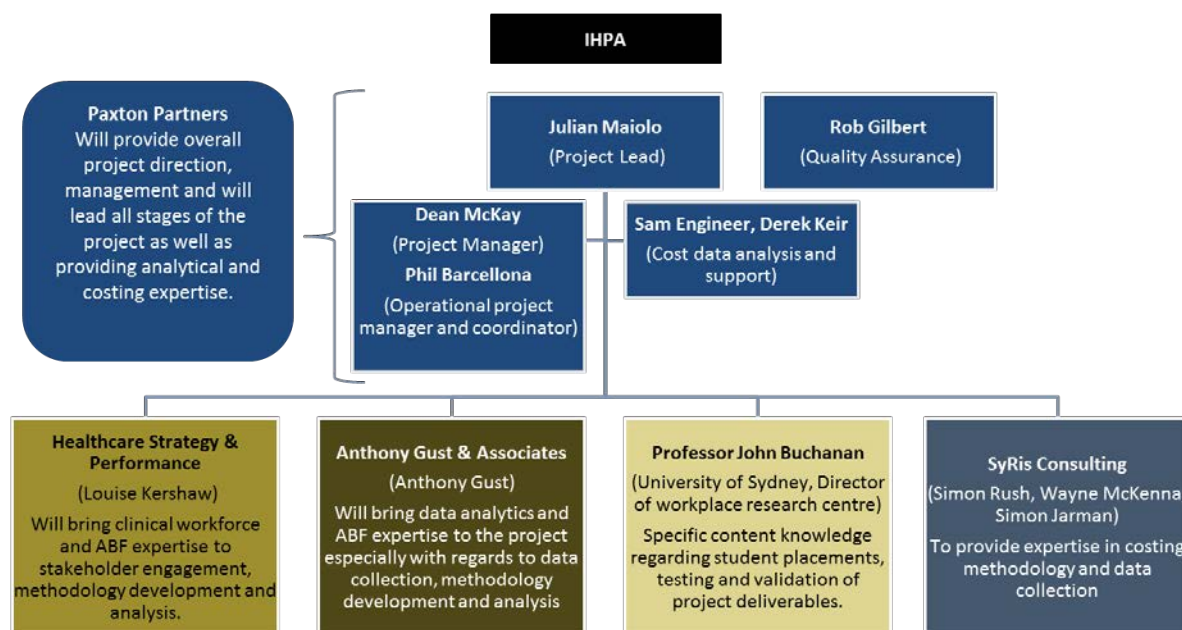
- A comprehensive data file containing six months of costed data that is suitable for classification development. Separate data files will be provided for T&T and research;
- A descriptive and exploratory analysis of the costed data file; and
- A final report which includes final methodologies, high level analytical results and considerations relevant to IHPA’s future work program in relation to TTR. This report will be made publicly available.

² Data Request Specifications specify what data to record and how to record it

2.2 Consulting team approach to project delivery

The Consulting team comprises a consortium led by Paxton Partners which maintains experience and continuity from the Definitions and Cost Drivers project and adds specialist capability in costing methodology, data analysis and stakeholder engagement. The structure and roles of the Consulting team are summarised in Figure 4.

Figure 4: Consulting team overview



A key feature of the Consulting team's approach will be the establishment of 'Site Support Teams' (SSTs) that will be assigned to each site, to provide a consistent point of contact and support throughout the costing study. It is envisaged that the Consulting team will be structured into four SSTs, each comprising two to three team members and led by a senior member of the consortium.

2.3 Project governance arrangements

A governance structure has been implemented to guide project management and direction for the duration of the Costing study. IHPA operates within the context of an established and well-defined governance framework, involving a range of advisory bodies, for delivering its work program. Costing study deliverables will be considered and approved through this structure. Clear processes and responsibilities for identifying, escalating and resolving site issues will also be established to ensure that data collection process can be delivered as efficiently and effectively as possible.

2.4 Stakeholder engagement

Delivering the costing study will require engagement with a wide range of stakeholders in order to develop, test and deliver data collection approaches that are reflective of actual TTR costs and activity. The key stakeholders, outside of the costing study governance structure (see Section 2.3) include:

- Jurisdictional health departments;
- Participating costing study sites;
- Peak bodies and interest groups; and
- The general public.

2.4.1 Jurisdictional Health Departments

Jurisdictional Health Departments will have an important role in assisting the Consulting team to identify participating sites (during Stage 2) and providing relevant data that may reside in centralised data repositories (during Stage 5).

2.4.2 Participating costing study sites

The costing study will be conducted on a hospital site basis in order to capture the effect of hospital size, complexity and geographic locations. Participating sites will principally be involved in sourcing and securely submitting TTR cost and activity data (during Stage 5). Sites will also inform the development of a robust and credible costing methodology, data collection processes and a determination regarding the feasibility of costing T&T that occurs in conjunction with patient care (during Stage 3). To fulfil these roles, the Consulting team may engage with a number of staff across each site. A summary of how site stakeholders may be involved in the costing study is provided in Table 2.

Table 2: Site stakeholder involvement

Engagement activity	Anticipated health service staff involvement
Site consultations (Stage 3)	<ul style="list-style-type: none"> • Clinical education department; • Clinical administration department; • Human resources; • Finance department; • Research directorate; • Payroll; and • Clinical costing.
Tailoring of study data collection templates (Stage 4)	<ul style="list-style-type: none"> • Clinical education department; • Clinical administration department; • Human resources; • Finance department; • Research directorate; • Payroll; and • Clinical costing.
Site setup and training (Stage 4 and 5)	<ul style="list-style-type: none"> • Clinical education department; • Clinical administration department; • Human resources; • Finance department; • Research directorate; • Payroll.
Data extraction from existing systems (Stage 5)	<ul style="list-style-type: none"> • Clinical education department; • Clinical administration department; • Human resources; • Finance department; • Research directorate; • Payroll.

Additionally, it is expected that each participating site will nominate a Site Coordinator who will provide a key linkage between the Consulting team and other site staff, thereby supporting the efficient and effective delivery of the costing study.

The Consulting team will prepare site-specific data collection materials and will support sites throughout the costing study. SSTs will be available to answer site queries remotely during data

collection by telephone or email. SSTs will aim to provide a response within 24hrs of lodgment. On-site assistance may be provided by SSTs where site issues cannot be resolved remotely. Sites will also be supported by a range of study resources, for example:

- **Fortnightly Site Information Bulletins** will be developed and emailed to Site Coordinators. These will include examples of good practice, key target timeframes, milestones and recent site questions and answers; and
- **A study web page** will provide information on the costing study's key objectives, approach and governance arrangements. A password-protected portal will provide sites with access to relevant project documentation, a discussion forum, frequently asked questions and contact details for SSTs.

2.4.3 Peak bodies and interest groups

IHPA's Teaching, Training and Research Working Group (TTRWG) has a large and broad membership which incorporates representatives from professional bodies, higher education (including those representing rural interests) and research. Targeted consultations will also be undertaken with relevant peak professional bodies during Stage 3 to provide a practical understanding of the potential impact of any specific trainee curriculum requirements or research support functions that may need to be factored into the data collection.

2.4.4 General public

As discussed in Section 1, this public consultation paper has been prepared to provide the general public with an opportunity to:

- Understand the background to the costing study – the context in which it is being undertaken, the proposed costing methodology and data items; and
- Provide comment and advice to assist in finalising the project approach.

2.5 Stakeholder consultation workshop

During Stage 3, the outcomes of stakeholder consultation will be compiled into a Workshop consultation paper for validation at a stakeholder consultation workshop consisting of members of IHPA's TTRWG and Teaching Training and Research Costing Study Technical Group (TTR CSTG). The outcomes from this workshop will be incorporated into relevant project documents.

3. High-level costing methodologies

This section provides an introduction to costing and initial, high-level costing methodologies for T&T and research. It should be noted that the process for costing TTR data will be undertaken retrospectively by the Consulting team following submission of source data by participating sites.

3.1 Introduction to costing

The process of hospital costing involves the allocation of costs, time and resources (inputs) to a hospital's outputs. This requires identification of:

- the costs of processes or events that are attributable to an output – for example, the cost of a pathology test, the cost of a day spent in a ward bed and the cost of a minute spent in theatre; and
- the costs associated with the hospital that are not attributable to any one output – for example, the cost of utilities and payroll services

The most common form of hospital costing, patient level costing, attributes costs to episodes of patient care.

Two types of costing – 'bottom-up' and 'top-down' – can be undertaken. Bottom-up costing methodologies 'build up' the cost of a hospital output by:

1. identifying relevant activities that are undertaken to support the output;
2. matching the resources consumed in the delivery of each activity; and
3. calculating the costs associated with each of the resources.

In contrast, 'top-down' costing methodologies seek to break down total hospital costs by:

1. identifying relevant activities that are undertaken to support the output;
2. identifying cost buckets that are relevant to the output; and
3. apportioning costs across activities using statistics.

3.2 Factors influencing the 'T&T' and 'research' costing methodologies

It is important to keep in mind that the purpose of the costing study is to inform the development of a TTR classification. The study will therefore not be seeking to understand the absolute costs of TTR, but rather the cost differential between different types of TTR activities.

Unlike previous IHPA costing studies, where individual patients were the unit of count, the TTR costing study will aim to collect data on the costs and activities related to trainee interactions and research capability rather than patient based interactions. This will require a different approach to costing compared to existing patient costing systems and standards.

As a relatively new area of hospital costing, the availability of source data and data collection systems may influence the costing methodology. Section 1.3.4 highlighted that obtaining and analysing data on research activities has been problematic in the past, the approach for research will therefore also need to be flexible to accommodate learnings during classification development.

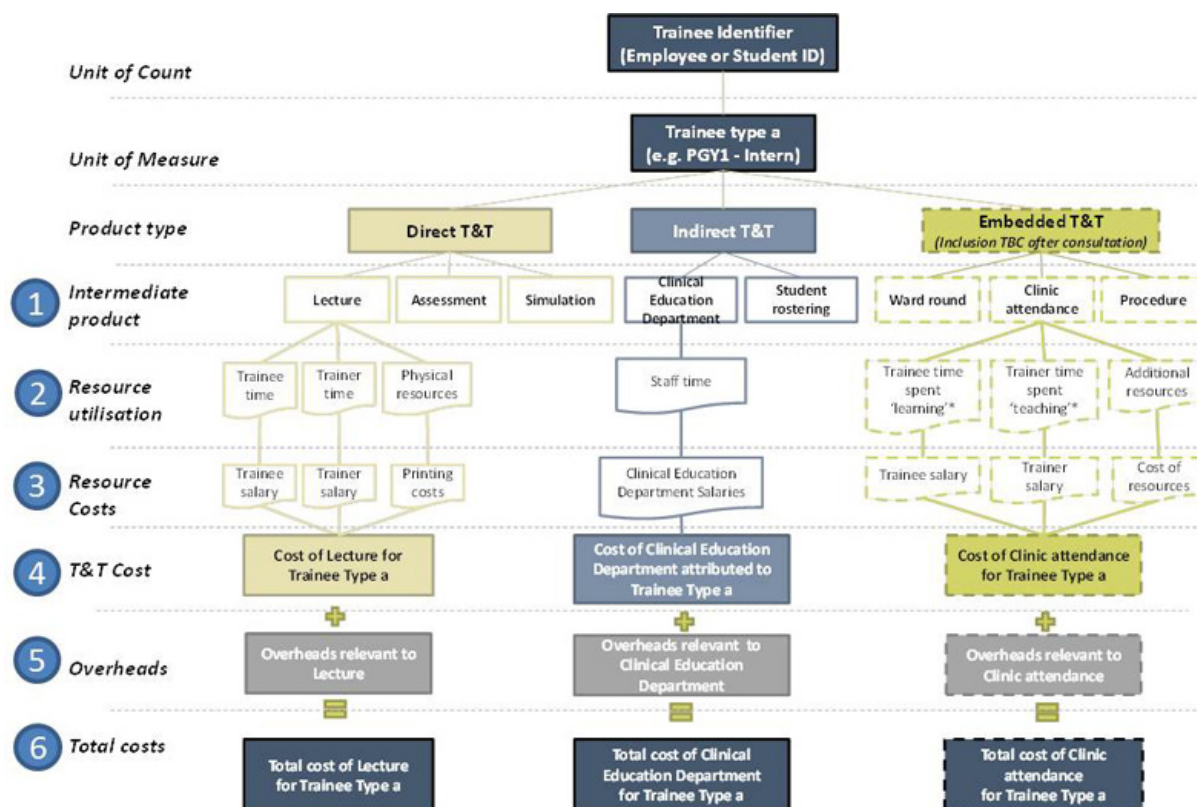
3.3 Proposed costing methodologies

High-level costing methodologies have been developed for initial consideration and feedback by key stakeholders. Detailed costing methodologies will be developed following consultations with participating sites.

3.4 High-level costing methodology for teaching and training

Figure 5 illustrates the proposed high-level costing methodology for teaching and training. The unit of count is the trainee. Trainees are differentiated by type according to their professional group and phase of teaching and training – as per the key elements of the T&T classification development framework proposed in the Definitions and Cost Drivers project. T&T costed activities are attributed across three teaching and training product types (direct, indirect or embedded) for each trainee type.

Figure 5: Proposed high-level costing methodology for T&T, illustrating examples of T&T activities



The proposed steps in the T&T costing methodology are as follows:

Step 1: Identify a complete list of T&T activities where an attributable cost is incurred by the hospital to support trainees. The activities (or ‘intermediate products’) listed in Figure 5 are intended as examples only and are not exhaustive;

Step 2: Identify the resources required to deliver each T&T activity from Step 1;

Step 3: Identify the costs of each resource from Step 2;

Step 4: Calculate the total T&T cost to deliver each T&T activity from Step 1 by adding all of the resource costs from Step 3;

Step 5: Allocate overheads to each T&T activity from Step 1. Overhead costs are organisational support costs incurred by sites regardless of the type or volume of TTR activities (e.g. costs related to Finance, HR, energy and the Chief Executive Office);

Step 6: Add the total T&T cost to deliver each T&T activity (from Step 4) and overheads (from Step 5) to determine the total cost of each T&T activity. These costs can be added to determine the total cost of a trainee type.

The proposed T&T costing methodology represents a mix of ‘bottom-up’ costing, for the direct and embedded T&T components, and top-down costing for the allocation of indirect T&T and overheads.

A 'bottom-up' costing methodology has been recommended for direct and embedded T&T on the basis that the T&T activities are not homogenous – a 'bottom-up' approach allows variations in delivery across health services to be captured more accurately.

A 'top-down' costing methodology has been proposed for the allocation of indirect T&T and overheads because these costs cannot often be attributed to individual trainees. For example, the costs of a medical education unit that employs staff to coordinate T&T activities across a number of different trainee types (such as, medical interns, medical post graduate year 2 staff, medical registrars and international medical professionals in training) would be apportioned across the relevant trainee types according to an appropriate allocation statistic or consumption metric.

Consultation questions:

1. **Is it reasonable to use a 'mixed' costing approach, whereby:**
 - a. **direct and embedded T&T are costed using a bottom-up approach; and**
 - b. **indirect T&T and overheads are costed using a top-down approach?**
2. **Are there any specific T&T activities (refer to step 1 of the T&T costing methodology) that should be captured as part of the costing study?**

3.5 Approach to capturing embedded costs of teaching and training

Embedded T&T encompasses those activities that relate to trainees and trainers receiving and delivering T&T in conjunction with patient care. For example, ward rounds where trainees are present and procedures / clinics conducted by trainees under supervision.

In these situations, additional costs can potentially be incurred by the hospital whilst supporting T&T because:

- either the trainees or trainers are not actively participating in clinical service delivery and are substantively observing the practice of patient care being delivered;
- patient care activities take longer to conduct whilst delivering T&T so productivity / efficiency is lower; and
- use of consumables may increase.

Data relating to embedded T&T has not been previously collected on a systematic basis. Questions therefore remain about the materiality of embedded T&T costs and whether embedded T&T can be aligned to the amount of other T&T (direct and indirect) that takes place. Furthermore, it is envisaged that data on T&T activities that occur in conjunction with patient care will not be readily available in most health services. Consequently, some degree of primary data collection may be required. Potential methods for collecting embedded T&T data include:

- **Surveying clinicians and trainees** on the time spent on embedded activities over the course of a day / week throughout the study period;
- **Obtaining data from clinical systems, e.g. capturing data on the timing and attendance of procedures delivered by registrars from hospital theatre management systems.** This approach has the advantage of using data from existing systems (thereby minimising administrative burden), but may only be suitable for a subset of embedded T&T activity;
- **Real-time data collection through use of disruptive technologies** such as an app that clinicians and trainees can use to record embedded T&T activities. This represents an innovative solution that may provide better response rates and more robust data than a survey, but has yet to be tested and would need to comply with hospital technology and occupational health policies; and

- **A one off study** that seeks to identify the activities undertaken by clinicians and trainees throughout the course of a shift. This represents the most resource-intensive option to collect data but also the most accurate.

The relative merits and burden of these methods will need to be considered when assessing the feasibility / practicality of identifying embedded T&T.

Another consideration is when should T&T in conjunction with patient care be classified as T&T, and when should it be classified as clinical service delivery? For example, one method of objectively delineating T&T and clinical service delivery would be to focus on the trainees and trainers not actively participating in patient care.

Consultation questions:

- 3. How important will it be to capture embedded T&T that occurs in conjunction with patient care?**
- 4. Do you think that embedded T&T can be aligned to the amount of other (direct and indirect) T&T taking place in hospitals?**
- 5. Is it practical or feasible to capture embedded T&T?**
- 6. If so, should the study aim to capture costs associated with**
 - a. trainees and trainers not actively participating in patient care;**
 - b. reduced productivity; and/or**
 - c. consumable use increase.**
- 7. How might embedded T&T be captured in a way that is robust, delineates T&T from patient care and also minimises impost on clinicians, trainees and health services?**
- 8. Are there any other important considerations that should be taken into account when deciding whether embedded T&T should be in-scope for data collection?**

3.6 High-level costing methodology for research

The definition of research developed during the Definitions and Cost Drivers project (Section 1.3.1) has focused the costing methodology on a hospital’s research capability rather than the type and breadth of research projects themselves. Figure 6 illustrates the proposed high-level costing methodology for research, using the hospital identifier as the unit of count. The steps in the proposed costing methodology largely mirror those for T&T with the variation being in the nature of what we are aiming to cost. The steps are as follows:

Step 1: identify a complete list of research ‘products’ where an attributable cost is incurred by the hospital to support research capability;

Step 2: Identify the resources required to deliver each research product from Step 1;

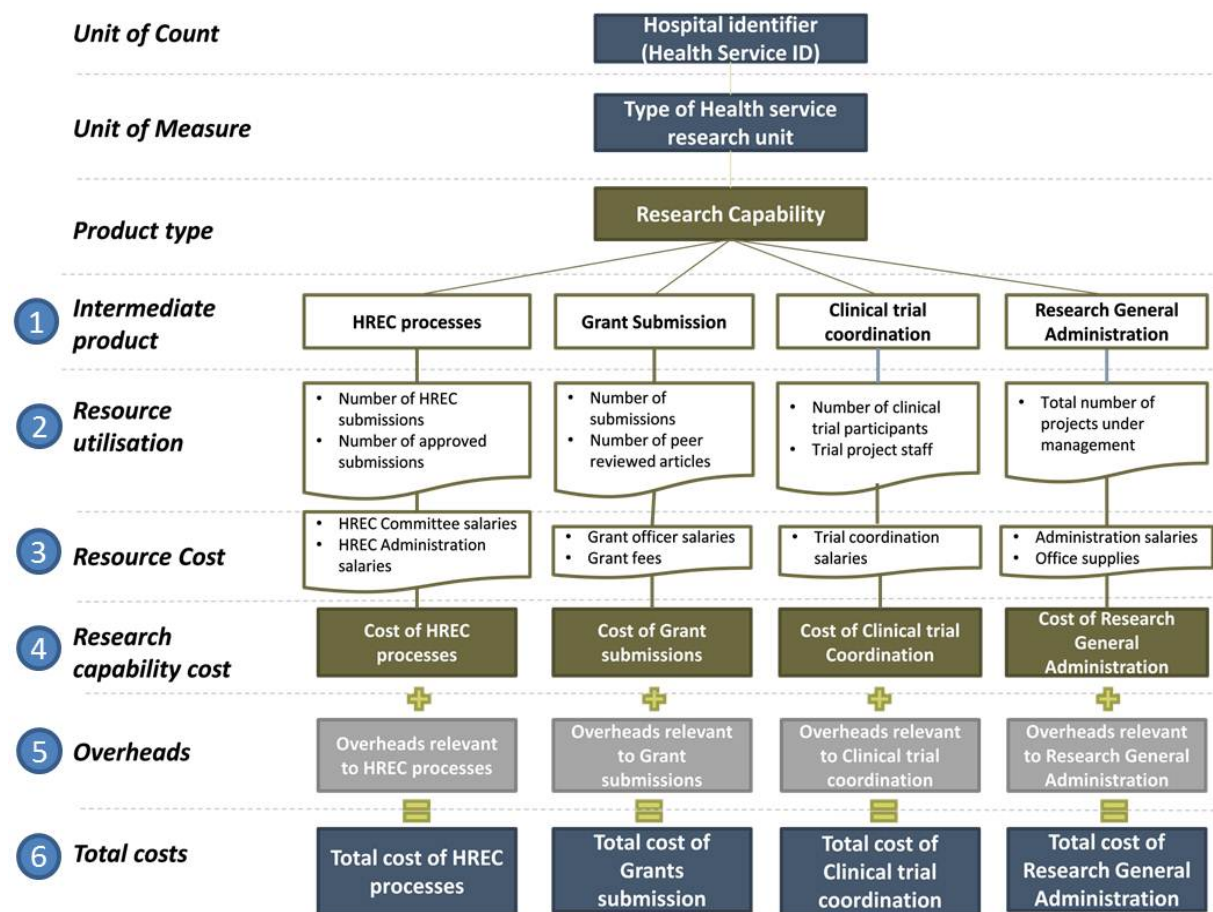
Step 3: Identify the costs of each resource from Step 2;

Step 4: Calculate the total research capability cost to deliver each product from Step 1 by adding all of the resource costs from Step 3;

Step 5: Allocate overheads to each research product from Step 1;

Step 6: Add the total research capability cost to deliver each research product (from Step 4) and overheads (from Step 5) to determine the total cost of each research product. These costs can be added to determine the total cost of research capability.

Figure 6: Proposed high-level costing methodology for research, illustrating examples of research products



Consultation question:

9. **Are there any specific research products (refer to step 1 of the research costing methodology) that should be captured as part of this costing study?**

4. Data collection

A large component of T&T data collection will involve profiling the workforce that is associated with receiving and delivering T&T, such as trainees (by professional group and phase of teaching and training), clinical staff who deliver T&T, and staff employed within clinical administration and clinical education departments that support the delivery of T&T.

Data will also be collected on the type, frequency and duration of activities undertaken by trainees and clinical staff who deliver T&T, and the costs associated with supporting these activities.

Data collection will therefore not be patient-centric but may be associated with patient care – where teaching and training activities occur in conjunction with clinical service delivery.

In terms of research capability, data will not be collected in relation to research project activities themselves, but rather the resources associated with maintaining research capability and the outputs of research endeavour.

A preliminary list of the type of data that will be collected is provided at Appendix B: Proposed TTR data items.

Consultation questions:

- 10. Is there any data that should be collected, which does not appear in Appendix B?**
- 11. Are there any data items listed in Appendix B that you believe are unnecessary?**

4.1 Data sources

It is expected that data will be sourced from existing hospital systems where possible, for example:

- Clinical education systems;
- Clinical administration systems;
- Research directorate systems – research databases;
- Human resources (HR) systems, payroll, staff establishment and rostering systems;
- Operating theatre management systems; and
- Finance systems – general ledger.

However, it is expected that some of the data that will underpin the TTR costing study may not be readily available in existing systems, and primary data collection may be required to fill any gaps. Approaches to primary data collection will be developed to be as efficient as possible, and will be directly informed by consultation with participating sites. The extent of primary data collection can only be determined once:

- The availability of TTR data within existing systems has been assessed; and
- A decision has been made on the feasibility and practicality of capturing T&T activity that occurs in conjunction with patient care.

Tailoring of data collection approaches may also be undertaken to accommodate the specific requirements or capability of individual sites.

Consultation question:

- 12. What systems exist (for example, within health services, jurisdictional health departments or peak bodies) that can provide the data items in Appendix B?**

Appendix A: List of consultation questions

1. Is it reasonable to use a 'mixed' costing approach, whereby:
 - direct and embedded T&T are costed using a bottom-up approach; and
 - indirect T&T and overheads are costed using a top-down approach?
2. Are there any specific T&T activities (refer to step 1 of the T&T costing methodology) that should be captured as part of the costing study?
3. How important will it be to capture embedded T&T that occurs in conjunction with patient care?
4. Do you think that embedded T&T can be aligned to the amount of other (direct and indirect) T&T taking place in hospitals?
5. Is it practical or feasible to capture embedded T&T?
6. If so, should the study aim to capture costs associated with
 - trainees and trainers not actively participating in patient care;
 - reduced productivity; and/or
 - consumable use increase.
7. How might embedded T&T be captured in a way that is robust, delineates T&T from patient care and also minimises impost on clinicians, trainees and health services?
8. Are there any other important considerations that should be taken into account when deciding whether embedded T&T should be in-scope for data collection?
9. Are there any specific research products (refer to step 1 of the research costing methodology) that should be captured as part of this costing study?
10. Is there any data that should be collected, which does not appear in Appendix B?
11. Are there any data items listed in Appendix B that you believe are unnecessary?
12. What systems exist (for example, within health services, jurisdictional health departments or peak bodies) that can provide the data items in Appendix B?

Appendix B: Proposed TTR data items

This appendix summarises the type of TTR data that will be collected. It is acknowledged that individual sites may not be able to collect all data items.

B.1 Teaching and training workforce profile

- Head count / Full Time Equivalent (FTE) of trainees by profession and pay classification

Medical (by specialty, where applicable)

- Students placed
- Interns / post graduate year 1 (PGY1) staff
- Post graduate year 2 (PGY2) staff
- Post graduate year 3 and above (PGY3+) staff
- Basic and advanced registrars
- Medical specialists / consultants
- University / medical school appointments
- International medical professionals in training

Dentistry

- Students placed
- Interns / PGY1 staff
- PGY2 staff
- Basic and advanced registrars
- Dentists
- University / dentistry school appointments
- International dental professionals in training

Nursing and midwifery

- Students placed
- First year assistants in nursing / midwifery
- First year nurse / midwifery graduates by registered / enrolled classification
- Nurse practitioner candidates
- Other nurse / midwifery professionals undertaking postgraduate qualifications
- Nurse re-entry candidates
- Remaining nursing and midwifery staff profile by pay classification

Allied health (by discipline)

- Students placed
- First year allied health assistants
- First year allied health graduates
- Allied health interns – pharmacy, medical radiation and psychology

- Other allied health professionals undertaking postgraduate qualifications
- Allied health specialist practitioner candidates in training
- Remaining allied health staff profile by pay classification
- Pay rates of staff by pay classification
- Number / FTE of clinical administration department staff by pay classification
- Clinical administration expenditure reported in the general ledger
- Number / FTE of clinical education department staff by pay classification
- Clinical education expenditure reported in the general ledger
- Number / FTE of office of clinical training staff by pay classification
- Office of clinical training expenditure reported in the general ledger

B.2 Teaching and training activities and costs

- Trainee time allocated to receiving teaching and training in rostering / HR systems (by trainee, profession, discipline and pay classification)
- Trainer time allocated to providing teaching and training in rostering / HR systems (by trainer, profession, discipline and pay classification)
- Frequency, duration and trainee and trainer attendance (numbers by profession, discipline and pay classification) of direct teaching and training activities – e.g. clinical orientation, lectures, practical skills sessions, dedicated education programs, mentoring sessions, work based assessment, grand round activities, simulation lab sessions
- Clinical school expenditure incurred by the site, by profession, reported in the general ledger
- Expenditure associated with delivering direct teaching and training activities – e.g. consumables, room rental, equipment and training material printing costs in the general ledger
- Site overhead costs reported in the general ledger and attributable to teaching and training

B.3 Embedded teaching and training activities – dependent on feasibility assessment

- Proportion of trainee time spent receiving teaching and training and not delivering patient care in a clinical setting (by profession, discipline and pay classification)
- Proportion of trainer time spent delivering teaching and training and not patient care in a clinical setting (by profession, discipline and pay classification)
- Number (and duration) of procedures conducted by trainees with trainer oversight but not intervention
- Frequency, duration and trainee attendance (numbers by profession, discipline and pay classification) of clinical / ward rounds

B.4 Resources associated with maintaining research capability

- Number / FTE of research administration department staff by pay classification
- Research administration expenditure reported in the general ledger
- Number / FTE of research directorate staff by pay classification

- Research directorate expenditure reported in the general ledger
- Number of affiliations with universities and medical research institutes
- Administrative costs incurred by the site to support universities / medical research institute affiliations
- Number / FTE of site Human Research Ethics Committee (HREC) staff by pay classification
- HREC expenditure reported in the general ledger
- Site overhead costs reported in the general ledger and attributable to the research directorate or research administration.

B.5 Outputs of research endeavour during data collection period

- Number and value of Human Research Ethics Committee approved research projects
- Number of peer reviewed articles published
- Number of participants directly involved in clinical trials and observational studies
- Number of doctoral student placements
- Expenditure associated with doctoral student placements

If data is available, further stratification of outputs may be requested e.g. by field of study.

Appendix C: Glossary of terms

Term	Definition
Consulting team	The consortium of consultants that will be led by Paxton Partners to deliver the project. Consortium members within the Consulting team will be drawn from Paxton Partners, SyRis Consulting, Healthcare Strategy and Performance Solutions, Gust and Associates and the University of Sydney.
Direct teaching and training activities	Distinct and separable activities which occur outside of an episode of care but are directed towards skills and knowledge development.
Direct research activities	Distinct and separable activities which occur outside of an episode of care but are directed towards the generation of new knowledge.
Indirect TTR	Those 'back office' administrative and coordination activities undertaken by a health service that are essential to facilitate TTR.
Embedded TTR	Describes where TTR occurs in conjunction with patient care.
Definitions and Cost Drivers project	Prior work undertaken by Paxton Partners and initiated by IHPA in June 2013 to define TTR and identify associated cost drivers for activity based funding purposes.
Teaching and training	<p>The activities provided by or on behalf of a public health service to facilitate the acquisition of knowledge, or development of skills. These activities must be required for an individual to:</p> <ul style="list-style-type: none"> • attain the necessary qualifications or recognised professional body registration to practice; • acquire sufficient clinical competence upon entering the workforce; or • undertake specialist / advanced practice <p>in medicine, dentistry, nursing, midwifery or allied health.</p>
Research	<p>The activities undertaken in a public health service where the primary objective is the advancement of knowledge that ultimately aims to improve consumer and patient health outcomes and/or health system performance. The activity must be undertaken in a structured and ethical way, be formally approved by a research governance or ethics body, and have potential for application outside of the health service in which the activity is undertaken."</p> <p>For ABF purposes, the definition of research relates to:</p> <p>The public health service's contribution to maintain research capability, excluding the costs of research activities that are funded from a source other than the state or territory or provided in kind.</p>
Phase of teaching and training	A stage involving specific teaching and /or training requirements, through which a trainee may progress during the course of their career. For the purpose of this project, three main phases of training have been identified, including 'pre-entry / student', 'early entry / prevocational' and 'advancement / vocational'.

Term	Definition
Professional group	The broad clinical professions that are employed within public health services. Professional groups that are in-scope of the definition of teaching and training include medicine, dentistry, nursing, midwifery and allied health.
Research capability	The administrative and corporate support provided by a public hospital to support research activities (e.g. Research Directorate and Human Research and Ethics Committees).
Overhead costs	Organisational support costs incurred by sites regardless of the type or volume of TTR activities (e.g. costs related to Finance, HR, energy and the Chief Executive Office)