Applications are invited for SHRAC Research Translation Projects in accordance with the conditions described in these guidelines.

The SHRAC Research Translation Project 2015 (Round 9) Application Form is available at the Research Development Website.

Queries regarding the application process should be directed to the Research Development Unit by email or telephone: (08) 9222 4053.

Applications Close: 1:00pm, Wednesday 27 May 2015
LATE APPLICATIONS WILL NOT BE ACCEPTED
(Applicants are advised to confirm internal deadlines with the research grants office at the nominated administering institution, as these may be earlier)

1. Introduction

The Research Translation Projects (RTP) program is a key strategy of the State Health Research Advisory Council (SHRAC) in advancing health and medical research in Western Australia. This program seeks to demonstrate the cost-effectiveness and/or efficiencies that can be achieved for WA Health through research, and aligns with WA Health’s objective to make the best use of funds and resources for the State’s health system.

As this research program has a focus on research translation into improved health policy and practice, it is in accord with the National Health and Medical Research Council’s (NHMRC) strategic plan and potentially positions Western Australian researchers to be more competitive in national grant funding programs.

Project proposals that have the potential to become the basis for subsequent commercialisation or research grant applications to national funding bodies such as the NHMRC or Australian Research Council (ARC) are therefore strongly encouraged.

Through funding awarded through this program the Department of Health, WA (DoH) is available to partner with applicants, where the application has the capacity to be broadened to a larger study, such as for an NHMRC Partnership grant or an ARC Linkage Project grant.
For the purposes of this program “WA Health” refers to all WA public sector health agencies that are under the jurisdiction of the Minister for Health.

2. Eligibility and Scope

Applications can be made by an individual researcher or team headed by a Coordinating Principal Investigator (CPI), at an appropriate administering institution in WA.

Applications in the areas of clinical research, health services research and public health research are encouraged, as are multi-disciplinary and cross-institution collaborations.

The Coordinating Principal Investigator must:

(a) Be an Australian citizen or permanent resident in Australia;
(b) Hold a postgraduate research degree or professional qualification in a health-related field or clinical science; and
(c) Continue to be employed in the nominated administering institution for the period of the project or grant.

The research application must:

(a) Provide information that indicates that the research can be completed within 24 months (including the obtaining of relevant approvals and authorisations e.g. ethics and governance; employment of research staff; a comprehensive economic analysis of the results; and report writing) through the provision of a specified timeline with concrete milestones;
(b) Clearly demonstrate the potential for cost-effectiveness, savings and/or efficiencies in the provision of healthcare services by WA Health, while maintaining and/or improving patient outcomes; and
(c) Show the potential for translation of research findings into measurable benefits to WA Health.

Projects should address relevant contemporary challenges faced by WA Health and may involve undertaking new research, proof-of-concept and/or pilot-studies or application and evaluation of research that has been applied elsewhere.

Project proposals that demonstrate clear potential to lead to future applications to national (and international) funding bodies, such as the NHMRC are encouraged.

Funding will not be provided for projects that are solely quality assurance, clinical audit (including chart review), needs analysis, or literature review.

The DoH will endeavour to assist in the dissemination of findings from all RTPs upon their conclusion. However, funding of the wider implementation of successful research findings is beyond the scope of the RTP program.

3. Funding

Projects may be awarded up to $270,000 (GST exclusive). Funding may be awarded to an individual researcher or to a research team led by a CPI, at an appropriate administering institution in WA.
The CPI may apply for multiple Department of Health (DoH) research grants. Where the proposal is the same or similar the DoH will liaise with the CPI to discuss any overlap between applications in order to avoid duplication of funding.

The Department of Health reserves the right to negotiate (i) lower amounts than requested, and (ii) modifications to research plans, for short-listed projects.

A project may receive additional funds from other sources to meet budget requirements. Additionally, a project can be part of a larger research program or application to an external funding body provided the project has its own discrete objectives and these can be completed within the specified 24 month period. In both cases, it must be clearly outlined how the RTP funds will contribute to the project’s outcomes. The RDU should be advised if either of these situations apply.

Funding will normally be awarded as a one-line budget item to the administering institution. The administering institution should be that where the CPI is primarily employed to undertake research activities. However, where funding is to be distributed to a research team across different universities or institutions, special financial arrangements may be negotiated.

Grants above $50,000 will be released in two instalments. The first instalment will be subject to relevant approvals (see section 5) having been provided to the Research Development Unit (RDU) by the research team, and the final instalment will be subject to satisfactory progress being achieved against the project milestones, demonstrated in a Progress Report.

Funding is only made available for the scope of research described in the research plan. Neither SHRAC nor the Department of Health is obliged to underwrite any recurrent or capital costs beyond the research phase of the project.

It is intended that funds will be spent in WA only. An exception may be considered in the case where specific research expertise or equipment is required and is not available in WA. When this situation occurs, adequate justification must be provided.

Funds shall revert to, or be recoverable by the DoH in instances where:
- The project is terminated by the DoH as a result of insufficient progress being made at the time of the Progress report;
- Funds are not fully spent at the conclusion of the project, unless agreed to by the DoH; or
- Funds are used for purposes other than those for which they were awarded.

Funding is offered subject to the availability of funds, which could be varied in the event of unforeseen circumstances.

4. Selection and Assessment

Funding for RTPs will be awarded in open competition, based on a process of evaluation and selection. The assessment process shall be conducted by a panel comprising of:
- Representatives from SHRAC;
• Health economists;
• A health consumer representative;
• Recognised researchers and academics; and
• Department of Health staff.

The composition of the panel may change from year to year according to need and circumstance, and will not necessarily include all of the above groups.

The RTP program will be administered by the Research Development Unit (RDU), Office of the Chief Medical Officer, Department of Health.

The RDU reserves the right to request further information from applicants in the event that the panel assesses an application to be of particular benefit to WA Health but requires further clarification before a final decision is made.

The criteria for assessing project proposals are:

<table>
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<tr>
<th>Assessment Criteria</th>
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<tr>
<td>1) Economic analysis, based on provision of a comprehensive plan, including relevant units of measure and predicted benefits and cost-savings</td>
<td>20</td>
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<tr>
<td>2) Quality of research plan, including objective measurement of outcomes and achievable time line</td>
<td>15</td>
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<tr>
<td>3) Significance to WA Health, focusing on areas of contemporary relevance and potential for translation to policy and practice</td>
<td>15</td>
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<tr>
<td>4) Capacity of the Investigator(s) to conduct the project, based on individual expertise and experience, and the collective gain of the assembled team to the project</td>
<td>15</td>
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<td>5) Innovation / novelty of project, and/or potential to contribute to future funding proposals to external bodies, such as the NHMRC.</td>
<td>15</td>
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<tr>
<td>6) Appropriate level of engagement and collaboration, including with Health Networks, consumers, service and policy providers and other relevant stakeholders</td>
<td>10</td>
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<tr>
<td>7) Justification of budget</td>
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5. Approvals and Agreements

All relevant research governance approvals must be obtained and provided to the RDU before the commencement of a funded project.

Governance approvals – are required for each site involved in the research and include:
For WA Health Sites:

1) WA Health Site Specific Assessment Approval Letter (covers institutional governance and approvals to conduct the research) for the nominated administering institution; and

2) Ethics approval, from a relevant Human Research Ethics Committee (HREC) for each site involved in the research (this may be reciprocal approval for secondary sites).

OR

For non-WA Health sites:

1) Institutional research governance approval from the nominated administering institution;

2) Ethics approval, from a relevant HREC for each site involved in the research (this may be reciprocal approval for secondary sites); and

3) Other approvals, where relevant, such as:
   - Additional Ethics approvals, such as:
     - Department of Health WA HREC (Department of Health Data Collections and Data linkage);
     - Coronial Ethics Committee (WA); and/or
     - WA Aboriginal Health Ethics Committee
   - Data Custodians;
   - The Office of the Gene Technology Regulator;
   - Institutional Bio-safety Committee;
   - NHMRC Embryo Research Licensing Committee;
   - NHMRC Human Genetics Advisory Committee;
   - Radiation Safety Officer (i.e. Dosimetry Report);
   - Radiological Council;
   - Reproductive Technology Council; and/or
   - Therapeutic Goods Administration.

Intellectual Property (IP) – arising out of the project will generally vest in the CPI’s administering institution with an appropriate IP access agreement for other research team member’s institutes.

When a research team involves more than one institution and includes a member from WA Health, then the IP agreement must be authorised by both the RDU and the administering institution.

The IP agreement must be finalised within two months after the first instalment of the grant is received by the administering institution.

IP templates are available from the RDU upon request.

6. Funding for Employment of Research Positions

The grant may be used to fund personnel working on the research project. Funds allocated towards staffing should be outlined in the proposed budget. Applicants should indicate whether the position to be funded is i) a new position; ii) an existing position to be filled; or iii) an existing position that is already filled. The timeframe required for the creation and filling of positions should be factored into the research activities timeline in the SHRAC RTP Application Form.
Funding will not be provided for the salary of the Coordinating Principal Investigator and Principal Investigators. However, in exceptional circumstances, the panel may consider requests where funding for these salaries is crucial to the success of the project.

In cases where new positions are to be created in WA Health to undertake the project, an outline of the process and approximate time-frame required is provided below:

<table>
<thead>
<tr>
<th>WA Health Employment Process for New Positions and Indicative Time-frames</th>
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<tbody>
<tr>
<td><strong>Request to Business Manager and Chief Executive approval</strong></td>
</tr>
<tr>
<td>Development of JDF and ‘position creation’ request</td>
</tr>
<tr>
<td>Lodgement to and classification of position by Health Industrial Relations Service</td>
</tr>
<tr>
<td>Creation of position by Health Corporate Network</td>
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<tr>
<td>Recruitment process</td>
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</table>

For new positions, 3 months should be factored into the timeline. This may be quicker if the position is straightforward and requires minimal classification assessment, or may be longer if complexities are involved.

For WA Health applicants, advice regarding creating JDFs and JDF templates can be obtained by contacting Health Industrial Relation Service.

7. Data Linkage

A request for linked data from the ‘WA Data Linkage System’ requires the research team to demonstrate adequate expertise to analyse the requested data. Where linked data is required, the Data Linkage Branch of the Department of Health, WA should be contacted to obtain both i) a preliminary quote; and ii) an estimate of time required to obtain the data. All requests should state that the data request is associated with the SHRAC RTP funding program which requires the research to be completed within a 24 month period.

The preliminary quote should be included in the proposed project’s budget and the time-estimate built into the project’s milestones against the timeline as set out in the SHRAC RTP Application Form.

Data Linkage information can be obtained by contacting Data Services at the Data Linkage Branch of the Department of Health, WA.

8. Reporting

The CPI will be responsible for coordinating the project and ensuring its timely execution. The CPI will also be responsible for meeting reporting requirements over the duration of the project and at its conclusion. Projects must be concluded within a 24 month period which includes the obtaining of ethics and governance approvals, employment of research staff, data collection and analysis and submission of the final report.
A member of the RDU will be assigned to each project, and will liaise with the CPI to assist in the receipt of payments, reporting and other operational issues as they arise. RDU liaison officers will provide researchers with the relevant reporting templates as required.

**Progress Report(s)** – A report outlining the progress against the milestones listed in the research plan is required mid-project and prior to the second instalment of funds being released.

The DoH reserves the right to terminate and/or withdraw funding for a project where it is judged that insufficient progress has been made.

**Final Report** – A final report detailing the project’s outcomes is to be submitted to the RDU at the project’s conclusion. Failure to submit a final report at this time may render all investigators on the grant application ineligible for further research funding from the RDU until the grant report is received. The final report must detail:

(a) Objectives of the project, and the extent to which they were achieved;

(b) Research results and benefits for WA Health, referring particularly to improved cost-savings, effectiveness, and service efficiencies. This must be substantiated by detailed economic analysis;

(c) Where research results have informed policy or changed practice;

(d) Where research results have contributed to advancing knowledge; and

(e) Additional personnel and research capacity resulting from this project.

**Acquittal Statement** – An acquittal statement outlining the expenditure of funds must be submitted to the RDU at the project’s conclusion. Acquittal statements must be certified by an authorised finance officer at the administering institution.

Reporting due dates will be as follows:

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress Report</td>
<td>Monday, 14 November 2016</td>
</tr>
<tr>
<td>Final Report</td>
<td>Monday, 13 November 2017</td>
</tr>
<tr>
<td>Financial Acquittal</td>
<td>Monday, 13 November 2017</td>
</tr>
</tbody>
</table>

9. **Acknowledgment**

The DoH will publicly announce the recipients of this grant round and requests that all other parties withhold announcement/media coverage until after this has occurred. The RDU will advise recipients once this is complete.

Full acknowledgment of the DoH must be made as opportunities arise in publications, conference presentations, public discussion, press statements etc. Copies of publications should be forwarded to the RDU.

10. **Complaints**
Applicants who feel that their interests have been adversely affected by a decision made by the DoH may lodge a complaint. Complaints can only be considered when they refer to the administrative process and not to the actual outcome of a particular decision. Complaints must be submitted in writing to:

   Manager, Office of the Chief Medical Officer  
   Department of Health  
   PO Box 8172  
   Perth Business Centre WA 6849

11. Confidentiality

All applications and assessment reports will be maintained confidentially by the DoH, SHRAC and the selection panel. If requests are received by the DoH to make public any aspect of funded projects, the authorisation of the CPI will be sought.

Applicants should be aware that the DoH is subject to the Western Australian Freedom of Information Act 1992. This provides a general right of access to records held by State Government agencies. In addition, information pertaining to the receipt of State Government financial assistance is tabled in the Parliament of Western Australia.

12. Publications

Researchers are asked to forward copies of publications related to the funded project to the RDU. Researchers are asked to consider the NHMRC’s policy on the dissemination of research findings.

13. Application Requirements

The information below is provided to assist with completing each section of the SHRAC RTP Application Form:

Aims and Significance of the Project - The aim of the project must be to investigate or evaluate efficiencies and cost savings that the research can deliver to healthcare provision by WA Health, while maintaining and/or improving patient outcomes.

Projects should address relevant contemporary challenges faced by WA Health and where possible, the research should be linked to WA Health priorities, the WA Health Strategic Intent, and various WA reform initiatives.

Applications must describe the practical steps that health care providers may use to implement research findings through policy, operational, advocacy or other transformational changes.

Innovation and Future Activities - Research ideas should be innovative and shown to have not been done before or be significantly different to existing work in the area, e.g. projects may bring together ideas or services not usually linked.

Future plans for the body of work should be considered and outlined. This may include possible extension of the study to a broader geographical area, population or to other disciplines. Details of planned funding submissions to external funding bodies such as the NHMRC, for this broader work should be provided.
**Engagement and Collaboration** - Collaborations between clinicians and related health providers, clinical researchers, population health researchers, health service researchers, WA Health Networks and health economists are encouraged, as are interactions between different clinical disciplines working in Western Australian universities, hospitals or allied institutions.

Consumer consultation should be undertaken in the areas of health policy, planning, research and service delivery, as outlined in the *WA Health Consumer Carer and Community Engagement Framework 2007*.

Projects should aim to develop research-policy-practice partnerships that can assist in the translation of research findings into improved healthcare delivery and population health.

Such partnerships could also assist in increasing the capacity of WA researchers in leveraging external research funds, such as the NHMRC.

Assistance is available from *Health Strategy and Networks, DoH* concerning linking with collaborators and translation of research findings into health care policy and practice.

*Health Strategy and Networks* can be contacted by email for further assistance.

**Research Plan** - Applicants are to provide a comprehensive plan outlining the research question(s), proposed methods and techniques, a description of the target group(s), and key milestones against the project timeline. The research plan should outline time allocated for gaining necessary approvals, employment of staff, data collection and analysis, and report writing. The entire project must be completed within 24 months.

Careful consideration should be given when estimating the proposed sample size of the study groups. Estimates should be realistic and justified by recent data. Care should be used when making assumptions regarding patient recruitment and inclusion in the project.

**Economic Analysis** - Projects are required to have solid economic justification of the potential benefits to WA Health, substantiated by rigorous economic analysis. Research findings should demonstrate benefits to WA Health in terms of cost-effectiveness, cost-savings and/or increased efficiencies such as productivity gains achieved during the research period. These benefits must be achieved whilst maintaining and/or improving patient outcomes.

The source of economic expertise for the project must be identified in the application and may be provided by a business manager, health economist, research team member with economic competence or other equivalent source. This person must provide certification that they fully understand the project and agree to provide the economic analysis at Section 12 of the Application Form. Preferably, the grant application should be written in conjunction with this person.

Units of measure should be identified at the application stage and these must allow for cost comparisons. Additionally, an estimate of the predicted benefits resulting
from the project should be provided in dollar value. Where there is the possibility for roll-out of the research findings to other suitable areas, a prediction of cost-savings that may be achieved through the roll-out, should be included.

**Budget and Budget Justification** - The project’s budget must be broken down into financial years as set out in the budget template and take into account when the expenditure for items such as equipment and salaries is expected. Budgets should include in-kind support and other source funding commitments.

Budget claims should be adequately justified. Applications that do not adequately justify claims may be marked down by the assessment panel.

Applicants should calculate budgets accurately, as requests for additional funding will not be considered. All budget requests must be reviewed and verified by Finance officers/Business Managers at the administering institution at Section 13 of the Application Form.

(a) **Equipment** – major items of equipment will not be funded. Written quotations must accompany the application for minor items of equipment that is considered essential. Equipment that is purchased through the project shall become the property of the administering institution.

(b) **Salaries** – for research positions, applicants should nominate the salary level and codes for each position requested and indicate if the position is to be a ‘new’ or ‘existing’ position. Applicants should contact the relevant officers (i.e. business managers) in their institution for advice as to the appropriate salary scale and classification level for research staff.

Salary on-costs must be justified in full and can be claimed up to a maximum of 30%. Costs exceeding this amount will not be funded by the grant.

For WA Health applicants, salary on-costs should be calculated at the recommended level outlined in the [Health Accounting Manual](#).

(c) **Travel** – requests for travel funds will not be approved unless specifically required to undertake the project.

(d) **Economic and statistical analysis** – applicants are strongly encouraged to seek appropriate economic and statistical analysis of the results and outcomes of the project; the cost for these can be included in the proposed budget. The inclusion of a business manager and/or health economist in the team is strongly recommended.

(e) **Infrastructure costs** – Infrastructure claims cannot be made for applications where WA Health is the administering institution; and must be no greater than 10% of the total budget for applications where a university and/or independent research institute is the administering institution.

**Curriculum Vitae** - The Curriculum Vitae of the CPI and each of the PI is required to determine the capacity of the research team and its suitability to conduct the proposed research.
SHRAC RESEARCH TRANSLATION PROJECTS 2015 (Round 9)

Aspects of Health Economic Analysis

Prof Richard Fordham
Head, Health Economics Group
& Director of Health Economics Consulting
Norwich Medical School
University of East Anglia, UK

This economic analysis information sheet is provided as a guide to help ensure that your SHRAC Research Translation Project covers key areas that are expected to be demonstrated in your project and to assist you to demonstrate the extent of the ‘return-on-investment’.

1 Identify resources used and convert to monetary valuations

Consider the key resources used to deliver the program or initiative. Staff costs are likely to cover about 70% of the cost of most programs. However, a variety of other resources may also be needed such as equipment and space facilities; drugs, medical consumables; administration time; transport and travel costs and sometimes significant amounts of volunteer time too. Try to include:

1. All new additional resources needed to deliver your program; as well as
2. Existing resources that may have to be maintained and/or re-deployed (including existing staff) to enable the new program to operate.

Try to keep in mind that if a resource is needed to operate an initiative then it probably should be costed. Not all costs are as important as each other so if in doubt, consult your nominated research liaison officer at the Department of Health WA’s Research Development Unit (RDU) who’ll put you in touch with a local Health Economist.

Valuation methods

Having identified the resource ‘inputs’ the next step is to put a monetary value ($) on each of them. This can be as easy as noting down the purchase price at the time or acquisition cost (the total cost of obtaining and distributing a good) or unit cost of each item per a schedule (e.g. a drug formulary) etc. and multiplying up by the number of units needed. This is sometimes referred to as the ‘bottom-up’ approach. It is more accurate but more time-consuming! But for other costs such as overheads, shared or joint costs etc. a ‘top-down’ approach is more suitable and is going to be necessary. This approach uses a ‘rule of thumb’ or ‘decision rules’ approach to allocate shared or complex costs to specific local programs - sometimes down to patient level.

The ‘bottom-up’ approach, sometimes called the ‘ingredients approach’ is perhaps the most familiar to us all as consumers. It involves counting up the individual costs of what’s required to make or produce something. Unfortunately not all costs present as easily as this. Some are hidden and some are compounded with other costs.

Shared or overhead costs need other methods of apportionment to a level where they can be associated with patients or groups of patients in your specific project. For instance, hospital patients incur both direct treatment as well as indirect overhead costs. Perhaps the easiest way to do this for hospital-based projects in particular is to adopt the Australian Refined Diagnosis Related Group (AR-DRG) code for the most appropriate setting. For WA, public hospitals use ‘weighted activity units’ which are based on an underlying AR-DRG. However for community and general practice other local ad hoc rules may have to be drawn up for apportionment. The ‘top-down’ approach takes a whole estimate of a case or episode but cannot usually be broken down into its component costs without expert assistance. But they are useful for example, when calculating savings in bed-days or where
there are too many unknown variations in cost that would make it too time-consuming to use 'bottom up' costing. It is worth noting that this method won’t necessarily be as accurate as the ‘bottom up’ approach.

You may need to know much time is allocated from an existing pool of nurses or general practitioner time to the new scheme and what is the annual cost? A good tip here is to just stick with major items of expenditure on resources. Estimates are fine provided they are based on a good working knowledge of the program. Forget counting the costs of everything by monitoring it with a stop-watch or counting up the number of Band-Aids or syringes used, it is unnecessary and time-consuming. Where possible use:

- Standard cost schedules or published tariffs
- Wage rates/pay scales
- Bills/invoices
- Claim forms
- Costs of consumables per unit etc.

Your nominated research liaison officer at the RDU should be able to help you find costing experts qualified to help with ‘weighted activity units’ and AR-DRGs and help find other costs.

2 Local and specific costs

Costing local studies should be as pragmatic as possible. Where possible, use costs from the project or those as close to the study as possible. Speak to your local Business manager. Any concerns about their generalisability should be discussed with an economist. If you cannot get local or specific costs then costs from other states or national costs are the next best option if available. Note: published data from overseas can be problematic and inappropriate as health systems vary and the amount and the cost of care can be quite different. Check to see if other Australian reports are available first, a good start is the AIHW in Canberra see: http://www.aihw.gov.au/.

Using older costs that you can find are sometimes better than no costs at all but should generally be guarded against. They will need inflating using consumer price index (CPI) or an appropriate health price index to the base year of your study, see: http://www.aihw.gov.au/health-expenditure/. Likewise you may need to deflate costs that you find are too recent for your purposes.

3 Classify costs into fixed and variable costs

In some case it is easier or necessary to undertake costings by first identifying the type of costs required.

**Fixed costs:** do not usually vary with the level of output. These include any land, capital/equipment or staff (e.g. a consultant post) required before a single unit of output or (more likely) a single patient can be treated. Fixed costs often have an up-front impact but can be utilised for longer durations than a year. Therefore these need to be spread over the period of their working life. Sometimes replacement is required due to depreciation during a projects life-time. Such depreciation can be calculated using standard accountancy depreciation techniques see: http://accounting-simplified.com/financial/financial-fixed-assets/depreciation-methods/types.html.

‘Weighted activity units’ based on underlying AR-DRGs are the easiest way to get around the problems of apportioning fixed costs to a whole project as this is done for you. But be warned, AR-DRGs contain elements of both fixed and overhead cost. Note: that the Department of Health WA (DoH) uses ‘peer group’ rates for hospital costs in the Metro area. There are currently six ‘peer groups’ where different base rates apply. These are: Paediatric, Tertiary, Non-tertiary, Country Regional, Country Integrated and Country Other.

If in doubt ask your Business Manager or local Health Economist.
Variable costs are expenses that change in proportion to the activity undertaken. A variable cost might be the number of drug doses given or the number of visits to patients and will be driven by the rate of activity (number of patients X intensity of care).

Try and use up-to-date costs as far as possible. Your Finance department is a good place to start. They pay the bills or issue invoices for work completed!

For costs used in DoH, bed-day costs or episode costs already contain all costs incurred by the hospital/facility apart from capital user charge and trust account expenditures. This information can be used for inpatients (IP) and Emergency Department (ED) services and can also be used for Outpatient (OP) service costs. If the research program relates to areas outside IP, ED or OP the steps above may be required to establish relevant costs.

4 Specify average versus marginal costs (if necessary)

In economics generally, the true cost of something is the marginal cost of its production.

Marginal cost is the cost of producing the last unit output of interest. It is therefore unlikely to include fixed costs (unless it is the first unit being produced) but the marginal cost is not always easy to calculate!

Average cost – it may be easier to report the average costs per unit produced although this tends to over-estimate the true cost.

There are some situations, for example where savings are being made (e.g. through better patient management) where reporting the average cost saved could over-estimate the total savings, since only the marginal costs are truly prevented. If in doubt, consult your Health Economist/ Business Manager.

5 Consider costs and economies of scale

Costs often vary with size of activity or scale. Staffing levels for 100 patients will be a lot different to the staff required for 1000 patients, but it might not always be ten times as great.

Both fixed and variable costs often increase step-wise as capacity constraints are reached, so don’t expect a straight line projection! For example, will rolling out your project across the whole state automatically increase the costs proportionately or will there be some economies or perhaps dis-economies of scale? You may not know the full answer to this question but if you believe there will be some ‘economy of scale’ in a wider service or even some decline in efficiency if it is expanded to other sites etc. then use your best estimates to adjust such costs and productivity - with suitable justification. Rules of thumb are usually acceptable if they can be justified.

6 Make adjustments to costs depending on timing

Not all costs fall in the present period. They may be delayed or fall in Year 2 of a project. For example replacement equipment may not be expected for five years or more etc.

As a general rule, future costs (and benefits) are worth less in the future than they are in the present and they will need discounting to adjust for this.

Standard methods of discounting the future costs are available using tables from textbooks or any on-line calculator. See: http://www.aqua-calc.com/page/discounted-present-value-calculator. If you will need to discount any costs (because they fall outside of the current year) but are a bit unsure how to do this, seek advice from an economic advisor. Your liaison officer in the RDU may be able to assist you in locating this expertise.

7 Report net savings and benefits of the research findings

Remember sometimes projects also have unintended consequences which incur costs elsewhere ‘in the system’ e.g. adverse events, more nurse visits, emergency call-outs etc.). These are unexpected but are still legitimate costs to include should they arise. Just state
what they are and how you have calculated them. Also consider any unintended benefits in the same way (see 11 below).

8 Calculate the Incremental cost
i.e. \((\text{Total program cost}) - (\text{Pre-program cost}) = \text{Incremental cost}\)

Incremental costs refer to the difference between existing and new resource use. The incremental costs are the true net additional costs of a new initiative over and above what was already provided before. Sometimes referred to as the netted off cost, this figure provides an estimate of the additional resources actually consumed.

9 Calculate a Return on Investment Ratio
Try to compare the costs of the program with the likely benefits in a simple % ratio of the dollar value invested. For example see: https://www.business-case-analysis.com/return-on-investment.html.

Return on Investment (ROI) can be calculated for both the total health care intervention being provided as well as the research project grant awarded. At least the latter should be reported but both if possible i.e.

ROI for health care intervention = full cost to deliver intervention: benefit gained (in $ value); and
ROI for research project = cost of the research project (grant amount): benefit gained (in $ value)

10 Record and show all assumptions
As a matter of principle, keep your calculations as transparent as possible and always show your assumptions when writing up your report. Don’t worry if you cannot ascertain or estimate all the actual costs or benefits completely (due to the data or their complexity etc.). However, your assumptions should be realistic and should show how and what has been estimated as precisely as possible. Please provide full references if these are instrumental in your assumptions.

11 Increases in productivity
An increase in overall productivity, for example increased patient throughput in some other areas of the organisation may sometimes be relevant to include in your report. As far as financial consequences are concerned however, productivity gains can have the paradoxical effect of being cost-saving (per unit of output), whilst incurring additional costs system-wide - due to rising activity levels as resources are freed up.

Therefore a general assumption used is that any system productivity gains will be financially neutral. The benefits of a general increase in productivity (e.g. the financial gains from a project reducing waiting times is off-set by an increase to costs of such treatment). You should always err on this side unless you can show conclusively that some wider indisputable financial benefits will be missed.

12 Other reportable non-financial benefits
Other reportable non-financial benefits we would still like to know about include:

- Communication with hard-to-reach groups and a consideration of the equity aspects of treatment;
- Improvement of patients’ own knowledge about their condition or treatments;
- Improved practitioner competence and fulfilling their training needs as this might be an important subsidiary benefit;
- Discovery of unmet need or attention to patient sub-groups is a particularly useful benefit in some projects;
- Improved working conditions for staff are useful to include especially if they enhance the reputation of the WA health system;
- Progress towards commercialisation of any invention;
- Other grants or funds received as a result of the initial SHRAC grant;
- Published papers, conferences etc. directly related to the project award.

13 For unfinished projects estimate final patient numbers

If your study or recruitment has not been completed by the reporting due date, you should attempt to estimate final numbers and base your estimates of financial benefits on these numbers rather than actual numbers processed by the due date. Please note that actual numbers to date (that form the basis for your estimates of final numbers) must be clearly stated in your report.