digital health CRC

RESEARCH AND EDUCATION INVESTMENT FRAMEWORK

MARCH 2019

Who We Are

The Digital Health CRC (DHCRC) will improve the health and health care of Australians and advance the economy through collaborative Research and Development that combines multi-disciplinary skills, industry knowledge, technologies, networks & data to:

+ empower consumers;
+ understand and manage health risks of individuals and communities;
+ support clinical practice;
+ improve system efficiency and access to quality care; and
+ build and enhance businesses to provide high value jobs and solutions in a growing global market.

With the support of our seventy-plus participant consortium we will invest over seven years to develop and test digital health solutions that will work for real patients in real hospitals and health services, while equipping Australians to better manage their own health and wellness.

Since successfully securing funding through the Commonwealth Government's Cooperative Research Centre program, the DHCRC has achieved the following key milestones:

+ established the operating entity of the CRC, the Foundational Board and other required governance;
+ agreed and signed the Commonwealth Grant Agreement;
+ developed and signed all Participant Agreements with its more than seventy participants;
+ formed the Research and Education Investment Committee and Commercialisation Committee;
+ secured the initial tranches of funding from the Commonwealth in order to resource the team and implement operational systems;
+ transitioned from the CEO designate, David Jonas to the incoming CEO, Dr Victor Pantano; and
+ held seven workshops across Australia, consulted widely with participants and formed strategic reference groups which resulted in the development of a Research and Development Matrix and Flagship Programs.

Our research and education investment decisions are overseen by our Research Education and Investment Committee (REIC), a subcommittee of the DHCRC Board. REIC is tasked with advising the Board on investment decisions relating to the Research, Education and Capacity-Building Programs. The scope of responsibility includes:

+ development of research priorities and principles, and a supporting research framework to ensure appropriate scope, quality and utility of research, education and capacity-building;
+ analysis and advice on relevance and potential for translation of research into industry settings and for commercial purposes, including market applications of the research outputs;
+ undertaking appraisal of relevant trends and developments in health and other sciences, technology and analytics both domestically and internationally; and
+ providing advice on any technical, research and education issues.

Our Objectives

Over our seven-year Commonwealth funding period, we will achieve the following outcomes:

+ improved healthcare efficiency and value through customised solutions that create and facilitate the implementation of actionable information;
+ improved health and wellbeing by harnessing personalised data and creating integrated applications to support positive behaviour and new models of care;
+ creation of a lasting environment in which fruitful models of collaboration can be established across jurisdictions and industries;
+ capacity building and improved digital literacy driven by the proposed education, training and technology development programs; and
+ increased global participation of Australian health and medical technology solutions and services organisations.

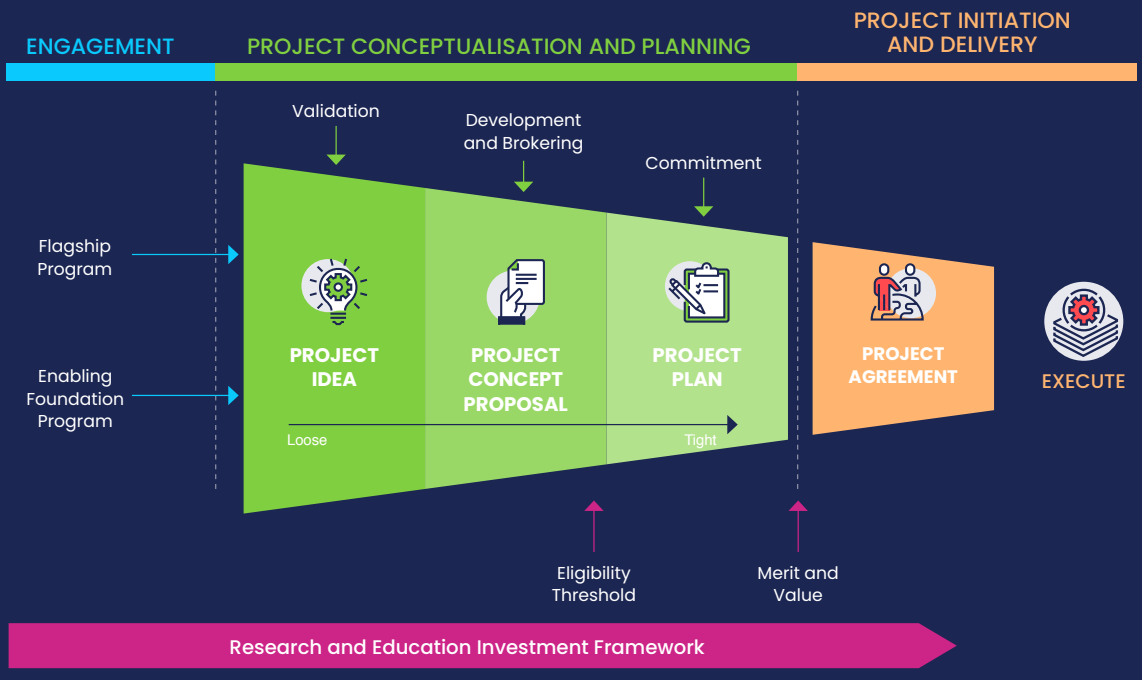
Our Investment Framework

We will make significant investment into research, education and capacity-building in the digital health field. Our investment decisions will be informed by:

+ Overarching Investment Principles;
+ our Research and Development Matrix;
+ Threshold Eligibility Criteria and Merit and Value Criteria; and
+ an Impact Model, noting that this Model captures the impact targets described in our Stage 2 bid to the Commonwealth Government and that the overall mix of projects that we invest in must collectively lead to outcomes and impact across the breadth of this Impact Model.

This Research and Education Investment Framework (REIF) details our processes for project identification and conceptualisation; project planning and approval; and investment decisions. Proposed projects will follow the following process.

The Project Process Funnel:

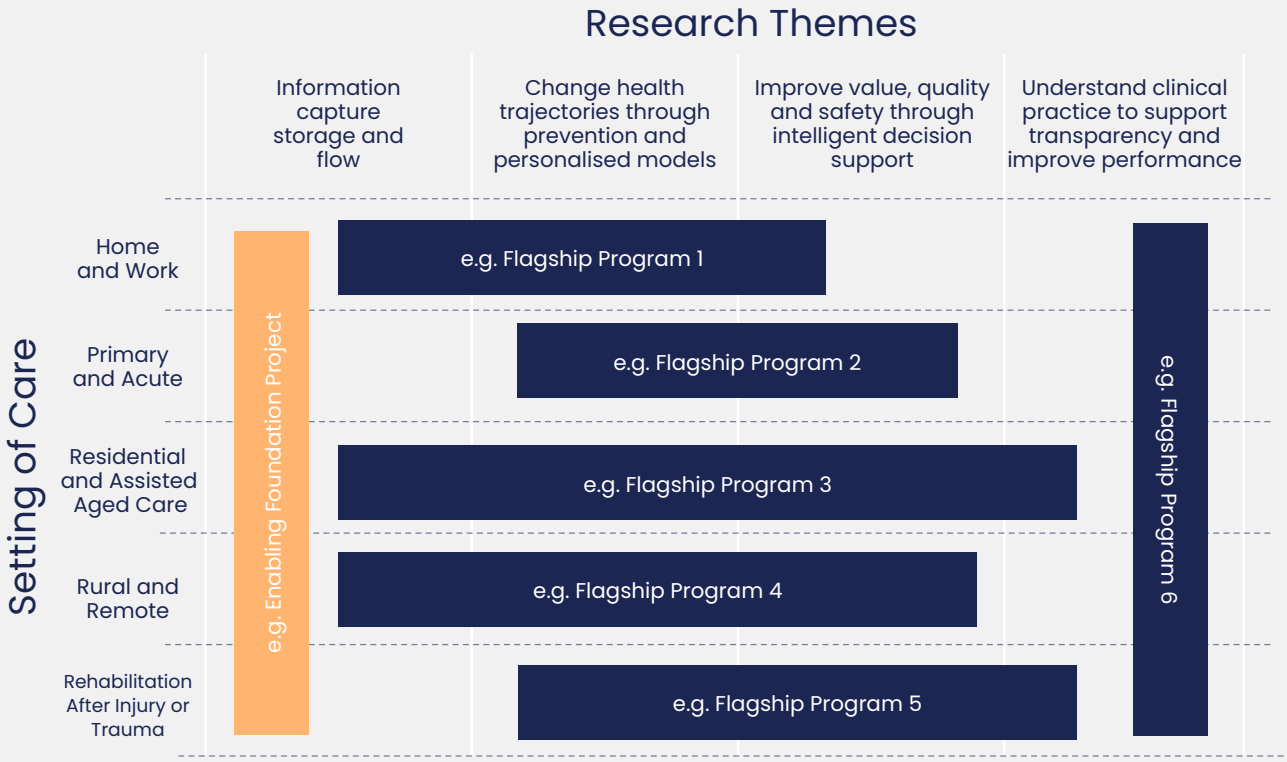


1. Overarching Investment Principles

We will invest in projects that:

1. focus on supporting industry and delivering demonstrated economic and social returns for participants, us and Australia;
2. solve service-side and organisational problems our participants face, while generating new business opportunities and supporting the expansion of existing industry-participant technologies through research and development;
3. focus on applied research that clearly meets industry goals and is initiated by and embedded with industry to achieve translation and impact. This will be coupled with, and supported by, vital academic contributions from university participants;
4. as well as supporting industry development, will address key health problems such as the burden of chronic disease, the absence of transparency for all stakeholders and the harm and costs associated with the delivery of low-value care;
5. will deliver innovative and disruptive solutions that have the greatest potential for adding value and achieving change in an industry context;
6. look to increase the value of existing participant IP and generate IP for us and our participants;
7. encourage our participants to collaborate, grow and create new opportunities;
8. are aligned with Australian Digital Health Agency strategy and will support the goals of the Medical Technologies and Pharmaceutical Growth Centre (MTP Connect) Industry Competitiveness Plan;
9. can be linked with other projects to create large, crosscutting flagship programs that will address service and organisational priorities with multiple industry and university participants or which, while individual, achieve significant impact as measured by our Impact Model, or have strong potential to generate IP; and
10. support areas of enabling research and development that will provide benefit to the sector on issues such as data and related research infrastructure, ethics, privacy, and governance.

2. Research and Development Matrix



After extensive consultation with our industry, government, community and academic participants, as well as contributors from the broader digital health ecosystem, we have identified Research Themes and Settings of Care which will determine a matrix within which all of our projects will be based.

Within this matrix, we have also identified a number of Flagship and Enabling Foundation Programs which we will use to guide our investment decision-making:

Flagship Programs

A health ecosystem Flagship Program is made up of several linked projects. Flagship Programs are the direct output of a codesign process of iterative development with multi-stakeholder reference groups and our research team. They focus on areas of demonstrated industry need within the health system for a targeted and collaborative program of work supported by data and digital technology. Flagship Programs provide a framework for the development of substantial linked projects and will often extend across cells in the Research and Development Matrix.

From the outputs of the workshops and from ongoing consultation, an initial seven Flagship Programs have been developed. Four of these are cross-cutting and three are of special interest and relate to specific settings of care.

To maximise return on investment and impact we will look to develop multi-participant projects spanning our Flagship Programs where possible. However, our intention is to commence with a series of smaller projects that will link up to form the foundation for our Flagship Programs.

Our initial Flagship Programs are (see Appendix D for further details):

Settings of Care	Flagship	Summary
Common across all Settings of Care	Changing health trajectories in chronic disease	Use different data sets to identify populations who have or are at risk of developing chronic disease. Provide personalised models of care, digitally- supported behavioural interventions and end-to-end management. Avoid unnecessary hospital admissions and empower people to manage their own health and wellness.
	Transparency of data to optimise clinical practice and referral	Use health care, administrative and other data to measure and understand clinical variation and practice; support reflection and personalised professional development; support appropriate consumer referral; and drive efficiency through payment and claims optimisation.
	Intelligent decision support to improve value and efficiency	Use comprehensive data and information across care continuum to understand consumer risk and organisational performance. Provide intelligence to consumers, clinicians, managers and administrators to predict and prevent poor outcomes and low-value care. E.g., improve quality use of medications. Support resource allocation and business efficiency.
	Enabling information discovery and application	Explore issues surrounding ethics, governance and privacy of linking and using health data. Development of targeted tools resources to support and facilitate health data sharing and application in practice, quality improvement, trials and research.
Rural & Remote	Changing health trajectories in chronic disease in rural and remote settings	Address issues that are specific to rural and remote including access, maintaining viable healthcare services, integrating social determinants of health, overcoming technology challenges, reducing digital divide and co-designing culturally appropriate programs.
Rehabilitation following injury or trauma	Digitally coordinated and supported rehabilitation management	Use comprehensive data following injury and link with previous history to predict risk and improve outcomes of rehabilitation. Deliver personalised, technology-supported interventions with portals that support communication between care providers and with clients and family.
Residential and Assisted Aged Care	Digitally supported and coordinated aged care management	Use resident, service and clinical data to improve quality, reporting and business efficiency. Support coordinated, shared care and resident quality of life through personal and family portals. Provide real-time dashboards and knowledge to support continuous quality improvement and decision support.

Enabling Foundation Programs

Enabling Foundation Programs are targeted at addressing a common research and development enabler, issue or an opportunity identified through the R&D and translation pathway. Examples include issues relating to data linkage, infrastructure platforms, ethics, privacy, governance, digital health policy and regulation and business models.

Enabling Foundation Programs will generally be initiated by DHCRC in collaboration with participants.

The REIC will review Flagship/Enabling Foundation Programs on a rotating basis throughout each year to ensure that there is comprehensive coverage across each Program, review progress of projects and make recommendations on progress and/or termination of projects. The REIC will have oversight over our Flagship/Enabling Foundation Programs to ensure they adequately cover our Research and Development Matrix. It will recommend new Programs as needed.

We may also conduct further workshops and engage participants in codesign or other engagement strategies to develop additional Programs.

3. Project Conceptualisation

All of our participants can apply for investment in projects. We encourage our participants to contact us as the first step to discuss a project idea.

Our preference is to receive ideas for projects which fall directly within an existing Flagship/ Enabling Foundation Program. However, participants can approach us to discuss a proposed project, even if it does not obviously align with one of our identified Programs. To be considered, the proposed project must fall within the Research and Development Matrix.

In addition to our participants identifying project opportunities, we will continue, through our conversations with our participants and broader digital health ecosystem players, to identify potential project opportunities. We may also conduct investment rounds which seek projects in particular Flagship/Enabling Foundation Programs. We will determine the timing and scope of these rounds to ensure comprehensive coverage of all of our Flagship/Enabling Foundation Programs.

Regardless of the source, an idea for a project will be formally identified to us via the submission of a Project Concept Proposal (PCP).

To ensure that we are achieving Our Objectives and focussing on our identified Flagship/Enabling Foundation Programs, we may:

+ cap the number of PCPs from particular participants;
+ delay consideration of PCPs submitted;
+ suggest that parties with similar PCPs collaborate;
+ specify a target total project cost range for PCPs;
+ call for particular Flagship/Enabling Program PCPs; or
+ close PCPs for Flagship/Enabling Programs at any point in time.

Our website will be updated regularly with this information.

In assessing the PCPs that we receive, the following PCPs will be considered less favourably:

+ incomplete PCPs, particularly where participants have not been identified;
+ projects that do not meet the requirements of this Framework or that sit outside of the Research and Development Matrix;
+ traditional medical research projects, clinical trials or trials of technologies (unless they have been developed with technology partners and are closely aligned with industry needs having broader translational and commercial potential); and
+ projects that repeat existing research and development or evaluation.

PCPs that involve a diverse range of contributors and demonstrate a high degree of collaboration will be considered more favourably. All PCPs must include at least one industry participant and one university participant.

Our Team

Our evaluation team consists of:

Director of Research: responsible for establishing the research direction of the DHCRC and the long term vision of its research project portfolio. The Director of Research provides oversight of the overall research program, leads engagement with university participants and works closely with our other participants.

Chief Scientist: oversees the vetting of proposed research for soundness, feasibility and identification of high value research to industry participants. In collaboration with the Director of Research, has oversight of research/technology activities and ensures research excellence.

Director of the Program Office: oversees delivery of projects and Flagship Programs, managed project governance and activities of the Program Managers. The Director of the Program Office works closely with our participants.

Flagship Research and Education Directors (FREDs): provide guidance on the overall strategic direction of their Flagship Program(s) and are responsible for ensuring that research/technology activities align to a Flagship Program. FREDs support and facilitate research formulation and technology gap analysis.

Program Manager: responsible for the coordination, monitoring and reporting on their assigned Flagship Program(s) through project conceptualisation, planning, initiation and delivery. Program Managers provide oversight at a Flagship Program level.

Project Control Group: oversees the conduct of a particular research project. The Project Control Group will have representatives from each party participating in the project, the Project Leader and our Program Manager. More information about its role is detailed below.

Project Leader: appointed by the parties to manage a project on a day to day basis. They will report to the Project Control Group. More information about their role is detailed below.

Academic Leader Group: a grouping of senior research representatives from each university participant providing an avenue to identify research capabilities which can be accessed. The Academic Leader Group hold a monthly forum to discuss the research undertakings within the wider digital health community and potential issues or opportunities these may present.

PCP Evaluation

Once we receive a PCP, we assign it to one of our Program Managers. They coordinate assessment of the PCP against the Eligibility Threshold Criteria.

Once assessed, the Program Manager reports the outcome of the PCP evaluation to our Director of Research and Chief Scientist, with a recommendation as to whether it will proceed or not. The Director of Research and Chief Scientist will determine the final outcome of the PCP evaluation, which will be notified to the lead applicant.

If we need more information in order to evaluate a PCP, our Program Manager will liaise directly with the applicant(s) to obtain the required details.

If additional parties are required/desirable given the nature of the proposed project and funding or resource requirements, we may work with the applicant(s) to approach other parties or call for expressions of interest through our Academic Leader Group or our broader digital-health network.

Eligibility Threshold Criteria

Project concepts need to meet the requirements of this Framework and the following threshold eligibility criteria to proceed to the next phase of our application process:

	Criteria	Indicator	Comments
1	Aligns with our Investment Principles, fits within our R&D Matrix and enables us to meet our Commonwealth commitments	The proposed project meets with the requirements of our REIF, aligns with our Investment Principles, sits within our Research and Development Matrix and contributes to achieving our Impact Model.	The proposed project must demonstrate a technically feasible solution that addresses a specific industry problem, as relevant to both our Impact Model and Research and Development Matrix is being tackled, and that it can be addressed by high quality research. The proposed project needs to be consistent with our Commonwealth Funding Agreement and contribute to the impact milestones under that Agreement.
2	Must be future-looking and innovative	The proposed project will uniquely improve health system performance. It does not repeat existing research and development or evaluation and is not a traditional medical research project, clinical trial or trial of technologies.	The proposed project must focus on ground-breaking applied digital health research that creates new innovations in health system performance, improved care and better health outcomes. For example, may bring diverse data sets together, apply machine learning and AI, develop personalised models of care and support value-based care through innovation in decision support and practice improvement.
3	Industry/ stakeholder focused	The proposed project has one or more key industry/ stakeholder champions and meets well-articulated end-user needs. There has been/will be stakeholder involvement in the project's design, delivery, outcomes and feedback.	The proposed project should be relevant to industry, driven by industry and embedded (at least in part) in an industry setting. Stakeholders are involved in project design and solution validation. Significant industry and/or government participation has been demonstrated and maximised.
4	Financially reasonable and feasible	Total project cost and estimated resources are commensurate with the anticipated outcomes, objectives and contributions from the participants and other parties to the project.	It is possible to deliver the proposed project's outcomes within the indicative cost provided, including the resources to be contributed by the parties. The outcomes of the proposed project offer value for money.
5	Potential impact is clear	The proposed project identifies outcomes that will deliver impact.	The outlined impact needs to be feasible and offer benefits to the digital health ecosystem.

4. Project Planning

Successful PCPs proceed to our planning phase.

Developing a Project Plan

Our Program Manager will work with a PCP's applicants to develop a Project Plan. Drafting of this documentation is the responsibility of the applicants, but we will work with you and guide you through its development.

Both our Program Managers and FREDs are available to assist applicants to define their research approach and proposed outputs and our technical team can provide advice on the technical capability and capacity needed to achieve the research objectives.

Project Plans are to be submitted within 90 days of receipt of the approval to proceed from PCP stage and we reserve the right to reject projects where finalised Project Plans are not received within this timeframe.

Project Plans must be developed with the objective of meeting the Merit and Value Criteria and include:

+ a detailed budget – costings should include people, infrastructure, travel etc;
+ a payment schedule – funds are to be paid to universities except in special circumstances;
+ timelines;
+ milestones;
+ deliverables;
+ IP identification and utilisation plan; and
+ identification of the project team and the Project Control Group.

All projects are required to have both staff and non-staff in-kind contributions. Staff contributions are the provision of employees of a project participant or a consultant hired by the project participant to work on a project or otherwise for the DHCRC. The value of in-kind contributions will be determined having regard to Commonwealth guidelines, must be realistic, justifiable and agreed to by DHCRC.

We will not provide any funding for industry participant research costs. This means that industry participant research costs are effectively in-kind contributions.

The term of any project should be more than 2 years and less than 4.5 years in duration (noting that all projects need to be completed by 30 June 2025).

If approved, the final Project Plan will form a schedule to the Project Agreement between us and the other project parties. A template of the Project Agreement will be made available to the parties during the project planning phase. This needs to be reviewed and agreed to in principle (with parties noting areas for further discussion) as part of submitting the Project Plan for formal approval.

The Project Control Group will have representatives from each party participating in the project, the Project Leader and our Program Manager. FREDs and other members of our Executive Management Team may attend or call meetings of the Project Control Group and can be requested to do so by the Program Manager. The Project Control Group is responsible for:

+ monitoring the progress of the project against its objectives, milestones and budget;
+ recommending continuation, variation, or termination of the Project Agreement;
+ monitoring research quality and outputs;

+ reviewing project party contributions;
+ devising the project's communications strategy with input from specialist personnel as required; and
+ approving quarterly progress reports and ensuring their timely delivery to enable us to meet our Commonwealth reporting requirements.

All material decisions of the Project Control Group will be minuted with the minutes to be circulated to meeting participants and confirmed in subsequent meetings.

The Project Leader is appointed by the parties to manage the project on a day to day basis. They will report to the Project Control Group. The Project Leader is responsible for:

+ conducting a high-quality research project that meets the needs of end-users and is focused on achieving the outcomes;
+ providing technical leadership and research management, and liaising with all parties, particularly the industry participants;
+ overseeing day to day research activities;
+ ensuring the project is carried out in accordance with the Project Plan and within budget;
+ ensuring the project achieves its project features and objectives;
+ ensuring appropriate confidentiality of information is maintained;
+ getting advice from our Director of Research as needed on the research focus and progress for the project;
+ supervision and administration of all project personnel, including any associated research students (unless agreed otherwise by project parties);
+ contribution to quarterly reports (including technical progress and financial reports) for submission to the Project Control Group, including the achievement of the project features;
+ preparation and facilitation of any annual 'traffic light' project progress review; and
+ maintenance of financial records, research, and technical records.

A final draft of the Project Plan will be submitted by the Program Manager to our Director of Research and Chief Scientist for review and approval. If approved to proceed, project parties are notified, they finalise and sign the Project Plan and formally submit it to us for approval.

Our Executive Management Team assesses the submitted Project Plan against the Merit and Value Criteria.

Our Executive Management Team approves or rejects all projects with a total project cash component of less than $1m (with notification to the REI Committee's next meeting). If the total project cash component is greater than $1m, the Executive Management Team will make a recommendation to REIC who has final decision about whether the proposed project proceeds. If the Executive Management Team is unable to reach consensus on whether a proposed project should proceed, it will refer the Project Plan to the REIC for decision.

The lead applicant will be notified of the outcome of their application. Approval is granted for a period of 90 days. During this time, the Project Agreement is to be negotiated and signed. We reserve the right to withdraw our approval of the project if the Project Agreement is not signed within this timeframe.

Merit and Value Criteria

Project Plans will be prepared and assessed against the requirements of this Framework and the following merit and value criteria. These criteria will be scored on a 1-5 ranking (low to high). 'Value' relates to wider strategic value to us and the health sector more broadly. We will have ultimate discretion as to how a Project Plan is assessed and whether or not a project will receive funding.

	Criteria	Comments
1	**Alignment with one or more Flagship/ Enabling Foundation Program or otherwise falls within our R&D Matrix**	The proposed project has direct alignment with one or more Flagship/Enabling Foundation Program. Projects that do not fall within a Flagship/Enabling Program but which do fall within our R&D Matrix will be considered, but will be ranked lower in terms of merit.
2	**Delivers outcomes that positively contribute to Our Objectives**	The proposed project improves the effectiveness, efficiency and sustainability of the Australian health industry through harnessing data and digital technology. Builds industry workforce capacity and contributes to economic outcomes.
3	**Project design is well conceived and outcomes-focused**	The proposed project design is fit for purpose and the research strategy is technically feasible. There is a clearly-defined research strategy, project objectives, and research methodology/approach with clear linkage to outcomes that relate to our Commonwealth milestones. The timelines proposed are achievable and reasonable. The milestones and deliverables for the project are clearly detailed, objective and obtainable. Due consideration has been given to matters such as ethics, IP, data usage and data framing, risks and achievability. The proposed project will deliver high quality research outputs through a robust and technically comprehensive research approach.
4	**Adds value to the wider DHCRC research program**	The proposed project aligns with and adds value to, our wider research program portfolio and contributes to achievement of our Impact Model. The proposal acknowledges existing work in the area and any programs that the project needs to align with. The proposal does not unnecessarily duplicate previously undertaken work.
5	**Contributes to novel and innovative outcomes**	The proposed project demonstrates a high level of innovation in research strategy, proposed novel and innovative outcomes, has clear translation and/or commercialisation potential and a feasible business model for transformation, delivery and/or uptake as a result of the research outcomes. Undertaking the project strengthens capacity, capability and expertise in academia and industry to innovatively solve problems and allow Australian digital health to succeed on the global stage.
6	**Brings together a high-quality project team with capability and capacity to undertake the project, supervise research students and support translation**	The proposed project takes advantage of the broadest range of our participants and demonstrates a high degree of collaboration. The proposed research team have complementary and individually unique skills and contributions to make, all of which are essential to the project. Relevant considerations include access to global best-practice research; deep understanding of industry and markets; participants' records of accomplishment in collaboration and facilitating broader industry transformation; demonstrated track record of successful research in the general area of the project; and skills, systems and culture that will support research students. Other well-regarded but not essential components include ability (and sustainability) to commercialise project outcomes, as well as access to target markets and technical ability to support and deliver IP. The Project Control Group members and Project Leader are identified. Additional cash funds committed by new parties or the participants will be considered favourably

	Criteria	Comments
7	**Budget is sound and project is financially viable**	The proposed budget is consistent with the objectives and scope of the project and the impacts it proposes to deliver. The proposed project is properly costed, with all costs (including personnel, infrastructure, travel etc) and participant contributions identified. The proposed budget meets rules on eligible and ineligible expenditures (see Appendix B). Project parties demonstrate commitment through a maximised allocation of in-kind commitments. It is possible to deliver the proposed project's outcomes within the cost provided, including the resources to be contributed by the parties. The outcomes of the project offer value for money. Costs incurred on the project prior to its approved commencement date have not been included. The Project Plan provides demonstrated understanding of key project risks including technical and business risk. Key technical and business risks (where appropriate) are outlined, including any anticipated cash flow issues associated with the project, and how these risks will be identified/managed/mitigated. Additional cash contributions committed by new parties or the participants will be considered favourably.
8	**IP ownership and utilisation plan**	The proposed project has clearly defined outcomes to deliver impact (as measured against our Impact Model), inclusive of a translation pathway. Proposed IP ownership structures are agreeable to us and the project parties involved and will facilitate translation and commercialisation. Data used and generated in the proposed project can be repurposed to support the development of solutions to a range of industry problems. The proposed project uses technology and data and generates outcomes and solutions that can be applied to similar issues in other regions, healthcare settings, industries, or use-cases. The proposed project facilitates participation (or includes a plan to participate) in global markets.
9	**Potential for translation and impact**	The proposed project demonstrates the potential to attract cash investment, data and other in-kind contributions, either through the course of the project itself, or as a result of its outcomes. Project team members have networks and relationships that will assist the project and its outcomes to achieve wider translation, uptake and impact.
10	**Data access and digital infrastructure is provided through the project**	The proposed project provides for data to be shared between project parties. Data access is made available for other projects (where possible). Digital infrastructure is provided by project parties. This may include platform infrastructure, data, models, Application Programming Interfaces (APIs) and hardware.
11	**Meets our aims in relation to research training and capacity building**	The proposed project contributes to us achieving our objectives in relation to research training and capacity-building for a future innovative workforce in digital health. See Appendix C for key elements.
12	**Adds value to society**	The project proposal clearly outlines how the research outputs will add value to society and, in particular, the health system, through translation of research outputs into economic and societal wellbeing impact.

6. Project Initiation and Delivery

Projects will commence once the Project Agreement is signed. Unless there are exceptional circumstances, there will be one Project Agreement which will govern the relationship between us and all parties involved in the project. The Project Agreement will cover all matters relating to the project.

The Project Agreement is to be negotiated and signed within 90 days of the parties receiving approval to proceed with the project.

The Project Agreement will generally require ethics clearance (if required) to be obtained within the first 12 months of the project commencing. Failure to do so may give rise to a right for us to terminate the Project Agreement.

Any funding is subject to sufficient funding being made available to the DHCRC by the Commonwealth and the DHCRC's participants.

Individual projects are run by a Project Team consisting of representatives from each project party.

During the conduct of the project, the parties will need to:

+ annually update the Utilisation Plan;
+ report quarterly and annually to us on progress of the project. The Project Leader will be responsible for preparing these reports, submitting them to the Project Control Group for approval and then, once approved, to the Program Manager. The Program Manager will send the approved report to the FREDs, Director of the Program Office, Director of Research and Chief Scientist who will review and, if necessary, make recommendations to the Program Manager for revision.

The Director of the Program Office, Director of Research and Chief Scientist will report to the REIC in general terms on the progress of projects within Flagship/Enabling Foundation Programs.

Final Progress Report

On completion of the project, the Project Leader will be required to complete and submit a Final Progress Report to the Director of the Program Office. Final Progress Reports must be submitted within 30 days of the project end date for review by the Project Control Group. Final Progress Reports will contain:

+ a review of project progress against project milestones and impact metrics (determined having regard to our Impact Model);
+ details of project outputs and outcomes including research achievements and potential translation impact;
+ details of planned commercialisation activities for any project IP; and
+ financial reconciliation of project expenses.

Any as then unpaid project funds will be released to project parties on approval of the Final Progress Report by the Program Manager.

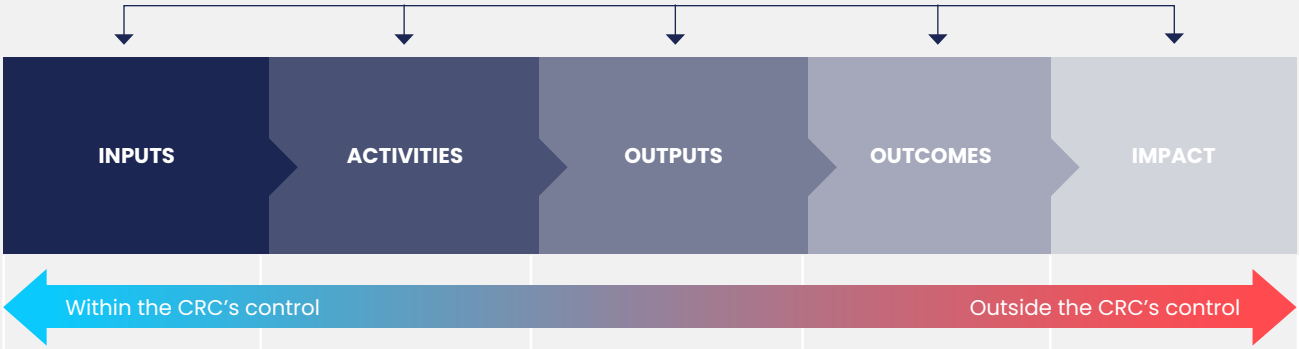
Impact Reports

For a period of 5 years following the completion of a project end date project parties will be asked to complete an annual Impact Report. We will ask a series of questions relating to research translation; the commercial success of project IP, including market size, value generated, improvements to project IP etc; capacity- building and jobs-creation; and any other outcomes.

DHCRC has discretion to terminate projects which are not progressing in accordance with their milestones.

Appendix A

Impact Framework (A): CRC Impact Pathway



	INPUTS	ACTIVITIES	OUTPUTS	OUTCOMES	IMPACT
DESCRIPTION	Resources applied to deliver activities, including: budget allocations personnel in-kind contributions other resources- data, information	Actions taken or work performed through which inputs, such as funds, technical assistance and other types of resources are mobilised with the intention of achieving specific outputs. Can include: • research activities • technology development • education • industry engagement •	The research solutions, services, and/or capacities that result from the completion of activities within a research portfolio or project, e.g.: • publications and reports • Prototypes or enhancement of existing solutions • patents granted • students completed • new services • new/updated standards	The desired medium-term effects / change realised from successful research outputs. (Usually requires the collective effort of participants.) Uptake – e.g. Awareness of new research protocols & techniques Adoption- e.g. industry, government &/or community usage; process changes; behavioural changes; sales of new products; licenses / IP sold	Effect on, change or benefit beyond academic knowledge. Includes: • Commercial & economic impact including reduced healthcare costs, higher quality workforce and productivity improvements, new products, services & companies • Social impact including improved health and wellbeing, improved quality of life
RELEVANCE	Certain resources are necessary to deliver the CRC's program of research	With the right combination of inputs, deployed well, we can accomplish our planned activities	If the CRC accomplishes certain activities, it can produce novel outputs that underpin new ways of thinking, new products and services	If the CRC accomplishes our activities to the extent intended, then our participants and wider ecosystem will benefit in certain ways	If the outcome benefits are achieved, then changes in organisations, communities and systems might deliver triple bottom line effects

Impact Model (B): Our Impact Model

Commercialisation and Translation

Create linkages to local and international incubators, mentors and investors

Responses to legal, ethical and regulatory challenges for commercialisation

Independent assessment and evaluation program to track efficacy, impacts and commerciality of solutions

Identify existing technology and opportunities for new solutions to improve value in healthcare

Wider scale deployment of proven solutions

Enable trial of solutions in controlled real world environments to prove value to potential customers and investors

Commercial and clinical validation of solutions and boost efficiency and effectiveness of health and medical R&D

Enable development of prototype and proof-of-concept tools

Data sharing is promoted

Streamlined data ethics

Fit for purpose data governance and security is achieved

Reduced unnecessary duplication in research (industry or academia)

Fewer adverse events

Fewer medication errors

Better management of chronic diseases

Consumer empowerment impacts

- Improved patient experience through more seamless and integrated care, with consumer input throughout, between health providers and adjacent care settings e.g. aged care & disability
- Improved wellness & quality of life through preventive health programs & early identification and better support of chronic diseases and rehabilitation
- Better consumer feedback based on functional outcomes will drive a reduction in low value care

Information capture, storage & flow
More efficiency in health services and systems due to the effective management of complex data sets

Change health trajectories through prevention & personalised models
Identification and management of risk using data science, that improves effectiveness of intervention and health outcomes

Improves data transparency, access & governance

Reduces Fraud, Abuse, Waste & Error (FAWE)

Achieves economies of scale (test → prove → apply)

Generates tools that harness the power of data

Improve value, quality & safety through intelligent decision support
New and improved tools that support decision-making, resulting in the appropriate use of resources

Understand clinical practice to support transparency & improve performance
New & improved tools & insights to drive the provision of the right information at the right time, to support the right decision

Capacity-building and workforce impacts

- Increased commercial growth & employment opportunities in MTP sector through a better trained workforce & access to data –Contribution to new jobs in the MTP sector
- Digital health workforce capability programs are developed and delivered
- A steady stream of STEM graduates employed into the MTP sector & in MTP-related roles
- Increase in industry using new technologies for risk management
- Reduced variation in care, through adaptive education programs
- Increased retention of health workforce & improved work satisfaction

Reduced unnecessary procedures (flow on to fewer adverse events, instances of harm, and low or no value care)

Reduced preventable readmissions

Improved access to services for high value procedures

Reduced unwarranted variations in care

Actionable data to inform health services is unlocked

Continuous cycle of improvement in the pursuit of clinical best practice is enabled

Better use of technology (e.g. personal digital health apps) and telehealth to reduce cost per consultation

Appendix B – Eligible and Ineligible Expenditure

Eligible expenditure includes:

+ Salaries for staff engaged directly in the research project (including HDR students) for time associated with project activities, including project management, where those salaries do not form part of an organisation's in-kind contribution
+ Operating costs directly related to, or dedicated to the project may also be eligible, including for example the cost for consumables, materials, prototypes, software licenses, and these operating costs will ideally not exceed 1/3rd of the project budget
+ Contractors undertaking and supporting research and development activities in the research project
+ Purchase or lease of equipment under $5,000 in value (assets purchased with CRC funding must be recorded on the CRC asset register)
+ Extension and industry engagement activities including workshops, field days and seminars run as a component of the research project
+ Travel for project personnel, where directly related to the research project
+ Purchase of data, information, and platform services for the purpose of doing the project, provided there is net additional cost to project parties
+ Other expenditure as approved (where necessary) by the DHCRC Board

Ineligible expenditure includes, but is not limited to:

+ Capital Works or the purchase, construction, extension of buildings / research infrastructure
+ Activities which have already been funded or are currently being funded by the Australian Government, or State or Territory Governments either directly or indirectly through any other funding scheme
+ Reimbursement of project participants for any in-kind project contributions
+ Commercial, legal, and administrative expenses related to patenting, licensing or otherwise protecting intellectual property
+ Commercialisation expenses relating to the utilization, dissemination and sale of project IP
+ Indirect university costs (overheads)
+ Indirect costs of research conducted overseas

Appendix C - Our Research Training and Workforce Capacity-Building Aims

PhD training

PhD research training is an integral part of our program. The DHCRC seeks to provide a unique, industry-driven and industry-shaped research training experience for PhD students. Our PhD students will be embedded with industry participants for at least 50% of the time.

Post-doctoral opportunity

Our post-docs will be focused on the delivery of our research projects. If a post-doc is appointed, they will spend 80% of time within the DHCRC or participant environment (maximum of 20% undertaking other activities for their university).

Workforce Capacity Building

DHCRC will work with participants and other stakeholders in the development of health workforce capability building in digital health. This will include:

+ supporting a coordinated and national approach to workforce capability building
+ working with participants to develop new pathways for an emerging digital health workforce
+ developing education programs and activities that increase workforce capacity for digital health and data analytics

Appendix D – Flagship Programs

See the DHCRC website for further information.

Changing health trajectories in chronic disease

Identifying population at risk or with unmanaged chronic disease

- What factors impact on consumers self-identifying risk or symptoms of chronic disease?
- How can funders/providers use integrated datasets to identify risk or symptoms of chronic disease?

Recruiting, on-boarding and referring

- Who will benefit most from enrolment in a program and what is best return on investment for system?
- What factors impact on the recruitment of consumers into programs?

Delivering a managed, personalised program

- How do you design and structure a personalised care program?
- How do you integrate with existing programs?
- How do you manage equity of access to any programs?
- What economic funding models can support personalised models of care?

Managing data through the cycle

- How can data be captured and used across an integrated program?
- What governance, ethical and privacy issues need to be addressed in development of programs?

Using disruptive approaches and AI to identifying those at risk of chronic disease

Automating enrolment into supported and novel programs

Using virtual navigators and automation to optimise chronic disease prevention and management

Transparency of data to optimise clinical practice and referral

Measure variation and benchmark performance

- How do we capture and collate data for performance analytics?
- How do we risk adjust for meaningful comparison?
- How do assign responsibility of care to teams and individuals?
- How do we measure quality of practice?

Use transparency of data to optimise performance and choice

- How do we use performance and other data sets to improve referral choices for clinicians and consumers?
- How do we link practice data with professional development and performance improvement?
- How do we leverage performance data to support point-of-care decision making?
- How do we support organisations to use data to improve performance and efficiency?
- How do we optimise payment and claims management?

Develop tools to enable risk-adjusted performance benchmarking

Develop tools to support informed referrals for clinicians

Create data-driven systems linking practice with performance improvement for teams and individuals

Build a platform for payers and providers to optimise claim management

Understand clinical variation and apply this knowledge to improve performance and move toward a learning health system

Intelligent decision support to improve value and efficiency

Capture diverse data and information

- How do we build comprehensive data sets around consumers to support prediction across care?
- How do we manage privacy and governance alongside need to access identified information?

Predictive modelling

- How do we predict poor outcomes or low-value care, e.g., adverse drug event, preventable readmissions?
- How do we link primary and secondary care data to refine assessment of risk?
- How do we predict resource usage?

Support decision making

- How do we link prediction of risk with actual change in practice or care processes?
- How do we engage clinicians, consumers and administrators in prevention of poor outcomes?
- How do we understand business processes and resource allocation?

Develop real-time dashboards and analytics to support patient-level changes in care delivery across settings

Create new approaches to combining identified data while maintaining privacy

Capture comprehensive data and information across care continuum

Create systems that integrate clinicians, consumers and administrators into risk reduction

Develop predictive analytics to anticipate poor outcomes and resource usage

Build tools to support planning and optimising resource allocation and usage

Changing health trajectories in chronic disease in rural and remote settings

Identifying population at risk or with unmanaged chronic disease

- What factors impact on consumers self-identifying risk or symptoms of chronic disease?
- How can funders/providers use integrated datasets to identify risk or symptoms of chronic disease?

Recruiting, on-boarding and referring

- Who will benefit most from enrolment in a program and what is best return on investment for system?
- What factors impact on the recruitment of consumers into programs?
- How do rural and remote consumers access services?

Delivering a managed, personalised program

- How do you design and structure a personalised care program?
- How do you support financial viability of rural and remote practice?
- How do you manage equity of access to any programs?
- What economic funding models can support personalised models of care?

Managing data through the cycle

- How do we Integrate datasets – including health info, population health; justice, education and housing waiting lists?
- What governance, ethical and privacy issues need to be addressed in development of programs?

Using disruptive approaches and AI to identifying those at risk of chronic disease

Automating enrolment into supported and novel programs that integrate with existing practices and support financial viability of services

Co-design culturally appropriate programs with communities

Rehabilitation following injury or trauma

Continuously capture data from clients following injury and predict risk of poor trajectories

- How do we capture and collate comprehensive data sets around every client following an injury?
- How do we use AI across diverse data sets to predict a client who is likely to have a poor outcome?

Delivering a personalised managed care program

- What are the cost and benefit to different stakeholders?
- How do we design and deliver a personalised managed care program?
- How do you link with existing care processes?
- How do you fund personalised managed care programs?
- How can you use health and other data sets to improve the efficiency of rehabilitation programs?

Use novel platforms to ensure continuity of care across care settings

Deliver technology supported and personalised interventions across co-morbidities and injuries

Develop real-time dashboards and analytics to support efficient allocation of resources and improved business processes

Develop portals that supports communication between care providers and with clients and family and provide personalised information at key points

Capture comprehensive data and information following injury and link with previous history to predict risk and improve outcomes of rehabilitation

Residential and assisted aged care

Capture diverse resident data and information at entry and across transitions of care

- How do we capture and collate comprehensive data sets around every resident during their journey?

Using real time data and technologies to support improved care and efficiency

- How do we support coordinated care and continuous quality improvement?
- How do we engage families and carers in residents health, wellness and social connection?
- How do we support facilities to meet reporting and compliance requirements?
- How do we support facilities to improve business efficiency?
- How do we ensure culturally appropriate care and support a diverse workforce?

Capture comprehensive data and information across care continuum

Use novel platforms to ensure continuity of care across care settings

Create tools and processes to support services to understand and act on patient preferences

Develop resident and family facing portals to support transparency, shared care and improved health and wellness

Develop real-time dashboards and analytics to support continuous quality improvement and clinical decision support