NHMRC Evaluation Strategy

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A message from the CEO

Since its inception in 1926 as the Federal Health Council and from 1937 as the National Health and Medical Research Council, NHMRC has worked to improve the health of the Australian population.

For more than 80 years, NHMRC and the generations of researchers it has funded have made significant contributions to our health and wellbeing in areas as important and diverse as the control of infectious disease, development of food standards and dietary guidelines, improvements to public health policy, clinical practice and the health system, and the development of new medical devices, vaccines and pharmaceuticals.

Supported by taxpayers through the Australian Government, NHMRC recognises its responsibility to evaluate and report on its activities and their impact on health and wellbeing.

Research is a long game. It can take many years for a fundamental discovery to lead to a new approach to prevention or treatment of disease, and it can take many more years for a new health intervention or medical product to be implemented or become available for use. This long journey reflects many factors: from the complexity of biological processes and the need for further discovery to light the way forward, to the dependence on different skills, resources and public or private investment at each stage of development and implementation.

While it is challenging to measure research impact for these reasons, it is a key task for NHMRC to track and report on the public benefits of its investments in research and other activities over time. The purpose of this document is to set our Evaluation Strategy.

The Strategy provides a framework that links all of NHMRC's inputs, activities, outputs, outcomes and impacts to reporting and evaluation mechanisms. The Strategy also helps to ensure that NHMRC continues to improve its efficiency and effectiveness in undertaking its core business activities and its reporting and evaluation.

Reporting and evaluation are embedded in the day-to-day work of NHMRC. We recognise that:

- evaluation is a strategic investment, rather than just a compliance requirement
- · an evaluation is successful to the degree that its outcomes influence behaviour
- NHMRC's past activities remain relevant today, and should continue to be reported on and evaluated
- transparent and honest evaluation of NHMRC policies and programs is essential for continuous quality improvement.

I commend the Strategy to all NHMRC staff and to those who are interested to understand how NHMRC undertakes its work.

Professor Anne Kelso AO Chief Executive Officer

1. Overview

Foundations

NHMRC's Evaluation Strategy (henceforth 'the Strategy') complements and builds on the evaluation frameworks to which NHMRC is subject as an Australian Government agency. The primary guidance from government that underpins the Strategy is provided by the Department of Finance Resource Management Guide <u>Developing good performance information</u> (RMG 131). The Strategy also refers to CSIRO's <u>Impact Evaluation Guide</u>.

Vision

Evaluation demonstrates NHMRC's contribution to building a healthy Australia and supports NHMRC's policies and programs to remain fit for purpose, responsive to government and adaptable to changing sector needs.

Objective

The objective of the Strategy is to provide a framework within which to coordinate and improve NHMRC's efforts to measure, assess and communicate its performance in accomplishing its mission.

Key principles

- · Evaluation is a strategic investment, rather than just a compliance requirement
- An evaluation is successful to the degree that its outcomes influence behaviour¹
- NHMRC's past activities remain relevant today, and should continue to be reported on and evaluated
- Transparent and honest evaluation of NHMRC policies and programs is essential for continuous quality improvement.

Audiences

This document is written for a number of audiences and to accomplish three key goals:

- · NHMRC's staff, Council and Principal Committees, to guide NHMRC's evaluation efforts
- Other agencies within the Australian Government, to demonstrate how NHMRC is meeting its statutory requirements related to performance management
- The Australian public and its elected representatives, to provide transparency on how NHMRC is efficiently, effectively and appropriately conducting its activities and realising its objectives.

¹ PATTON, M. Q. (1978). *Utilization-focused evaluation*. Beverly Hills, Sage Publications

2. Evaluation drivers

NHMRC undertakes evaluation in order to meet its legislative and other reporting requirements, to enable improvements to its own performance, and to promote its sector and its successes.

Government requirements

The National Health and Medical Research Council Act 1992 (NHMRC Act) specifies a collection of functions to be performed by NHMRC's Chief Executive Officer (CEO) in order to accomplish the Object of the Act.

The *Public Governance, Performance and Accountability Act 2013* (PGPA Act 2013) requires each Commonwealth entity's accountable authority to measure and assess that entity's performance in achieving its purpose.

NHMRC's Corporate Plan states that the agency's purposes reflect its legislated functions and support its mission of 'building a healthy Australia'. NHMRC's purposes align with the three strategic themes of investment, translation and integrity (refer <u>Box 1</u>).

Box 1. NHMRC's three strategic themes

INVESTMENT:

- Function: Fund high quality health and medical research and build research capability.
- *Purpose*: Create knowledge and build research capability through investment in the highest quality health and medical research and the best researchers.

TRANSLATION

- Function: Support the translation of health and medical research into better health outcomes.
- *Purpose*: Drive the translation of health and medical research into clinical practice, policy and health systems and support the commercialisation of research discoveries.

INTEGRITY

- Function: Promote the highest standards of ethics and integrity in health and medical research.
- *Purpose*: Maintain a strong integrity framework underpinning rigorous and ethical research and promoting community trust.

The Commonwealth Grants Rules and Guidelines 2017 make a number of directions concerning evaluation. Section 10 of the Guidelines directs that grants administration should be designed and implemented with an 'outcomes orientation' and includes directions that:

- input, output and outcome measures are clearly specified, to facilitate effective and efficient evaluation
- performance reporting and information requirements should balance the costs of collecting information against the need to assess grant evaluation processes
- officials should establish appropriate performance measures by which to evaluate grants.

The Auditor-General Act 1997 states that the Auditor-General (who leads the Australian National Audit Office — ANAO) may at any time conduct a performance audit of a Commonwealth entity. The Act provides the Auditor-General with the power to direct government entities, such as NHMRC, to provide information and documents and give evidence to the Auditor-General.

Performance enhancement

The Department of Finance RMG No. 131 is a guide for accountable authorities and others responsible for measuring and reporting on the performance of activities delivered by Commonwealth entities.

As per the guidance provided by RMG No. 131, NHMRC engages in performance measurement so as to:

- measure and assess progress toward achieving its purposes
- identify what policies and activities work and why they work in order to inform policy development
- drive desired changes in the efficiency and effectiveness of services
- demonstrate how the use of public resources is making a difference and delivering on government objectives
- · inform decisions about how best to deploy its resources to achieve competing priorities
- explain any variance from expectations or reference points.

Promotion

Also consonant with RMG No. 131, NHMRC engages in performance measurement so that it can identify, demonstrate, report on and promote its achievements.

3. NHMRC's logic model

A logic model articulates the relationship between the inputs or investments received by an entity to support its activities, the immediate outputs of those activities, the later stage outcomes and the ultimate impacts that the activities are intended to generate. Logic models also articulate how each stage of this process may be measured and are thus an essential tool for evaluation.

A basic logic model for NHMRC is provided by the annual Portfolio Budget Statements, as set out in $\underline{Box 2}$.

NHMRC's activities and purposes are also set out in the:

- NHMRC Act
- NHMRC Corporate Plan
- NHMRC Annual Report

According to the NHMRC Act (section 3(1)), NHMRC is intended to pursue activities designed to:

- a. raise the standard of individual and public health throughout Australia
- b. foster the development of consistent health standards between the various states and territories
- c. foster medical research and training and public health research and training throughout Australia
- d. foster consideration of ethical issues relating to health.

Box 2. 2020-21 Portfolio Budget Statements on NHMRC

The National Health and Medical Research Council (NHMRC) is the Australian Government's key entity for managing investment in health and medical research. NHMRC is also responsible for developing evidence-based health advice for the Australian community, health professionals and governments, and promoting the highest standards of ethics and integrity in health and medical research.

Outcome — Improved health and medical knowledge, including through funding research, translating research findings into evidence-based clinical practice, administering legislation governing research, issuing guidelines and advice for ethics in health and the promotion of public health.

Objective — The Australian Government, through NHMRC, invests in health and medical research that:

- addresses national health priorities
- supports investigator-initiated and priority-driven research
- is undertaken within a framework promoting research quality, integrity and ethics.

NHMRC drives the translation of research outcomes into clinical practice, policies and health systems and supports the commercialisation of research discoveries to improve health care and the health status of all Australians.

The Act also sets out the functions of NHMRC's CEO (refer section 7(1)), which are to (in the name of NHMRC): inquire into, issue guidelines on, advise the community on, and advise and make recommendations to the Commonwealth, the states and the territories on matters relating to:

- a. the improvement of health
- b. the prevention, diagnosis and treatment of disease
- c. the provision of health care
- d. public health research and medical research
- e. ethical issues relating to health.

The CEO also has the function of making recommendations to the Minister on expenditure on public health research and training and on medical research and training.

The PGPA Act requires that Commonwealth entities such as NHMRC prepare a corporate plan at least once each year, and that the plan states the purposes of the entity, its key activities, its planned performance and performance measures. The example of a logic model shown at <u>Figure 1</u> is based on text included in the Corporate Plan and the other above-named sources. Further discussion about each stage of this model is provided below.

Inputs

Inputs are the resources NHMRC has available to direct toward doing its work. These resources may be conceptualised as existing before NHMRC's business activities take place. They are like the ingredients of a recipe set out before food preparation has begun. If a key ingredient is missing then the agency will not be able to perform its work.

The key financial inputs to NHMRC are government appropriations for NHMRC as an agency and for the Medical Research Endowment Account (MREA), and also those from other government and non-government sources (e.g. Medical Research Future Fund — MRFF) that are administered by NHMRC.

Figure 1. NHMRC logic model

Inputs	Activities	Outputs	Outcomes	Impacts	
Internal to the agency		Internal/external	External to the agency		
Australian Government appropriations	InvestmentTranslationIntegrity	 Funded research Administration of legislation governing research Guidelines issued Release of advice for ethics in health The promotion of public health 	 Research that addresses national health priorities Translation of research outcomes into clinical practice, policies and health systems The effective commercialisation of research discoveries Promotion of the highest standards in health and medical research 	 Improved health care and the health status of all Australians Raised standard of individual and public health throughout Australia 	

Using its agency appropriation, NHMRC is able to pay for the other inputs that allow it to do its work. Chief among these are its staff (human capital), physical infrastructure (e.g. office space and equipment) and information and communications technology (ICT) infrastructure.

Other key inputs, which have been developed by NHMRC staff over preceding years, include:

- data and information assets (including policies, guides and standard operating procedures)
- a social licence to operate² and relationships with key stakeholders.

For the purposes of the Strategy, services provided by the corporate areas in NHMRC — services such as human resource management, property management, financial management, ICT support, administrative support for principal committees, grant management system administration, and protective security — are conceptualised as inputs to NHMRC's business activities.

In addition to the above, NHMRC's activities are supported by researchers and research organisations in the health and medical research sector (especially the provision of grant applications and involvement with peer review, ethical review and guideline development) as well as by health advocacy groups, consumer groups, and members of the public. Consultation with the research sector and the public takes place on a wide variety of NHMRC policies and practices, and (in the case of guidelines) is required by the NHMRC Act.

Activities

As noted above, NHMRC's Corporate Plan groups NHMRC's business activities under three strategic themes, being Investment, Translation and Integrity. Each of these activity areas is described in more detail below.

Investment

NHMRC is the Australian Government's leading health and medical research funding body. NHMRC invests in high quality research and builds research capability through a variety of funding schemes including:

- Investigator Grants
- Synergy Grants
- · Ideas Grants
- Strategic and Leveraging Grants.

² Being the ongoing acceptance of NHMRC's (and more broadly, the health and medical research sector's) standard business practices and operating procedures by its employees, stakeholders, and the general public.

NHMRC grant applications are investigator-initiated and peer reviewed. NHMRC-funding covers the full spectrum of health and medical research and provides support for individuals, teams, national networks and international collaborative research.

NHMRC's administration of grant schemes comprises grant guideline development and approval, application administration, peer review process management, develop of funding recommendations and grant administration.

For targeted and priority funding, additional activities include the identification of gaps and the development of strategic and structural priorities.

NHMRC has continued to deliver a portfolio of grant opportunities for the MRFF on behalf of the Department of Health's Health and Medical Research Office.

NHMRC research investment is guided by advice provided by NHMRC's Research Committee.

Translation

NHMRC supports the translation of health and medical research into better health outcomes through a range of activities including:

- NHMRC accreditation of Research Translation Centres
- policy development with the advice of the Health Research Impact Committee (HRIC)
- administration of the Clinical Trials and Cohort Studies, Partnership Centre, Partnership Project and Centres of Research Excellence grant schemes
- development and publication of clinical, public health and environmental health guidelines and factsheets.

Integrity

NHMRC promotes the highest standards of ethics and integrity in health and medical research through a range of activities, including:

- development and/or administration of guidance documents relating to ethics and integrity in research such as the <u>Australian Code for the Responsible Conduct of Research</u>, the <u>Research Quality Strategy</u>, and Commonwealth Acts related to human cloning and embryos.
- provision of information and advice to the Australian Health Ethics Committee, the Australian Research Integrity Committee and the Embryo Research Licensing Committee.
- Registration of Human Research Ethics Committees.

Outputs

Outputs are the immediate and direct products resulting from NHMRC activities. These are products generated by NHMRC staff, and/or by staff in other organisations, and include:

- NHMRC, MRFF and partner-funded grants
- the publication and promotion of guidelines
- accreditation of Research Translation Centres
- research ethics and integrity guidance documents issued, queries responded to, and institutional liaison conducted on individual cases.

For the entire suite of grant activities, outputs are also intended to include:

- creativity and innovation in research
- minimised burden on researchers of application and peer review
- opportunities for researchers at all career stages.

Outcomes

Outcomes concern what is done with NHMRC's outputs by parties external to NHMRC, and the effects that NHMRC's activities produce on the health and medical research sector. These include:

- · new knowledge and skills
- trained and educated researchers
- new processes, materials and technologies
- publications, including research publications, health guidelines and information statements
- changes to clinical practice, public health policies and health systems
- · patents and licensing
- · contracts and consultancies
- startup and spinout companies
- · company acquisition
- new products and services
- improved ethical behaviour in health and medical research.

Impacts

Impacts are the ultimate changes caused by NHMRC activities and are intended to include (though not be limited to) the objectives set out in the NHMRC Act and the Portfolio Budget Statements.

The most important of these objectives is to raise the standard of individual and public health throughout Australia – the origin of NHMRC's mission statement. This objective may be understood to be realised directly through reduced mortality and morbidity and improvements in health and wellbeing. It may also occur indirectly as a result of improvements to economic, social and environmental wellbeing.

A key issue when considering impacts is to what extent these impacts can be claimed by NHMRC. This is because NHMRC is almost always in a position of *contributing* to impacts that occur at some distance in time and space from its own activities, and to impacts that may be *attributed* to the work of several parties.

In order to resolve such issues, and as suggested by CSIRO's Impact Evaluation Guide, when evaluating its own impacts NHMRC considers:

- **The counterfactual:** the situation that would have occurred in the absence of NHMRC's activities. Such considerations recognise that in the absence of action by NHMRC other parties may have acted in its place.
- **Attribution:** which other parties were actually involved in enabling or delivering the impact, and what was their proportional contribution.
- **Sensitivity:** how sensitive the outcomes of NHMRC's impact analyses are to the underlying assumptions of those analyses, and how credible these assumptions and outcomes are to NHMRC's stakeholders.

4. Reporting and evaluation activities

For government agencies and programs:

- reporting involves the provision of a spoken or written account of an agency's or program's activities
- evaluation involves making a judgement about the impact (positive, negative or neutral) of those activities.

Reporting and evaluation both occur as part of the same continuum of activity and both are involved (to varying degrees) in all external and internal communications engaged in by a government agency. Thus, the outcomes of government reviews are usually communicated through a report, while agency annual reports routinely include assessments of the performance of the agency in accomplishing its objectives.

Reporting and evaluation map closely onto NHMRC's logic model (refer <u>Figure 2</u>) and consequently the data sources that underpin them differ significantly. Thus, while reporting is usually based on quantitative information (i.e. data) obtained from corporate data systems, the information used in evaluation is often sourced from outside of the agency and is qualitative in nature (e.g. text-based final reports from grantees).

Because of these differences in the data and information available, reporting tends to include more descriptive statistics, whereas evaluation tends to include a stronger narrative element.

Inputs Activities Outputs Outcomes Impacts

Internal to the agency Internal/External External to the agency

EVALUATION

External information sources
Mostly qualitative
Narratives
Corporate data
Mostly quantitative
Descriptive statistics

Figure 2. Spectrum of reporting and evaluation

NHMRC undertakes a range of standard reporting and evaluation activities and each of these activities covers one or more components of the logic model. Together, they form the Combined Logic and Evaluation Model shown in <u>Figure 3</u>.

Reporting and evaluation occur in four major areas, being:

- Legislative reporting
- Promotional reporting and evaluation
- Activity-level reporting and evaluation
- External evaluation.

The major reporting and evaluation mechanisms used by NHMRC are grouped in these four categories and are described below.

Figure 3. NHMRC Combined Logic and Evaluation Model

	Internal to NHMRC		Post-award/release	External to NHMRC	
	Inputs	Activities	Outputs	Outcomes	Impacts
	Before each scheme or work program is allocated a budget	Before grant money is provided or health advice is released	Before the final report is provided/ after health advice is released	Before health and wellbeing have been improved	After health and wellbeing have been improved
	Inputs include:	Activities include:	Outputs include:	Outcomes include:	Impacts include:
NHMRC	Financial NHMRC's departmental appropriation MREA annual appropriation Other administered funds (including MRFF) Material Staff (NHMRC and contract) Physical infrastructure ICT infrastructure Data and Information	 Investment Development of scheme guidelines Identification of gaps for targeted and priority funding Funding agreements with partners Applications received Peer review and development of recommendations Grant administration Committee meetings Development and review of policies 	 NHMRC grants issued MRFF or partner funded grants issued Funding partnerships formed 	 Increased innovation, reduced administrative burden, increased opportunities for researchers at all career stages Research capacity increased New knowledge and skills New processes, materials and technologies Publications Trained and educated researchers 	 Reduced mortality and morbidity Improvements in health Improvements in health system efficiency Improvements to economic, social and environmental wellbeing
Logic Model	 Data assets Information assets Social Social licence to operate Relationships with key stakeholders Corporate services Human resources support ICT support Risk management Property management Financial management Administration of Principal Committees Grant management systems Protective security 	Translation Development and approval of guidelines for clinical practice, public and environmental health Issuance of public statements Research Translation Centre accreditation Committee meetings Integrity Development of ethics and integrity codes and guidelines Promoting research quality Committee meetings Administering Institution applications assessment IACR monitoring and evaluation	 Guidelines released Media and promotional activities held Translation Centres accredited Translation Symposia held Research ethics and integrity guidance documents issued Precautionary and consequential actions in research integrity matters implemented 	 Changes to clinical practice, policies and health systems Patents and licensing Contracts and consultancies Startup and spinout companies Company acquisition New products and services Improved ethical behaviour in health and medical research Policy development and discussion in the health and medical research sector 	

	Internal to NHMRC		Post-award/release	External to NHMRC			
	LEGISLAT	LEGISLATIVE REPORTING — Reporting to the Parliament, the Department of Finance and other agencies. This includes:					
		Portfolio Budget Statements, Corporate Plan, Annual Report					
			promote its activities, outcomes stakeholder groups. This include:	and impacts to the public and			
			Research Translation Symposia, Commercialisation videos, Translation Centres reporting				
			Grant scheme reporting	Measuring Up	Impact Case Studies		
			InFocus, social n	nedia, Tracker, videos	Bibliometric studies		
Reporting			Research Excellence Awards	10 of	the Best		
and	ACTIVITY-LEVEL F	ACTIVITY-LEVEL REPORTING & EVALUATION — undertaken to assist NHMRC to develop policies and to improve activities. This includes:					
evaluation		Reports to Council and Committees, and Council and Committee meeting reports					
mechanisms	echanisms Post-implem	Post-implementation reviews	IACR evaluation	Outcome and impa	ct evaluations		
			Post-Award reportin	g and evaluation			
			Guideline evaluation				
		Business Activity Reports					
		Ad hoc evaluations and consultations					
		Principal Committee working	g group consultation reports				
		EXTERNAL EVALUATION u	ndertaken by third parties, commi	ssioned by or independently of	NHMRC. This includes:		
		Review of the Translation Centre Initiativ		ive			
				IP Australia Patent Analytics studies	ASMR and AIHW studies		
	← Reporting				Evaluation →		

Notes on the Combined Logic and Evaluation Model

This model is intended to be illustrative and does not provide an exhaustive account of all NHMRC input, activities, outputs, outcomes and impacts. The evaluation of any given component of NHMRC's activity will be based on a logic model developed for that purpose.

The Combined Logic and Evaluation Model consists of two independent but connected components, being the:

- NHMRC Logic Model, which summarises how NHMRC's financial and other inputs support its activities, how these activities contribute to the realisation of its stated objectives, and how each stage of this process might be measured.
- Reporting and Evaluation Mechanisms, which summarises key mechanisms used or referred to by NHMRC in reporting on its inputs, activities and outputs, and also for evaluating its performance in accomplishing its objectives.

The overall model has two axes, as follows:

- The horizontal axis of the Logic Model depicts a transition (from left to right) from stages that are internal to NHMRC, to an output stage that includes both NHMRC and other actors, to stages that are external to NHMRC.
 - Note: while the Input and Activities stages involve external actors (e.g. financial inputs are received via the Department of Finance, and NHMRC grant application and review processes require that researchers submit applications via their Administering Institution), at these stages these external actors are providing 'feedstocks' for NHMRC, whereas at the outputs, outcomes and impacts stages, external actors are behaving independently of NHMRC.
- The horizontal axis of the Reporting and Evaluation Mechanisms depicts a transition (from left to right) from mechanisms that mostly involve reporting to mechanisms that mostly involve evaluation.

Other features of the model to note include:

- Each of the five Logic Model columns is prefaced with a statement in italics that provides a basic indication of what types of events should be attributed to each column. This statement is indicative only.
- When seeking to determine whether a business activity involves reporting, a basic 'rule of thumb' is to determine whether an official written account of the activity is routinely produced.
 - For example, minutes taken of discussions at a committee meeting are a report, but so too are most of the business papers presented to that meeting, as these usually contain an account of some aspect of NHMRC functioning.
 - Similarly, the collected papers and presentations produced by participants at a Research Translation Symposium are reports of the activities that took place at the event.

Legislative reporting

NHMRC legislative reporting consists of those reporting (and to a lesser extent, evaluation) activities that NHMRC engages in as required by Australian Government legislation. This reporting encompasses the entire logic model, from inputs to impacts, and comprises three major types of report:

- Portfolio Budget Statements
- Corporate Plan
- · Annual Report.

Portfolio Budget Statements

The purpose of the Portfolio Budget Statements (PBS) is to inform Parliament of the proposed allocation of resources to government outcomes by government agencies. Agencies receive resources from government appropriations and the PBS provides information, explanation and justification to enable Parliament to understand the purpose of each line of expenditure.

Corporate Plan

The purpose of the Corporate Plan is to describe NHMRC's purposes, planned activities and performance measures for a three year period.

Annual Report

NHMRC's Annual Report, produced for Parliament, includes:

- annual performance statements
- information on NHMRC's operating environment
- details about NHMRC's personnel
- financial performance information and financial statements.

Promotional reporting and evaluation

NHMRC promotional reporting and evaluation takes place through a broad range of mechanisms. Among these are:

- grant scheme factsheets, datasets and announcements
- Impact Case Studies
- bibliometric studies
- 10 of the Best
- Research Excellence Awards
- Tracker
- InFocus
- · social media
- videos.

Grant scheme announcements, factsheets and datasets

Grant scheme announcements are developed with grant recipients and in partnership (and via coordinated activity) with Administering Institution media and communications teams, with the aim of highlighting grant outcomes.

At the conclusion of each grant funding round, information on the <u>outcomes of that round</u> is published on NHMRC's website and on <u>GrantConnect</u>. This information includes: the total number of applications received and funded; Broad Research Area of grants; funded rates by gender; funding to Aboriginal and Torres Strait Islander health research and researchers.

Also available online are <u>tables of time series information</u> on NHMRC expenditure by: National Health Priority Area; disease, health or research topic; and research relevant to specific populations.

Impact Case Studies

Since 2018, NHMRC has been publishing <u>Impact Case Studies</u> to illustrate its contribution to raising the standard of individual and public health throughout Australia. While each case study includes a strong narrative element, the information that they contain is quality controlled: each case study is developed in partnership with one or more Australian research organisations, health and medical sector organisations and/or expert individuals. <u>Guidelines for producing NHMRC Case Studies</u> are available online.

Bibliometric studies

NHMRC commenced production of the <u>Measuring Up bibliometric report series</u> in 1996. *Measuring up 2018* is the latest edition in this series and it analyses the publication output of NHMRC health and medical research funding from 2008 to 2012.

10 of the Best

Published since 2005, with the 13th edition published in 2021, <u>10 of the Best</u> showcases ten research projects that illustrate the diversity and high quality of NHMRC-supported research. The selection process for determining research projects to include in *10 of the Best* involves evaluation of grant final report data by NHMRC research scientists.

Research Excellence Awards

NHMRC Research Excellence Awards, which commenced in 2011, recognise excellence in the health and medical research sector. Research Excellence Awards are awarded annually to topranked researchers and teams — following peer review of applications to NHMRC's highly competitive grant schemes — in recognition of their outstanding achievement in the field of health and medical research.

NHMRC celebrates leadership and outstanding contributions to the sector through its biennial awards, being the: Consumer Engagement Award, Ethics Award, Outstanding Contribution Award, Research Quality Award and Science to Art Award.

The selection of the recipient of each award is based on the evaluation undertaken as part of peer review, or the advice of Council or Principal Committees.

Tracker

<u>Tracker</u> is NHMRC's fortnightly newsletter that contains the latest information on major NHMRC activities and funding opportunities. Tracker includes information on key application and other due dates, consultations, the publication of NHMRC reports, reminders to researchers and peer reviewers, and events such as appointments to Council and Principal Committees.

InFocus

<u>InFocus</u> articles are news articles published on NHMRC's website. They often include stories on the winners of NHMRC awards and notable outcomes and impacts arising from the work of NHMRC-funded researchers.

Social media

NHMRC communicates with the public through a range of channels besides its own website, including through <u>Twitter</u>, <u>LinkedIn</u> and <u>Instagram</u>.

Videos

NHMRC produces promotional material in the form of <u>video case studies</u>, featuring different researchers, and <u>peer-review mentor videos</u> (for both Ideas Grants and Investigator Grants).

Activity-level reporting and evaluation

NHMRC engages in a wide variety of activity-level reporting and evaluation, including:

- Business Activity Reports
- Post-implementation reviews
- Post-award reporting and evaluation
- · Outcome and impact evaluations
- Institutional Annual Compliance Reporting
- Reports to Council and Committees
- Council and Committee meeting reports
- · Consultations and advice
- · Guideline evaluation.

Business Activity Reports

Business Activity Reports are of primary interest for internal users. These reports include information and descriptive statistics on such issues as:

- recent and upcoming funding rounds
- peer review panel nominations
- · active paying grants by scheme
- grant management system statistics.

Post-implementation reviews

Post-implementation reviews (PIRs) are undertaken after the implementation of a grant scheme. PIRs seek feedback from peer reviewers on the scheme's assessment processes and policies. The specific focus of a post-implementation review depends on the nature of the scheme and/ or changes made to it.

Post-award reporting and evaluation

NHMRC grant recipients provide final report information to NHMRC, along with outcomes and researcher profile information. All of this information is captured in NHMRC's grant management system.

Outcome and impact evaluation

Outcome evaluations judge the overall merit, worth and impact of a policy or program and can consider questions such as:

- What difference did the policy or program make?
- Has the policy or program achieved its objectives?
- Has the policy improved outcomes? If so, by how much?
- Did the policy have differential effects on distinct groups of users?

The guidelines for each grant scheme include a statement of the scheme's objectives. Outcome and impact evaluations investigate the degree to which a scheme has delivered against its objectives. Such evaluations are highly dependent on the type of data that is available to them and the extent to which they focus either on the outcomes or the impacts. A focus on impacts leads to a greater reliance on third party data and information, and a case study approach, whereas a focus on outcomes can be based to some extent on the final reports provided by grantees, and on profile information added to NHMRC's grant

management system.

Evaluations of NHMRC's grant program will be guided by the <u>RAND evaluation framework</u>.

Institutional Annual Compliance Reporting

The Institutional Annual Compliance Reporting (IACR) process requires NHMRC's Administering Institutions to report annually on compliance with NHMRC policies, standards and guidelines. NHMRC reviews the data collected through the IACR process, along with other data, as directed by NHMRC's Administering Institution: Compliance Monitoring and Management Framework and reports on areas such as:

- general administration and use of funds
- research integrity
- · dissemination of research findings.

Reports to Council and Committees

Each meeting of NHMRC's Council and of its Principal Committees receives reports on a wide variety of subjects, including budgetary allocations to each grant scheme, details on scheme administration, immediate scheme outputs and longer-term outcomes. While these reports are primarily intended to inform the deliberations of Council and the Principal Committees, they simultaneously inform key members of the health and medical research sector (i.e. the Council and Principal Committee members) about tactically and strategically important issues affecting the sector.

Council and Committee meeting reports

Minutes are taken and/or a report is made of each meeting of NHMRC's Council and the Principal Committees. These reports provide a record of key issues facing the health and medical research sector, and also of the actions taken by NHMRC.

Consultations and advice

NHMRC undertakes consultations in accordance with its legislated requirements (e.g. when producing guidelines), but also undertakes general policy consultations (e.g. on open access), targeted engagements (e.g. with Research Administration Officers (RAOs) on dates/policies) and with consumers on a range of topics (e.g. NHMRC ethics frameworks).

Sub-committees, involving members of Principal Committees, as well as short-term advisory committees, are formed to provide advice to NHMRC on a wide range of topics. This may include policy advice on matters such as grant schemes, peer review and ethical matters. Reports (minutes) are produced that capture sub-committee and short-term advisory committee discussions and recommendations.

Guideline evaluation

Guideline development, as a form of the evidence-based development of health and medical advice, has been a core component of NHMRC's activities for many years. Guidelines may be developed in a broad range of areas including clinical practice, public and environmental health, and also ethics and integrity. Evaluation is undertaken of the efficiency and effectiveness with which NHMRC develops guidelines, as well as of the impact of those guidelines on public health and institutional behaviour.

External evaluation

Rationale for external evaluations

While NHMRC's usual approach is to undertake evaluation activities in-house, there are circumstances where external assistance is sought. There are also circumstances where evaluation activities may be undertaken that directly relate to NHMRC and refer to its activities, but are not commissioned by NHMRC.

Specific expertise

Sometimes the specific expertise required to undertake an evaluation is unavailable in NHMRC. This type of challenge occurs during the development of:

- · Return on Investment (RoI) estimates, which require expertise in health economics
- Impact Case Studies, which require expertise in specific areas of health and medical research.

Access to data

Sometimes, in order to undertake an evaluation, access is required to data, information and/or resources that are possessed by third-party organisations. Third-party data relevant to an NHMRC evaluation might include:

- publication and patenting data
- in-house information sources related to research impacts
- resources such as computable general equilibrium models of the Australian economy, which might be used as part of Rol calculations.

Scale

Sometimes, the scale of an evaluation significantly exceeds NHMRC's remit. For example, there have been a number of major reviews undertaken of health and medical research in Australia commissioned by government. These include:

- Australian Science and Technology Council (ASTEC) report on Medical Research in Australia (1981)
- Strategic Review of Health and Medical Research (Wills Review) (1998)
- Investment Review of Health and Medical Research (Grant Review) (2004)
- Strategic Review of Health and Medical Research (McKeon Review) (2013).

Audience requirements

Sometimes, the audience for an NHMRC evaluation report might be expected to find the report's recommendations more compelling if they had been made by a third party. For example, major reviews of NHMRC's functioning have, historically, been produced by third parties, although they have sometimes been commissioned by NHMRC. These include the:

- Review of NHMRC's functions, structure and operations (Coghland-Shea Review) (1982)
- Review of NHMRC's organisation, functions and membership (Sax Review) (1984)
- Review of NHMRC (Bienenstock Review) (1993)
- Independent Review of the NHMRC Research Funding Process (Bernstein Review) (2007)
- An International Perspective on the NHMRC's Research Strategies (Zerhouni Review) (2008)
- · Review of Public Health Research Funding in Australia (Nutbeam Review) (2008).

Examples of external evaluations

External evaluations relating to NHMRC may be undertaken or commissioned by organisations with an enduring interest in the health and medical research sector, or the research sector more broadly. These include the Australian Institute of Health and Welfare (AIHW), the Australian Society for Medical Research (ASMR), the Association of Australian Medical Research Institutes (AAMRI), the Australian Bureau of Statistics (ABS), the Productivity Commission and IP Australia.

Some examples of evaluations that were primarily undertaken by third parties include:

- · Review of the Translation Centre Initiative
- Patent analytics studies
- ASMR economic studies
- AIHW health studies.

Review of the Translation Centre Initiative

During 2019, Nous Group was engaged by NHMRC to review the Translation Centre Initiative (TCI). The TCI formally recognises academic health science collaborations in Australia through accreditation of Research Translation Centres. The review examined the design and operation of the TCI and provided advice regarding whether the TCI should be modified or reformed to better meet its core aims. The review's recommendations relied on findings from desktop research and national consultation.

Patent analytics studies

Patent documents provide details of inventions resulting from research and collaboration. Through the use of patenting metrics it is possible to evaluate innovation and research performance. Such metrics can include: patent publications per year; technology specialisation by technology fields; patent citation frequency by technology field; and patent citation frequency per patent family. An example of a study based on patent metrics is Research Performance of University Patenting in Australia: A Pilot Assessment, commissioned by the Department of Industry from IP Australia's Patent Analytics Hub and published in 2013. This report found that the two leading technology areas of university patenting were pharmaceuticals and medical technology.

ASMR economic studies

ASMR periodically publishes <u>factsheets</u>, <u>studies and reports</u> that include information about the returns on the government's investments in health and medical research, and particularly through the MREA.

AIHW health studies

AIHW develops, collects, analyses and reports information on a broad range of health and welfare issues in Australia. It releases over 180 print, web and data products every year that draw on national major health and welfare data collections, including its own. These reports provide an authoritative account of changes to the health and wellbeing of Australians. As such, and particularly in connection with other evaluation efforts that demonstrate NHMRC investment or activity with respect to a particular health condition or population group, information obtained from AIHW reports may be used to demonstrate the impact of NHMRC activities.

5. Evaluation cycle

In order to meet its statutory, performance improvement and promotional requirements as set out above, NHMRC must ensure:

- 1. data and information are captured about its activities
- 2. its activities are evaluated
- 3. reports of these evaluations remain findable and available for future use by NHMRC staff and stakeholders
- 4. the results of evaluations are used to inform program and business activity improvements
- 5. NHMRC staff are capable of undertaking evaluations to the required standard.

Collectively, these evaluation activities and/or capabilities comprise the NHMRC Evaluation Cycle, shown in Figure 4 and described below.

1. Data collection

<u>Goal</u>: Continual increase in the quality and comprehensiveness of the performance-related data that NHMRC collects.

All evaluation is based on data (including information), and the type and quality of the evaluations that are possible is dependent on the type and quality of the data that are available to underpin them. As noted above, data to support an evaluation may be obtained from both internal and external sources.

When a business activity is first established, decisions are made about what data to collect about that activity and its inputs, outputs, outcomes and impacts. These decisions may not appear significant at the time, but they will ultimately determine the organisation's ability to evaluate this activity, and to demonstrate its efficiency and effectiveness.

Such decisions are particularly important because information about an activity is much more easily and accurately captured at the time the activity takes place than after the fact. Hence, careful thought about what data to collect needs to be given before data collection commences.

Both because of the centrality of data to evaluation and the challenges associated with obtaining the data that are most valuable, data policy and management is a core function in NHMRC.

NHMRC's data management activities are informed by the <u>FAIR data principles</u> (i.e. Findable, Interoperable, Accessible, Reusable).

Figure 4. NHMRC Evaluation Cycle



2. Evaluation

<u>Goal</u>: Continual increase in the quality, comprehensiveness and efficiency of NHMRC's evaluation efforts.

The Evaluation Strategy is intended to support the evaluation of all NHMRC business activities. Any given evaluation, however, will focus on a particular 'unit of evaluation (UoE)', defined as an element drawn from the complete set of all possible evaluable activities for NHMRC. This complete set is defined by three parameters, being:

- 1. Stage(s) of the logic model, which extends from inputs to impacts
- 2. Time, which extends from 1937 (NHMRC's earliest date of activity) to the present time
- 3. Level, which encompasses five hierarchical levels at which NHMRC's business activities might be understood, being the levels of the:
 - i. entire organisation (i.e. all NHMRC business activities)
 - ii. strategic theme (i.e. all business activities in a given thematic area)
 - iii. business activity
 - iv. cycle (i.e. one or more particular iterations of a business activity)
 - v. item (i.e. an individual instance of an NHMRC business activity).

A non-exhaustive representation of this hierarchy, including some examples, is shown in Figure 5.

Figure 5. NHMRC activity hierarchy with some example items

Organisation	Theme	Activity	Cycle	Item
	Investment	Investigator Grants		2020 Investigator Grants post-implementation review
		Synergy Grants	Annual	
		Ideas Grants		
	Translation	Guideline development	Various	2013 Dietary Guidelines
NHMRC	Integrity	Regulatory activity	Biannual	32 nd Embryo Research Licensing Committee report
		Administering Institution application assessment	Continuous	Individual application for Administering Institution status
		IACR survey	Annual	2020 IACR survey

Because the total population of all possible UoEs is large — encompassing thousands of items in any given year — and because the time required to evaluate them all greatly exceeds the total staff time available for evaluation, NHMRC evaluates a sub-set of UoEs each year.

The decision about which UoEs to evaluate, and when these evaluations will take place, is usually made by business areas, and after considering a range of factors including the:

- accumulated expenditure on the UoE
- strategic significance of the UoE
- risk profile associated with the UoE
- anticipated impacts of the UoE
- degree of variation among otherwise similar instances of the UoE
- resources available in the business area to undertake an evaluation at any given time.

Identifying evaluation

To distinguish between a business activity and an evaluation of a business activity for the purposes of this Strategy, the following definitions will apply:

- **Business Activities** are all those activities engaged in by NHMRC staff (including contractors) whose objectives and intended outcomes (explicitly stated or otherwise) contribute to NHMRC accomplishing its organisational mission of building a healthy Australia.
- **Evaluation** is a sub-component of every NHMRC business activity and involves the assessment of whether or not, or to what extent, the objectives and intended outcomes of that business activity have been accomplished.

A business activity evaluation will always include the following:

- 1. **Introduction** describes the business activity being evaluated, including when it commenced, what it consists of, and its objectives and intended outcomes
- 2. **Data** describes the sources of data and information being used to underpin the evaluation, including any caveats relating to their use
- 3. **Analysis** describes the results of analyses of the data that address the evaluation questions of whether or not, or to what extent, the objectives and intended outcomes of the business activity have been accomplished
- 4. **Findings** summarises the results of the analyses and includes a statement of whether or not, or to what extent, the objectives and intended outcomes of the business activity have been accomplished.

In addition, a business activity evaluation may include:

Logic model — articulates the relationship between the inputs or investments received by the business activity, its immediate outputs, the later stage outcomes and the ultimate impacts that the activity is intended to generate, and how each stage of this process may be measured

Recommendations — describes actions that could be taken to improve the business activity so as to increase the likelihood of, or degree to which, the stated aims and objectives of the business activity will be accomplished in the future.

3. Communication

<u>Goal</u>: Continual improvement in NHMRC's reporting and evaluation promotion.

Impacts usually take many years to eventuate³. Consequently, NHMRC's past activities remain relevant today and NHMRC (therefore) continues to report on them and to evaluate them. NHMRC also continues to ensure that its previously produced reports remain available and findable.

Being findable is not simply a matter of ensuring that NHMRC's reports are held in well-organised data repositories, but also that NHMRC actively promotes their availability to their intended audiences.

 $^{^{3}}$ The median timespan from project commencement to impact for the first 19 Impact Case Studies produced is 25 years.

4. Implementation

<u>Goal</u>: Continual improvement to NHMRC activities, through implementation of evaluation recommendations.

NHMRC business activity evaluations routinely include — either in the evaluation report or in an accompanying cover document — one or more recommendations about what changes should be made to the activity being evaluated. All such recommendations are captured as data, as are any decisions made with respect to them and any resultant changes made to NHMRC activities. This data then provides an evidence base that can underpin the evaluation of the Evaluation Strategy itself.

5. Culture

<u>Goal</u>: Evaluation is an increasingly well-established part of NHMRC's business-as-usual operations.

A fundamental goal of the Evaluation Strategy is to ensure that NHMRC's evaluation maturity (i.e. NHMRC's organisational capacity to evaluate its own activities) is constantly improving. Among other things, this means that NHMRC normally conducts evaluations 'in-house'.

This approach is adopted because each element of the evaluation cycle can more effectively be conducted by staff who have direct experience of the other elements. That is, staff who evaluate an activity will better appreciate the importance of having access to relevant data and past evaluation reports, and will be better able to see the changes that have been made to NHMRC activities as a result of past evaluations. Moreover, the act of evaluation itself assists staff to improve their business processes.

However, and for reasons outlined above, there will be occasions where some component of an evaluation, or indeed an entire evaluation, will need to be outsourced.

To ensure that NHMRC staff are capable of undertaking evaluations to the required standard, NHMRC provides staff with access to the necessary training and evaluation tools.

6. Evaluation governance

Because evaluation forms part of NHMRC's business-as-usual operations, the evaluation-related work undertaken by each NHMRC business area is set out by that area within NHMRC's business plan and updated regularly. To ensure that these activities harmonise with the aspirations set out in the Evaluation Strategy and that they are collectively considered and discussed, they are overseen in accordance with the governance arrangements set out below.

Business areas

Each business area in NHMRC is responsible for ensuring that its activities are evaluated. Specifically, it is responsible for ensuring that:

- evaluation-related work items are included in the business plan
- evaluations are undertaken in accordance with the business plan
- evaluation findings and recommendations are responded to
- · approvals necessary to implement those recommendations are obtained
- intended audiences are able to gain access to evaluation reports
- evaluation culture within the business area is constantly being strengthened.

Program Coordination Committee

The Program Coordination Committee (PCC) provides a forum for fortnightly discussion of cross-cutting issues associated with NHMRC's grant program. These discussions may be used to develop and strengthen NHMRC's culture of evaluation with respect to the program.

For evaluation discussions involving other NHMRC business areas (e.g. public health and guideline development), dedicated consultation and discussion mechanisms take place as part of an evaluation community of practice as set out below.

Evaluation community of practice

In order to ensure that evaluation is an increasingly well-established part of NHMRC's business-as-usual operations, those NHMRC staff who are directly involved with evaluation are linked together through an internal 'community of practice'.

Members of this community are empowered and assisted to:

- inform each other of planned and current evaluations
- exchange information and resources
- discuss each other's work and approaches to evaluation
- access training and advice from experts.

Council and Committees

NHMRC's Council and its Principal Committees collectively have a role in advising the CEO on a range of matters, including evaluation.

As set out in section 35(2b) of the NHMRC Act, one of the functions of NHMRC's Research Committee is to monitor the use of financial assistance for medical research that is funded through the MREA.

The terms of reference of NHMRC's Health Research Impact Committee (HRIC) include providing advice to NHMRC's Council on "... policies and strategies to promote, communicate and measure the impact of NHMRC-funded health and medical research ...". HRIC's membership includes experts on evaluation, commercialisation and research translation. Commencing with the 2021-24 triennium, HRIC provides advice on all aspects of NHMRC activity taking place within the evaluation cycle.

NHMRC's Audit Committee provides independent assurance to the CEO on NHMRC's financial and performance reporting responsibilities, including on NHMRC's systems and procedures for assessing, monitoring and reporting on achievement of the agency's performance.

In addition to the Committees listed above, advice on evaluation may be provided by other committees and reference groups formed under section 39 of the NHMRC Act.

Executive Board

Chaired by the CEO, the Executive Board has ultimate responsibility for oversight of NHMRC's evaluation activities. The Board considers:

- · all evaluation-related activities listed in each update of the business plan
- an annual report on NHMRC's evaluation activities
- an Evaluation Strategy review at the end of each triennium.

Research Policy section

Research Policy section has operational responsibility for administration of the Evaluation Strategy. This includes:

- annual reporting to the Executive Board about performance against the Strategy
- triennial review and re-development of the Strategy
- liaison with and support for business areas on their evaluation activities
- supporting NHMRC's evaluation community of practice
- liaison with other organisations (government, business and not-for-profit) on evaluation.

Contact

Any questions about this document should be addressed to evaluation@nhmrc.gov.au