Measuring for success

Supporting communities, grant makers and applicants

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National Foundation for Medical Research and Innovation

NFMRI

Preface

From the bench to the bedside, the progress of an idea into a drug, device or diagnostic used by the community, requires sweat, patience and perseverance. It is made up of many steps, taken by many different people. Each step, forwards, sideways or backwards, adding to the extent of pre-existing knowledge. Each advancement, of itself, a success.

This Guide helps researchers, institutions and funders understand how they may evaluate their own progress and think about what success means relative to their own 'purpose' and the broader 'goal'. 'Success' it is said has many parents. In this sense, it is true, for ultimate success, as this Guide explains, is an accumulation of many successes on the pathway to a defined purpose.

Within the field of medical research, what is 'success' can seem like failure. Yet it is quite possible that discovering what does not work, or fails, can add far more to our understanding of what may be successful or capable of a broader application. And, as we know, sometimes, luck happens!

What this Guide offers as advice above all else is that whilst success can be ephemeral and just as swiftly followed by a humbling reversal, researchers and funders need to persevere and should be willing to allow others learn from their mistakes, for in this endeavour, we all stand on the shoulders of others.

Learning how to take the next step, and measuring its success, are essential in treading the pathway to a defined goal. It is the incremental not the monumental that matters - breaking down what matters, in measurement, is what this Guide will help you do.

Keith Drewery
NFMRI Board Alumni
Director - Drewery Consulting

Introduction

Measurement is becoming increasingly important to philanthropists, foundations and other funders of programmes focused on delivering social returns.

Funders will have their own needs and priorities. Many of these relate back to a funder's specific purpose and their strategies to achieve that purpose. Metrics can help funders assess their business practices and strategies, provide assistance to recipients and help communicate with key stakeholders.

Established metrics, however, don't always align with the needs of funders who often rely on the metrics provided by grant recipients, their employers and other sources. These metrics may have an entirely different application to the information required by funders.

Using universal metrics can also result in superfluous reporting, wasting both time and resources. Funders should also be careful not to obfuscate purpose-directed metrics with spill-over benefits.

What isn't measured and rewarded can sometimes be as important as what is. If it isn't measured, it can be considered not important by some applicants and their employers resulting in barriers for systems change. This is particularly important for large influential funders.

Funders have a special responsibility. As 'dollars-in' is a key performance indicator of all institutions, what funders support, measure and reward can have significant collective influence.

This document is intended to facilitate discussions around the use of metrics and assist funders make informed decisions about what is measured, why and how.

Measuring for success requires planning.

Why measure? Measurement requires resources. It is time-consuming for grant recipients to complete questionnaires and write reports. It also takes time for administrators to manage those reports and further time for reviewers to consider those documents.

Do you use the information?

Reporting has the potential to divert resources away from important activities focused on achieving desired outcomes. People also focus on what is measured and rewarded, so it is important that there is alignment with the funder's goals and objectives, as well as motivators for grant recipients. It is also necessary to consider if the metrics of applicants' employers aligns with the funders metrics and goals, as this can and does cause conflict for people caught in-between.

To establish measurement frameworks, it is firstly important to understand what you are trying to achieve by measuring what is its purpose, and how will it be used. It is also important to understand the difference between measuring impact and progress.

What does success look like and how does measuring help?

Understanding why and what is being measured and how it is being used can help align expectations with grant recipients and encourage them to assist, not simply comply.

What does success mean to you?

Purpose

Measuring if you are achieving your purpose may not always be possible during the lifetime of your grant. Whilst your support may contribute towards achieving your purpose, real evidence of success may require research to determine impact itself.

What is the socio-economic impact of a new vaccine or policy change?

Strategy

Measuring if your strategy is achieving goals directed towards your organisation's purpose, can be a determinant of success. Strategies often look to solve a specific problem or challenge along the pathway towards achieving the purpose. Initially measurement may look to case studies, but over time should consider if the outcomes are reproducible and scalable.

What does strategic success look like?

Progress

Progress can be measured towards agreed targets. These may have flexibility and change over time, they can include decisions trees, Gantt charts, milestones and pre-determined decision points.

What did you learn, how did you assist?

Systems change

Some programs may contribute evidence to positively disrupt the status quo. Having robust reproducible evidence that supports systems change is part of the answer, but what about influence, stakeholder engagement and uptake by others? Considering cultural change, micro and macro policy changes and other aspects, may expand success beyond what you do and make it easier for others to succeed.

Is there also the potential for harm?

Applying the information is important.

Measuring can assist funders and grant recipients in many ways. Understanding the difference they have made can help funders communicate with their key stakeholders and the broader community.

Grant recipients are often not the intended beneficiary of philanthropy, but the trusted conduit to deliver a greater community benefit .

Evidence of success and case studies can be used in fundraising campaigns and to help build an organisation's brand, reputation and identity. Successful programs can attract potential opportunities for scale and partners that wish to support projects.

Measuring can also assist funders by identifying strategies, programs and interventions that are performing and areas where improvement or change is required. By measuring key relevant attributes, funders can identify where problems exist, unintended consequences occur and whether failures and successes are a serendipitous one-off event or reproducible. Building evidence of robust, reproducible and effective strategies should be a key requirement for scaling and or extrapolating interventions (with testing) and strategy.

Measuring where things work, fail and opportunities for improvement can help educate and influence funders, grant recipients, other programmes and in some cases government policy.

Some funders can also use measurement to strategically target and provide additional advice, support or expertise to projects. Funders can utilise the strengths of expert advisors, committees, networks and staff to leverage broad capabilities, help solve challenges and collaborate with programme leaders to achieve success.

In the end, effective and efficient measurement systems can assist funders, recipients and employers aligning expectations, reducing and eliminating superfluous reporting, and facilitating collaborative and constructive relationships.

Measuring impact

A funder's purpose describes what it is trying to achieve; whilst its strategy outlines what it does to achieve its purpose.

What does success look like?

The purpose of an organisation is normally focussed on impact such as saving lives, creating social justice, improving welfare and helping the disadvantaged.

The strategy relates to support and activities directed towards achieving the purpose. The strategy may include the entire pathway or focus on supporting gaps in the pathway, system or supply chain that are roadblocks, slowing or preventing the impact from being achieved.

Measuring impact as it relates to purpose is something that normally happens after the completion of a project. It can take some time for this impact to be realised.

Basic post-grant reporting can't always provide the answers. It may often involve research solely focused on determining community impact and almost always requires specific and directed post-grant assessment.

Building a new facility, providing a new service, changing a policy or creating a new vaccine may be steps to creating impact aligned with purpose, but in themselves they are not the final measure. Attaining and interpreting data that investigates 'who', 'how' and 'why' a community has benefited or been harmed, provides the evidence to understand impact as it pertains to purpose.

Measuring impact as it relates to strategy can occur both during and after a grant has been completed. Determining what success looks like for any particular grant and how it aligns with your strategy is critical.

Achieving purpose normally has many moving parts. It requires multi-disciplinary skill sets, multiple partners, collaborators and funders. Grants often look to support components of the pathways to success, and strategies help to define which components are supported.

Case study: Gardasil (human papillomavirus vaccine)

Gardasil is a vaccine that has been shown to reduce the incidence of cervical cancer.

It has translated from basic science through to providing community benefits.

To succeed, it required research infrastructure, people and project support and non-research expertise, networks and capability. It translated by attracting next-stage partners who were able to provide the resources and expertise required to navigate and gain regulatory approval in global markets.

Follow-up research however, is ongoing, that demonstrates the purposeful impact of the vaccine at scale in the community, where it has not only provided health benefits to entire populations, but potential economic benefits by reducing the burden on health systems.

Gardasil is a vaccine that prevents certain strains of human papillomavirus (HPV) infections. These infections account for about 70% of cervical cancers.

Prof Ian Frazer AC and his colleague, the late Dr Jian Zhou, commenced research in 1990 that eventually led to the development of Gardasil, which was initially approved for use by the FDA and the TGA in 2006. More recently, new HPV vaccines have been released with improved efficacy across more strains of HPV infection.

The realisation of the Gardasil vaccine required basic research to translate from bench to patient. It needed to progress through steps including safety and efficacy testing, patent protection, manufacture, regulatory approval and marketing. To achieve all that was required, the University of Queensland commercialised the invention, licensing the intellectual property (IP) to CSL in 1994. In 1996, this was then sub-licensed to Merck Sharp & Dohme for countries other than Australia and New Zealand.

Research into the effectiveness of HPV vaccinations is ongoing in various countries around the world. A systematic review of studies published in The Lancet conducted between 2014-2018 showed an 83% reduction of HPV infections in teenage girls, and 66% reduction in women aged 20-24. The study also showed precancerous cervical lesions declined by 51% in teenage girls and 31% in women up to age 24.

Measurement needs to align with the type of research and translational outcomes.

Not all research is the same. The way it is applied and the translational pathways and requirements need to be considered differently.

Research has many faces. It can provide data to support:

- Reducing risk to patients and practitioners,
- The provision of new or better health services for specified populations and geographies,
- Improved clinical interventions and techniques,
- Opportunities for preventative health practices,
- The development and regulation of new products,
- Cost-effectiveness analysis, and more.

Research can also provide data to show that something doesn't work or that the status quo remains the preferred intervention.

The NHMRC uses the Australian and New Zealand Standard Research Classification system to identify four Broad Research Areas:

- Basic Science,
- Clinical Medicine and Science,
- Health Services Research, and
- Public Health

These four Broad Areas of Research relate to the type of research undertaken and give an indication of how the research may be translated and applied.

An understanding of the type of research that is being supported will influence what success looks like.

It should also be considered when developing the application and review criteria. This understanding is critical in developing metrics for progress and reporting, as well as where your support is strategically applied along the translational pathway.

Pathways to success

An understanding of the type of research that is being supported will not only influence what success might look like, but should also be considered when developing the application and review criteria, metrics for progress and reporting, as well as where your support is strategically applied along the translational pathway.

Basic Science

Foundations of understanding disease. Innovations include; medicines, vaccines, diagnostics, devices and tools.

Clinical Medicine and Science

Informs and improves evidence based practice including; diagnosis, treatment, surgery, prognosis etc

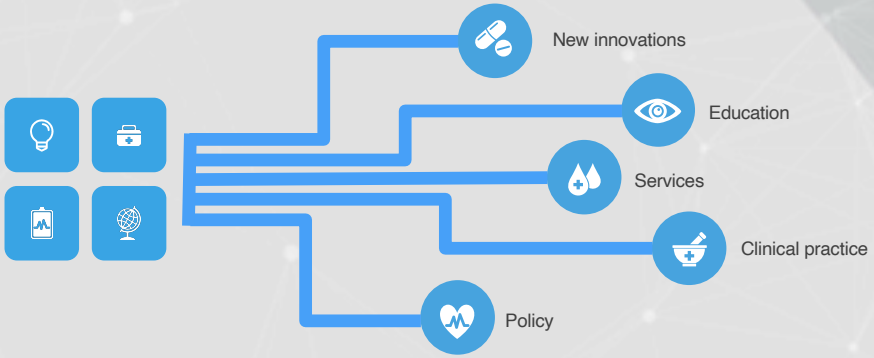
Health Services Research

Improved health systems and services delivering affordable high quality care

Public Health

Information to educate and inform Policy makers, healthcare professionals and society

Different types of research require different pathways for translation and impact. Developing new vaccines is different from preventing needle-stick injuries, changes in surgical techniques and better health services for remote communities.



What does success look like?

- What is the unmet need or problem to be addressed?
- Is it a product, service, tool, policy change, practice change or education program?
- Is it scalable and what communities, geographies may benefit?
- What are the regulatory and approval processes required?
- Who will ultimately implement the outcomes; government, industry, community groups or other?

Systems and culture

Systems and culture change extends beyond individual examples of success.

Systems and culture change is generally slow, difficult to measure and almost never solely attributable to a single source or event.

Collecting, analysing and applying data to support changes to current practice requires evidence to demonstrate that changes are scalable and reproducible. It should also examine where and in what conditions the changes may be relevant, as well as consider the potential for unintended consequences.

Philanthropy can go where others fear to tread.

Philanthropy can be agile, flexible and responsive, testing things that the government or larger groups cannot. By taking calculated risks, it provides an opportunity to test systems and gather evidence to support change or not.

Measuring a funder's influence on systems and culture change is often a matter of self reflection, surveys, identifying evidence where your processes have contributed to change and what key partners have become engaged.

Recognise that change is normally initiated at the micro level in individual organisations, before being adopted on a macro scale by other organisations, peak bodies or state/commonwealth policy makers.

In some ways, more importantly, change needs to have a level or organic uptake where a growing number of people and organisations in the system adopt change because they see the benefits.

Case study: Enabling clinical trials (Strep A and Malaria vaccines)

Professor Michael Good AO is one of Australia's prominent vaccine researchers and leads the Laboratory of Vaccines for the Developing World, Institute for Glycomics, Griffith University.

Professor Good has received two research grants from NFMRI. One for his innovative Strep A vaccine and the second for his Malaria vaccine.

These grants were directed towards solving a similar problem: research was required to develop a reliable manufacturing method under Good Manufacturing Practice (GMP), to produce sufficient quantities of the vaccines, and safety testing of those vaccines was needed to enable clinical trials.

Whilst there was philanthropic support committed for the Malaria vaccine to commence a clinical trial, the Strep A vaccine needed to be clinical trial ready to attract next-step partners. Neither could occur without solving the manufacturing research challenge.

Both vaccines have successfully entered clinical trials and the Strep A vaccine was successful in attracting next-step commercial partners.

Streptococcus A (Strep A) is the common cause of infections leading to a sore throat and skin infections in school age children. More severe infections can lead to loss of limbs and organ failure. It is also the primary cause of rheumatic heart disease, a significant problem for Indigenous Australians who are nearly 20 times more likely to die from this preventable disease. Unfortunately Australia has one of the highest rates of rheumatic heart disease in the world.

Malaria is a serious and sometimes fatal parasitic disease, making infected individuals very sick with high fevers, shaking chills, and flu-like illness. Malaria occurs mostly in poor, tropical and subtropical areas of the world and accounts for more than 400,000 deaths per annum. Nearly half the world's population is at risk of transmission, spread by mosquitos, with 91 countries identified as susceptible to malaria.

Publications and citations

Publications and citations are traditionally the key metric for measuring performance in academic research. More recently, an increased focus on translational research and an awareness of the large number of irreproducible results in peer reviewed scientific journals, has resulted in a greater focus on outcomes rather than outputs by philanthropic funders.

The move away from traditional publish or perish metrics, however, is not without its challenges. The academic system globally has been built around this dogma, as have university business models and career pathways for academics. Many funders also rely heavily on publications, citations and continuity of grants as traditional determinants in measuring success.

Be cautious of unintended consequences.

The balance needs to be addressed without harm. Global university rankings are a key influencer and measure of a University's success. They help universities attract international students, derive revenue and support activities. Education is Australia's third largest export market, significantly influencing government policy and economic sustainability.

If we examine the Times World University Rankings it becomes obvious that there is a divergence in thinking about where the balance may lie between traditional academic performance and research translation, as the contributions towards impact are minuscule; Research (volume, income and reputation): 30%, Citations (research influence): 30% and Industry income (knowledge transfer): 2.5%.

Extending publication/citations measures 'beyond quality' should be considered. Has a publication (or scientific presentation) directly contributed towards changes to policy or practice, or attracted next-step partners including academic collaborators, other funders, industry or investors?

Applications are the starting point in measuring for success

Measurement begins with well-structured application forms. Application forms, whether they are for a full-application or an expression-of-interest, help identify starting points.

Application forms should be considered as a starting framework that extends beyond the initial decision of what and who gets funded, but as a way to help answer the difficult question of 'where are we now'.

If what defines project success is 'where do we want to be' at the end of the project, 'where are we now' is critical in determining what is important, the pathways for progression and what is achieved or not.

Asking the right questions at the beginning, should align with what is measured throughout and at the completion of a grant.

Success requires more than research.

Implementation pathways can also be considered in applications and assessments including regulatory frameworks, policy, market, impact, pricing and competition. These can influence what is done and by whom.

Applications and measurements should consider not only what is directly done by the grant recipient, but what needs to be done by others. Are other capabilities and capacities being harnessed (research and non-research), what influence is being achieved and whose role is it to champion and bring together the components necessary for success?

Considering pathways, responsibilities and potential challenges and roadblocks in applications can assist in identifying areas to be monitored, align expectations and help with decisions and interventions during the project.

Applications are also an integral part of decision making. The first measure is of course success in the application process.

Reviewers and Boards can then use the applications to determine and measure success by comparing progress and goals with the information provided in the original applications.

Capability and capacity building

Capability and capacity building is often the starting point to solve many problems. It can include people support and training, the provision of tools and equipment or the building of major infrastructure such as buildings, kitchens, or laboratories.

It should, however, be remembered that while these may contribute to the purpose of a funder, it is a strategic decision to support this necessary component.

Supporting capability and capacity on its own may not deliver community benefits.

However, without capability and capacity projects won't succeed.

Measuring success should not only consider the number of people, the commissioning of equipment or the opening of a building, but relate it back to purpose.

Exploring what the capability enables and eventually what difference it has made to a community can be considered.

If a funder is disease focussed, it may consider the continued relevance to the disease, what research is undertaken in the facility, does it enable shared access, did researchers stay in the area of disease and how has their career progressed.

If and when benefits to the community are realised from the new capability and capacity, they can then be assessed.

Project support

Projects could be supported by grants in entirety from beginning to end, in streams that are parallel with other activities and funds, in stages where next-step partners are required or in combinations of the above.

In each of these cases, success is normally determined by achieving a desired end point. Other questions may consider; was it completed on time and on budget, did you attain the data and were the results consistent with advancing the project?

It is important to consider how projects contribute to the pathway of achieving your purpose.

To determine progress, you also need to know the starting point. This is addressed in more detail later, but it is important to recognise that measuring success starts at the application stage.

Defining a starting point, an end point, and what success looks like up front, enables better planning, measurement and project management including the application of decision trees, milestones and funding tranches.

Predetermined decision trees can include stop/go points that can assist in managing risk and are useful for supporting kill-it-quick philosophies.

Milestones and activities can also assist with managing resources and timelines, setting goals and when linked with funding tranches, where next payments are based on success.

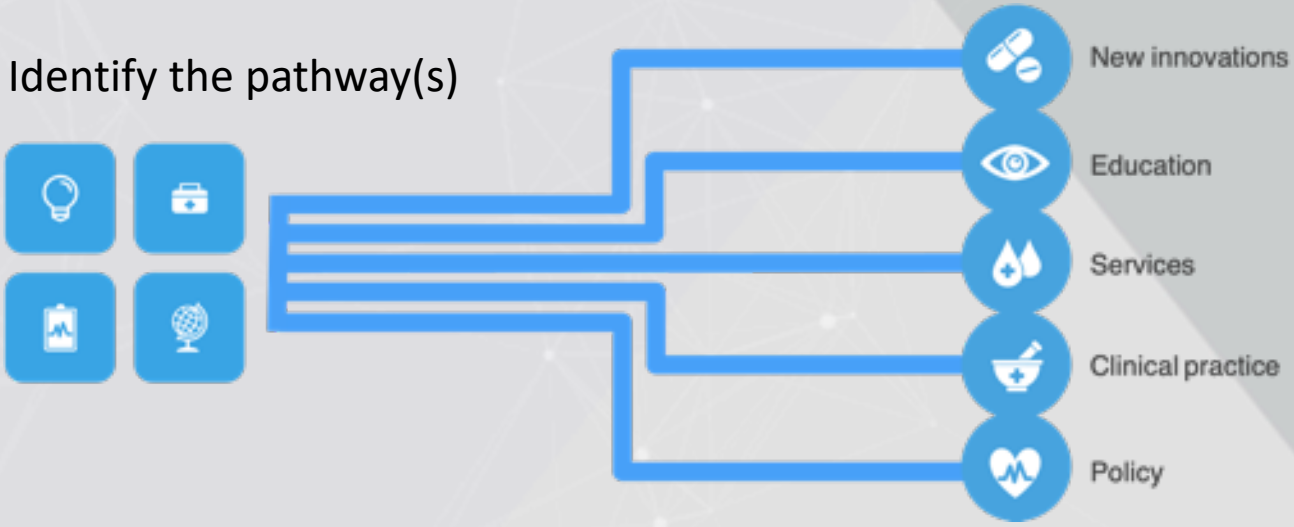
Beyond measuring progress, however, is measuring outcomes of the project. This is different to measuring progress and outputs.

If the activities supported are intended to attract next-step partners, the primary measurement would include: who are they, are they the right partner, can (and eventually did) they complete the project to deliver potential community benefits?

Other measurements may relate to learnings about how to do things better, consider efficiencies and how effective each activity was undertaken, stopped or completed.

Supporting pathways and projects for translation

Identify the pathway(s)



Translational milestones can assist in identifying key success outcomes, timeframes, resource and budget requirements.

Go/no go decision trees can assist with the release of funding tranches. Flexibility is required and it is important to consider unintended consequences.

When considering research translation is is important to consider not only what is directly supported but other activities and requirements.

Understanding the needs of next-step partners so that they can be attracted and engaged is critical to success.

Effective and efficient projects consider what activities are prioritised and undertaken.

Flexibility is often required in research based on results and translational needs

Research Translation

Research Translation refers to the process of putting research into practice. Research can translate through a variety of pathways to differing end points depending upon the type of research being undertaken.

Research translation requires harnessing a broad array of both scientific and non-scientific capability and capacity. Whilst funders may support research projects with the end goal of creating benefits for communities, it is rare that this can be accomplished by an individual researcher or research project.

Measuring research translation should include metrics around non-research activities, key studies, engagement and collaborations with others.

Translational research activities should also include the identification and confirmation of key prerequisite components including; prerequisite scientific studies, the need for quality systems, management of intellectual property and the experience, resourcing and engagement with translation/ commercialisation experts. These are not just components in an application, but important in measuring for success and applying support where needed.

Measuring the progress of research translation should focus on the end-goals of the project and funders need to be careful of obfuscating the pathway and end points with spill-over benefits.

Whilst spill-over benefits are good and may include things such as publications, job creation, career progression, student completions etc. It is important to focus firstly on the purpose, community impact and what success looks like (problem being solved).

Case study: Next-step partners (brain cancer and fibrosis)

Attracting next-step partners is critical for research translation. Next-step partners not only bring financial resources, but provide expertise and networks to help advance potential interventions and navigate the complex regulatory approval process.

Key components in attracting next-step partners include understanding what scientific evidence they would like to see, if there are any prerequisite research studies, what research may need to be conducted using quality systems, and if there are any preferred (trusted) research groups globally who can provide external evidence to demonstrate safety and efficacy.

Many of these questions and research activities don't align with traditional funding sources and may not be of high interest to academic journals.

Without the ability to attract next-step partners, promising health and medical interventions won't get the opportunity to advance and will wither on the vine.

NFMRI continues to support research projects to access external capability and capacity, and to sometimes perform less scientifically groundbreaking research with the potential to attract next-step partners.

A/Prof Lenka Munoz (University of Sydney) was supported by NFMRI for her research into improving chemotherapy response rates in brain cancer. Lenka's innovation successfully attracted a European industry partner who licensed her discovery at the preclinical stage. The partnership also resulted in career progression, more than $1M in research funding from the partner and an NHMRC development grant for research into second generations drug candidates.

A/Prof Bernard Flynn (Monash University) was supported by NFMRI for his fibrosis research, a problem affecting numerous organs including the heart, liver and lungs. Bernard's pre-clinical research was successful in attracting next-step venture capital partners who invested more than $7 million (Series A), establishing the spin-off company Cincera Therapeutics.

Milestones and tranches

Milestones and tranches of funding can not only assist in managing risk, but also in maintaining a focus on agreed outcomes.

Predetermined milestones and decision trees provide a level of transparency and can make it easier for funders and reviewers to understand what desired outcomes may look like, when they can be expected and what alternatives may exist when research results give you the 'back to the drawing board' moment.

Tranches of funding are common in industry where next-step financial commitments are based upon achieving milestones. Tranches of funding are not only based upon research outcomes, but the ability of teams to deliver milestones on time and on budget.

Funders need to be flexible and understand that research often needs to fail before it succeeds.

Longer term projects in particular may benefit from the development of a Gantt chart prior to the commencement of the project. Key activities also benefit from a lay description of why they are important and what success for each study may look like.

Whilst shorter term studies may not need a Gantt chart, they will also benefit by identifying key activities, due dates and success determinants.

Collaborations; accessing external capability and capacity

Silos of field-specific research expertise are needed. Working together with experts in your field can provide great benefit. The challenge is to connect the silos.

Bringing science to the community requires not only disease specific expertise, but also field specific expertise. Single institutions and laboratories rarely have the entire in-house capability and capacity to take research from laboratory to bedside. Researchers need to collaborate and access expert services to enable research translation.

Industry needs to run research projects virtually, securing services, activities and accessing experts globally.

Researchers, however, are employed in an ecosystem where outsourcing research and doing important research of low interest to publishers, can be a career negative. Researchers and institutions are driven to seek funding and undertake research activities internally.

Connecting expert silos is critical for research translation.

Funders, however, have a responsibility to enable researchers to overcome cultural and policy barriers, to assist research deliver community benefits no matter where the research is best performed.

Measuring and rewarding a researcher's ability to project manage and run an effective translational research programme using metrics beyond 'publish or perish' will help move the needle.

Quality systems

Quality systems can play a key role in data integrity and usability.

Whilst quality systems are not required for all aspects of research, regulators and health authorities may not be able to use the data. It is important to understand the need and use of quality systems in all aspects of research and in particular both preclinical and clinical research activities.

Whilst some research activities can be achieved in non-compliant laboratories, the research will need to be repeated, slowing the process of translation and increasing the cost. It may also result in missed opportunities in attracting next-step partners in a time-sensitive world.

Funders focussed on effective and efficient research projects with translational outcomes should consider and monitor where research is being performed and compliance with the downstream regulatory needs.

Consider usability. Is the data fit for purpose?

Outsourcing research components to research experts and organisations with established quality systems can significantly speed up the process of research translation. Expect that research undertaken with quality systems in place will cost more.

Data usability and integrity

Data usability and integrity can be critical in research translation.

Beyond reviewing these factors in the planning and approval stages, it can be important that they are monitored and reassessed with any variations to an approved plan.

Changes in methodologies, recruitment regimes, population sizes, research kits, locations, providers, end points and quality systems for instance, may mean that the data collected and analysed may need to be repeated so that it can be used to navigate regulatory and approval processes.

Whilst the data may be useful in scientific literature, it may no longer meet the strict requirements that enable it to be used for translational purposes.

There has been considerable attention directed to these issues over the past few years, as the reproducibility of peer reviewed scientific literature continues to be an ongoing challenge. This problem is difficult to solve without the concerted efforts of researchers, institutions, journals and funders Nature 533, 437 (26 May 2016) and is extensibly linked to a 'publish or perish' culture driven by employers and the scientific community themselves Nature 533, 147 (12 May 2016).

Data integrity and usability is also critical in attracting next-step partners, whether they be commercial or non commercial, and care needs to be taken when used for community dissemination, including media and fundraising campaigns.

Measuring the impact of communications based on retracted scientific data is rarely considered or proportionally responded to.

Peer reviewed science doesn't always meet the standards required for usability in translation

Applying measures for success

Is your organisation achieving its organisational goals and purpose?

Can you help others, influence systems change and engage in a broader corporate social responsibility role?

Does your strategy align with your purpose.?

Is there evidence to support the strategy?

Are your operations and support structures effective and efficient?

Consider all stakeholders.

Build robust, reproducible evidence to support scale.

About the Author

Dr Noel Chambers was appointed as the Chief Executive Officer of the NFMRI in April 2013. Noel has a PhD in pharmacology/medicinal chemistry from the University of Sydney.

His work experience includes positions in research, research translation, commercialisation, start-up companies, biotechnology and philanthropy. In the early 90's, his patented discoveries in type II diabetes led to a commercial partnership, where he led a team of researchers at the University of Sydney and for which he was presented the Royal Australian Chemical Institute's Biota Award for Medicinal Chemistry.

Noel then moved into industry, where he held senior management positions in research and business development before becoming the CEO of a number of listed (ASX) and unlisted biotechnology/health related companies. In 2009, Noel's attention turned to philanthropy, where he led the establishment of Research Australia's successful philanthropy program as the Director of Philanthropy.

He was a member of the Federal Government's Advisory Council for Intellectual Property (ACIP) from 2009-2014, advising the Federal Minister for Innovation, Industry, Science and Research and was Chair of the ACIP review into collaborations between Publicly Funded Research Organisations and Industry.

About NFMRI

The National Foundation for Medical Research and Innovation is a not-for-profit organisation that is entirely independent. It is not affiliated with any university, hospital, government or state body. The Foundation provides financial support to research projects, whilst conserving and building its capital base.

The National Foundation for Medical Research and Innovation was incorporated on 3 November 1977, originally as the Sydney Hospital Foundation for Research.

The Foundation has DGR and TCC status.

In 2013, the Foundation undertook a strategic review of its activities and funding in the Australian medical research sector. This review identified opportunities for the Foundation to increase its impact by refocussing and supporting research to advance medical innovations and form collaborations.

As part of the review, the Foundation also decided to increase its support nationally and to change its name to the National Foundation for Medical Research and Innovation.

Our Mission

"To advance innovations in medical research related to the nature, prevention, diagnosis, treatment and incidence of disease and other health problems that have a significant impact on the health of humans"

The Foundation is looking to increase its impact by partnering with other Trusts and Foundations, Private Ancillary Funds (PAFs) and corporate donors. We are also happy to receive donations and bequests. Through our activities utilising our expertise and experience in research and innovation, the Foundation is looking to become the partner of choice and a national ambassador for medical research innovation.

With best practice governance systems and continual improvement processes in place, supported by an enthusiastic and highly qualified Board, Research Advisory Committee and management, the Foundation is well positioned to stay at the forefront of impact giving. We have developed portfolios focused on impact to support medical innovation.

The National Foundation for Medical Research and Innovation

Founded in 1977, the National Foundation for Medical Research and Innovation's primary objective is to support innovative areas of research to help benefit mankind through the prevention or eradication of diseases.

The Foundation seeks to partner with researchers and donors to identify, evaluate and support innovative quality research projects with identified impact objectives.

Our culture is one where we look to make a social investment in medical research. By partnering with researchers to provide support and knowledge, we aim to maximise the social returns from our grants.

NFMRI

National Foundation for Medical Research and Innovation

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