

# House of Science • Te Whare Putaiao

ImpactLab GoodMeasure Report February 2024

# I ImpactLab

ImpactLab GoodMeasure Report Wellington, New Zealand

Prepared for: House of Science Te Whare Pūtaiao

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#### ACKNOWLEDGEMENTS

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### Simplifying social impact measurement

I had the privilege in public life to work with people who understood the need for positive change in the lives of those around them and worked hard to achieve it.

Our social services do a tremendous job of bringing positive change to our most deserving individuals and communities. These organisations are built by volunteers and community workers who dedicate their lives to helping others.

Social service workers can see the positive impact of their work. Children thriving, families united, jobseekers in new employment and people empowered to change their life course.

With more tools they could do more good. I want to help them by finding ways to make sure that effort is recognised, results are measurable and they can make decisions about how to do more good.

ImpactLab grew from a desire to make available to community organisations tools that use the power of public information and the latest technology, so these organisations can change more lives.

By measuring social change and positive outcomes, ImpactLab enables charities and social service providers to speak the language of funders, investors and governments.

It has been a pleasure to work with House of Science Te Whare Pūtaiao to learn how this organisation changes lives throughout the North Island of New Zealand.

Calculating social value helps inform decision making and investment and enables you to do good, better.

Thank you for joining us on this journey.

Sir Bill English ImpactLab Chairman

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# GoodMeasure Summary

GoodMeasure connects decision makers with information they can act on to grow their social impact. It supports organisations to focus on investment that works for communities so that people can live the lives they choose.

Through the GoodMeasure journey ImpactLab supports our customers to understand their social value and empowers them to further understand their data, people and impact stories.

We use a standardised methodology that draws on publicly available data, academic research, and an organisation's own data, to estimate social value and a social return on investment (SROI).

### Understanding social value

Social value is the social impact in dollar terms that a programme achieves for participants over their lifetime.



Throughout our lives, different events occur which impact our overall wellbeing trajectory. ImpactLab measures the impact on an individual's wellbeing across multiple domains when they're supported by a programme to make positive changes in their life.

We measure this impact in terms of both positive benefits (such as increased income) and avoided costs to government.

To calculate social value, we combine these impact values with

- Evidence from global literature about how effective a programme can be.
- The size of the opportunity for the people an organisation serves to achieve more positive outcomes.
- The number of people supported.

By combining these inputs, the social value calculation helps us understand how a programme or intervention helps change lives for the better. We combine the social value with cost information to calculate a programme's social return on investment.

### GoodMeasure for House of Science

House of Science (HoS) aims to see that every child in New Zealand becomes scientifically literate. For them, this means that each child has a clear understanding of core scientific principles, enabling their curiosity, critical thinking, health and wellbeing to flourish, whilst simultaneously equipping them with the skills to contribute to the future economic prosperity of New Zealand.

### Who does House of Science serve?

House of Science partners with primary and intermediate schools across New Zealand. HoS participants are teachers who are interested in developing science capital within their students, and the students themselves who utilise the handson materials owned and distributed by HoS.

### What does House of Science do?

To achieve common scientific literacy, House of Science partners with primary and intermediate schools across New Zealand, providing teachers with themed science kits, learning objectives, lesson plans and instructions to encourage regular and successful engagement with science material in the classroom. Teachers are encouraged to sign up for House of Science Professional Learning and Development opportunities, where they are empowered to become effective science communicators.

# What outcomes does House of Science aim to create?



### GoodMeasure outcomes

### Additional outcomes

These outcomes directly contribute to this year's social value calculations.

> Improve mental health Increase academic achievement Increase STEM achievement

Increase employment Improve critical thinking Increase science capital Increase human and transferable skills Increase confidence and quality in teaching science

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These outcomes do not directly contribute to this year's social value calculations.

### House of Science's impact



### Social value definition

Social value generated for each participant

\$397

Measurable benefits as proportion of programme cost

Cost of the programme per participant 1020%

\$37

When we take into account the operating costs of House of Science, we can calculate the social return on investment that is generated for every dollar in the programme.



ouse of Science results i \$10.20 returned to NZ (17 Oct 2022-

16 Oct 2023)



Period in scope 17 Oct 2022- 16 Oct 2023

### Range

House of Science Participants	Students	Teacher
Total starting	66,381	524
Number engaging	63,725	524
Engagement rate	96%	100%



### Ethnicity



Location New Zealand Northland 13% 23% Bay of plenty Auckland 19% 9% Waikato 2% Gisborne 7% Taranaki 9% Hawkes bay 10% Manawatū-Whanganui

8% Wellington

the subject.

House of Science believes that science builds key skills such as critical thinking, questioning, and problem solving. Scientifically literate people participate in the world around them as informed citizens and investment in scientific capacity creates long term benefits for health, the economy, environment, and society. The organisation aims to increase engagement in science, technology, engineering and math (STEM) subjects and opens science career pipelines as well as improving overall educational outcomes.

By intervening early in the education journey, House of Science aims to spark and cultivate interest in the subject during childhood, with the goal of developing children's critical thinking skills and increasing their participation in science long term.

# House of Science's people

House of Science is passionate about ensuring every child in New Zealand is scientifically literate. The organisation enables and supports young New Zealanders in primary and intermediate school to engage with science and participate actively in the world they live in.

Science is a resource-heavy subject, best taught using physical materials and experiments to engage children and cultivate interest in the subject early on. Many teachers face barriers to teaching science in primary and intermediate schools as it requires resources, and they may not feel confident teaching

House of Science focuses on upskilling teachers and providing resources to enable them to teach science in a fun, engaging, and educational way that aligns with the New Zealand curriculum. Member schools are able to book science resource kits from the House of Science website. Each kit follows a theme, with learning objectives, instructions, and educational material provided alongside science materials. Science kits are reusable, and House of Science reduces barriers to access by distributing and collecting the kits directly from schools. These kits are also bilingual, available in both English and Te Reo Māori.

# The change journey

House of Science connects teachers in primary and intermediate schools with accessible science resources and information to use within their classrooms, engaging children aged 5-12 in fun, accessible and relevant science education.

Connect	Resource	Educate	F
House of Science works with New Zealand's scientific community to develop relevant, age-appropriate	House of Science ensures resource kits are safe, easy and fun to use. These kits:	Resource kits and supporting professional development equips teachers with the practical resources	
science materials that are aligned with the NZ curriculum.	<ul> <li>Cover a vast range of relevant topics.</li> </ul>	and confidence they need to teach science to children in primary and intermediate schools.	
Kits come in themes relevant to big issues in New Zealand such as sustainable fishing, clean technology biodiversity and climate change.	<ul> <li>Include at least 5 hands-on experiments, catering for Year 1-8 students</li> </ul>	The fun, accessible and easy to use nature of the kits ensures science education is engaging for young	
Schools pay a small membership fee to access the science resource kits.	<ul> <li>Are easy to use. Everything a teacher needs is in the kit, including all consumables.</li> </ul>	children. Teachers are sent weekly and	C
Member schools book the kits they want through a booking website.	<ul> <li>Include bilingual student instructions and teacher manual</li> </ul>	on usage of the kit and provide feedback to House of Science.	
Science kits are distributed and collected by House of Science	(English and Te Reo Māori).		
directly to and from schools.	<ul> <li>Are fully aligned with the NZ Curriculum and many reflect current National Science research.</li> </ul>		
	Teacher professional development is an integral part of the programme. This includes in-school visits and regional group sessions. Local experts frequently contribute to these events helping to localise the learning.		

### Outcomes map

The outcomes that House of Science aims to achieve and how these are reflected in the GoodMeasure calculation.



# Word of mouth Educate **Additional outcomes** *These outcomes do not directly contribute* to this year's social value calculations. Increase confidence and quality in teaching science Improve critical thinking Increase employment Increase human and transferable skills Increase sciece capital

# GoodMeasure results summary

Every year, House of Science Te Whare Pūtaiao delivers \$25,496,052 of measurable good to society in New Zealand.

House of Science real-world value is even greater than this, as some outcomes such as improve critical thinking cannot yet be directly quantified with available data.

When we consider the operating costs of House of Science, we can estimate the social return on investment that is generated for every dollar that is invested in the programme.



The Living Standards Framework is a practical application of national and international research around measuring wellbeing.

It was designed drawing from the Organisation for Economic Co-operation and Development's (OECD) internationally recognised approach, in consultation with domestic and international experts, and the NZ public.

#### Definitions

Jobs and Earnings: Freedom from unemployment

Income and Consumption: People's disposable income

Health: People's mental and physical health



# GoodFeatures

GoodFeatures are actionable insights drawn from literature. Research has connected these actions with positive outcomes for participants.

Use GoodFeatures to prompt discussion about your programme and service delivery compared to examples of effective practice from international literature.

•	Scientific Literacy	<ul> <li>The programme removes financial and resource barriers for schools that are interested in teaching science, enabling greater access to science learning in primary and intermediate education.</li> <li>The programme designs tailored subjects and activities and ensures a "hands-on" approach for different ages, genders and cultural groups.</li> <li>The programme incorporates pre-and-post-kit lesson plans for teachers and students to enhance the experience and spark deeper interest.</li> <li>The programme fosters long-term engagement in science education by facilitating continued learning and practice months or years after student engagement has occurred.</li> <li>The programme ensures schools in socio-economically disadvantaged areas are reached who may have barriers to accessing the programme.</li> </ul>
•	Professional Learning Development	<ul> <li>The programme provides teachers with comprehensive professional development through science content knowledge, pedagogical instruction, practice and mentoring.</li> <li>The programme provides an expert and supportive community of science educators to ensure effective teaching and learning for students.</li> </ul>
•	Science Capital	<ul> <li>The programme builds science capital from a primary school age, exposing students to and creating a passion for science learning.</li> <li>Programme activities foster core soft skills essential for early-child development such as curiosity, inquiry, experimentation and teamwork.</li> <li>The programme focuses on students practicing core academic skills such as critical thinking, future thinking and problem-solving.</li> </ul>

# **References and further reading**

In compiling our reading lists we consider a wide variety of topics, focusing on specific aspects of service delivery or outcome attainment. Here are a selection of readings that may be of interest.

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# Appendix

### Note:

Data and percentages throughout this report may have been rounded.

### About ImpactLab

The team at ImpactLab share the goal of helping all organisations do good, better.

#### Our story

Our team at ImpactLab has seen the power of understanding social change. Our founders came together working in the public sector, where we led the development of new processes to link social value measurement with decision making. We believe that all organisations should be able to understand and improve their social impact. Our mission is to help impact creators and investors make decisions that change more lives.

#### Our team

To make better decisions, it's crucial to consider both the hard facts and the human stories that substantiate them. Our family of researchers, data scientists and statisticians are committed to combining powerful analytics with what you know works for your community.

Alongside expertise in data-driven decision making, our team brings a wealth of real-world experience. We are parents, teachers, volunteers and customers of social services.

#### Contact us



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### Key Terms

Below is a list of definitions of key terms contained in this report.

### Amount invested

The dollar amount that has been invested in a specific programme, in New Zealand dollars.

### Cost per person

The dollar amount invested in the programme divided by the number of people supported by the programme (including those who did not successfully complete it).

#### Domain

A domain is a way of dividing or filtering the subject and outcome material in your ImpactLab results. ImpactLab refer to domains as per the New Zealand Treasury's Living Standards Framework domains.

#### Population

by the programme, in terms of age, gender, and ethnicity.

This is the Social Return on Investment. It is calculated by comparing the social value generated by the programme to the amount invested in it.

### Social Value

Programmes

Social ROI

The social impact in dollar terms that the amount invested achieves for participants over their lifetime. The social value is calculated by combining impact values with a service delivery quality score, the size of the opportunity to support a population, and the number of people supported.

The group of people supported

#### The services delivered by the provider for the amount invested.

#### Attribution

Some data and information used in the Social ROI calculations is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) Licence. It is attributed to the NZ Treasury.

### Disclaimer

This disclaimer sets out important information about the scope of our (ImpactLab Limited) services. It should be read in conjunction with the contract that we have entered into with you (or your company/ organisation) for our services. including the applicable terms and conditions.

We have endeavoured to ensure that all material and information on GoodMeasure, including all ROI calculations and impact numbers (together the information) is accurate and reliable. However, the Information is based on various sources, including information that you have provided to us, which we do not independently verify. Accordingly, we do not provide any representations or warranties in relation to any information, including any representations or warranties relating to the accuracy, adequacy, availability or completeness of the information or that it is suitable for your intended use. We do not provide advice or make any recommendations in relation to decisions, financial or otherwise, that you may make.

### How we measure social value

Our consistent approach to measurement enables comparisons across wellbeing domains and over time.

### Map programme dimensions

ImpactLab engages with providers to understand their people, their service and the outcomes they seek to achieve.

### Clean and analyse data

ImpactLab uses the best of data about people's lives to understand what works, for whom, at what cost. We combine publicly available insights from the NZ Treasury, NZ Statistics and other sources. Impact values produced using Statistics NZ's Integrated Data Infrastructure are a particularly valuable resource. The IDI is a dataset containing information on every New Zealander about many areas of their lives - education, health, social welfare, employment and others. It's anonymised, so we can't identify anyone. This adds up to over 166 billion facts, for nine million New Zealanders (some have left the country, and some have passed on), for more than a generation of us.

### Collect and synthesise literature

ImpactLab draws on the best academic impact literature from around the world. We access globally screened evidence from top universities and governments to estimate how impactful a programme can be. We also identify service delivery model features associated with the most effective programmes.

### Calculate impact

Our algorithm combines New Zealanders' life experiences, with the wisdom about what works from the brightest minds across the world, with what we know about need in communities.

This combination of system level insights and grassroots knowhow means we can consistently calculate the expected impact of a programme, and the social return on investment.



### Map social value to frameworks

Because we start with individuals' experience, we can organise our insights into the relevant government and international frameworks. The New Zealand Treasury's Living Standards Framework (Living Standards Framework) is the Treasury's way of systematising wellbeing. It has four 'capitals' – social capital, financial and physical capital, human capital and natural capital. ImpactLab's GoodMeasure tool links the social value and return on investment created to domains within human capital.

We can also map social value and return on investment to the relevant OECD Sustainable Development Goals.



