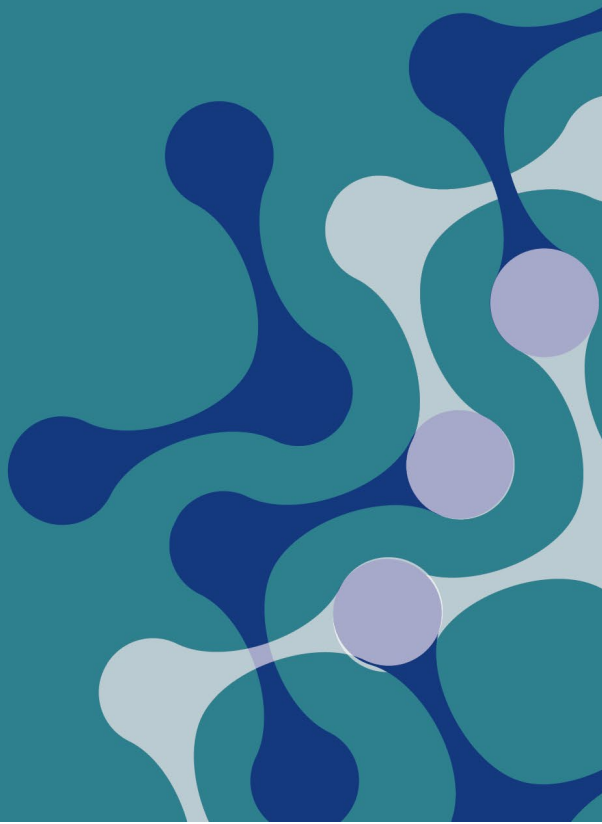
Office for Health and Medical Research

NSW Health Commercialisation Training Program

Evaluation report



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The Office for Health and Medical Research extends our sincere thanks to Cicada Innovations for their valuable contribution to this evaluation report. Their open and cooperative engagement throughout the process greatly enriched the quality and depth of the analysis. The insights, transparency, and willingness to collaborate provided by Cicada Innovations have significantly enhanced the rigor and clarity of the final report.

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Contents

List of abbreviations

CT	Clinical Trials
CTP	Commercialisation Training Program
IP	Intellectual Property
MDCTP	Medical Device Commercialisation Training Program – original name used for the 2014-20 phase of the Program
MDF	Medical Devices Fund
PaT	Pharmaceuticals and Therapeutics
RA	Regulatory Affairs
SaMD	Software as a Medical Device

Executive summary

The NSW Health Commercialisation Training Program (the 'Program') was established to provide NSW entrepreneurs with the necessary skills to turn research discoveries into successful products and companies. The Program is comprised of seminars, courses and online content, all provided free to NSW-based participants. The Office for Health and Medical Research (the Office) instigated the Program in 2014, contracting Cicada Innovations (or Cicada) to deliver it on behalf of NSW Health.

In 2024-25, the Evaluation Unit at the Office conducted an evaluation of the Program, which is documented in this report. Overall, the evaluation found that the Program provided high value to NSW and is a cost-effective solution to developing skills and expertise in health technology development and commercialisation in NSW. These findings are summarised in the following section and 22 recommendations have been made on how the Program can evolve and improve.

Evaluation findings

The purpose of this evaluation was to understand the effectiveness, impact and value of the Program, and make recommendations about its future. The evaluation answered nine questions that provide a comprehensive understanding of the processes, outcomes and economic benefits of this work.

Process evaluation

1. What was the reach and uptake of the Program among target audiences?

From 2014 to 2024, the Program saw 1177 individuals enrol in more than 2500 courses and seminars. In just the past three years, more than 1200 people attended seminars and 355 people completed the more intensive courses. Demand to attend courses is almost twice the number of places available, demonstrating continual high demand, with some courses being more popular than others. Attendance by rural participants is low (ranging from 4 to 40% of population estimates) and women are under-represented in courses (42%). Overall, the Program is successfully delivered to large numbers of individuals each year but must be flexible in up- or down-scaling courses in response to demand. More could be done to address equity of access for women, Aboriginal people, and rural participants.

2. How well has Cicada delivered the Program?

Cicada has met all contracted deliverables for the Program, including those added by several contract variations during that time. According to the survey administered by the Office, Cicada provides an easy, intuitive and appropriate registration process, communicates information about enrolment well, and answers enrolment questions promptly. Participants satisfaction is high, with 86% saying they were 'very satisfied' or 'satisfied' with the Program and many courses are delivered at a level considered 'world class'. Overall, Cicada have provided exemplary performance to NSW Health in implementing the Program, bringing capacity, expertise and passion to this work.

3. How well has the Office managed the Cicada contract?

While the first two years of the Program were established with a directly awarded contract, the subsequent two rounds were awarded following open tenders that met all requirements of NSW Health procurement policy at that time. The Office and Cicada hold fortnightly meetings and include meeting notes and action lists. The Program aligns strongly with the 2012 research strategy and to the proposed NSW Health Research and Innovation Strategy (2025). Overall, the contract with Cicada is well managed by the Office and it is clear how the aims of the Program can be achieved through the current contract and workplan.

Outcomes

4. What are the outcomes impacting the health technology ecosystem?

The Program has greatly increased the level of commercialisation and health technology knowledge across NSW, with hundreds of people learning skills that would have been difficult to acquire if the Program did not exist. Graduates from the Program have established dozens of clinical trials to support their product development, and more than 15,000 patients have participated in these. NSW developed products have been launched in Australian, Northern American, European and Asian markets. Overall, participants felt NSW was the strongest Australian state for commercialising health technology and that the impact of the Program on the health technology ecosystem in NSW is significant and positive.

5. What are the individual achievements of participants who had enrolled in the Program?

The Program was highly successful in upskilling participants in understanding the different pathways to commercialising health technology, evaluating and assessing potential customers and markets, and understanding the different approaches to market. Although 69% of participants said their knowledge of ways to raise capital had improved, this is still the area where participants felt the least confidence and the Program should reflect on how to improve this. Courses were more effective than seminars when it came to improving skills, likely due to the length, intensity and increased involvement when participating in the longer courses. Access to experts and mentors was highly prized by participants and many participants said these relationships were the best parts of the Program. Two in five participants said they continued to be involved with the Program after they had finished their seminar or course. Overall, most individuals reported significant improvement in relevant skills and expanded their networks to include their peers and experts.

6. How likely is the Program to achieve intended long-term outcomes?

The Program Logic identifies seven long-term outcomes for the Program, including developing new treatments that benefit the people of NSW, creating a strong and vibrant medtech and biotech ecosystem, and equitable access to the Program. For those outcomes where data was available, the Program appears to be progressing well toward achieving these goals. However, to fully assess all outcomes, information collection needs to be improved without increasing the burden on individual participants. Overall, we need to review and refine existing data and develop plans for introducing new measures to assess long-term impacts.

Economics

7. What are the total costs of delivering the Program to date?

The total cost of delivering the Program from 2014 to 2024 was $7,864,125, with the majority of this (95%) being the contracted amount for Cicada to implement the Program. Costs are consistent with the Office's budget for the Program with few variations to annual costs.

8. How likely is the Program going to generate a net social benefit for NSW?

Participants said the program was effective at increasing commercialisation skills and knowledge, had helped create commercialisation leaders, and had contributed to a more vibrant health technology ecosystem in NSW. More than 90% agreed that the Program had contributed to positive economic outcomes and made NSW more competitive at an international level. In just two recent years, course graduates established 23 new companies within 12 months since finishing their course, bringing in more than $30.4 million in private investment and $124.9 million in grant funding. Those companies employed more than 140 staff and established patents with an estimated worth of $4.48 million. The Program has a return on investment of $20.53 for every dollar invested. Overall, the Program has a significant benefit to NSW, upskilling relevant individuals and providing ongoing networks that support their commercialisation work.

9. What is the case for continuation of NSW funding in this space?

The evaluation has demonstrated a strong case for the continuation of the Program, specifically that:

- The Program was effective at developing the necessary skills and knowledge for health technology commercialisation
- The impact on the health and medical technology ecosystem was demonstrated through company and job creation, as well as positive views on NSW being the strongest state for medical device development
- There is ongoing demand for places on the Program
- In financial terms, the Program brings significantly more benefit to NSW than it costs to run at an estimated $20.53 return for every dollar invested.

While this report includes 22 recommendations on how to improve the Program, the evaluation supports that continuation of the Program in its current state provides ongoing value to NSW.

Recommendations

The evaluation identified the following innovations that may benefit the delivery and outcomes of the Program:

Program governance

1. Establish an external advisory committee to support the Program.
2. Publish the outcomes of the 2021-25 tender on eTendering.
3. Clarify the program governance and organisation roles.
4. Provide guarantees around intellectual property protection.
5. Document the protocol for notifying the Office when speakers or speaker organisations are replaced.

Promotion

6. Nominate the program for health and education awards.

Course content

7. Increase the effectiveness of course content about raising capital.
8. Address low participation numbers for the Diagnostics course.
9. Include greater coverage by courses of the potential risks and benefits of Artificial Intelligence.

Participants and alumni

10. Promote greater equity for Aboriginal participants, those from rural areas, and women.
11. Make an alumni registry available to participants.

Commercialisation

12. Identify and support access to seed funding to support early development.
13. Provide opportunity to pitch to venture capital organisations.
14. Create a centralised website with details of funder organisations.

Mentoring

15. Provide a mix of both solo and small group mentoring sessions.
16. Support longer term or ongoing mentor relationships for participants.

Data and information

17. Publish annual reports for transparency.
18. Review and refine the impact survey.
19. Facilitate integration with clinical trials data to better understand impacts.
20. Improve data linkage with the Medical Devices Fund.
21. Improve linkage with other government databases.
22. Improve response rate for impact surveys.

Overview

Program background

The Office for Health and Medical Research (the 'Office') established the NSW Health Commercialisation Training Program (the 'Program') in 2014. The purpose of the Program is to develop the capability and capacity of the NSW life sciences sector to introduce innovative health solutions to the marketplace. The need for the Program was identified during the first year of implementing the NSW Medical Devices Fund. The Program is funded by NSW Health, managed by the Office, and delivered in partnership with Cicada Innovations.

The aim of the program is to develop the skills and knowledge required to commercialise products of health and medical research. The Program provides education and training to researchers, scientists, clinicians, entrepreneurs, intrapreneurs and those in the health sector who are working to commercialise a novel medtech or biotech product or idea. Initially supporting medical device commercialisation only, over time the Program has expanded to cover additional specialisations. This was in recognition of the Program's success and outreach in the sector, and an understanding that other health and medical specialisations have unique commercialisation pathways. The Office expanded the Program in 2020 to include specialisations in therapeutics, software as a medical device, and diagnostics, in addition to medical devices.

The Program is designed to provide the necessary skills and knowledge to develop from early concepts all the way to market entry, and on to becoming sustainable commercial entities.

Program objectives

The Program aims to address four key requirements essential for commercialising health and medical research in NSW, specifically:

1. Address **skill and education gaps** in commercialising medical devices, diagnostics, therapeutics, and digital health technologies in NSW.
2. Fill a **funding gap** in the NSW health and medical research commercialisation pipeline.
3. Develop the **health technology commercialisation ecosystem** in NSW to attract investment to NSW.
4. Bridge a **gap between researchers and industry** to create faster solutions for patients.

To meet these needs, the aims of the Program stated in the program logic are:

1. Build commercialisation capability in medical devices, diagnostics, therapeutics, and digital health in NSW.
2. Increase awareness, readiness and capability of entrepreneurs to access public and private funds for medtech and biotech commercialisation.
3. Enhance the expertise and knowledge available to health technology entrepreneurs for establishing and growing new businesses.
4. Increase researchers' knowledge of industry stakeholders and build networks between researchers and industry.

Scope and evolution of the Program

The Program operates on annual cycles and is provided free of charge to NSW participants.

- The Program was piloted from June 2014 to June 2016. The Medical Devices Commercialisation Training Program (MDCTP) began in October 2016 and ran for four years until October 2020. There was overlap with the COVID-19 pandemic over the last six months of that final year.
- The Program was redeveloped in 2020 and expanded to add software as a medical device, diagnostics, and pharmaceuticals and therapeutics to the existing medical device training. To reflect this change, the Program dropped the reference to Medical Devices, changing from being called the Medical Devices Commercialisation Training Program to the NSW Health Commercialisation Training Program.
- Following an open tender, a four-year contract was awarded to Cicada Innovations to provide services from 2021-22 to 2024-25.
- The Program runs to a financial year and there have been nine annual rounds since inception.
- Each cycle consists of 11 training modules that are focused and relevant to fast-track

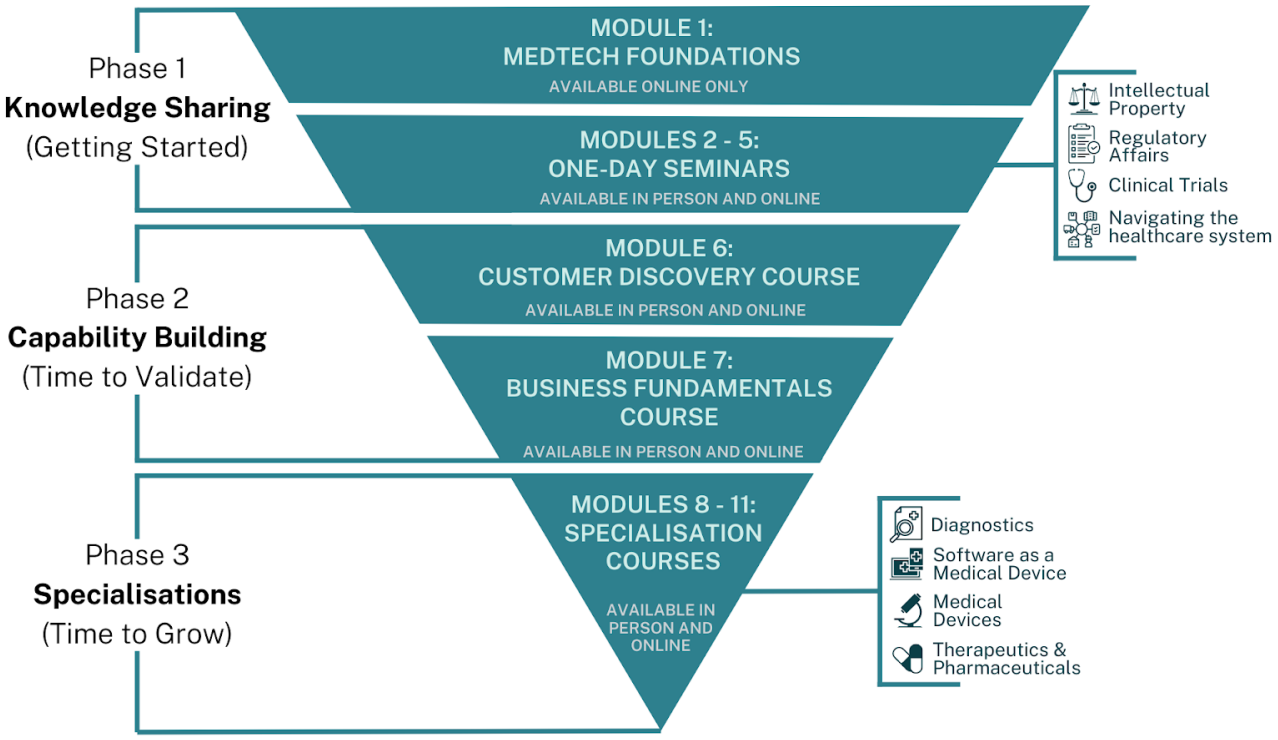
the initial three phases of a typical commercialisation journey (**Figure 1**):

- **Phase 1**: assessing an idea and clearly outlining its commercial potential.
- **Phase 2**: commercial validation through in-depth customer and market discovery to inform technical validation through (pre-)clinical trials and build foundations to create innovation businesses.
- **Phase 3**: grow early-stage businesses, secure growth funding and attract skilled staff to commence the regulatory approval process, scale operations and ultimately enter the Australian and/or global markets.

To encourage diverse attendance and support the greatest level of accessibility to participants, all seminars and courses are offered both in-person and online except for Medtech Foundations, which is offered as an online course only.

Detail on course format, length, and content are presented in **Table 1**.

Figure 1: Program seminars and courses (2021-25)



Program governance

The Program is managed by the Office and implemented by Cicada Innovations.

The work required to implement the Program is significant and includes advertising the Program, managing the application and enrolment processes, deciding on course content and securing speakers, logistics and facilities, the actual running of sessions, and reporting. Cicada attributes 535 days to the program per annum, with the largest contributors being the Program Manager (0.75 FTE), Program Support (0.59 FTE), and Group Executive (0.37 FTE). Additional support and leadership is provided by the Cicada CEO and other executives, Communications Manager, Social Media Specialist, Visual Assets, and Event Space Manager. Staffing levels vary depending on the phase of the Program.

Cicada is in direct contact with the Office, sometimes daily, to ensure the Office is informed and consulted on any decisions required. In addition to regular emails and phone calls, fortnightly project meetings are held between the Office and Cicada program teams. Cicada provides secretariat for these meetings, providing meeting notes and

action plans. Meetings are typically held virtually but include some face-to-face meetings throughout the year.

Cicada provides detailed annual reports that measure satisfaction with seminars and courses, and the impact of the Program, mapped to the 2021 Program Logic. These annual reports are not published by either organisation.

The Program does not have a dedicated advisory committee. Strategic direction for the Program comes from the Office and Cicada executives.

Table 1: Seminar and course details

Name	Type	Length	Content
Medtech Foundations	Online primer	Approximately 10 hours of online content	Fundamentals of commercialising an innovation; principles of lean startup; validating your idea; building your value proposition; customer and stakeholder engagement techniques; analysing your potential market; assessing your competitors.
Clinical Trials	Seminar	8 hours	Establishing a clinical trial; managing, monitoring, reporting; Good Manufacturing Process (GMP) and quality; working with clinical trial Contract Research Organisations and consultants; research and development tax incentives; clinical trial support in NSW, and lessons learnt from previous clinical trials.
Intellectual Property (IP)	Seminar	8 hours	What is IP and why is it important; IP protection options and practical implications; patents, trademarks and design rights; contracts and agreements; litigation; relationship between IP and business strategy.
Navigating the Healthcare System	Seminar	8 hours	Information on health system operation and complexity, specifically NSW Health, private healthcare, primary care, allied health, aged care and NDIS; practical and constructive education on how to interact with these systems for greatest effect.
Regulatory Affairs	Seminar	8 hours	Introduction to Regulatory Affairs; understanding key markets and regulators; two key sessions on Therapeutics & Pharmaceuticals, Medical Device, Diagnostics, and Software as a Medical Device Regulation.
Customer Discovery	Course	Seven 8-hour days over seven weeks	Understanding Business Model Canvas; pitching and business cases; customer and market segmentation; market analysis; sourcing funding; stakeholder management; negotiation techniques; identifying and securing mentorship; identifying, recruiting and managing critical staff. Includes practical experience at giving elevator pitches, customer interviews, and meeting with venture capitalists, as well as introductions to mentors and group pitching sessions.
Business Fundamentals	Course	Three consecutive 8-hour days	Legal essentials for starting a business; developing your IP strategy; business insurance; communication strategy; building and incentivising teams; health economics; principles of reimbursement and pricing strategy; business models and sales; finance; partner management; dilutive and non-dilutive funding options. Includes half-day mentor introductions and sessions.

Diagnostics	Course	Initially three consecutive 8-hour days but modified in Cycle 3 to become one eight-hour course, plus registration to the Pathology Technology Australia Academy and additional day of online coaching	The *in vitro* diagnostics landscape; understanding Quality Management Systems; regulatory preparation and risk; identification and approach to market; pricing and reimbursement; market segmentation and entry; manufacturing considerations; business planning; risk management; market exit; securing funding; IP for diagnostic technology.
Medical Device	Course	Three consecutive 8-hour days	Medical technology; patents and value; commercialisation journeys; introducing products to markets; regulatory strategy for global markets; medical device quality management systems; clinical trials and Good Clinical Practice; market considerations for the United States; reimbursement models and pricing; funding; risk management; manufacturing and supply chain; design controls; venture capital strategy; developing and incentivising teams. Includes half-day mentor introductions and sessions.
Software as a Medical Device (SaMD)	Course	Three consecutive 8-hour days	Defining SaMD; product design and development for SaMD; challenges and pathway options in SaMD for Regulation with the Therapeutic Goods Administration; Quality Management Systems and International Regulation; health data privacy and security; pricing; funding and investors; business models; evaluating digital health; building partnerships. Includes half-day mentor introductions and sessions, and Q&A with CEO of SaMD company.
Therapeutics and Pharmaceutics	Course	Three consecutive 8-hour days and half day pre-course workshop	Therapeutic product development; commercial considerations; formulation; quality; GMP; stability and manufacturing considerations; pre-clinical considerations; practical tips for successful drug development; clinical trials and drug safety considerations; US regulatory considerations and preparing for US Food and Drug Administration (FDA) meetings; business strategy; Australian regulatory processes; healthcare and market access strategy; IP and partnership strategies. Includes half-day mentor introductions and sessions.

Evaluation purpose and scope

The Office conducts formal evaluation of its projects and programs to assess their impact and value to NSW. The Office's Reporting and Evaluation Framework sets out the approach to undertaking evaluation and the six domains of research 'benefit' that are used to structure reporting (**Figure 2**).

Figure 2: Domains of performance

The purpose of this evaluation is to assess the success of the program to date, and to inform decisions about the future of the Program. Within these main purposes, the evaluation aimed to identify any areas for improvement in how the Program is run, how it can best support participants in acquiring the intended skills, and what the value of the Program is to NSW. These aims are reflected in the nine key evaluation questions that examine the processes, outcomes, and economic impact of the Program (**Table 2**). The evaluation questions were informed by the program logic for the Program (**Appendix 1**), and engagement with Program staff and key stakeholders.

The scope of the evaluation covers the total period of the Program to date, specifically the Medical Devices Commercialisation Training Program (2014-20) and the NSW Health Commercialisation Training Program (2020-25). Due to the restructuring of the Program in 2020, and the quality and availability of data, the evaluation will focus on cycles 1-3 of the current commissioned block (2021-22, 2022-23 and 2023-24). The evaluation has included as much of cycle 4 (2024-25) as possible, noting that this is not complete until June 2025.

The evaluation scope included analysis of existing data held by the Office and data supplied by Cicada. Secondary collection of experiential data was required to report on the narrative of participation and outcomes of training. The methods that have been used in this evaluation include:

- document review
- analysis of application submissions
- pre-attendance surveys (S1)
- post-participation surveys (S2)
- 12-month impact surveys (S3)
- evaluation survey of past participant experiences (S4)
- analysis of Cicada course participation data and reports
- interviews with the Office Program team (Enterprise, Communications, executive)
- interviews with Cicada staff
- case studies of speaker and mentor experiences
- cost and funding analysis.

An evaluation plan was produced to document the scope and intent of the evaluation. An evidence matrix documented the measures of success and the evaluation methods used to investigate each evaluation question.

Complete details on the methods used, including survey sample and response data, is provided in **Appendix 2**. A list of data variables used in the evaluation and survey questions asked are presented in **Appendix 3**.

Table 2: Key evaluation questions for the 2025 NSW Health Commercialisation Training Program evaluation

Evaluation component	Key evaluation questions
Process evaluation	1. What was the reach and uptake of the Program among target audiences? 2. How well has Cicada delivered the Program? 3. How well has the Office managed the Cicada contract?
Outcome evaluation	4. What are the outcomes impacting the health technology ecosystem? 5. What are the individual achievements of participants who had enrolled in the Program? 6. How likely is the Program to achieve intended long-term outcomes?
Economic evaluation	7. What are the total costs of delivering the Program to date? 8. How likely is the Program going to generate a net social benefit for NSW? 9. What is the case for continuation of NSW funding in this space?

Program Innovations

The NSW Health Commercialisation Training Program is nationally recognised, receiving several hundred applications from people outside NSW during 2021-24. In response to this demand, the Program has been opened to paying participants from outside NSW. The course fees paid by these attendees are used to subsidise in-person attendance of participants from rural and regional NSW. Although the Program is also delivered virtually, in-person attendance is recognised as providing significant benefits, including by allowing participants to better build their networks with other innovators, industry representatives and mentors.

The out-of-state attendee innovation began in March 2024 and will be evaluated at the end of the first 12 months.

Findings

The Findings section presents the data used by this evaluation, stratified by evaluation stage and data source, followed by a summary of evidence stratified by the Office's domains of performance. The Conclusions section uses this information to answer the evaluation questions proposed in the Evaluation Plan, as well as stating recommendations for the future of the Program and how it can be improved.

Process evaluation

This section focuses on how the Program is being implemented and delivered, including a review of program governance and oversight, seminar and course application, enrolment, and attendance activity, and experiences of attending.

Program governance

Program governance was evaluated by a review of records kept by both the Office and Cicada, supplemented with interviews of Program staff from both organisations. This included review of tendering processes, contract management (including meeting frequency, recording of minutes, progress against action logs, contract variations), achievement against contracted deliverables, and delivery consistent with the Program's stated guidelines.

Tender processes

The Program was established to address a capability gap identified after the first round of the NSW Medical Devices Fund. ATP Innovations (renamed as Cicada Innovations in 2016) were directly awarded the contract to supply a pilot year in 2014 and then extended for another year in 2015. In total, the pilot period for the Medical Devices Commercialisation Training Program ran from June 2014 to May 2016 at a cost of $400,000.

Cicada Innovations were re-engaged in 2016 following an open tender to deliver the Program for four years from October 2016 to October 2020, at a cost of just under $3 million.

In 2021-22, the Program was expanded to other areas of need, including pharmaceuticals and therapeutics, software as a medical device, and diagnostics. A second open tender was conducted in 2021, with Cicada Innovations awarded the contract at a cost of $3 million.

Table 3 summarises key details about the tenders and contracts, including achievement against key quality metrics for tender best practice (NSW Health Procurement PD2014_044).

In all cases, a signed contract was available for review on the Ministry of Health's content management system. In the cases of the two open tenders, the evaluation plan and the evaluation scoring were both available. The outcome of the tender was not found published on either of the NSW government procurement websites.

Table 3: Tender quality metrics summary

Period	Tender type	Number of applicants	Evaluation plan	Evaluation had external members	Sum awarded	Signed contract	Published on govt websites
2014-15	Direct contract	n/a	n/a	n/a	$400,000	Yes	No
2016-20	Open	1	Yes	Yes	$2,918,891	Yes	No
2021-25	Open	2	Yes	Yes	$3,000,000	Yes	No

Contract deliverables

This evaluation reviewed contracted deliverables for the Program to assess compliance with the contract. This was only possible for the current Program as NSW Health procurement policy sees the automatic destruction of contract documents that are more than seven years old. As the Medical Devices Commercialisation Training Program was signed in 2016, some of the key documents are not available for this review.

Table 4 shows the contract deliverables for the agreement between the Office and Cicada, executed on 11 June 2021 and expiring 30 June 2025. The table shows that all deliverables to date have been supplied within each annual period.

Table 4: Contract deliverables for the CTP 2021-25

	2021-22	2022-23	2023-24	2024-25
Clinical trial seminar	Met	Met	Met	Met
IP seminar	Met	Met	Met	Met
Regulatory affairs seminar	Met	Met	Met	Met
Navigating the healthcare system seminar	Met	Met	Met	Met
Customer discovery course (7 days)	Met	Met	Met	Met
Commercialisation workshop*	Met	Met	Met	Met
4 x specialisation workshops	Met	Met	Met	Pending
Milestone report**	Met	Met	Met	Met
Annual report	Met	Met	Met	Pending

* Replaced by Business Fundamentals course
** Milestone reports are interim reports provided throughout the year to update the Office on attendance and experience results.

Variations to contract

The following variations to the Program were recorded:

- Program access to participants from outside NSW: the purpose of this variation was to agree that participants outside NSW could pay to participate in the Program. The variation provides a price scheduled per seminar or course and a maximum number of non-NSW participants. The period of the variation was 25 March 2024 to 31 July 2024. The variation was signed by both parties and archived in the Ministry of Health's content management system. This variation was subsequently extended to 31 July 2025.
- Program contract extension: One year extension of the Program to provide services for 2025-26 (Cycle 5). The extension was not provided for under the existing contract but was a professional service provision approved by the Ministry's Legal and Regulatory Services and approved by the Chief Procurement Officer. The variation was signed by both parties and archived in the Ministry's content management system. This extension also allows the findings of this evaluation to be taken into account for the next tender cycle.

Applications

There are three processes to enrol in the Program, depending on the educational session attended:

- Medtech Foundations: this online course includes up to 10 hours of content. Access to this material is via a link on the Cicada website. The website requests name and email address, then allows unconstrained access to the online training.
- Seminars: people are asked to register their interest for the seminars as they typically occur only once per year. The registration includes name, email address, role, and the seminars or course they are interested in attending. There are 80 tickets available to attend in person (on a first come basis) but an unlimited number for online attendance.
- Courses: applicants complete an expression of interest to apply for courses to demonstrate their appropriateness and readiness to participate. Cicada uses this information to make recommendations for who should be enrolled in courses to the Office. Concordance between the Cicada and Office views on who should be enrolled in courses has been extremely high (in excess of 95%).

Table 5 presents the number of applicants, attendees and acceptance rate for cycles 1 to 3. Cycle 4 data was not available at the time of producing this report.

Table 5: Commercialisation Training Program seminar and course applications and attendance, by year

Seminars and courses	Registrations/Applications			Attendees			Participation rates		
	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24	2021-22	2022-23	2023-24
Clinical Trials	218	182	167	142	98	97	65%	54%	58%
Intellectual Property (IP)	258	160	132	75	93	91	29%	58%	69%
Navigating the Healthcare System	218	193	240	142	85	103	65%	44%	43%
Regulatory Affairs	161	157	156	94	94	106	58%	60%	68%
Totals seminars	**855**	**692**	**695**	**453**	**370**	**397**	**53%**	**53%**	**57%**
Customer Discovery	32	46	41	23	12	33	72%	26%	80%
Business Fundamentals	53	46	46	23	29	33	43%	63%	72%
Diagnostics	28	22	11	16	13	6	57%	59%	55%
Medical Device	33	31	30	15	14	24	45%	45%	80%
Software as a Medical Device (SaMD)	46	30	38	20	15	26	43%	50%	68%
Therapeutics and Pharmaceutics	45	13	36	19	12	22	42%	92%	61%
Totals courses	**237**	**188**	**202**	**116**	**95**	**144**	**49%**	**51%**	**71%**
Totals all	**1092**	**880**	**897**	**569**	**465**	**541**	**52%**	**53%**	**60%**

Note: 'Registrations' are numbers of people signed up to attend a seminar, while 'Applications' are those who submitted the form to participate in a course (that is, not just those who completed the expression of interest for the course).

Applications and attendee numbers for 2024-25 (Cycle 4) were not available when this report was produced.

Attendance

Since 2014, 1177 individuals have attended one or more seminars or courses for the Program. As individuals can attend more than one course or seminar, there have been a total of 2584 attendances, 1009 during the Medical Devices Commercialisation Training Program (2014-20) and 1575 during the Commercialisation Training Program (2021 onwards). A further 765 individuals used the online Medtech Foundations course to improve their knowledge or prepare to take part in Program courses.

Annual attendance for the Medical Devices Commercialisation Training Program was lowest in the pilot years (2014 and 2015) and increased steadily over the next three years as the Program became better known and more seminars and courses were added (**Table 6**).

Table 6: MDCTP total attendance, by year

2014	2015	2017	2018-19	2020	Total
20	13	179	301	496	1009

Note: Participation numbers are taken from annual reports provided to the Office.

Annual attendance for the NSW Health Commercialisation Training Program varied by seminar and course, with as many as 142 attending the most popular seminars and 33 attending the largest courses (**Table 5**). On average, more than a hundred people attended each seminar over the past three Program years (n=102). The Clinical Trial seminars are most popular (average n = 112), followed by Navigating the Healthcare System (n=110), Regulatory Affairs (n=98) and Intellectual Property (n=86).

The Business Fundamentals course was most popular over the past three years (average n=28), followed by Customer Discovery (n=23), Software As a Medical Device (n=20), Medical Devices (n=18), Pharmaceuticals and Therapeutics (n=18) and Diagnostics (n=12). Cycle 3 saw large increases in the number of people enrolled in courses, up 26% from Cycle 1 and 50% from Cycle 2. This was largely driven by an increase in the percentage of applicants accepted for the course, increasing from an average of 50% in Cycle 1 to 56% in Cycle 2 and 69% in Cycle 3. All courses saw their largest attendance numbers in Cycle 3, except for Diagnostics, which decreased from 16 enrolled in Cycle 1, to 13 in Cycle 2 and 6 in Cycle 3. Due to low numbers of suitable applicants, the Cycle 3 Diagnostics course was restructured to comprise a one-day online course, with access to the Pathology Technology Australia Academy one-day course, and additional free online coaching over another day.

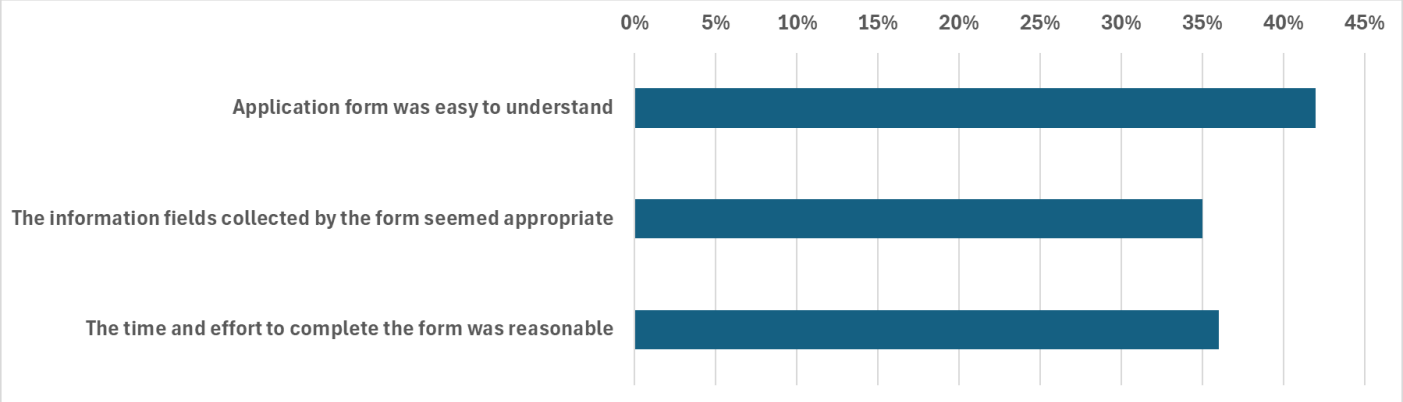
Experiences of applying

The Office conducted a survey of past Program participants to support this evaluation. Survey respondents represented all seminars and courses, as well as all Program years since 2014.

Participants were asked how they first heard about the Program. The most common source was the Cicada newsletter, with 27% of respondents saying this was their first introduction to the Program, followed by word of mouth (15%), referral to the Program (13%), social media (11%), and through the Office's newsletters and website (10%).

Participants were asked about the enrolment process, and almost everyone found it easy to understand, the information collected to be appropriate, and the time and effort reasonable – more than 95% of respondents 'agreed' or 'strongly agreed' with each statement. When reviewing just those who 'strongly agreed', the ease of the application form scored highest (43%), followed by reasonable time and effort (36%) and appropriate information collected (**Figure 3**).

Figure 3: Respondents 'strongly agreeing' with application process (n=125)



Information provided to participants was also rated highly, with 61% saying it was communicated 'very well' and another 31% saying 'well' (**Figure 4**). Thirty per cent reached out to Cicada with additional questions before their seminar or course began, and 89% said Cicada responded promptly (**Figure 5**).

Figure 4: Cicada communication of enrolment information (n=124)

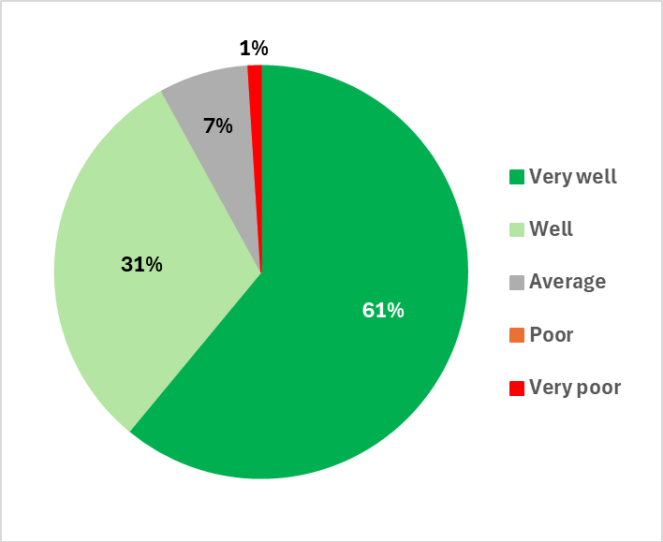
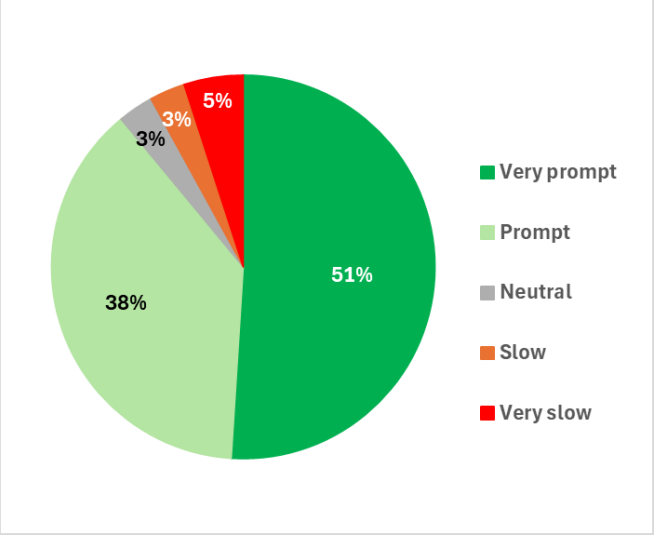


Figure 5: Cicada responsiveness to enrolment questions (n=37)



Attendance outcomes

During each cycle, some attendees do not complete their course, typically due to course length, work requirements, or not being ready to commercialise. For most courses, this was negligible but significant numbers were observed for the Customer Discovery course, which runs over seven weeks. In 2021-22, 23 people were accepted to the course and 13 completed it. Of the ten that did not complete the course, the most common reason was that they did not feel ready or comfortable to participate in the Idea Review Panel in session 6. This is an opportunity to pitch ideas to mentors for feedback from experienced individuals on how to proceed with their commercialisation. Two others dropped out for health reasons and another because of competing work demands.

Rating of seminar and course quality

The key metric used to assess the success of seminars and courses in the current phase of the Program is the Net Promoter Score (NPS). This score is based on whether the participant is likely to recommend the course to people they know. Calculation of the NPS is the percentage of **promoters** (those rating the likelihood that they would recommend the course as a 9 or 10 out of 10) **minus** the percentage of **detractors** (those rating likelihood to recommend as 0 to 6 out of 10). This gives the score a range from +100 (best) to -100 (worst). A score of +80 is regarded as 'world class' and a score of +50 regarded as 'excellent'.

Table 7 presents the NPS for each seminar or course since the revised Commercialisation Training Program began in 2021-22

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Table 7: Net Promoter Score for Cycle 1-4 courses and seminars

Module	Cycle 1	Cycle 2	Cycle 3	Cycle 4
Intellectual Property Seminar	86	34	69	67
Clinical Trials Seminar	61	70	55	88
Regulatory Affairs Seminar	77	47	62	61
Navigating the Healthcare System Seminar	83	60	64	68
Customer Discovery	82	83	89	87
Business Fundamentals	89	69	93	91
Diagnostics Specialisation	75	100	100	
Medical Devices Specialisation	60	73	79	
Pharmaceuticals and Therapeutics Specialisation	100	100	82	
Software as a Medical Device Specialisation	60	91	71	

Across all course participants of the current Program, 85% rated the likelihood of recommending the course to friends and colleagues as a nine or ten out of ten and only 2% rated the likelihood as six or less, giving an average Net Promoter Score of 83% for courses. For seminars, 68% of participants said the likelihood of recommending to friends and colleagues was a nine or ten and 4% said the likelihood would be six or less, giving a NPS of 64%.

Attendees also answered questions about how well the Program content addressed the course objectives, the balance of relevant theoretical content and hands-on experience, the relevance of course content, and whether speakers were able to communicate Program content and key concepts clearly. These questions were asked of all seminar and course participants in Cycles 2 and 3 and achieved high agreement, ranging from 89% to 99%. In both years, the content addressing course objectives scored highest and relevance of course content scored lowest.

Composition of attendees

Over time, the composition of people attending the Program has changed. In 2014, attendees were exclusively from universities and they were wanting to develop skills to support company establishment. In 2015, the total number of attendees was increased and additional representatives from independent Medical Research Institutes (iMRIs) were included.

By 2023-24, only a third of the Program's attendees were from Universities or Medical Research Institutes. Participants from pharmaceutical, medtech, or digital health technology companies had increased to comprise another third (36%), and the remaining third were a mix of clinicians, government employees, venture capital investors, and clinical trial operators (31%).

Rurality of attendees

Providing effective healthcare to rural areas often requires different solutions to providing it to high-density urban zones. Distance, access to services, and reduced connectivity has resulted in worse health outcomes for many people. The Office seeks to facilitate health and medical research from regional areas that might address these inequities. This extends to access to education and training, such as this Program provides.

Data on the rurality of attendees is not available for the Program for 2014 to 2020. Postcode information was collected from Cycle 1 onwards although

rurality analysis was conducted at 'region' level,[1] which is limited due to postcodes including areas of different rurality within the same postcode. This analysis concluded that there were 9.3% of attendees identified as coming from rural NSW in Cycle 1, increasing to 13.3% in Cycle 2, and back down to 9.6% in Cycle 3.

This evaluation reviewed postcode data attributed to rurality using the Modified Monash Scale[2] and found 3.6% of course attendees and 3.9% of seminar attendees reporting a rural, regional or remote postcode.

Gender of attendees

The Program has collected information on the gender of attendees since 2021 (Cycle 1) for courses and 2022 (Cycle 2) for seminars. A larger percentage of female participants is seen for the seminars, averaging 56.6% of attendees (**Table 8**). The inverse is seen for courses, where 59.6% are male. As participation in the courses is decided based on applications, this might suggest some bias in selecting participants based on gender. However, this pattern is consistent with rates seen in the expression of interest and application phases.

Table 8: Attendance rates by gender

	Courses			Seminars	
	Cycle 1	Cycle 2	Cycle 3	Cycle 2	Cycle 3
Female	42%	39%	45%	55%	58%
Male	58%	61%	54%	44%	40%
Non-Binary	0%	0%	1%	0%	0%
Prefer not to say	0%	1%	1%	0%	1%

Aboriginality of attendees

The Program has not collected information on the Aboriginal status of attendees. The evaluation survey did ask this question and only one respondent said they were Aboriginal (1% of respondents).

Project management – record of meetings

A random selection of Program meetings between the Office and Cicada were audited to assess the quality of this project management approach.

Cycle 1 meetings were large meetings, with up to five Office staff and five Cicada staff. The level of attendees was high and included the Executive Director and two Directors from the Office, as well as the Chief Executive of Cicada. This was principally due to the establishment of the new Program, and included the program strategy, marketing strategy, program governance, reporting, and stakeholder engagement. After several meetings, organisational executives stepped back and participant composition changed to just the program teams, which included communications leads from the Office.

The frequency of meetings from Cycle 2 onwards was fortnightly. Meeting notes were kept for all meetings reviewed. Actions were integrated into meeting notes, with records kept on items for approval. Action planning tables were included from the beginning of Cycle 4, noting description, lead organisation, and notes.

Alignment to NSW strategy and policy

The Program was established after the release of the NSW Health and Medical Research Strategic Review (2012) and in response to the first year of the Medical Devices Fund (2014). The Strategic Review established a 10-year plan to strengthen and improve research and the research ecosystem in NSW through two overarching strategies and 11 themes. The aims stated in the 2021 program logic have been mapped to the 2012 strategy for the purpose of understanding alignment of the Program to the relevant strategy. In summary, all aims from the program logic map to a strategy or theme in the 2012 strategy (**Table 9**).

[1] https://www.nsw.gov.au/education-and-training/resources/smart-and-skilled-regions

[2] https://www.health.gov.au/topics/rural-health-workforce/classifications/mmm

Table 9: Commercialisation Training Program - program logic (2021) mapped to 2012 Health and Medical Research Strategic Review

Health and Medical Research Review 2021	Program logic 2021
Strategy 1: Foster translation and innovation from research	
Theme 1: Encourage research and innovation in health services	Aim 4: Embed research into the health system
Theme 2: Leadership in clinical trials	
Theme 3: Maximise the use of research in policy, practice and health service delivery	Aim 2: Encourage and support the discovery and application of new treatments and techniques to improve patient outcomes
Theme 4: Focus intellectual property expertise	
Theme 5: Support early-stage venture capital	
Strategy 2: Build globally relevant research capacity	Aim 1: Build medical device, diagnostic, therapeutics and digital health capacity in NSW
Theme 6: Enhance health and medical research hubs and collaboration	Aim 3: Grow and maintain the health technology ecosystem in NSW
Theme 7: Strengthen the research workforce	Aim 3: Grow and maintain the health technology ecosystem in NSW
Theme 8: Improve research infrastructure support	Aim 3: Grow and maintain the health technology ecosystem in NSW
Theme 9: Build and optimise the use of shared research assets	
Theme 10: Leverage all investment sources	
Theme 11: Improve NSW Health research administration	

In 2024-25, NSW Health engaged with key stakeholders and leaders in health and research fields to develop the next ten-year plan, the NSW Health Research and Innovation Strategy. As this document will set the research direction for NSW Health for the next decade, we have mapped the aims of the updated program logic (mid-2024) to the six strategic directions in the Strategy. Overall, the mapping of the updated program logic aims is more focused in the new Strategy (**Table 10**).

Table 10: CTP program logic (2024) mapped to 2024-25 NSW Health Research and Innovation Strategy

Research and Innovation Strategy 2024-25	Program logic 2024
A thriving ecosystem – Adopting a coordinated, collaborative, and inclusive approach to research and innovation	Aim 4: Increase researchers' knowledge of industry stakeholders and build networks between researchers and industry.
Strategic investment – Building a portfolio of investment to target areas where NSW is well positioned to harness current and future opportunities	
An open assets philosophy – Developing and mobilising assets to accelerate research and fully harness emerging innovations	Aim 2: Increase awareness, readiness and capability of entrepreneurs to access public and private funds for medtech and biotech commercialisation.
A place-based foundation – Driving synergies and integration through a statewide network of precincts and place-based initiatives	
A pipeline approach – Generating value from our research investments by addressing real system problems and progressing innovation to scale	Aim 1: Build commercialisation capability in medical device, diagnostic, therapeutics and digital health technologies in NSW. Aim 3: Enhance the expertise and knowledge available to researchers and entrepreneurs for establishing and growing new businesses. Aim 4: Increase researchers' knowledge of industry stakeholders and build networks between researchers and industry.
Research and innovation for all – Supporting better use, translation, and creation of research and innovation across healthcare settings to improve outcomes, equity of access, and system efficiency	

Experiences of speakers and mentors

The following case studies highlight the experiences of speakers and mentors providing their knowledge and expertise to the Program.

Case Study 1: Adjunct Professor Alison Todd, Founder and Chief Scientific Officer, SpeeDx Ltd

Biography

Alison Todd spent 20 years in the pharmaceutical industry then, in 2009, became co-founder and Chief Scientific Officer of SpeeDx Pty Ltd, an Australian molecular diagnostics company with headquarters in Sydney and subsidiaries in the UK and USA. Alison has been granted over 200 patents for her inventions for SpeeDx and has developed and optimised a range of novel diagnostic testing kits and taken them through regulatory processes to sell them globally. The company's advanced manufacturing facility at the National Innovation Centre in Redfern, Sydney, produces the kits, some of which help clinicians tailor and monitor therapy for patients with cancer or infectious diseases. Alison is also an Adjunct Professor at the University of New South Wales and recipient of numerous awards.

Program involvement

Alison received two Medical Devices Fund grants from the NSW Health Office for Health and Medical Research (2014 and 2017). This led her to establish professional relationships with staff from the Office. Alison recalls that the Office generously offered commercialisation guidance and support to people like her, who had good ideas with good potential but lacked sufficient business and entrepreneurial skills for commercialisation. To meet this need, the Office developed the Commercialisation Training Program. When it was launched in 2014, the Office invited Alison to become a facilitator. Since 2014, Alison has presented at many courses for the Program to share her professional, learned and lived experience as an inventor and co-founder of a biotechnology company.

REFLECTIONS

These were specific to the Program and related to:

Commercialisation considerations

Alison reported that the Program benefits participants by engaging facilitators who can share personal commercialisation experiences.

"Facilitator's stories can help participants find solutions for their pain points and stay afloat while they grow their business and in-house capabilities, and/or raise more capital. For example, during the training, I explain that with SpeeDx, we did not initially have capacity to develop and manufacture regulatory-approved diagnostic kits. Instead, we out-licenced our intellectual property and co-developed products under contract. The company we worked with took care of the manufacturing and regulatory processes, while we received upfront licencing fees and later, royalties on their sales of their final product. At another point in time, using a different business model, SpeeDx provided components for tests which were validated for clinical use by the purchaser, which is like selling ingredients for a cake mix to a licenced manufacturer so they can bake and sell the cake (the completed tests). Students find this information very helpful."

Presentations and funding procurement

Alison highlighted the important role that the Program plays in helping early-stage biotechnology startups understand alternative pathways to raising initial capital and continuing to raise capital to scale up. As a facilitator in the Program, she teaches participants about different forms of non-diluted funding, such as grants, while guiding attendees in how to improve their skills in writing grants and seek feedback on grant applications so that they can improve their next application.

Group networking and professional connections

When facilitating the Program, Alison observed the participants developing peer relationships that enabled them to discuss challenges, share knowledge and celebrate wins. Some of these relationships have sustained beyond the course as group members continue to network, troubleshoot and share opportunities.

Mentoring

Fulfilling the Program course requirement to find a mentor provides ongoing benefits of support for participants far beyond the course. As a facilitator, Alison also mentors former participants in an ongoing and 'as needs' capacity. This has increased her mentoring skills, which she currently applies to mentoring late-stage PhD students to support them in their early and mid-careers.

Alison acknowledged the many positive domino effects of participants connecting with Cicada Innovations, the technology incubator that runs the Program courses. After the Program, some participants then rent their office space, hotdesking

at the Cicada building where participants may work on their business plan, access labs, meet others in the sector (which can lead to collaborations) and seek advice from Cicada staff, who also inform them of grant and other funding opportunities.

Career and presentation opportunities

Alison emphasised the enduring benefits of teaching pitch-deck creation and presentation. This course content ensures that the Program participants learn to present a compelling story to potential investors and are clear and concise about the financial 'ask' and the estimated length of the development and commercialisation process. Alison also affirmed that participant questions and discussions contribute to her own ongoing knowledge acquisition and sometimes prompt her to conduct further research to answer queries. As a result of teaching the Program, Alison has developed a good understanding of the range of courses on offer and often recommends the Program to people she meets in the health sector.

IMPACTS

The benefits of the Program are summarised using the Office's six Domains of Performance:

1. Knowledge advancement

Alison credited the Program with increasing knowledge acquisition of participants via content presented by facilitators with wide-ranging expertise and first-hand experiences in areas such as patenting, regulatory approvals and manufacturing. These facilitators enhance critical thinking by guiding attendees to ask important business questions such as: is my idea viable, do-able and commercial enough, is the product meeting patient, payer and user needs, is it something that can be approved through the regulatory steps, can it be scaled up and can it be financed long enough to make it viable in the long term?

2. Capability building

The course builds capability by providing participants with knowledge and skills to map out their entire development and commercialisation process. Alison observed that this ensures participants learn how to plan ahead for evolving needs when raising capital, meeting regulatory requirements, making manufacturing decisions and scaling up their product from bench to bedside.

3. Policy and practice

By guiding startups in how best to research and improve their novel treatments and diagnostics, healthcare policy and practice may change because of the data and products they bring to market.

4. Health and community impact

Alison highlighted that the Program content supports progression towards commercialisation by helping participants to understand how to minimise delays and obstacles. This supports bringing novel treatments and diagnostics to market sooner, therefore benefiting patients and patient outcomes sooner. She recognises that advanced therapeutics offer many potential benefits to the community, including more personalised medicine, more effective treatments, and even addressing issues such as increasing antimicrobial resistance.

5. Economic benefit

Alison cited the creation of new job opportunities and the investment that participant startups can bring to NSW, as important economic outcomes of the Program.

6. Sustainability

According to Alison, by informing participants about diverse options and approaches for different stages of the commercialisation pipeline, the Program provides support for startup sustainability.

"Facilitators help participants trouble-shoot and understand work-around solutions so that they can make more informed and sustainable business and commercialisation decisions. For example, I explain to my students that you can licence a technology by geography, by individual genetic target, and by instruments they're allowed to work on [with regards to intellectual property permissions]. Also, when you submit a provisional patent for an invention, that starts the clock ticking and 12-months to the day you must submit a Patent Co-operation Treaty application, the first step in protecting the invention world-wide. Students often feed back to me how helpful this kind of information is as it helps them find solutions to their commercialisation problems."

Feedback for improvements and future directions

Alison commented that the Program offers very high-quality commercialisation training, which is constantly being refined and improved. She also hoped that in the future the Program might be publicised more widely as it is of such great benefit to innovators developing novel treatments and diagnostic tools through startups.

Case Study 2: Dr Maryam Parviz, Chief Executive Officer and Co-Founder, SDIP Innovations

Biography

Maryam Parviz is a Bioengineer with a doctorate (PhD) in implantable electrodes and more than 15 years' experience in the Biomaterial field. In 2018, she became CEO and co-founder of a medical technology company called Safe Degradable Implant Platform (SDIP) Innovations. The company is producing the next generation of bone implants called JAZBI™. This safe, adaptable, novel form of biomaterial is made from synthetic polymers and ceramics, closely resembles the composition of real bone and stimulates bone regeneration before naturally biodegrading. This technology is of critical importance, given that global figures show a 33.4% increase in bone fractures, since 1990 - in large part because we are living longer, and more people are experiencing osteoporosis.

Program Involvement

Maryam attended the 2017 round of the Program, which was then a course that ran over three months and involved a full day of face-to-face training each week as well as ongoing tasks completed in the participants own time. Maryam signed up for the Program after hearing about it from the research commercialisation office at the University of Technology Sydney, where she was a post-doctoral researcher working in the Institute of Biomedical Materials and Devices and directly collaborating with two Sydney-based startups. In 2023 and 2024, she was invited to become a speaker and facilitator for the Program.

REFLECTIONS
These were specific to the Program and related to:

Commercialisation considerations

Maryam stated that the acquired knowledge she gained from the high-quality content of the Program and wide range of topics covered, guided her to make informed decisions about her own startup and payment models, more closely engage with stakeholders and consider the return for investors as well as the importance of Intellectual Property. The participants in her course also formed an entrepreneurial community that has continued to stay in touch, sharing support, information and work opportunities.

Presentations and funding procurement

Maryam recounted that prior to the Program she had limited understanding of different capital raising models and different backers for startups, such as angel, peer-to-peer and venture capital investors. She credited the coursework with teaching her how to raise capital and pitch more effectively to a variety of investors through presentations and different types of vehicles, such as Notes and Equity rounds. The Program also educated Maryam about different ways to calculate return on investment and return for her investors and consolidated these skills by setting practical tasks such as making those calculations in Excel spreadsheets.

In addition, Maryam acquired knowledge about other forms of capital, such as loans and grants, which led her to map out a plan to meet requirements to attempt to secure funding grants. She subsequently received two Medical Devices Fund grants from the Office for Health and Medical Research (awarded in 2020 and 2023), as well as an Accelerating Commercialisation grant (2021), and research and development tax incentives that she learned about due to the Program.

Group networking and professional connections

The Program required participants to meet with a diverse mix of around 100 potential consumers who included choosers, payers and users. This feedback process helped Maryam realise that her startup had incorrectly assumed that the selectors for her company's medical device were hospital staff, when they were in fact, the surgeons. This important understanding led Maryam to develop closer relationships with surgeons and seek their input on product design. Over seven years after completing the Program, she still receives feedback and advice from this professional network of clinicians and several of those surgeons frequently test the company's prototypes. Professional connections developed during the Program have also led Maryam to become aware of, and participate in, relevant startup events involving the NSW Ministry of Health, Cicada Innovations and related communities.

Mentoring

As a facilitator for the Program, Maryam informally mentors participants who reach out for advice and guidance. This experience has increased her confidence in mentoring and directly contributed to her accepting invitations to mentor for several programs including the University of NSW Founders and Impact X, the Federal Government Boosting Female Founders program, the Australian Clinical Entrepreneur Program , and internationally

mentoring founders such as the Rosenman Institute (at the University of California San Francisco) and Plug and Play Tech Centre (Warsaw, Indiana).

Career and presentation opportunities

Completion of the Program qualified Maryam and her company co-founder (who undertook the Program in 2018) to apply for an International Commercialisation Scholarship. Their successful application led them to be awarded almost $1 million by NSW Health and the University of California Rosenman Institute hub for innovation and entrepreneurship in the life sciences. From 2019 to 2022, they ran their company from the incubator in San Francisco, which led to connections with new investors and a network of US based clinicians. The new networks they forged there will assist with future commercialisation in the US.

Maryam also acknowledged that in her course group, the Program assisted some participants to secure employment involving commercialisation.

IMPACTS

The benefits of the Program are summarised using the Office's six Domains of Performance:

1. Knowledge advancement

As a direct result of knowledge acquisition from the Program, Maryam sought surgeon feedback to improve development of the formula and designs for her medical device. She also arranged to observe around 20 surgeries to provide insights to help her to modify the product to further improve patient outcomes and reduce surgery time. In addition, the learnings from the Program assisted Maryam to secure angel and grant investments and establish a Quality Assurance system.

2. Capability building

Maryam credited the Program with being the catalyst for her to refine the design of her company's medical device and create new product prototypes.

"Surgeons directly conveyed which kind of implants they wanted, what mechanical properties they desired and whether certain implants for different parts of the body would be more beneficial if they were harder, softer, more porous or a different shape. Through feedback from hospital users and payers, I also had the opportunity to learn how they are reimbursed for different item numbers which helped us make early design adaptions to ensure those item numbers would apply and assist our commercial appeal."

3. Policy and practice

By guiding Maryam to refine the company's medical technology, its product design changed so that it now aims to change future healthcare practice by reducing the number of revision surgeries that some patients need.

4. Health and community impact

Maryam reported that by increasing commercialisation knowledge and skills, the Program helps to place participants on a faster track to bringing products to market, which in turn, speeds up patient outcomes to medical technology that will improve health outcomes. Maryam also observed that participants in the course pass their learnings on to colleagues in their organisation, such as startups and departments at universities.

5. Economic benefit

The innovations and strategy that participating in the program helped Maryam make aim to provide economic benefits such as reduced surgery time, reduced revision rates, and meeting the criteria to qualify for healthcare rebates.

6. Sustainability

Understanding how to better raise capital, compile data, meet regulatory requirements and seek feedback from choosers, payers and users, were all important learnings from the Program which Maryam credited with improving the sustainability of her startup throughout the entire commercialisation pipeline. Maryam also observed that this knowledge acquisition led some participants of the Program to pivot and pursue an application for their product which would have higher impact on patient outcomes and greater commercial appeal.

Feedback for improvements and future directions

Maryam commended the flexible course options of the Program but would like to see the original three-month course re-instated for those who want more extensive and intensive commercialisation knowledge acquisition.

Outcomes

Skill acquisition

One of the principal objectives of the Program is to improve the capability of potential entrepreneurs in commercialising health technology. To understand the effectiveness of this work, the Office surveyed past participants of the Program from 2014 onwards, asking them about how they felt the Program improved their commercialisation skills.

Respondents were asked to say whether their skills had 'greatly improved', 'slightly improved', or there has been 'no change' over five statements:

Understanding the different pathways to commercialising health technology

- Evaluating and assessing potential customers or markets
- Understanding the different approaches to market
- Knowledge of ways to raise capital from public and private sources
- Ability to collaborate and form partnerships with other companies and organisations.

Across all seminar and course attendees, understanding the different pathways to commercialisation saw the greatest improvement, with 48% saying they 'greatly improved' and another 43% saying they 'slightly improved' (**Figure 6**). Evaluating markets and understanding different approaches to market both saw 43% of respondents say they 'greatly improved', followed by knowledge about raising capital at 26% and ability to form partnerships at 25%. Across the five skills, 69% to 91% saw some improvement. Skills relating to raising capital and forming partnerships having the highest rates of 'no change' (31% and 25% respectively).

When investigating the effectiveness of individual seminars and courses in improving these five skills, the survey showed that people who attended courses were more likely to say they saw 'great improvement' than those attending seminars (**Table 11:**). Attendees of the Customer Discovery course reported the greatest skill increase, followed by attendees of Business Fundamentals and Software as a Medical Device (SaMD).

At seminar and course level, the first three skills were most likely to see a reported improvement, while knowledge of ways to raise capital and forming partnerships were least likely to say this (**Table 12:**). However, variation can be seen across seminars and courses, depending on the focus of these. For example, 'evaluating customers and markets' was rated low for the Intellectual Property and Regulatory Affairs seminars, but this area of understanding was not specifically targeted by these seminars. Furthermore, approximately half of respondents attended more than one seminar or course, meaning that their assessment of skill improvement is across their whole experience of the Program. A secondary analysis was conducted of just those who attended a single seminar or course and the conclusions above still held, however small respondent numbers prevent reporting those results in the report.

Figure 6: Commercialisation skills 'greatly improved' by participating in the Program (n=123)

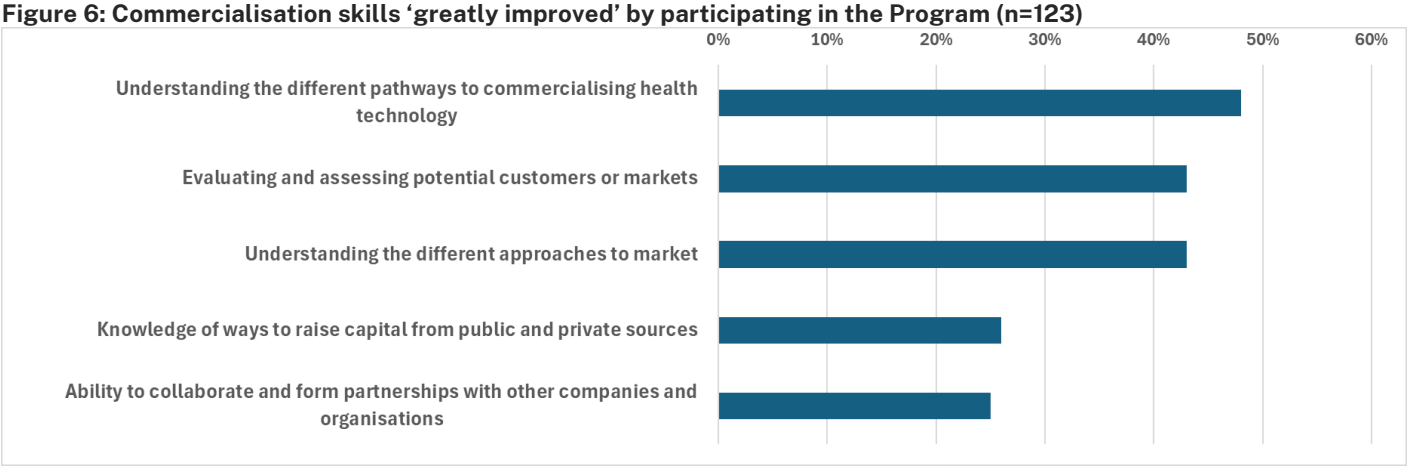


Table 11: Heatmap of the skills 'greatly improved' by seminar or course (formatted vertically by value)

	Understanding commercialisation pathways	Evaluating customers and markets	Different approaches to market	Knowledge of ways to raise capital	Collaborations and partnerships
Medtech foundations	50%	46%	46%	29%	22%
Intellectual property	41%	33%	45%	27%	16%
Regulatory Affairs	49%	36%	44%	23%	15%
Clinical trials	51%	44%	51%	31%	23%
Navigating the system	47%	44%	52%	27%	22%
Customer discovery	66%	72%	59%	45%	38%
Business fundamentals	70%	70%	65%	45%	25%
Medical devices	63%	78%	52%	33%	37%
Diagnostics	50%	50%	50%	50%	50%
SaMD	58%	37%	42%	47%	37%
Therap/Pharm	67%	50%	75%	50%	33%

Note: caution in advised in interpreting results for the Diagnostics group due to low response numbers (n=4).

Table 12: Heatmap of the skills 'greatly improved' by seminar or course (formatted horizontally by value)

	Understanding commercialisation pathways	Evaluating customers and markets	Different approaches to market	Knowledge of ways to raise capital	Collaborations and partnerships
Medtech foundations	50%	46%	46%	29%	22%
Intellectual property	41%	33%	45%	27%	16%
Regulatory Affairs	49%	36%	44%	23%	15%
Clinical trials	51%	44%	51%	31%	23%
Navigating the system	47%	44%	52%	27%	22%
Customer discovery	66%	72%	59%	45%	38%
Business fundamentals	70%	70%	65%	45%	25%
Medical devices	63%	78%	52%	33%	37%
Diagnostics	50%	50%	50%	50%	50%
SaMD	58%	37%	42%	47%	37%
Therap/Pharm	67%	50%	75%	50%	33%

Note: caution in advised in interpreting results for the Diagnostics group due to low response numbers (n=4).

Access to experts, mentors and support

Overall, 58% of respondents to the evaluation survey said that the Program had increased their access to expert advice, mentoring or support around commercialisation. Fifty-four respondents provided details on how this had improved, with the main effects being:

- 43% said their existing network had expanded, with more than half of those specifying industry contacts
- 13% said they had much more frequent engagement with experts due to the Program
- 13% said they received ongoing support from Cicada toward commercialisation
- 11% said their peer support network had expanded
- 11% said their confidence at engaging with experts had improved, allowing them to benefit more from these interactions
- 6% felt the Program had provided them with the knowledge to provide advice or mentorship to others.

The Program provided access to experts and mentors when many participants didn't know how to begin this.

> "Being able to connect with experts in the field who are able to [give] support or introduce to those who can, [and who] understand what support offerings are available through the government sector and other organisations. Not coming from the health sector, I didn't have an existing network of contacts or in some cases even know where to start looking."

The Program also provided access to support services, many of which the participants hadn't realised would be needed, or how they should be engaged.

> "The most useful aspect of the program was that it put us in touch with support services for establishing a company: accountants, lawyers, etc."

Comments established a common theme where relationships have formed between participants and speakers, many of whom have continued to provide support after the end of the course.

> "My network expanded greatly when I was doing the program. The key people I met … have become friends and valued mentors."

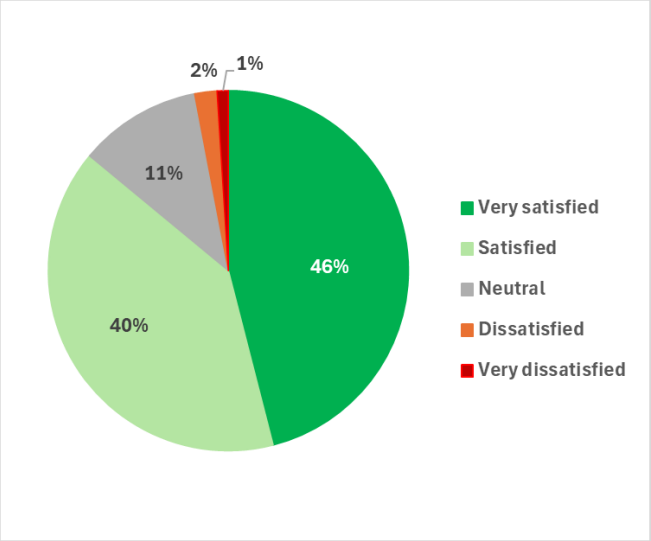
Several participants also spoke about the depth of learning provided by the early Program and the more intensive value obtained by smaller cohorts of attendees.

> "I undertook the Medical Devices Commercialisation Training Program when it was a 20-week program where we spent one day a week together with the cohort working on various issues. We would do homework and customer interviews between sessions. What was great about the course was the tight connections we formed with our peers, which continue today. It opened each of us up to accessing our respective networks, which we still utilise. For me, the course confirmed how important strong personal relationships are when navigating the uncertainties of an early-stage business. I now prioritise fostering those networks and referring colleagues through them to help develop new technologies."

Satisfaction with the Program

The evaluation survey asked participants to rate their satisfaction with their experience of the Program. Overall, 86% were satisfied with their experience (46% being 'very satisfied'), 11% were neutral and 3% were dissatisfied (**Figure 7**).

Figure 7: Overall satisfaction with the Program's experience (n=125)



The survey asked participants what the 'best thing' about the Program was – 89 people provided more than 140 comments on what they thought was best, with the main themes being:

- 34% said the quality of information provided was the best thing about the Program, with many saying that they are not aware of any equivalent educational program
- 33% said networking and establishing peer connections
- 30% said access to experts was most important to them, including speakers, mentors and industry leaders
- 22% said the fact that the Program was free made this knowledge accessible to people who would have previously been unable to obtain training or access to experts
- 16% praised the course design, as well as the content of sessions and another 10% said the Cicada staff brought the Program to another level.

Participants' comments provided insight into how positively the Program is perceived by most attendees.

> "The best thing about the Program is the opportunity to engage with experts and peers, exchange ideas, and thrive in a vibrant and supportive environment that fosters learning and growth."

> "The course provided essential foundational knowledge on medical research, clinical trial

regulations, and steps for intellectual property protection."

"The Program provided an avenue to meet and collaborate with likeminded participants and gave you access to a wealth of knowledge through presenters and program mentors. The opportunity to foster that network was invaluable."

The comments also speak to the value of connections made and relationships between both peers and speakers, and social and speaking skills that have improved through participation.

"I made friends with my fellow classmates in 2022. I remain good friends with some of them today. We still meet, about once a month, for drinks. These friends have connected me to other people and institutions. Also, the Program instilled a positive attitude in me - I'm more confident with presenting and speaking in public."

"Wide variety of quality speakers from all stages of the value chain and areas of the sector who are willing to stay around after and talk with startups to offer advice or recommend people to talk to - showing genuine interest and engagement."

"We liked the mentoring sessions but also the safe space for us to discuss with industry leaders on how to better address our commercialisation gaps and get to the market quicker."

Several respondents made mention of the Program providing a benefit to the NSW medtech sector and that the Program demonstrates the commitment of the NSW Government to developing this sector.

"The fact that the program is run is a huge support to get people into the sector."

"That it is government driven and that the government presence is strong and supportive. This is unique and special to NSW."

Several respondents also expressed direct gratitude towards Cicada for running the course, the quality of speakers and content, and for providing ongoing support and networking opportunities.

"Cicada run these courses very well and provide excellent access to industry leaders and mentors. The modular way these courses are run enable you to expand on knowledge learnt in previous modules. Being able to access this type of program for free is incredible."

"Proactive support from the amazing Cicada staff both in terms of the content and connections and the practicalities of attending the event – clear instructions, friendly people to make you feel welcome on arrival and willingness to provide additional support for accessibility needs."

The survey also asked respondents what could be improved on within the Program – 74 people made comments on what additional content would be useful, what was not at the level expected, and other suggestions for improvement. The most common request (15%) was increased support for identifying and securing funding for commercialisation. This reinforces the findings in the survey that skills on securing funding show the lowest rates of increase.

"I needed to find a potential mentor or investor to pitch to at the end of my project. Locating these individuals was quite a challenge. I wish there had been an opportunity for us to present our pitches in front of a group of potential mentors and investors."

Some suggestions made to assist this included running sessions to match participants with venture capital investors, a central website with details of prominent or interested venture capital investors and clinical trial Contract Research Organisations, or courses to support products up until they are ready to fully benefit from the Program.

"More access to capital to continue validated ideas. Many great ideas are well validated during the Program and founders are upskilled, only for this investment to be wasted because of insufficient capital to reach the point where private capital will invest. Consider setting a benchmark for skills, knowledge, validation, and participation such that ideas that meet those targets, but are not yet ready for private angel / venture capital investment, receive a small, one year grant, that gives the founder another 12 months of runway to get the idea to the level of private investment. This grant could be contingent on quarterly milestones of ongoing product and skills development."

This theme was expanded on by others who felt the mix of participants sometimes limited the value achieved by other participants. This included participants that did not have a truly viable product, or who needed to partner with others before they could move forward.

> "More access to prospective investors and alternative technologies. The Commercialisation Training Program brought together a range of people with entrepreneurial tendencies, but in multiple instances, after subjecting their technologies to the rigour of the process, it became apparent that the technology was not a viable product. If the Program has identified and trained such entrepreneurs, it would be good if there were pathways to put them in touch with other technologists (e.g. academics with patented technology who don't want to commercialise the technology themselves) so they could help commercialise other technology if their initial technology was not viable."

Some suggestions were made that could potentially address this issue of participants at different stages of their commercialisation journey.

> "Some participants joined primarily for informational purposes rather than addressing immediate needs. As a result, certain topics might feel irrelevant at the time and require participants to rely heavily on hypothetical scenarios for practice. Instead of using abstract true/false scenarios, it could be more effective to incorporate real-world examples or pair participants with others working on actual cases. This approach could enhance the learning experience for everyone involved."

Another suggestion was to do more to centralise materials, opportunities and networking. While this does exist, it does not appear to meet the needs of all participants.

> "One place for everything, meaning a web-based portal where we have a quicker view of opportunities events and networking."

The mentoring sessions were popular with most attendees, but some participants were hoping for even more. It might be more valuable for some participants to have solo sessions with mentors rather than small group sessions.

> "Specialist coaching. The course is generalised and valuable, however at some point, you need to workshop with experts that can give you specific guidance on your needs."

> "One of the sessions that would have been really valuable to us was 15-minute sessions with industry leaders in different areas. Unfortunately, the sessions were shared amongst two or three startups, which made it hard to get any bandwidth during that session."

One respondent provided an insightful comment about medtech commercialisation in NSW. They felt this was moving in a positive direction but still dominated by large, high-cost medical device commercialisation. They suggested that NSW would benefit if the focus was expanded to smaller startups across other types of health technology commercialisation.

> "Overall, I think the Program is a great program and I wouldn't change a huge amount. One minor bugbear, historically NSW has been somewhat lacking in digital health tech with a much stronger focus on deep medtech, with many more opportunities and funding support available for Victorian startups. Over the last six months, I've started to see more, so clearly this is changing, however most of the focus still seems to be on those companies with solutions requiring significant capital ($1m+) and long-time frames. It would be great to see more discussions around ways to strengthen smaller or earlier stage startups, whether that's getting first corporate clients to bootstrap and build cashflow, doing angel raises from high net worth individuals and/or family offices etc, or smaller government and/or sector grants opportunities."

For some participants, the relationship between NSW Health and Cicada wasn't clear. Several participants made mention that they were not sure how much information they should be sharing with Cicada, particularly before locking down intellectual property. In some courses, up to 20% of participants have withdrawn before sharing details on their product in pitch sessions or with mentors.

> "I thought that the Commercialisation Training Program was good. It wasn't, and to some extent still isn't, clear to me what the relationship between the Program and

> Cicada is, and that may have led to some confusion on our part following the course. From our perspective, the Program has been the only offering from Cicada that has helped us in any significant way."

Greater clarification on the Program would reduce this risk, including clear labelling as the NSW Health Commercialisation Training Program, identifying the roles of the Office and Cicada in running and managing the Program, and review of website materials to ensure these provide the clarity required. Also, protection for products that might be discussed at the Program to protect the owner of that intellectual property should be explored.

Ongoing involvement in the Program

Many participants have continued their involvement with the Program after finishing their seminars or courses, with 40% of respondents saying they have an ongoing connection. The most common involvement is continuing to attend networking events (70%), becoming a speaker for Program seminars and courses (10%) and as a mentor of other participants (6%).

Impact surveys by Cicada

During the Medical Devices Commercialisation Training Program, Program evaluations focused on the quality and operation of the seminars and courses delivered. At the end of the Medical Devices Commercialisation Training Program, the Office requested an additional report from Cicada that would summarise the impact of the Program. This document, the *Impact of the Medical Device Commercialisation Training Program*, was provided to the Office in December 2020.

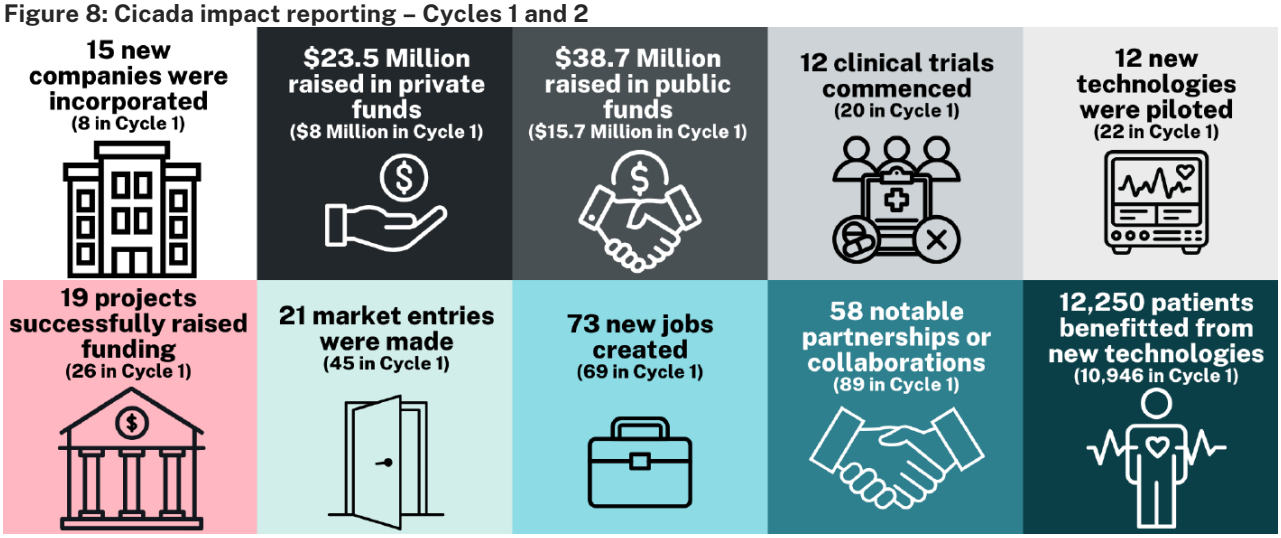
The report showcases three outstanding alumni and includes five case studies of companies that have been supported in commercialising health technology by participating in the Program. The report also identifies that more than 1000 people received training through it from 2014 to 2020, with 94 graduating from the core program, 19 new companies supported, and 2600 people registering to attend Program showcases. The report also identified that $12 million in grants had been awarded to participants and $55 million in capital raised to support commercialisation.

With the establishment of the current phase of the Program, new surveys were developed to ensure data on impact of the course was available each cycle. The pre-attendance (baseline) survey (S1) and the 12-month impact survey (S3) were developed to collect information on topics such as whether their health technology project was incorporated as a business, how many staff they have, how much capital (if any) has been raised, if they have begun clinical trials and how many patients have taken part, when they plan to enter the market, and what they hope to get from taking part in the Program. The survey is sent to those who attended more than 50% of days for a course. It is not sent to seminar participants. Information on the survey methods is available in **Appendix 2** and the full question list in **Appendix 3**.

Cicada has used this information to report on Program impact of Cycles 1 and 2. As these surveys achieve approximately 50% response rate, they do not present a complete picture of Program impact but provide far greater insight than in previous years. However, with a baseline collected before the course begins and another collection at 12 months, they do not rely on recall and are a good reflection on impact for those who replied.

Figure 8 presents the impacts of the Program. Sections discussing company creation, raising capital, job creation and patents can be found in the following section on the Economic Analysis.

Figure 8: Cicada impact reporting – Cycles 1 and 2



Partnerships and collaborations

The impact survey asked about research collaborations and about industry partnerships.

Establishing collaborations and partnerships with universities, research institutes, and local health districts in the 12 months after the course finished was the norm for most participants. In Cycle 1, 26 respondents reported 58 significant collaborations, an average of 2.2 partnerships per respondent. In Cycle 2, 20 respondents reported 40 collaborations (average of 2.0 collaborations). Collaborations included:

- a novel drug delivery system for CNS active proteins with the University of Sydney
- two trial sites at Mater Hospital and the Hunter Medical Research Institute
- overseas collaboration with the National University of Singapore, Singapore Eye Research Institute, Maastricht University, Wiseman Institute of Science, and Cornell Medical School.

The survey also asked about new partnerships with industry or securing new customer agreements. In Cycle 1, 17 respondents reported 31 partnerships formed or new customers secured (an average of 1.8 agreements). In Cycle 2, 13 respondents reported 18 new relationships, an average of 1.4 agreements. Partnerships listed included those with large global companies, such as AstraZeneca, as well as national partners such as the Australian National Fabrication Facility, the Garvan Institute, CSIRO, and NSW Health.

Past participants also undertook customer trials to demonstrate the effectiveness of their products. In Cycle 1, 22 reported running a customer trial of their technology, with 11 of these trials resulting in securing a paying customer (50%). In Cycle 2, 12 respondents ran a customer trial with two resulting in a paying customer (17%).

Clinical trials

Clinical trials are essential to demonstrating effectiveness, safety and functionality of new health technology. In Cycle 1, 26 respondents said they have or were planning to conduct clinical trials, of which 20 said they are planning to have a trial site in NSW. Five respondents said that they planned to have interstate or international sites only. In Cycle 2, 20 respondents said they were planning to conduct trials, 10 of which were planned for NSW and three who planned for interstate or international only.

Since beginning collection in February 2023, more than 15,500 patients have participated in clinical trials for projects supported through the Program.

Market entry

The impact survey asked participants if they had entered the Australian market with their technology in the 12 months since they attended the Program. In Cycle 1, eight respondents said they had entered the Australian market, with another 30 saying they are actively planning to. In Cycle 2, two respondents said they had entered the Australian market and another 31 were planning to. Cycle 2 respondents were also asked if they had entered markets outside Australia – 18 said they had already done so, and another one said they were planning to do so.

This pattern of companies beginning their market entry in non-local markets is a pattern of health technology commercialisation, often because of the high cost of proving that the technology works. While regulatory requirements to enter US or EU markets are similar to Australia, those markets have greater access to capital to support clinical trials, and also offer larger profits due to population size, economies of scale for production, and models of care. This theory is supported by the baseline survey, which asks respondents which international markets are of greatest interest – North America was the most common foreign market that participants planned to enter (77% of participants), followed by Europe (63%), then Asia (57%).

Economic analysis

Economic analysis did not include determination of a counterfactual, due to the limited time for analysis and difficulty identifying a population that is commercialising health research in NSW but which has not participated in the Program. To assess the impact of the program in the absence of a counterfactual, the evaluation will look at cost to deliver the Program in comparison to a suite of outputs/deliverables. As part of the development work, we will also investigate if external measures of success can be linked to the Program, for example, increases in commercialised products, patents or companies in NSW.

Perceived impact of the Program on NSW

To evaluate the impact of the Program for NSW, the evaluation survey (S4) asked respondents to state how much they agreed with the following statements:

- The CTP has been effective in increasing skills and knowledge in health technology commercialisation in NSW
- The CTP has contributed to positive economic outcomes for NSW
- The CTP has contributed to a more vibrant health technology ecosystem in NSW
- The CTP has made NSW more competitive in health technology at an international level
- The CTP has helped create commercialisation leaders in NSW
- There is an ongoing need for a program like the CTP in NSW.

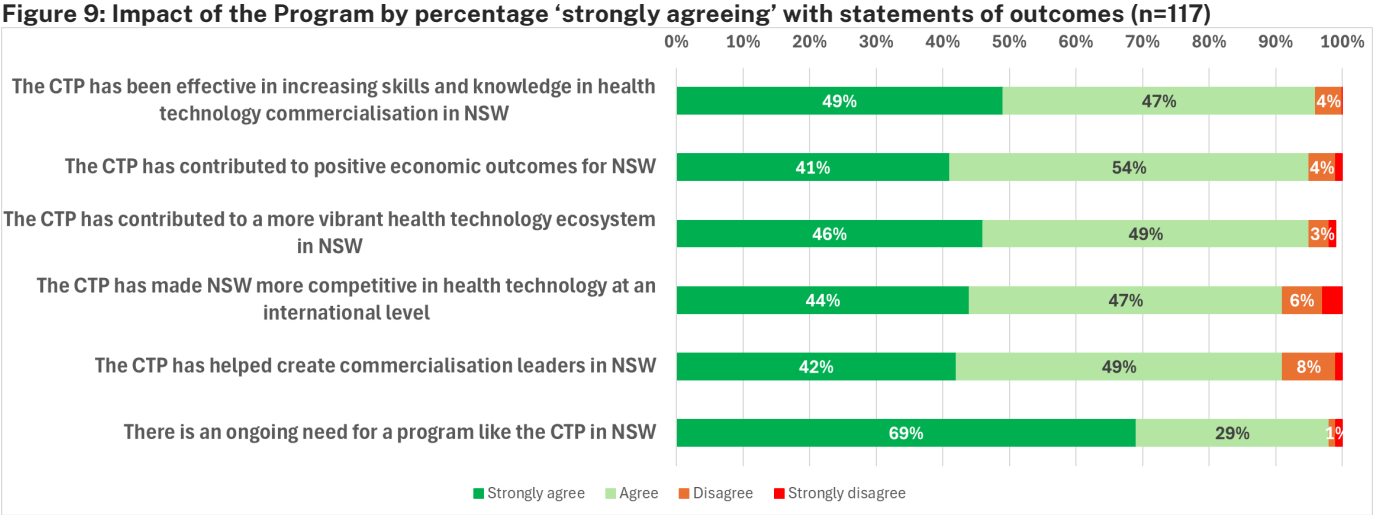
The percentage of respondents agreeing with statements ranged from 91% to 98% agreement (**Figure 9**).

The statement with the highest rate of agreement was that there is an ongoing need for a program like the Program in NSW, with 69% saying they 'strongly agreed' (98% total agreement). The next most supported statements were that the Program had been effective in increasing skills and knowledge with 49% strongly agreeing (96% total agreement), followed by the Program contributing to a more vibrant health technology ecosystem in NSW at 46% strongly agreeing (95% total agreement).

Participants were given an option to say they 'don't know / can't remember' when rating the statements and these were particularly high for two of the statements – 34% said they didn't know when asked whether the Program had made NSW more competitive in health technology at an international level and 31% said they did not know whether the Program contributed to positive economic outcomes for NSW. This report aims to provide evidence toward the latter of these two statements, while more evidence is required to evaluate the perceived competitiveness of NSW health technology commercialisation at an international level.

The survey did include a question about the perceived strength of Australian states and territories with regards to commercialising health technology. More than half (51%) felt that NSW was the strongest state or territory in Australia for commercialising health technology, followed by 30% saying it was Victoria and another 15% who said they don't know. This question will be included in future evaluations to understand the perceived strength and competitiveness of commercialisation in NSW.

Figure 9: Impact of the Program by percentage 'strongly agreeing' with statements of outcomes (n=117)



Company creation

Eight Cycle 1 respondents and 15 Cycle 2 respondents reported that they had incorporated a new company within 12 months of attending the Program. A further six (Cycle 1) and nine (Cycle 2) respondents were already incorporated before starting the course.

Incorporation is a critical step to securing funding, with many funders (grant bodies, as well as private investors and venture capital) requiring applicants to be incorporated to be eligible for investment or grants. Impact survey results demonstrate this relationship – in Cycle 3, 15 of the 24 respondents who had incorporated as a company had successfully secured funding within 12 months (63%). In contrast, only 4 of 14 respondents that said they had not yet incorporated had been successful in raising funds (28.5%). Some caution is advised in interpreting these results due to participants being at different stages of the commercialisation journey when they attend the Program.

Raising capital

Most (n=26) respondents from Cycles 1 and 2 were willing to disclose the level of funding they had secured in the 12 months since completing their course. Respondents reported the source of these funds by indicating they were from private investment and for grant funding. These data were analysed and categorised as either coming from NSW or non-NSW sources. Where origin of funding was not available, a pro rata allocation was calculated based on the NSW proportion of the Australian population, i.e. 32% (**Table 13**).

Table 13: Funds raised by Cycle 1 and 2 participants in the 12 months since completing course

Source of funds	NSW funding	Non-NSW funding
Private investment	$8,466,240	$21,969,760
Grant funding	$6,324,043	$118,566,720

This data supported calculation of an average capital raised by attendees as $77.6 million per annum, or $854.3 million over the 11 years of the Program (**Table 14**). Of that, $773.0 million was determined to be from outside NSW and therefore considered as a benefit in the evaluation. Another $81.3 million was determined to have been raised from sources within NSW and is not considered as a benefit for the Program evaluation, although the participants have benefited from receiving these funds.

Table 14: Funds raised in 12 months since final course

Source of funds	Per annum	Program lifetime (11 years)
Total capital raised	$77,663,382	$854,297,197
Non-NSW funds (benefit)	$70,268,240	$772,950,640
NSW funds (transfer)	$7,395,142	$81,346,557

Several respondents mentioned that they had secured funding but were unable to disclose exact numbers. One respondent commented that they were able to secure several millions from an international government and collaborators but were unable to disclose the details due to being commercially in confidence. Another respondent said that they were in the process of securing funding worth $50 million, which had not been completed at the time of the survey.

Patents

Patents represent both protection and profit when considering commercialisation of health technology. In Cycle 1, 13 respondents said they had lodged a new patent since attending the course, as did 13 from Cycle 2.

Estimating the value of patents is difficult as it depends on the cost to develop, the value and longevity of the product, and market conditions. In the US, the median price of a brokered patent is US$108,000 (AUD$172,186), with a higher average reflecting the extremely large price achieved by some patents.[3] If an average of 13 patents are registered each year, the value to the Program would be $2.24 million, or $8.95 million over the course of the four-year program.

Job creation

The 25 respondents from Cycle 1 who disclosed employment numbers reported 69 positions added

[3] https://www.iam-media.com/data/secondary-market-activity/secondary-market-activity/article/the-brokered-patent-market-in-2021

in the 12-month period since completing their course (an average of 2.76 new positions per respondent). In Cycle 2, 17 respondents reported 73 new positions (average of 4.3 new positions). Assuming an average of 71 positions created per year, we estimate 781 new jobs have been supported through this Program. The data does not provide insight into how many of these jobs are based within NSW.

Using published data on biomedical average salaries in Australia in 2025, the median salary is AUD $96,500 per annum.[4] Assuming 71 jobs are created each year and are permanent positions, the total wages paid over 11 years is estimated at $514.8 million (**Table 15**).

Table 15: Total wages paid over 11 years

Year	Total salary p.a.	CPI (Sydney) ABS	Inflated adjusted salary p.a.
2014	$6,851,500	131.2%	$8,990,978
2015	$13,703,000	128.4%	$17,600,067
2016	$20,554,500	127.3%	$26,158,563
2017	$27,406,000	124.5%	$34,128,689
2018	$34,257,500	122.0%	$41,800,160
2019	$41,109,000	120.0%	$49,337,894
2020	$47,960,500	121.3%	$58,163,082
2021	$54,812,000	116.5%	$63,855,521
2022	$61,663,500	110.7%	$68,237,015
2023	$68,515,000	103.8%	$71,122,660
2024	$75,366,500	100.0%	$75,366,500
Total	**$452,199,000**		**$514,761,131**

This total salary is used to present the value of these positions to the NSW economy and those working in health and medical technology. To estimate the additional benefit of these positions over existing employment most of these people would have had, we use 'wage uplift'. Using the formula provided by the NSW Treasury,[5] the additional value for job creation to NSW is $2000 plus 11% of the new salary. For this Program, that value is $12,615 multiplied by 781 positions, or $9,852,315 over the 11 years of the Program.

Cost consequence analysis

A limited cost consequence analysis was undertaken using the known costs and estimated benefits of the Program.

An assessment of the implementation costs and potential downstream savings from introducing new health technology into NSW was considered out of scope for this evaluation. Furthermore, attributing improved patient outcomes and wellbeing to a commercialisation training program was perceived to be too tenuous to include in the cost consequence analysis so this was also out of scope. For other consequences, a variable attribution is applied to reflect how much credit the Program is given for each benefit.

Program costs

The costs of the Program (**Table 16**), presented in the two majority categories, were the:

- value of monies paid to Cicada Innovations from 2014 to 2025 was $6,400,000. Adjusting for inflation, this was **$7,410,624** as of 24 January 2025
- cost of administering the Program was estimated at $350,290 from 2014 to 2025. Adjusting for inflation, this was **$453,501** as of 24 January 2025.

The Program contract costs paid to Cicada have been consistent over the last eight years at $750,000 per annum. In 2014 and 2015, representing the pilot, the contract costs were lower at $200,000 per year.

Staffing accounts for almost all internal program administration costs for the Office. An audit of time staff spent on the Program in Cycle 3 (2023-24) summed to 50.9 days. This was attributed to Office teams as:

- Enterprise team accounted for 24.2 days FTE (48% of total days)
- Communications team accounted for 24.3 days (48%)

[4] Biomedical average salary in Australia, 2025, https://au.talent.com/salary?job=biomedical, accessed 23 January 2025

[5] NSW Treasury: Principles and Standard Parameters for Cost-Benefit Analysis https://www.treasury.nsw.gov.au/sites/default/files/2025-02/202501_Investment-Attraction-CBA-Framework.pdf

- Director accounted for 1.4 days (3%)
- Other teams accounted for 1.1 days (2%).

For Cycle 3, time spent on the Program by other teams from the Office was for the preparation and presenting at Program courses. While this involvement will vary between years, we have included this contribution as an assumed 'average cost' for Office staff in each year of the Program.

This evaluation has used the Cycle 3 audit as the model for staff time across all ten years of the Program, noting that staff time was, on average, lower for the earlier years of the Program, making this a conservative estimation of the cost. Total staff costs have been calculated using the salary package value applied after the first year of service. A 20% overhead was applied to account for cost of doing business, including office space, computers, electricity, and other support.

Monetisable consequences

The elements of the Program that could be monetised for this comparison were:

- company creation
- capital raised (private and grants)
- job creation
- patents.

The Program has generated returns that are significantly higher than the investment made by NSW Health (**Table 17**). At the most conversative level, assuming that the courses, networking and mentorships contributed no more than 10% to the establishment of these companies, the returns are 10.27 times greater than the investment. At a reasonable 20% attribution, the returns are even higher, at $20.53 for every dollar invested.

Critically though, the total value brought to NSW from the medical and health technology enterprises represented by attendees was estimated at more than $800 million over the 12 years of the Program. This excludes potential savings to healthcare from more efficient techniques and the value of a healthier population for NSW. The Program has also generated an extremely high level of goodwill towards NSW Health and the NSW Government, as well as recognition from other states and territories that NSW is the Australian leader in medical device development. The economic outcomes of this Program will be further investigated in the planned Medical Devices Fund evaluation, providing insight into other impacts and benefits to NSW.

Table 16: Costs and monetisable consequences

Costs	Program total
Cicada contract (2014 to 2024-25)	$7,410,624
Internal program administration costs	$453,501
Total cost	**$7,864,125**

Table 17: Costs and monetisable consequences

Consequences	Raw value ($)	10% attribution	20% attribution	30% attribution
Capital raised in 12 months following course	$772,950,640	$77,295,064	$154,590,128	$231,885,192
Jobs created	$9,852,315	$985,232	$1,970,463	$2,955,695
Patents	$24,622,598	$2,462,260	$4,924,520	$7,386,779
Total monetized consequences	**$807,425,553**	**$80,742,555**	**$161,485,111**	**$242,227,666**
Return On Investment		**10.27x**	**20.53x**	**30.80x**

ROSENMAN INSTITUTE SCHOLARSHIPS

The Rosenman Institute is a health technology initiative established by the University of California to support medical device entrepreneurs to commercialise products. The Institute provides industry partnerships and mentoring to guide researchers from the precommercial stage to efficient operational companies.

At the end of the first year of the Medical Devices Commercialisation Training Program, the NSW Minister for Health awarded two participants with two-year scholarships to attend the Rosenman Institute in California: Dr Gho and Dr Weaver. These participants were selected as they demonstrated proficiency in the Medical Devices Commercialisation Training Program in 2014, have a common interest in lymphoedema (allowing them to work as a team while at the Institute), and because they were both well positioned to begin work developing new health technology.

The aim of these fellowships was to bring knowledge and experience back to NSW and become champions for medical device commercialisation here. The fellowship included annual salaries, an overseas living stipend, and visa support.

Over those two years, Dr Gho and Dr Weaver had the opportunity to develop their medical device ideas by quantifying unmet clinical needs, developing and creating prototypes, and establishing companies. Throughout the process, they had access to mentors through the Rosenman Institute and to Rosenman Fellows. These contacts provide access to practical and academic experience of establishing biotech companies, as well as connections to venture capital investors and financial advice.

In 2016, scholarships were awarded to two high performing attendees from subsequent rounds. Maryam and Iman Parviz travelled to California to develop commercialisation skills and knowledge that were brought back to NSW and resulted in establishment of SDIP Innovations.

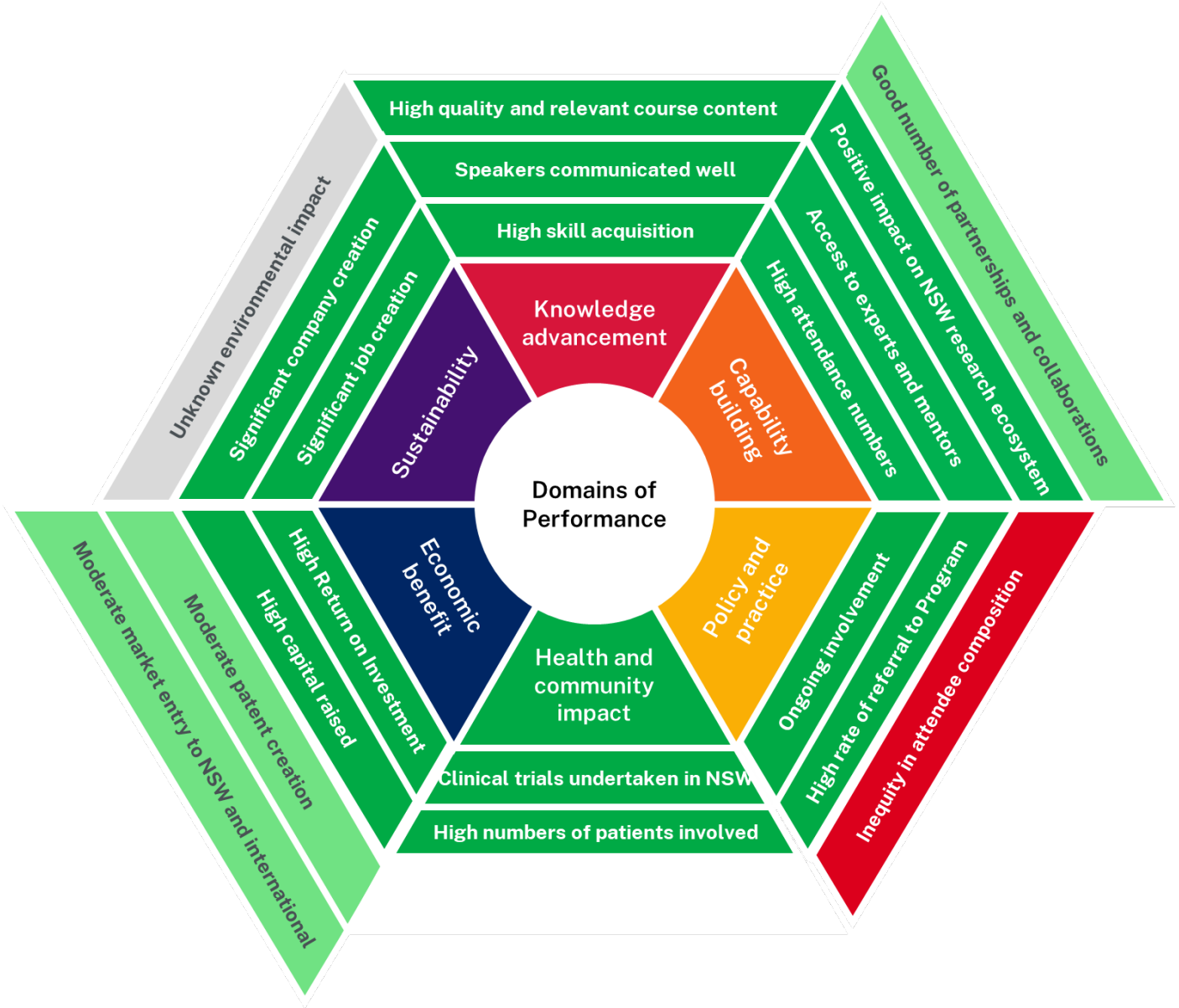
Domains of Performance

The Office for Health and Medical Research classifies evaluation measures into six domains of research 'benefit'. **demonstrated** moderate positive evidence. One measure demonstrated strong evidence that the Program did not deliver positive outcomes (equity of participation), and another had insufficient evidence to conclude impact or direction (environmental sustainability).

Figure 10presents the findings presented in the previous section and colour codes these to show which measures present positive, neutral or negative evidence for the effectiveness and value of the Program.

Of the 19 measures in this report that can be applied to the Domains of Performance, 14 demonstrated strong positive evidence for the benefits of the Program and three demonstrated moderate positive evidence. One measure demonstrated strong evidence that the Program did not deliver positive outcomes (equity of participation), and another had insufficient evidence to conclude impact or direction (environmental sustainability).

Figure 10: Evidence supporting the performance of the Program against the Office's Domains of Performance



Evaluation limitations

Limitations of this evaluation include:

- **Limited economic evaluation**: A full economic evaluation was beyond the scope of this appraisal due to the time, resources and data that would be required. While a cost-benefit analysis is the gold standard, it was determined that a cost-consequence analysis would be sufficient to inform the Office about past value of the Program and decisions about its future implementation.
- **Attributing benefits to the Program**: Although the Program provides extensive education, mentoring, network establishment, and ongoing support, the degree to which this contributes to research translation, patent development, establishment of companies, and raising capital is difficult to determine. To address this, the evaluation provides a sensitivity analysis of 10%, 20% and 30% attribution of benefits to the Program. The evaluation makes an assumption of 20% attribution from the Program but readers can use the information provided to evaluate the Program as they believe is appropriate.
- **Small participant numbers in early years:** The number of participants in the first two years of the Program was low compared to later years (averaging 17 per year in 2014 and 2015). Caution is recommended when inferring the outputs and impacts of these years compared.
- **Data and measures**: Most of the data used in this report was collected for purposes of monitoring and reporting rather than evaluation. Cicada used data to manage the Program and provide annual reports to the Office. This improved significantly from 2021 onwards where annual reports provided outcomes evidence aligned to the program logic. Secondary data collection (for example, the evaluation survey) supported this existing evidence but ideally, the evaluation would have been planned at the start of the Program, allowing collection of baseline data and planning of key metrics for future evaluations.
- **Recall bias**: Some of the data used is subject to recall bias. The evaluation survey is most affected by this in that it included participants all the way back to 2014 and, even for the most recent participants, asked them to report on changes from before the Program and now (i.e. approximately 12-month recall period). The potential for recall bias is negligible for the pre-attendance and post-attendance surveys (S1 and S2 respectively), and minimal for the 12-month impact survey (S3).
- **Benefit realisation**: The time to translate research into new healthcare interventions is often cited as 15-17 years[6],[7]. Due to this protracted period, the full benefits of the Program may not be realised until sometime in the future. This is offset by many of the products developed by Program participants being more advanced on the translation pathway but we still recommend caution in interpreting the full benefits of the Program from this report alone.

[6] Lenfant, C. 2003. Clinical research to clinical practice—Lost in translation? New England Journal of Medicine, 349(9), 868–874. https://doi.org/10.1056/nejmsa035507

[7] Khan, S., Chambers, D. & Neta, G. 2021 Revisiting time to translation: implementation of evidence-based practices (EBPs) in cancer control. *Cancer Causes Control* **32**, 221–230. https://doi.org/10.1007/s10552-020-01376-z

Conclusions

The purpose of this evaluation was to understand the effectiveness, impact and value of the Program, and make recommendations about the future. The evaluation was designed to answer nine questions that would provide a comprehensive understanding of the processes, outcomes and economic benefits of this work. This section pulls together the evidence and interpretations presented in the report to answer those questions.

Process evaluation

1. What was the reach and uptake of the Program among target audiences?

Over the life of the Program, there have been more than 2584 enrolments by 1177 unique individuals. Since the Program expanded scope in 2021, seminars have seen more than 1200 attendances, and 355 people have completed the more intensive courses.

The reach of the population to the relevant community of aspiring biotechnology entrepreneurs and supporting staff is difficult to assess. However, applications to attend courses currently exceeds places available (177%), suggesting that the reach of the Program is already in excess of what the Program can deliver. The only course where this is not the case is the Diagnostics course, for which attendance has been trending downward over the past three cycles (from 16 to 13 to 6). Consultation with stakeholders has suggested that there are fewer diagnostic projects and teams ready to participate in commercialisation training, possibly due to reduced funding opportunities in that field or higher costs to establish the technology.

Equity of the Program has historically been based on rurality of attendee, with gender being a more recent consideration. The rural participation rate (10.7%) is significantly lower than actual rural residency rate (24%[8]). Furthermore, the rural participation rate given in Program reports is likely a significant overestimation, with postcode recoding to the Modified Monash Scale suggesting this is 3.6% of course attendees and 3.9% of seminar attendees. With regards to gender, rates for female participation are high for seminars (57%) and lower for courses (42%). While these data suggest that more women could be candidates to attend courses, the proportion enrolled is consistent with the proportion submitting an expression of interest and submitting an application. Aboriginal participation rates are not currently collected by the Program.

Overall, the Program is delivered to large numbers of individuals each year but some courses have potential to increase the number of attendees, while others (Diagnostics) could be reduced in frequency. More needs to be done to make the Program accessible in-person by rural participants and a greater understanding of attendance patterns for women and Aboriginal people is needed.

2. How well has Cicada delivered the Program?

Cicada has provided the content and management of the Program since inception. During that time, Cicada has met all contracted deliverables, including those added by several contract variations agreed to for the Program. Deliverables have been provided to agreed schedules or, when changes have been required (for example, during the COVID-19 pandemic), to the revised schedules agreed by both parties.

Cicada provides an easy, intuitive and appropriate registration process, with more than 95% of participants agreeing with these statements. Information about enrolment was communicated well (92%) and questions answered promptly (89%).

Participants have a high degree of satisfaction with the Program, with 86% of past participants saying they were ‘very satisfied’ or ‘satisfied’ with the Program. For participants from Cycles 1 to 4, the net promoter score was 83 for courses and 64 for seminars. According to the creator of the NPS,[9] a score above 50 is excellent in terms of providing what people needed and a score above 80 is considered ‘world class’.

Cicada has managed several hundred speakers, mentors and networking events over this time. Generally, relationships with speakers and mentors are very positive although practices to ensure speakers are periodically rotated out has led to some dissatisfaction due to how this was communicated.

[8] Centre for Epidemiology and Evidence. HealthStats NSW. Sydney: NSW Ministry of Health Available at: https://www.healthstats.nsw.gov.au/r/119017 Accessed: 27 January 2025.

[9] Bain and company: https://www.netpromotersystem.com/

Overall, Cicada has provided an exemplary performance to NSW Health in implementing the Program, bringing capacity, expertise and passion to this work.

3. How well has the Office managed the Cicada contract?

The Program was established with urgency due to a Ministerial directive. This meant that the first two years of the Program were established as a pilot and no tender process was undertaken. Since then, two rounds of open tender process have been undertaken, with tender documents available in the Ministry's content management system. Tenders were evaluated by expert evaluation committees that included internal and external members. All contract processes were followed as appropriate, with the exception of posting tender results on Government websites.

The Office and Cicada have held fortnightly meetings throughout the most recent four-year contract period. All meetings have meeting notes and review of a random selection of these found them to be sufficiently detailed. Recent innovation has included an action log to keep track of tasks, parties responsible, and due dates.

The evaluation mapped the Program's original intent to NSW's 2012 research strategy and found high concordance with this plan. The program logic was revised in 2024 and maps well to the NSW Health Research and Innovation Strategy (2025).

Overall, the contract with Cicada is well managed by the Office and it is clear how the aims of the Program can be achieved through the current contract and workplan.

Outcomes

4. What are the outcomes impacting the health technology ecosystem?

The Program aims to make the NSW health technology ecosystem more capable through upskilling researchers, health workers, and potential health technology entrepreneurs. Having a skilled and ready workforce makes NSW more attractive for national and international investors, and increases the retention of businesses developed in NSW.

The Program has increased the absolute number of people with fundamental and advanced knowledge of health technology commercialisation. Almost twelve hundred people have completed Program courses and seminars, providing them with skills and support that they would not have had otherwise.

Clinical trials are a key indicator for a vibrant health technology ecosystem as they represent one of the last gateways before commercialisation of technology can begin. Participants from Cycles 1 and 2 reported a total of 46 clinical trials had been planned or started within 12 months of finishing their courses, with 30 of those planned to take place in NSW. Since beginning collection of patients enrolled in clinical trials in February 2023, more than 15,500 patients have participated in a clinical trial for projects supported by the Program.

Across the first two cycles of the Program, 10 past participants said they had entered the Australian market and another 61 were planning to do so. In Cycle 2, 18 past participants said they had already entered international markets, with North America being most common (77%), followed by Europe (63%), then Asia (57%).

To understand how the NSW health technology ecosystem was perceived, we asked participants which Australian state or territory they thought was the strongest for commercialising health technology. More than half (51%) felt that NSW was the strongest state or territory in Australia for commercialising health technology, followed by 30% saying it was Victoria and another 15% who said they don't know. While there is some bias with most participants coming from NSW, this response does indicate the optimism people feel for the NSW health technology ecosystem.

Overall, the impact of the Program on the health technology ecosystem is significant, however, it is difficult to estimate how large this effect is across the entire ecosystem. Better understanding of the size and scale of the NSW ecosystem is necessary to assess this, as is the understanding of how the many small biotech companies uphold the ecosystem compared to a small number of very large employers.

5. What are the individual achievements of participants who had enrolled in the Program?

The Program aims to upskill people in commercialisation and business development skills, to increase their understanding of the health technology industry, and help them understand how to access capital to establish businesses.

The Program was highly successful in upskilling participants in understanding the different pathways to commercialising health technology, evaluating and assessing potential customers and markets, and understanding the different approaches to market, all of which saw at least 80% of attendees say they improved these skills. Knowing how to raise capital from public and private sources saw the lowest improvement, with only 69% saying this had improved. Courses were more effective than seminars when it came to participants reporting improvement, which was expected based on the much larger training time available for courses.

Access to experts and mentors was highly prized by participants. More than half (58%) of respondents said their access to expert advice, mentoring or support had increased from participating in the Program, most commonly through expanding their network with industry contacts, peers, or Cicada staff. Many spoke about these relationships when they were asked about the best parts of the Program, and 40% said they continued to be involved with the Program after they had finished their seminar or course. Impact surveys provided additional data for understanding these relationships. Participants from courses reported an average of 2.1 significant collaborations with universities, research institutes and health organisations in the year after their course finished, and 1.6 new partnerships with industry or major customers. We heard that 38% of past participants had reported new customer trials in the past year to demonstrate the effectiveness of their products.

Overall, most individuals reported significant improvement in relevant skills and expanded their networks to include their peers and relevant experts. Some seminars and courses were more effective than others, and variation was seen over time as speakers or content was changed.

6. How likely is the Program to achieve intended long-term outcomes?

There are seven long-term outcomes stated in the program logic, namely:

1. Patients in NSW have access to new technologies and treatments developed by NSW-based medtech and biotech companies.
2. Companies started by Commercialisation Training Program graduates are retained, based, and successful in NSW.
3. Overall size of medtech and biotech in NSW is increased through increased capability and capacity of Program graduates.
4. NSW-based companies compete nationally and internationally better, including greater international sales, market entries, and patents.
5. Increased numbers of clinical trials for technology and products developed in NSW.
6. Greater gender, rural, and Aboriginal representation in founders of NSW medtech and biotech companies.
7. Creation of a robust and self-sustaining commercialisation training ecosystem is developed where past participants provide strategic direction for the program and mentor new participants.

For the most part, information required to assess these long-term outcomes is not collected by the Program. Some information could be collected through linkage of Program data with other government records, for example, if Australian Business Numbers (ABNs) were collected from participants on application or in the 12-month surveys, then it would be possible to assess company establishment, location and income. Similarly, if clinical trial numbers were collected, then this could be matched to data held by the Office in the Clinical Trials Management System or in the Research Ethics Governance Information System.

At present, case studies are the most effective way to assess the application and benefits of new technology for NSW patients. Case studies have significant limitations for comparative evaluations in that the measures of success are typically not comparable, and writing case studies is very labour intensive. It may be possible to standardise comparisons by providing use-benefit templates for participants to complete but many may feel this is an undue burden for a training program (rather than for a grant).

It is currently possible to measure equity by rurality and gender. Several innovations have been attempted to make the course more attractive to rural participants but only had moderate impact. Gender equity may be more achievable if more can be done to understand why they are less likely to apply for the more intensive courses. Equity by Aboriginal status will not be able to be assessed unless we start collecting this for all applicants.

Market entry rates are already collected and are high for both Australian and international markets.

Similarly, patent information is collected but the questions need to be refined to indicate the difference between applying for a patent and having a published (approved) patent. More could be done to understand the income from national and international sales.

With regards to the creation of a robust and self-sustaining ecosystem, this would be a composite assessment based on many other short- and long-term impacts. This impact would also have a strong experiential component, requiring collection of the view of participants and non-participants on the state of the NSW health technology ecosystem.

Overall, significant work is required to refine current measures and to plan out new measures to assess these long-term impacts. Greater understanding of labour and Treasury data would support this.

Economics

7. What are the total costs of delivering the Program to date?

The total costs of delivering the Program are the contracted amount paid to Cicada, staff costs at the Office to manage the Program contract, and any additional costs and variations. Over the life of the Program, costs sum to $7,864,125.

Overall, these costs are consistent with the budgeted amount for the Program across all years.

8. How likely is the Program going to generate a net social benefit for NSW?

Past participants agreed that the Program was effective at increasing commercialisation skills and knowledge, had helped create commercialisation leaders, and had contributed to a more vibrant health technology ecosystem in NSW. Similarly, more than 90% agreed that the Program had contributed to positive economic outcomes and made NSW more competitive at an international level, but a large proportion felt that they didn't have the knowledge to answer this question. Almost everyone (98%) said that there was an ongoing need for a program like the Commercialisation Training Program in NSW.

In terms of economic benefits, graduates from just two rounds established 23 new companies in the 12 months since finishing their course. More than $30.4 million in private investment and $124.9 million in grant funding had been securing in that same time, as well as patents worth $4.48 million. Those two rounds saw 142 new staff employed, worth an estimated $1.8 million per annum.

Overall, the Program has a significant net social benefit, upskilling relevant individuals and preparing them for success. The Program is provided free to NSW-based participants, with all direct costs borne by NSW Health. As well as their contracted role, Cicada Innovations provide additional support to graduates of the Program, sometimes lasting for several years. The Program has a return of investment of $20.53 for every dollar invested (at an assumed 20% attribution).

9. What is the case for continuation of NSW funding in this space?

The Evaluation Plan identified the following criteria to be achieved to support the case for continuation of the Program:

- The Program has resulted in increased skills and knowledge in health technology commercialisation in NSW.
- Program training has resulted in development of the medtech and biotech ecosystem in NSW.
- There is still a population in NSW requiring training in commercialisation.
- Return on investment supports that the Program has high value to NSW.

Participants reported a high degree of skill and knowledge development. Participants demonstrated significant development of the medtech and biotech ecosystem through the establishment of companies, patents and jobs. For almost all seminars and courses, the number of applicants exceeds the number of places and has done so for the recent history of the Program. The Return on Investment of the Program is high, at an estimated $20.53 for every dollar invested (ranging from $10.27 at 10% attribution to $30.80 at 30% attribution).

In summary, the Program has demonstrated that it has a strong social and economic benefit to NSW and that it should continue to provide these unique services to the people of NSW.

Recommendations

Although the Program is frequently reviewed and improved, the evaluation did identify some innovations that may benefit delivery and outcomes of the Program:

Program governance

1. **Establish an external advisory committee to support the Program**. For the past decade, strategic direction for the Program has come solely from executives at the Office and Cicada. While the Program has proven very effective to date, an external group could provide insight into the evolving needs of the system, alternatives to traditional approaches to commercialisation, and promote the Program beyond its current audiences.

2. **Publish the outcomes of the 2021-25 tender on eTendering**: The NSW Health Procurement Procedures (June 2022) require all contracts valued at $150,000 (incl. GST) or more to be published on NSW eTendering. This can be done retrospectively for past tenders and should be complied with for any future tenders.

3. **Clarification of the Program governance and organisation roles**: Developing new products and intellectual property is a period of heightened commercial sensitivity. Several past participants expressed concern about who 'owned' the Program and what the relationship of the Office and Cicada was to NSW Health. Information provided on the Program should clearly identify it as a product of NSW Health and identify the Office and Cicada as the lead organisations.

4. **Guarantees around intellectual property protection**: Participants would benefit from having clearer protections for the intellectual property of their ideas when they take part in the Program. They should be provided with more detailed information about natural law protections before they attend a course or seminar. The Program should also consider requesting all course participants sign a confidentiality agreement and provide guarantees that neither NSW Health or Cicada retain any ongoing access or ownership of commercialisation ideas presented by attendees.

5. **Protocol for notifying the Office when speakers or speaker organisations are replaced**: Cicada identifies and recruits speakers for the Program. Periodically, speakers are rotated out to vary the content and focus of seminars and courses or, occasionally, if speakers are not performing (for example, receiving low approval scores from participants) – this approach is consistent with similar training courses. However, some past speakers have been upset for being replaced while still performing well and raised this as an issue with the Office when it did not have enough information to respond. We recommend a protocol be developed for documenting changes to speakers and the reason why, with this provided to the Office in advance of any transition.

Promotion

6. **Nominate the program for health and education awards**: As a highly rated program provided free by the NSW Government to potential entrepreneurs, the Program has the potential to place highly in award programs. If successful, this would directly promote the Program to new audiences, with social media and news stories furthering its reach.

Course content

7. **Increase amount or effectiveness of course content for raising capital**: Past participants rated this skill as least improved by the Program, followed by how to collaborate and form partnerships. Securing capital for new companies or clinical trials was frequently mentioned as one of the main limitations in commercialising. While other recommendations are included under 'Commercialisation', we recommend that either specific workshops on securing capital are added, or the content of existing courses is critically examined and improved.

8. **Address low participation numbers for the Diagnostics course**: The low numbers for this course mean that the cost of providing it exceeds the benefit. This course should be reviewed to consider combining it with other courses, running it every second year, or dropping it completely. It might also be possible to run generic three-day courses where the final day is an elective for a range

of specialties, one of which could be diagnostics.

9. **Greater inclusion of AI**: Artificial Intelligence and machine learning have high commercialisation potential, but past participants expressed limited understanding and concern about regulatory requirements that might be different for AI. We recommend that the Regulatory Affairs seminar includes specific content on AI in healthcare and potentially include this as a topic stream for Software as a Medical Device and other courses where relevant.

Participants and alumni

10. **Promote greater equity for rurality, gender and Aboriginal participants**: Participation by people living rurally is critical to development of health technology providing solutions to rural populations. The Program achieves a low participation rate from rural communities, but it is difficult to know whether this is due to limited Program reach, barriers to rural participation, or if the potential population of health technology entrepreneurs in rural communities is very small. More information is needed to understand this issue, as well as trialling several projects aimed at increasing participation, such as subsidising travel and accommodation for all rural participants to assess if cost is the barrier to taking part. In terms of gender equity, the Program should engage with women who applied for courses on what enablers facilitated their participation. It should also survey women attending seminars about perceived barriers to participating in the longer courses. Data on Aboriginal status should be collected at all stages of the application process.

11. **Alumni registry**: The Program should establish an online registry of past participants. This could be supported by an online community allowing peer-to-peer connection, sharing learnings and opportunities, and foster potential collaboration.

Commercialisation

12. **Seed funding**: Small grants or loans might be effective in allowing startups to bridge costs until they can be established. These could be offered as part of the Medical Devices Fund program, with companies paying them back once they become profitable. The small amount reduces the risk to the Office compared to the scale of the existing Medical Devices Fund loans.

13. **Pitching to venture capital investors**: Requested by several past participants, establishing a 'Shark Tank-style' session where participants can elect to pitch ideas to venture capital investors was seen to be one way to match ideas to funding. The Program already does extensive training and practice of pitching ideas – this approach would see the Program take on the burden of assembling funders rather than relying on participants to identify, contact and meet these groups on their own.

14. **Central website with details of funders**: This list would be available to graduates of the Program, providing them with the point of first contact for prominent or interested venture capital investors, as well as clinical trial Contract Research Organisations that could support product development.

Mentoring

15. **Mix of solo and small group mentoring sessions**: The mentoring sessions provided by the Program are one of its highest rated features. However, some participants found that the small group mentoring sessions were dominated by one group, and they felt they missed a valuable opportunity. We recommend that participants are given opportunity in advance to select either solo or small group sessions, or for greater attention to be given to equal participation in the existing mentoring sessions. Alternatively, selecting similar projects and matching these to the most appropriate mentor would allow greater benefit for all parties.

16. **Ongoing mentor relationships**: Participants who fostered relationships with speakers or mentors that extended beyond the Program spoke very highly of these. It would help participants to know which speakers or mentors would be open to such relationships.

Data and information

17. **Publish annual reports for transparency**: Cicada produces high quality annual reports that are provided to the Office. These reports are not intended to be published but would be appropriate to share with minimal changes. In the interest of transparency and maximising value of these reports, the Office should consider publishing an abbreviated version of these on its website.

18. **Review and refine the impact survey**: The impact survey was an important addition to the Program and has been used extensively for this evaluation. There is potential to improve the questionnaire to make it more useful to the evaluation, for example, the question on patents asks, "Have you filed/or been granted any new patents in the past 12 months?" - a granted patent is of significantly greater value than a filed patent and represent less than 50% of those filed. It would be more useful for this question to separate these patent types. Additional content could also be added to allow data linkage, such as ABN numbers, clinical trial numbers, and others (see below).

19. **Integration with clinical trials data**: If clinical trial numbers were collected, the Office would be able to leverage datasets it manages to provide greater insight into performance and evaluation. The Office manages the mandatory NSW Health Clinical Trial Management System (CTMS), which collects enrolled patient numbers, cost and benefits of clinical trials, and other data. The Office also manages the NSW Research Ethics Governance Information System (REGIS), that contains important ethics and governance data for trials.

20. **Improved data linkage with the Medical Devices Fund**: The Program was established to prepare potential candidates to apply to the Medical Devices Fund but there is minimal integration between the two Programs. Greater understanding of the impact of the Program on the success and scope of the Medical Devices Fund is critical to improving both programs. The Medical Devices Fund evaluation provides an opportunity to consider the effectiveness of this relationship in more depth.

21. **Linkage to other government databases**: There is opportunity to better understand the impact of the Program by using data from other government departments, including labour statistics, company registrations, tax and tax incentive data, as well as large state and national grant programs, such as the Medical Research Futures Fund or the NSW Bioscience Fund.

22. **Response rate to impact surveys**: Impact measures are collected 12 months after participants completed their courses. Despite intense personal follow up with course participants, a significant number did not respond to the impact survey, meaning that the impact data provides an incomplete picture of the Program's effect on the ecosystem. Additional follow ups are unlikely to result in more responses, meaning that other forms of incentivisation are required. One possibility could be ineligibility for future Program involvement, for example, not able to enrol in other courses or network events. Positive incentives could also be used, such as entry to prize draws or small gifts. If responses become too low, it may even be necessary to pay for surveys to be completed. Review of survey branding is another option as is whether surveys are sent from the Ministry of Health instead of from Cicada.

Appendix 1: Program logic (at 14 October 2024)

A program logic documents the needs, aims, activities, outcomes and impacts of a program. This information provides a framework for evaluating the program, informing the questions and key metrics that will be used. The initial Commercialisation Training Program logic model was produced in 2020, immediately before the Program scope expanded beyond just medical devices. It was updated in 2024 to reflect evolution of the Program over the first four-year cycle.

Needs	Detailed aims	Activity	Outputs	Impacts	
				Short/medium term (up to 5 years)	Long term
1. A need to address skill and education gaps in commercialising medical devices, diagnostics, therapeutics and digital health technologies in NSW 2. A need to fill a funding gap in the NSW health and medical research commercialisation pipeline 3. A need to develop the health technology commercialisation ecosystem in NSW and attract investment 4. A need to bridge a gap between researchers and Industry to create faster solutions for patients	1. Build commercialisation capability in medical device, diagnostic, therapeutics and digital health technologies in NSW 2. Increase awareness, readiness and capability of entrepreneurs to access public and private funds for medtech and biotech commercialisation. 3.Enhance the expertise and knowledge available to researchers and entrepreneurs for establishing and growing new businesses. 4.Increase researchers' knowledge of industry stakeholders and build networks between researchers and industry.	**Cicada activities:** 1.Develop and deliver accessible courses across NSW that build foundational and specialised skills and knowledge in medtech and biotech research translation and commercialisation 2. Deliver outreach and promotion across NSW and sector and sub-sector networks to raise clinician, researcher and entrepreneur awareness of the program 3. Develop and implement appropriate application, eligibility and screening processes for people applying to participate in the courses 4. Identify and include appropriate experts with specialised knowledge and relevant real-world experience as part of the delivery of courses, as curriculum developers, speakers and mentors 5. Prepare annual data collection and reports on the uptake and outputs of the program, and on program graduate impacts. **OHMR activities:** 1. Provide funding for the development and delivery of the program to enable free-of-charge access to NSW participants 2. Develop options for additional support for regional, rural and remote access to the program 3. Review and provide input to strategy and agendas to ensure the program aligns with NSW Health strategic directions and that NSW Health expertise is incorporated into course delivery as appropriate 4. Promote the program across OHMR networks. **Participant activities:** 1. Apply for and attend relevant courses, individually or with teams 2. Apply knowledge and skills learned from the courses to develop medtech and biotech ideas, including protecting IP, starting a company, completing clinical trials, engaging with customers, engaging with industry, applying for and securing public or private funding, entering new partnerships.	1. Communication and promotional material 2. Course agendas and speaker/mentor lists 3. Course application and decision making guidelines and processes 4. Service agreement contract and funding provided to Cicada for annual delivery 5. Surveys and annual reports on participation, satisfaction, and impacts.	1. Increased capability across the sector through increased total pool of people who have received training from the CTP. 2. Greater participation in the CTP by people from rural and regional locations. 3. CTP graduates have improved skills and knowledge about commercialisation pathways and how to commercialise medtech and biotech. 4. Increase in CTP participant knowledge of customers and pathways to market. 5. CTP graduates have increased awareness of how to raise capital from public and private sources. 6. Increased ability of CTP graduates to access public funding for commercialisation and development. 7. More people are employed by medtech and biotech companies in NSW. 8. CTP graduates have increased access to valuable expertise, mentoring and support. 9. More NSW based medtech and biotech companies created. 10. CTP graduates have greater collaboration and more partnerships with companies and other organisations to help progress their commercialisation journey.	1. Patients in NSW have access to new technologies and treatments developed by NSW-based medtech and biotech companies. 2. Companies started by CTP graduates are retained, based, and successful in NSW. 3. Overall size of medtech and biotech in NSW is increased through increased capability and capacity of CTP graduates. 4. NSW-based companies compete nationally and internationally better, including greater international sales, market entries, and patents. 5. Increased numbers of clinical trials for technology and products developed in NSW. 6. Greater gender, rural, and Aboriginal representation in founders of NSW medtech and biotech companies. 7. Creation of a robust and self-sustaining commercialisation training ecosystem is developed where past participants provide strategic direction for the program and mentor new participants.

Appendix 2: Methods

Evaluation design

The evaluation will use a mixed methods approach, bringing together quantitative data and qualitative evidence from a range of methods and data sources.

The evaluation will build on existing data collected by the Office and Cicada but will supplement this through a secondary data collection of participants to understand how the information has been used and if it is meeting the needs of the audiences.

The evaluation will generate findings, which will be used by the Evaluation team to write conclusions and recommendations for the Program.

Economic analysis will not include determination of a counterfactual, due to the limited time for analysis and difficulty identifying a population that is commercialising health research in NSW but which has not participated in the Program. To assess the impact of the Program in the absence of a counterfactual, the evaluation will look at cost to deliver the Program in comparison to a suite of outputs/deliverables. As part of the development work, we will also investigate if external measures of success can be linked to the Program, for example increases in commercialised products, patents or companies in NSW.

One major limitation identified for the evaluation design is the difficulty attributing change to the Program. Furthermore, the evaluation is opportunistically using measures and data that have been produced for the Program but not regularly evaluated for quality. Finally, the full benefits of the Program may not be realised until sometime in the future due to how long it takes to commercialise and implement new technology – this will be a stated limitation in the evaluation report.

Data collection

The evaluation will use extant data when possible but will need to conduct some secondary data collection where evidence is not already available or to support existing evidence. The secondary data collections identified at this point are:

- Survey of participants: this will provide information on the usefulness of the Commercialisation Training Program in preparing for commercialisation and assessing outcomes when used. It will collect perceptions on the existing commercialisation landscape and challenges faced in acquiring funding and support. The survey aims to assess how successful the Program was in upskilling participants, comparing their capability before and after the course(s). It will explicitly ask for suggestions on how to improve the Program in future years.
- Interviews of the Office and Cicada staff, past mentors and presenters, and high-performing past participants: Interviews will be conducted to a script agreed with the Enterprise team in advance, including probes to further the conversation into areas of interest.
- Triangulation data: The Evaluation team will review all key outcomes to assess whether external measures can be used to support or challenge evaluation outcomes. These external metrics may include information from other teams in the Office, from other NSW and national funding programs, or from workforce or productivity publications.

Evaluation methods

The methods identified for the evaluation are:

- document review
- analysis of Program application submissions
- pre-attendance surveys (S1)
- post-participation surveys (S2)
- 12-month impact surveys (S3)
- evaluation survey of past participant experiences (S4)
- analysis of Cicada course participation data and reports
- interviews with the Office program team (Enterprise, Communications, executive)
- interviews with Cicada Innovations staff
- case studies of speaker and mentor experiences
- cost and funding analysis.

Interviews will include Office staff who have been participants or mentors. This will provide additional insight into how the program delivered by Cicada aligns with the Office's objectives and strategy.

The evidence matrix is one of the key supporting documents for the evaluation. This document will match each evaluation question to its measure of success and the methods that will be used to investigate each question. This document will be produced in the first fortnight of the evaluation.

S1: Pre-attendance (baseline) surveys

The pre-attendance surveys ask participants to provide information about what stage of readiness they are at with regards to commercialising. They are referred to as the 'baseline' surveys that are mapped against the 12-month impact surveys (S3) to assess change over time. The questionnaire asks participants if they have incorporated as a business, how many staff they have, how much capital (if any) has been raised, if they have begun clinical trials and how many patients have taken part, when they plan to enter the market, and what they hope to get from taking part in the Program. These surveys are implemented and analysed by Cicada Innovations.

Development

The pre-attendance survey was developed and implemented in February 2023, covering cycle 2 attendees onwards. The content was designed to ask about progress toward commercialisation before beginning the course and is matched with the results from the 12-month post-attendance impact survey (S3).

Platform and deployment

The survey was administered using Google Forms. Invitations to complete the survey are sent out one week before the course began. Reminders were sent out by email the day before the course and verbal reminders given on the first day of the course.

Sample and response

Participants are eligible for this survey if they are attending one of the six courses. People were excluded if they had already done the pre-attendance survey within the same cycle (i.e. for another course) or if another person from the same project or company had already completed the form. Calculation of the response rate is complex due to the applied exclusions.

S2: Post-participation satisfaction surveys

The post-participation surveys ask participants to rate the seminar or course they attended for satisfaction and quality. The questionnaire also asks participants for their commitment to how they will improve their commercialisation skills, how the Program can be improved, and the relevancy of the content. These surveys are designed, implemented and analysed by Cicada Innovations.

Development

Every year of the Program has included evaluation of the quality of the event(s). In the first year, 100% satisfaction was achieved for the entire course. Over subsequent years, different approaches have been used to assess satisfaction, concluding with the current approach of using the Net Promoter Score, introduced in Cycle 1.

The questions used in Cycle 1 focused on venue, content, and facilitator quality. These were amended for Cycle 2, removing the questions on venue and extra work, and adding questions on the relevancy of content and commitments on how the participant would improve their commercialisation skills over the short and long term. The questions have remained unchanged since Cycle 2.

Platform and deployment

The survey was administered using Hubspot. Attendees are asked to complete the survey via a QR code at the end of their session, as well as being sent an email request to complete it. The surveys are kept open for approximately one week after the end of the course. A reminder is sent the day after the seminar or course, accompanied by the slide deck from the event.

Sample and response

Seminar participants are eligible for the survey if they attended the seminar in person or if they were admitted to the seminar in Zoom. Course participants are eligible if the attended 50% or more of the course days.

Response rate is reported for each 12-month cycle.

Cycle	Period	Response rate (%)
Cycle 1	2021-22	21.0%
Cycle 2	2022-23	27.3%
Cycle 3	2023-24	37.5%

S3: 12-month impact surveys

The 12-month impact surveys are sent to participants one year after attending to find out how they have used the information obtained during the Program.

The questionnaire asks if they are incorporated as a business, how many staff they have, how much capital (if any) has been raised, if they have begun clinical trials and how many patients have taken part, when they plan to enter the market, and what they hope to get from taking part in the Program. These surveys are designed, implemented and analysed by Cicada Innovations.

Development

The 12-month impact survey was developed and implemented in February 2023, covering cycle 2 attendees onwards. The content was designed to measure progress toward commercialisation since the end of the course and is matched with the results from the pre-attendance (baseline) survey (S1).

Platform and deployment

The survey was administered using Google Forms. Surveys are sent out ~12-months from the last day of the last course attended in that cycle. For example, if they were attending three courses over several months, the survey is sent 12 months after the conclusion of the last course attended. The invitation is sent by email, with a reminder email 1-2 weeks later and up to two follow up phone calls.

Sample and response

Participants are eligible for this survey if they are attending one of the six courses. People were excluded if they had already done the pre-attendance survey within the same cycle (i.e. for another course) or if another person from the same project or company had already completed the form. The response rate for Cycle 1 attendees was 51% (41 responses out of 80 participants) and the response rate for Cycle 2 attendees was 45.6% (41 responses out of 90 participants).

S4: Evaluation Survey (November 2024)

The Evaluation Survey asked past participants about their experiences of applying to the Program, how effective the Program was at improving commercialisation skills, the impact of the Program on the NSW commercialisation environment, and how it impacted on their current employment. The survey was designed, implemented and analysed by the Office's Evaluation Team.

Development

The survey was designed to provide answers to the questions stated in the Program Evaluation Plan. Questions were reviewed by staff from the Office's Enterprise Team (who lead on the Commercialisation Training Program) and by Cicada Innovations. Questionnaire flow was tested by Office's Business Analysts after being transferred to the online survey platform.

Platform and deployment

The survey was administered using REDCap electronic data capture tools hosted at the NSW Ministry of Health. Requests to participate were sent to email addresses, which were complete for 100% of participants.

The survey was open for three weeks. A reminder was sent to non-respondents after one week and another on the last day of the survey.

Sample and response

The survey was sent to 1178 past participants and 132 responses were received (11%). A high number of emails were no longer valid (142 emails that were either no longer in existence or with a message that people had left their roles), likely due to the survey covering participation back to 2014. Excluding these uncontactable people, the adjusted response rate was 13%.

Analysis methods

Analysis was conducted in Microsoft Excel for all surveys. Analysis consisted of moderate cleaning of participant data, minimal cleaning of response data, investigation of response bias, and calculation for reporting.

Response bias

The S1 surveys do not collect demographic response information that would allow investigation of bias. As is normal for satisfaction surveys, S2 are anonymous, preventing matching of sample and response data. These surveys do not ask demographic questions, meaning response bias cannot be determined for S2 either. The S4 surveys were not anonymous, allowing matching of sample and response data. State of residence, postcode and gender information were available for both sample and survey data, allowing review of survey bias.

S4 representativeness

Postcode information was available for 1010 of the 1177 participants. Of these, the following records were excluded from postcode analysis:

- four international postcodes
- four Australia post office boxes
- three invalid postcodes.

Postcode was used to determine state of residence (**Table 18**) and rurality, using the Modified Monash Model (**Table 19**).

Survey respondent participation by state was very similar to the sample composition. NSW respondents were slightly over-represented but not to the extent to require bias correction. Similarly, rurality was very similar in the sample and respondent populations.

Gender composition differed between the sample and respondents. More than half (54%) of participants were female but they only made up 48% of respondents. While this could have been corrected for by weighting the survey data, this would have meant excluding more than 10% of responses because they did not provide gender. As there was only moderate response bias, it was decided that benefits of weighting were not sufficient to merit losing so many responses.

Table 18: Comparison of participant and respondent state of residence

State	Sample n	Sample %	Response n	Response %
NSW	927	93%	106	96%
QLD	15	2%	0	0%
SA	8	1%	1	1%
VIC	46	5%	1	1%
WA	2	0%	2	2%
Total	**998**		**110**	

Table 19: Comparison of participant and respondent rurality

Rurality	Sample n	Sample %	Response n	Response %
1 (metro)	952	95%	102	93%
2 (regional centres)	6	1%	1	1%
3 (large rural town)	13	1%	3	3%
4 (medium rural town)	3	0%	0	0%
5 (small rural town)	24	2%	4	4%
6 (remote)	0	0%	0	0%
7 (very remote)	0	0%	0	0%
Total	**998**		**110**	

Appendix 3: Information collection

The following data is collected by Cicada for the implementation and management of the Program:

- application data
- S1 Pre-attendance (baseline) surveys
- S2 Post-participation satisfaction surveys
- S3 12-month impact surveys

Application data is used to inform recommendations to the Office on who is selected to participate in the Program and the S1 pre-attendance surveys provide information about their product, and therefore their needs. The S2 survey is used to monitor the delivery of the Program and the S3 impact surveys provide information used to assess effectiveness and value.

In addition, the S4 evaluation survey was conducted by the Office to support the 2024-25 evaluation.

Application data

- Course being applied for
- Contact details (name, email, phone)
- Job title and company
- Gender
- Postcode
- Role description
- Type of organisation currently working for
- How they heard about the Program
- Preference for attending: online vs in-person
- Information about their commercialisation product and the problem in tries to solve
- Personal mission/vision statement, battle cry or tagline
- The health technology area of their solution
- Stage of your business development
- How the idea/business got started
- Why they started this business/project
- The potential impact of their solution
- What makes their company unique, new, or innovative
- Who are their customers
- Progress to date
- Amount of funding raised
- Patents filed for this project
- Current IP situation
- Description of the core team/founders, and how the contribute to the project
- Number of people working on project
- Summary of discussions with customers, users, payers, or stakeholders
- Any affiliation, relationship, or partnership with any NSW innovation precincts or Local Health Districts
- Collaborations or partnerships formed
- Whether they have participated in an accelerator or commercialisation program before, and what program
- What they hope to learn by attending this course
- Any disability that organisers need to be aware of to ensure they get the most out of the course.

S1 Pre-attendance survey

- Contact details (name, email, phone)
- Whether they are incorporated as a business
- How many people work on the project (FTE)
- What capital they have raised for this project
- Sources of capital or investment
- Whether the technology has been piloted
- Details of any completed, planned, current or pending clinical trials
- Location of clinical trials
- How many patients took part in the clinical trials
- How many patients have benefitted from the technology to date
- Whether they are planning to enter the Australian market
- Markets of interest outside of Australia

- Any notable collaborations with universities, research institutes, health systems, or industry partners
- Any other notable milestones (e.g. awards)
- What is the most pressing question(s) you hope to have answered by the course.

S2 Post-participation satisfaction surveys

The post-participation survey questions have changed over time and vary depending on whether they are assessing seminars or the longer courses.

All seminars and courses are given a Net Promotor Score for comparison, which is the percentage of people giving a score of 8, 9 or 10 when asked how likely they are to recommend the Commercialisation Training Program to friends or colleagues.

Seminar survey questions

- The Program content addressed the course objectives well
- The Program had a good balance of relevant theoretical content and hands on experience
- The facilitators and subject matter experts were able to communicate Program content and key concepts clearly
- How relevant did you find the course to you?
- Further detail on the relevance of course content [open text]
- On a scale of 1 to 10, how likely are you to recommend this Program to your friends or colleagues
- Any additional feedback/comments.

Course survey questions

In addition to the questions above, the longer course includes the following additional questions.

- The facilitator was able to effectively engage with participants during the Program
- The Program motivated me to read or do extra work (retired after 2021-22)
- The training facilities were appropriate for the Program (retired after 2021-22)
- Growth Goal – immediate term
- Growth Goal – long term.

S3 12-month impact surveys

The 12-month impact survey asks similar questions to the pre-attendance survey, allowing comparison for how things have changed since their training.

- Whether they are incorporated as a business
- How many people work on the project (FTE)
- What capital they have raised for this project
- Sources of capital or investment
- Whether the technology has been piloted
- Any new patents filed/or granted in the past 12 months (new question)
- Details of any completed, planned, current or pending clinical trials
- Location of clinical trials
- How many patients took part in the clinical trials
- How many patients have benefitted from the technology to date
- Whether they are planning to enter the Australian market
- Markets of interest outside of Australia
- Any notable collaborations with universities, research institutes, health systems, or industry partners
- Any other notable milestones (e.g. awards)
- Their reflection on the past year, including any barriers faced, major developments, etc (new question)
- Top 3 priorities for the coming year (new question)
- What they need to support their commercialisation journey going forward (new question)
- If they have any peers, colleagues, or staff member that would benefit from participating in the NSW Health Commercialisation Training Program (new question).

S4 Evaluation survey

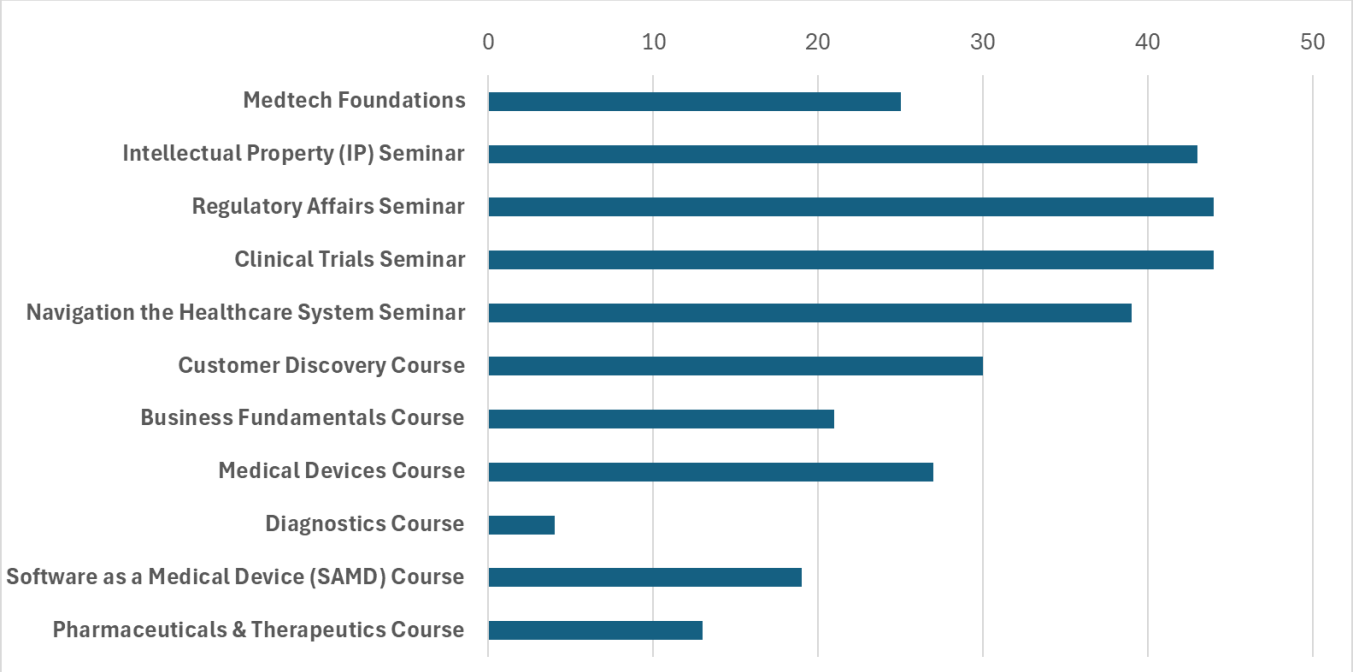
This survey was conducted in November 2024 to support the evaluation. The questions have a strong focus on the impact of training on knowledge and use of this information.

- List of which Commercialisation Training Program seminars or courses they have participated in
- What year they first participated in the Program
- How they attend those modules (in-person, online, or hybrid)
- How they first heard about the Program
- What they aimed to achieve by attending the courses and seminars
- Rating the application form for:
    - ease of understanding
    - appropriateness of information fields collected
    - the time and effort to complete the form
- How well Cicada communicated information about their enrolment
- If they contacted Cicada with questions prior to attending
- Rating Cicada's responsiveness to enrolment questions
- Whether their skills and knowledge increased in:
    - understanding the different pathways to commercialising health technology
    - evaluating and assessing potential customers or markets
    - understanding the different approaches to market
    - knowledge of ways to raise capital from public and private sources
    - ability to collaborate and form partnerships with other companies and organisations
- Whether the Commercialisation Training Program changed their access to expert advice, mentoring or support around commercialisation, and how it changed
- Whether they have remained involved with the Program since completing it, and how
- How satisfied they are with their experience of the Program
- Agreeing or disagreeing with the following statements:
    - the Program has been effective in increasing skills and knowledge in health technology commercialisation in NSW
    - the Program has contributed to positive economic outcomes for NSW
    - the Program has contributed to a more vibrant health technology ecosystem in NSW
    - the Program has made NSW more competitive in health technology at an international level
    - the Program has helped create commercialisation leaders in NSW
    - there is an ongoing need for a program like the Commercialisation Training Program in NSW
- Which Australian state or territory they believe is the strongest for commercialising health technology
- What the best thing about the Program is
- What could be improved about the Program
- Whether they are currently employed in the health technology sector in NSW
- Whether they are currently employed by NSW Health
- Whether they are currently working on a project that might result in a commercial product
- Whether they have been involved in starting up a health technology company as a result of the Program training
- Demographic questions including:
    - age
    - gender (self-identified)
    - Aboriginality
    - postcode (for rurality).

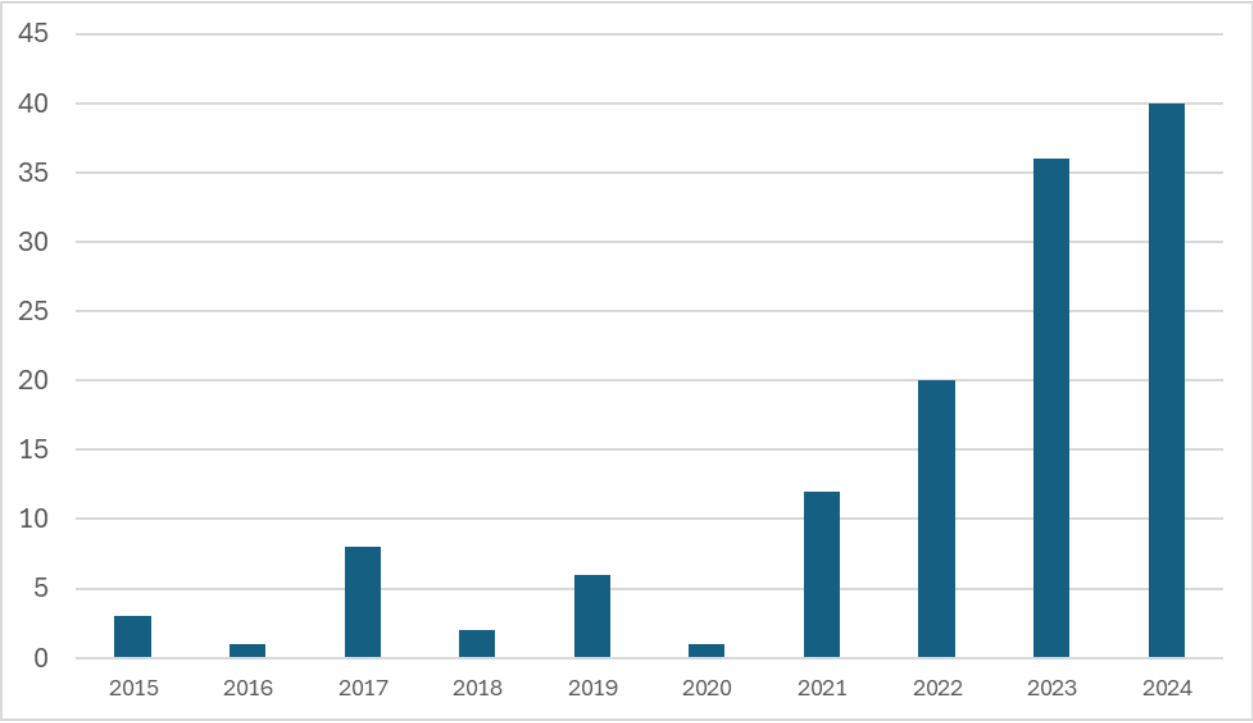
Appendix 4: S4 Evaluation survey result tables

Survey results for S1, S2 and S3 are produced by Cicada Innovations and provided in the Annual Program Report. S4 was conducted solely for the evaluation of the Program and are not reproduced elsewhere – for this reason, the results tables for this survey are available below.

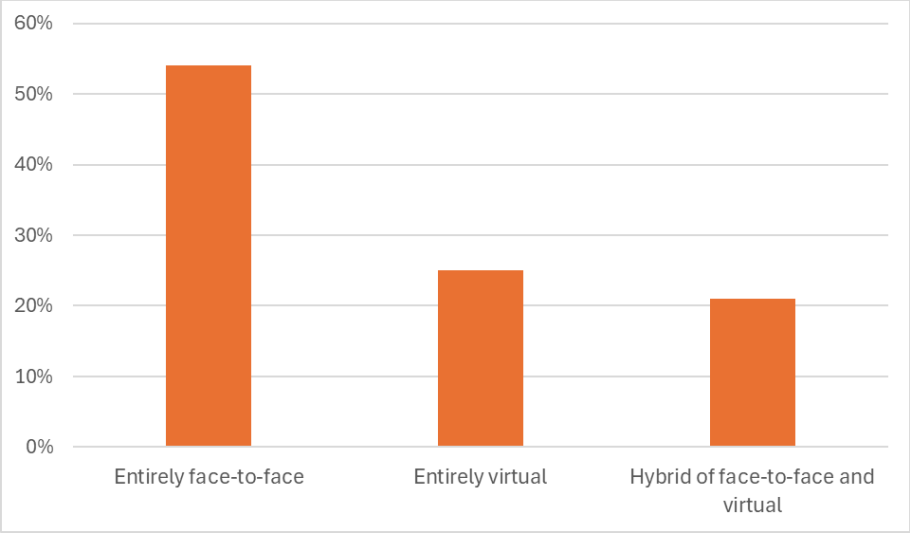
Number of survey respondents by seminar/course (n=129)



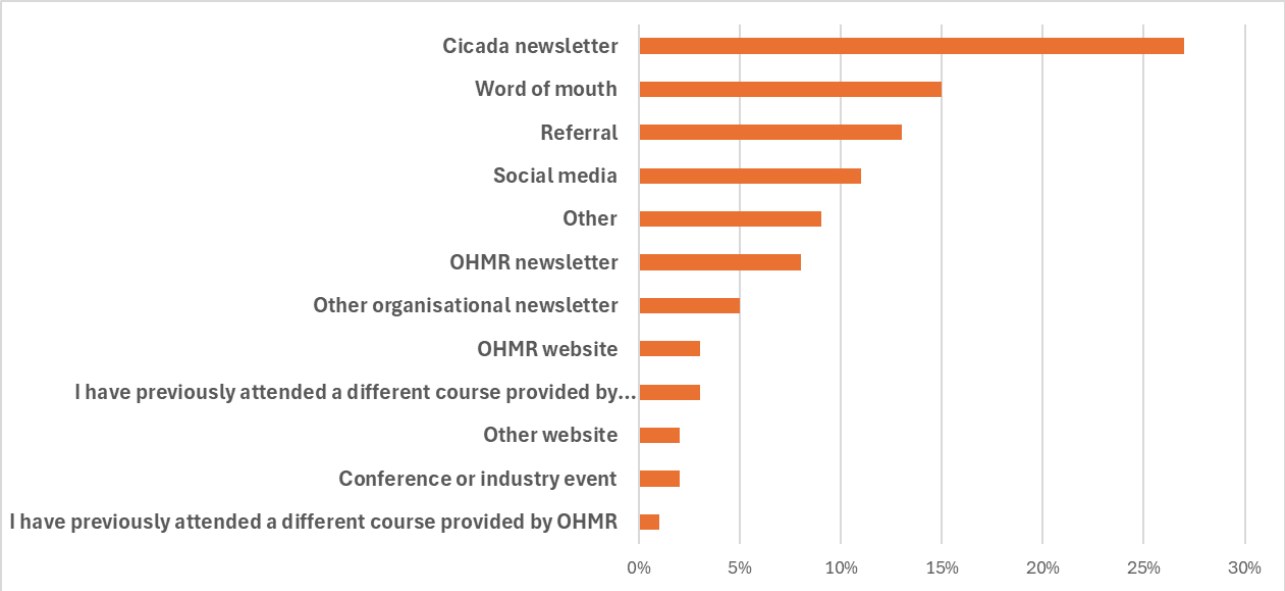
Respondents first year participating in the Program (n=129)



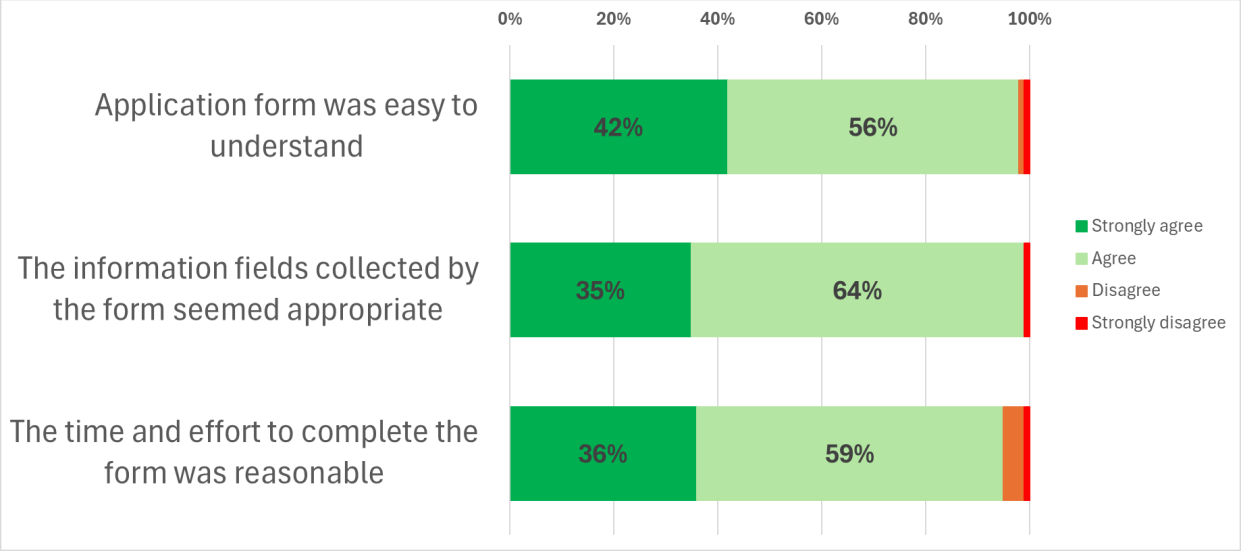
Method of attending in seminar or course (n=128)



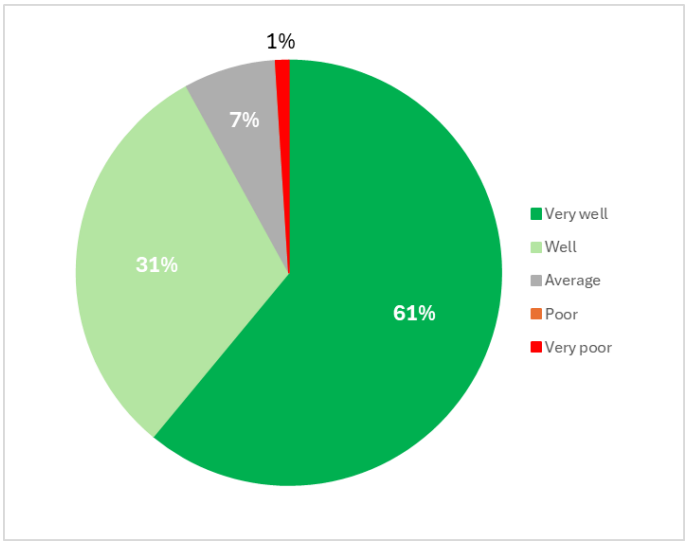
How the participant first heard about the Program (n=128)



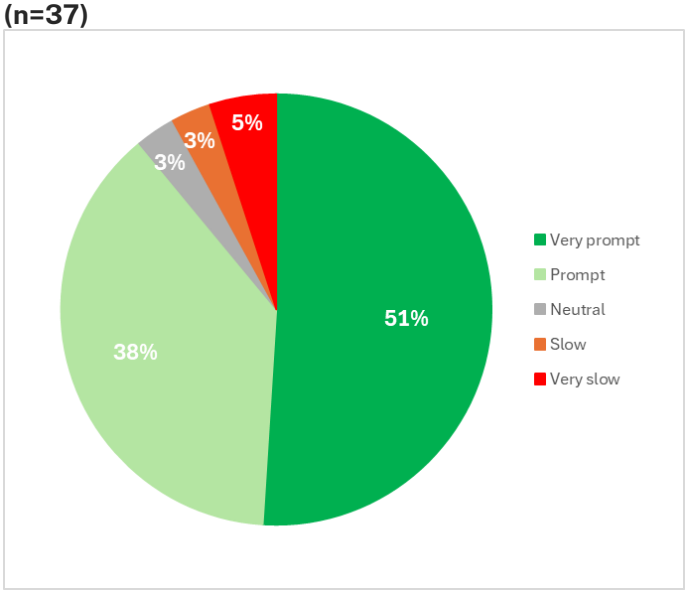
The application form – ease, required fields, and effort (n=125)



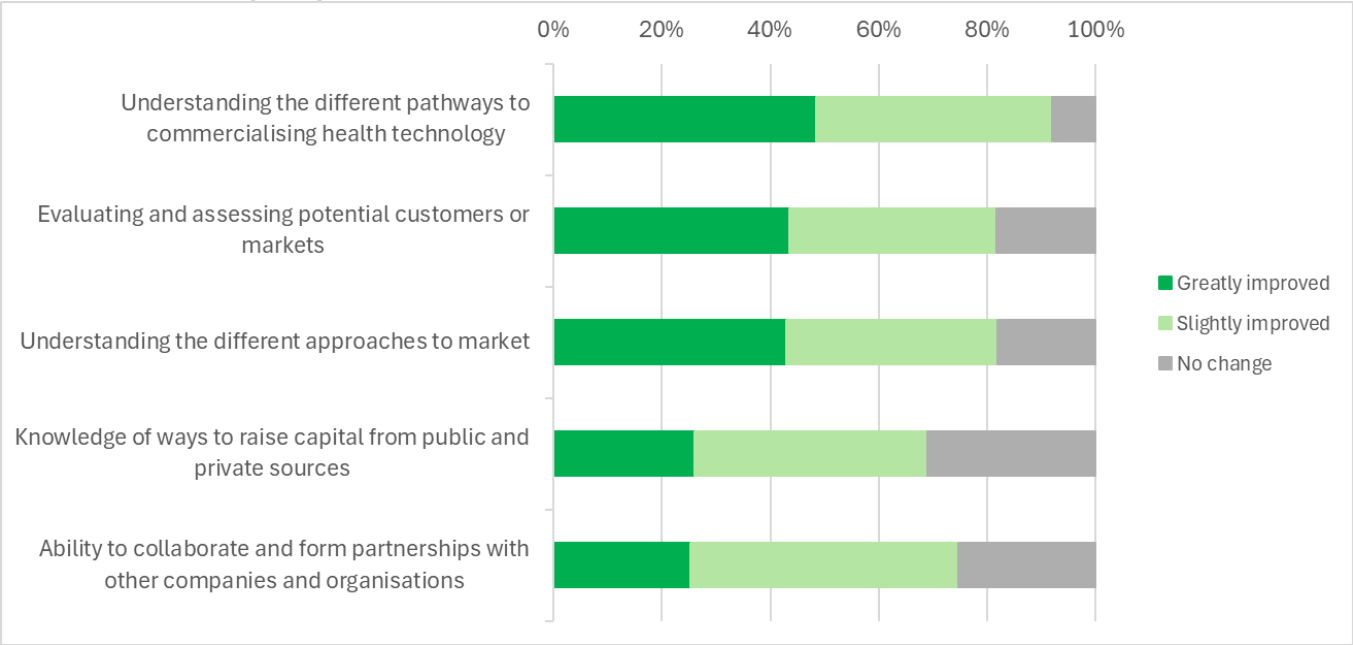
How well Cicada communicated information about enrolment (n=124)



How respondents rated Cicada's responsiveness to questions or concerns during the enrolment process (n=37)



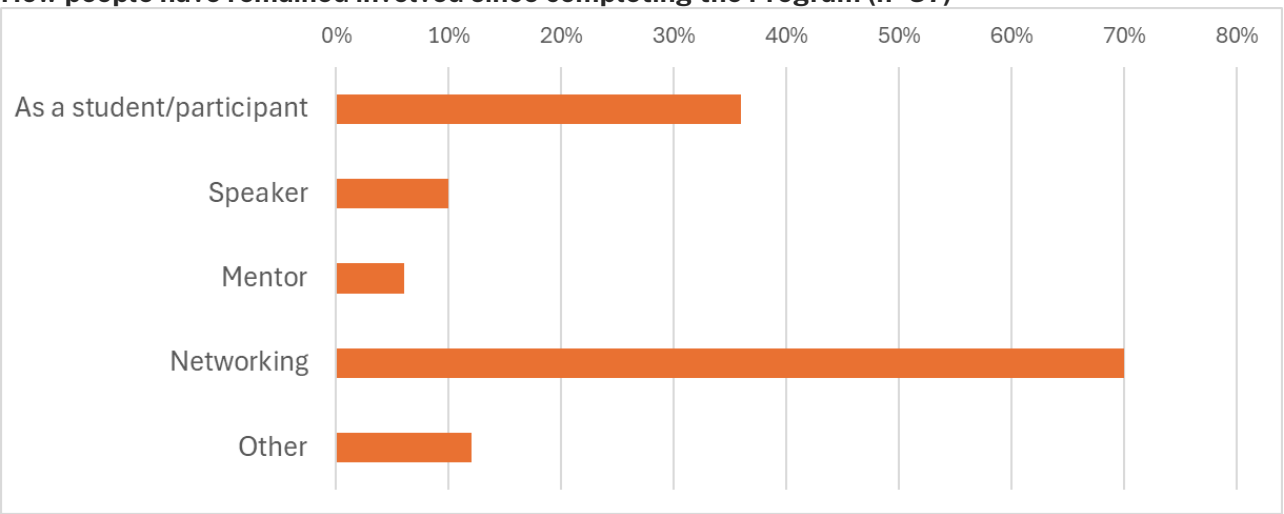
Skills and knowledge improvement (n=123)



Support and involvement (n=125)

	Yes	No
Has the Commercialisation Training Program changed your access to expert advice, mentoring or support around commercialisation?	58%	42%
Have you remained involved with Commercialisation Training Program since completing the program?	40%	60%

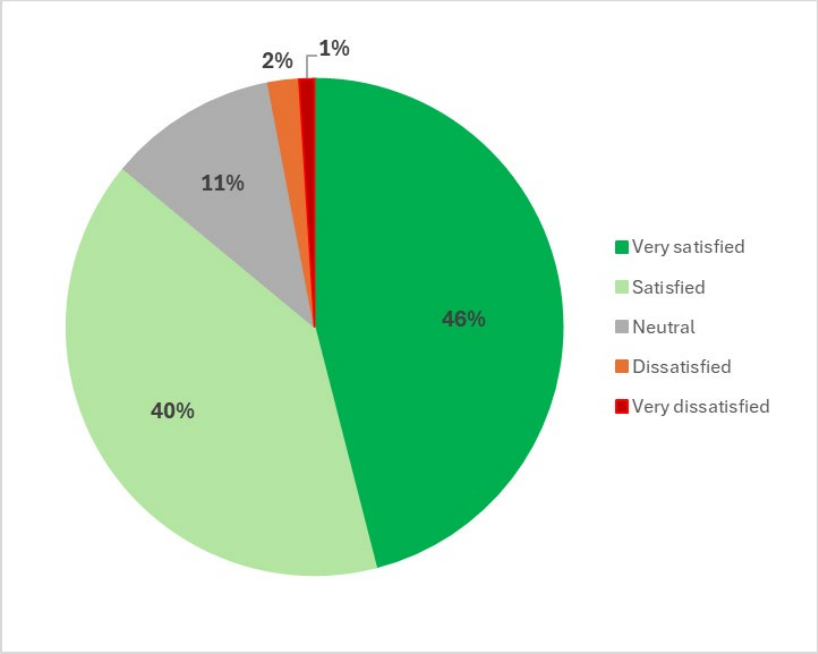
How people have remained involved since completing the Program (n=37)



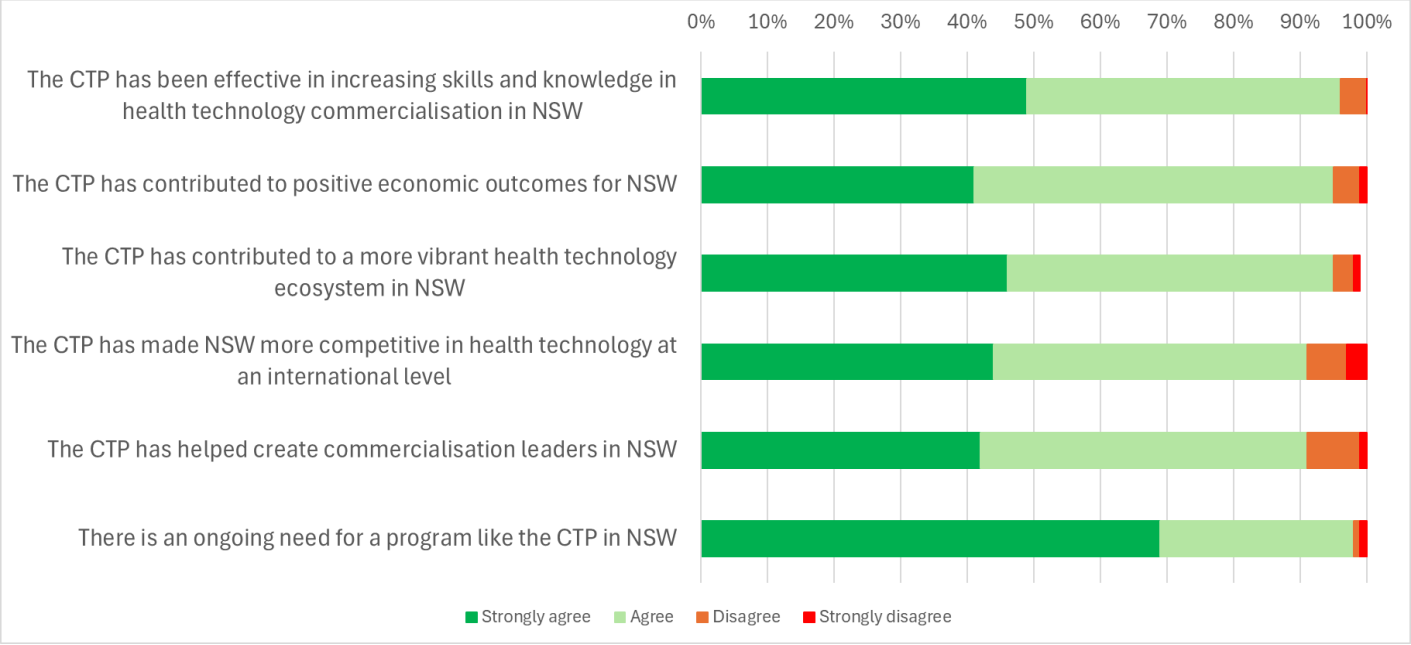
'Other' includes:

- helping others find and apply [to the Program]
- became part of the Cicada Innovations team
- receiving eNews and keep up with updates
- became a virtual resident.

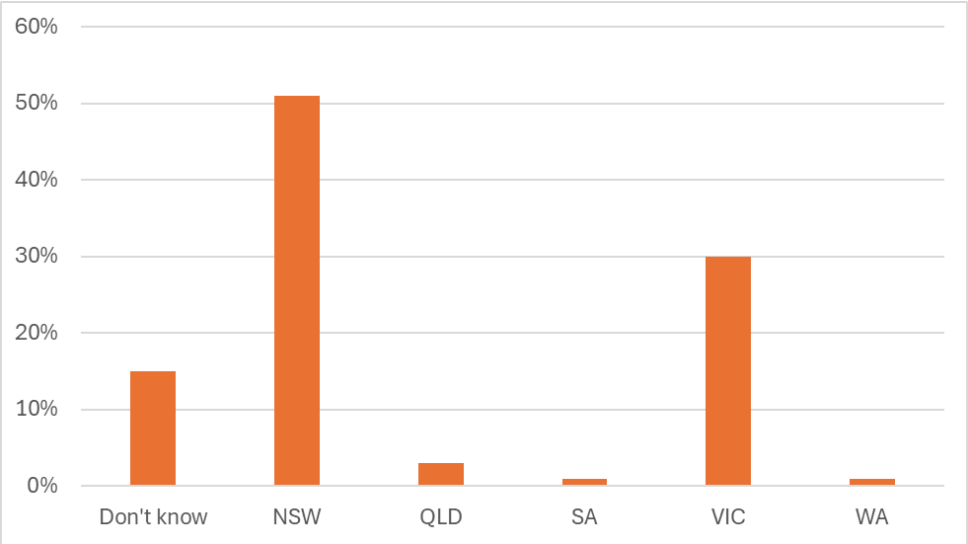
How satisfied people were with their experience of the Program (n=125)



Respondents views on statements of success of the Commercialisation Training Program (n=117)



Which Australian state or territory respondents felt is the strongest for commercialising health technology (n=118)



Which Australian state or territory respondents felt is the strongest for commercialising health technology*

	Yes	No
Are you currently employed in the health technology sector in NSW?	52%	48%
Are you currently employed by NSW Health?	15%	85%
Are you currently working on a project that might result in a commercial product?	75%	25%
Have you been involved in starting up a health technology company as a result of the Commercialisation Training Program training?	30%	70%

* respondent number varies by question. From top to bottom, respondent number was n=120, n=62, n=8, n=117.

Demographics (n=111)

Age	n	%
25-40 years	46	41%
41-55 years	42	38%
56-70 years	21	19%
Over 70 years	2	2%

Gender	n	%
Man or male	61	52%
Woman or female	56	48%
Non-binary	0	0%
I use a different term (please specify)	0	0%
Prefer not to answer	0	0%

Do you identify as Aboriginal and/or Torres Strait Islander?	n	%
Yes, Aboriginal	1	1%
Yes, Torres Strait Islander	0	0%
Yes, both Aboriginal and Torres Strait Islander	0	0%
No	110	100%

Modified Monash Model rating	n
1 (most urban)	102
2	1
3	3
4	0
5	4
6	0
7 (most rural)	0

In addition to these quantitative questions, the survey included the following free text questions:

- What did you aim to achieve by attending the Commercialisation Training Program courses and seminars?
- How has your access to expert advice, mentoring or support changed?
- What is the best thing about the Commercialisation Training Program?
- What could be improved about the Commercialisation Training Program?