

NSW Medical Device Commercialisation Training Program

2017



Health

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A Message from the Minister



Hon Brad Hazzard MP
Minister for Health
Minister for Medical
Research

The NSW Government has made significant investment in ensuring NSW has an exceptional health and research workforce to lead the health system now and into the future. Our State drives the discovery and application of new treatments, diagnostic techniques and technologies

With more than half of Australia's medical technology businesses based here, including two of the nation's most successful, Cochlear Ltd and ResMed Ltd, NSW leads medical device innovation and improvements in patient care by accelerating the development of technologies from concept to commercialisation.

The Medical Device Commercialisation Training Program (MDCTP) capitalises on medical technology excellence in the state by cultivating the entrepreneurial skills of clinicians and medical device researchers. It is specifically designed to develop the commercialisation skills of innovators of novel medical devices, to keep research talent in NSW, and ultimately deliver better health and economic outcomes.

I thank the Office for Health and Medical Research and Cicada Innovations who provided outstanding guidance to the MDCTP cohort this year.

To the participants of the program, I thank you for your innovation, your hard work and your perseverance. Your efforts will help grow the medical device sector in NSW and have real life impact on patients and health systems, here and globally.

A Message from Cicada Innovations



Chief Innovation Officer &
Head of Investment Strategy

Director, Medical Device
Commercialisation Training
Program

The NSW Medical Device Commercialisation Training Program (MDCTP) is a strategic asset critical to the development of commercialisation capability within NSW. The MDCTP capitalises on medical technology research excellence in the state by developing entrepreneurial skills in clinicians and medical device researchers.

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During the program, clinicians and researchers are exposed to commercialisation skills and practices that are often neglected in an academic environment. Over 12 weeks participants self-identify whether they are an entrepreneurial academic or an entrepreneur, explore the value proposition for their own unique technologies and engage face-to-face with stakeholders across the commercialisation continuum from patients and clinical specialists to payers and regulators, often leading to profound insights that change their business model. Upon completion, graduates of the MDCTP have a clear understanding of the market dynamics, market opportunity, capital requirements, regulatory and commercialisation pathways required to build a business and launch new products and services.

We are developing a pool of extremely talented researchers, technologists and clinicians who are able to translate complicated science and engineering into clear value propositions that solve real world health problems. The ability to communicate effectively with customers, funders and industry partners is critical to the success of technology commercialisation.

Minister Hazzard builds on the exemplary leadership and vision demonstrated by the Hon. Jillian Skinner in his commitment to innovation and capability development through his support of the Medical Device Commercialisation Training Program and the NSW Medical Device Fund. MDCTP has now graduated 50 post-doctoral medical device researchers and clinical specialists, each armed with knowledge and skills required to change the face of healthcare.

About the NSW Medical Device Commercialisation TRAINING PROGRAM (MDCTP)

The MDCTP is an intensive 3-month medical commercialisation training program for clinicians and medical device post-doctoral researchers.

The Program is delivered by world leading technology incubator Cicada Innovations (formerly ATP Innovations) on behalf of the Office for Health and Medical Research. The purpose of the program is to increase the commercialisation capability of medical device researchers in order to create health impact and develop new career opportunities in Australia.

During this intensive Program candidates are exposed to entrepreneurship and develop the necessary skills to commercialise their technologies including; customer discovery, medical device design and commercial value.

The course is based on extended Lean LaunchPad® methodologies going beyond the “Search” for the right business model to include structural elements of medical device commercialisation, including IP management, regulatory affairs and strategies to raise capital.

The MDCTP was first launched in 2014 in partnership with the NSW Government, to build medical device commercialisation capabilities in NSW. Graduates of the program have started companies, raised capital from investors, engaged industry partners, and received over \$15 million in grants and private investment funding to create job opportunities in Australia and abroad.

The MDCTP has also been awarded 12 credit points towards MBA Programs at UNSW and University of Wollongong.

From 2017, the program will provide learning opportunities for up to 200 NSW-based medical device technologists, academics, and clinicians each year over the next 4 years.

About Cicada Innovations

Cicada Innovations is Australia's leading deep technology business incubator. Cicada Innovations partners with science based startups to give them the best chance of achieving commercial success in the shortest time possible. Cicada Innovations works with researchers and entrepreneurs to help them raise capital, build a team, secure government grants, create new products, grow revenue and ultimately exit their business profitably. Cicada Innovations is industry agnostic with over 70 startups within the

portfolio that hold over 500 patents and employ over 400 Science, Technology, Engineering and Mathematics (STEM) staff. The experienced executive team has helped Cicada Innovations' portfolio companies raise \$81M in the past 12 months and have successfully led 10 companies to a profitable exit since 2006 including 9 trade sales and 1 Initial Public Offering. Cicada Innovations accepts applications from science based technology startups 365 days a year.



Where are they now?

MDCTP Success stories

Sheridan Gho and Michael Weaver

Dr Sheridan Gho and Dr Michael Weaver graduated with distinction from the MDCTP in 2014 and were jointly awarded a two-year scholarship at the Rosenman Institute. Dr Gho and Dr Weaver currently reside in the QB3 Garage@UCSF incubator in San Francisco. In their time in San Francisco they co-founded Cenofex Innovations, developed company quality control systems aligned with international standards, and developed working relationships with six lymphoedema clinicians, including physical therapists, nurse practitioners and a surgeon. The startup company aims to address the treatment of lymphoedema, a condition of localised fluid retention and painful tissue swelling, caused by a compromised lymphatic system, affecting one in three breast cancer survivors. Cenofex Innovations is a wearable sleeve that treats and manages the painful condition by actively massaging the lymphatic system, allowing patients to conduct normal lives.

Ilana Feain

Dr Ilana Feain graduated from the MDCTP in 2014 and is the founder and CEO of Nano-X, a cost effective and compact linear accelerator for radiotherapy. The innovation is in patient (rather than gantry) rotation. By rotating the patient, Nano-X decreases the cost and infrastructure requirements at hospitals. This makes the technology accessible and affordable for developing countries and rural areas, while delivering first world

health outcomes. Since completing the MDCTP, the company has been awarded close to \$3M from the NSW Medical Device Fund and the R&D team at The University of Sydney has received almost \$1M from NHMRC for commercial development. A full-size pre-clinical prototype has been installed and commissioned at Nelune Comprehensive Cancer Centre in Sydney with the first commercial machine expected to be completed by 2019.

Ryan Pawell

Dr Ryan Pawell founded Indee incorporated, a multi-national company, shortly after graduating in 2014. Dr Pawell raised acceleration financing for Indee Labs from SOSV and angel investors and proved out the technology in San Francisco during IndieBio. Subsequently, Indee Labs received an Innovate NSW Minimum Viable Product Grant to develop a user-friendly hardware prototype in NSW and was accepted into the AusTrade San Francisco Landing Pad to help with access to the US market. Earlier this year, Indee Labs was accepted into both QB3@953 in San Francisco and Y Combinator. QB3@953 and YC have helped Indee Labs sign its first customer. At the same time, Dr Amy Twite, Chief Scientific Officer, initiated therapeutic T-cell development in house.

Dharmica Mistry

Dr Dharmica Mistry graduated from the MDCTP in 2015 and was awarded an international engagement scholarship. Dr Mistry is the Chief Scientist at BCAL Diagnostics – a novel universal screening

test for the early detection of breast cancer. Dr Mistry received the “NSW Young Woman of the Year” award (2016) and was also announced as Young Executive of the Year (2016) in Australia by the Australian Financial Review (AFR) Boss Magazine. BCAL Diagnostics has secured patents in Australia and Japan. BCAL Diagnostics has an exclusive global license to the blood testing technology from the University of Louisville (UoL) in the US. In May 2016, the Japanese patent was granted and in September 2016 the Australian patent was granted. BCAL Diagnostics are currently in the process of rolling out the BCAL test and expect it will reach market by late 2017 or early in 2018.

Ali Fathi

Dr Ali Fathi graduated from the MDCTP in 2014, and is the founder of Triumph Technology Pty Ltd a biomaterials company. Triumph has developed a platform technology for repair of bone, cartilage and connective tissue. The company's first product, TriumphDent, has been developed specifically for dental applications. Since its incorporation in August 2015, the company has secured more than \$3.4 million in both private and public funding, including a NSW Medical Devices Fund Special Grant and an Accelerating Commercialisation Grant. Triumph has developed its own sterile facility in Alexandria and recently, TriumphDent was administered successfully to the first patient in Australia.

Robert Gorkin

Dr Robert Gorkin graduated from the MDCTP in 2015 and his company Geldom

has developed a new generation condom made with tough hydrogels. The material has enhanced feel and lubrication compared to latex and may be able to release pharmaceutical directly from the condom itself. Dr Gorkin used the NSW international engagement scholarship he was awarded to meet with global leaders to explore partnerships. In 2017 the Bill and Melinda Gates foundation awarded Geldom \$1.4 million to carry out clinical trials in Africa. In 2017 Geldom also won \$5,000 of design services for the people's choice award at Sydney Vivid Festivals Building Better Futures for Health: A Product Design Challenge.

Sean Pollock

Dr Sean Pollock graduated from the MDCTP in 2015 and is the Co Founder of Respiratory Innovations Pty Ltd. The company's flagship product, Breathe Well, guides breast cancer patients to hold their breath so their heart moves further away from radiation beam, minimising cardiac complications that otherwise arise through radiation damage. Through the MDCTP, Breathe Well customer engagement skyrocketed. In the short time since finishing the MDCTP, Dr Pollock has received over \$1.3 million from the NSW Medical Devices Fund, completed product development, commenced manufacturing, partnered with three radiotherapy centres and received letters of intent to purchase the product. Dr Pollock is currently preparing for the Australian market launch. The technology has also received interest from major American hospitals.

Meet our graduands of the MDCTP 2017



Thomas Millar and Burkhardt Schuett
TearView

Watery, blurry, red, itchy or dry eye, are all symptoms of dry eye disease. This disease is caused by the tears of the eyes not forming an effective protective film over the eyes after blinking. In severe cases, this diminishes the quality of life to the same level as having a badly broken hip. Confirmation that these symptoms represent dry eye disease is difficult because it is a complex disease with multiple causes and current diagnostic tests for dry eye disease are not effective. Even though dry eye disease affects 15% of the population, 82% of clinicians believe it is under-diagnosed. As diagnosis is a problem, treatment is generally a best guess for a particular tear substitute and the treatment cannot be monitored objectively. TearView breaks this cycle because it enables visualisation of the tear film in real time which can be used to determine the nature of the dry eye disease. Consequently, the treatment can be targeted and the effects of treatment can be objectively observed and evaluated. The ability of TearView to see the tear film means that it can also be used for diagnosis of other eye problems that affect the tear film.



Celi Varol
ProFocal-Rx

Focal therapy is a well-established technique of targeting and treating benign and cancerous lesions throughout the body. It has been used for years for brain, lung, liver, bladder, pancreas and kidney cancers. In recent years more powerful MRI (magnetic resonance imaging) machines have become available and enabled clinicians to visualise prostate cancer for the first time. The visibility of these cancers with MRI has enabled the development of ProFocal-Rx targeted laser therapy. ProFocal-Rx allows for at least 30% prostate cancer patients to have minimal invasive therapy instead of surgery or radiotherapy. It also allows curative treatment and peace of mind for patients who would have chosen active surveillance for their prostate cancer.

The ProFocal-Rx laser delivery unit is introduced in the proven abnormal cancerous area. ProFocal-Rx allows for real-time interactive treatment ensuring that the cancer is eradicated and ablated. The treatment is performed as a short outpatient procedure with the patient going home the same day. The side effects of the treatment are less than the diagnostic biopsies that are currently performed.



Tegan Cheng
Orthopaedic Plate for Blount's Disease

Blount's disease is a form of bowleg, which means that as a child grows their tibia grows at a different angle to the rest of their leg. It is a progressive disease, meaning surgical intervention is required to prevent the deformity getting worse. Currently, if the child is older than around 4 years, the treatment of Blount's disease involves an osteotomy, or cut in the bone, with a gradual correction using an external fixation frame. These frames are bulky, uncomfortable and require a significant and costly 4 to 6 month commitment on behalf of the patient, family and health care team. The Blount's plate is an orthopaedic plate that can be used for the internal correction of Blount's disease. This approach transforms the surgical management of Blount's disease into a fully internal one, meaning that there is no need for an external fixation frame. The Blount's plate would give the patient the freedom to play as a child without the restrictions of an external frame. This plate has the potential to save the health care system from 4 to 6 months of intensive outpatient follow up care, including appointments with the surgeon, radiology, physiotherapy and a specialist care nurse. This plate has the potential to improve the experience and effectiveness of patients being treated for Blount's disease without sacrificing quality of care.



Celeste Coltman
BraVo Sports Bras

Two out of every three Australian women are overweight or obese, equating to 6.5 million women nationally. Research shows that women who are overweight or obese have 2-3 times the breast volume of women of a normal body mass. With a limited range and availability of bras designed to cater for these larger sizes, this can lead to problems finding a bra to both fit and sufficiently support their breasts during exercise. As a consequence of ill-fitting or unsupportive sports bras many women with large breasts are not gaining sufficient support from their sports bra. This can lead to pain and embarrassment during physical activity and can be a barrier to participating in physical activity. Removing the bra-barrier to physical activity for overweight and obese women with large and hypertrophic breasts is important from a public health perspective in order to enable these women to enjoy the benefits of physical activity, which in turn leads to improved health outcomes.

BraVo Sports Bras provide a better solution by using accurate and detailed three-dimensional body scan data of the breasts and torsos of women in conjunction with a deep biomechanical understanding of how the breasts move during motion. That is, sports bras specifically designed to comfortably fit and support the breasts of overweight and obese women with large and hypertrophic breasts.



Sarah McDonald
Oli

Current methods of obstetric monitoring are cumbersome, restrictive and rely on subjective interpretation which is known to increase intervention. This poses a problem for mother and baby, clinicians, hospitals and health systems. When a mother is monitored with current methods it can be a distressing experience, compromising her comfort and mobility while impacting outcomes for herself and her child. Subjective interpretation of data often results in inappropriate and late intervention, requiring substantial resources, placing significant burden on the health systems.

Oli is a non-invasive patch which monitors pregnancy and labour progression. The technology allows for more objective measures to identify complications, assess intervention performance and improve outcomes. Oli provides real time feedback on uterine activity, maternal and fetal well-being, exertion, movement and how these all correlate to progression. Oli allows for remote monitoring without impacting maternal activity.



Qiao Qiao
Joi

One in six couples worldwide experience infertility and approximately 3-4% of all babies born in most western countries are the result of advanced assisted reproductive technologies, such as in vitro fertilisation (IVF). Despite its widespread use, IVF remains inefficient with only a 17.9% success rate (live birth/IVF cycle initiated), and it is expensive. Egg (oocyte) quality is one of the key rate-limiting factors in IVF success.

Joi is the world's first non-invasive in vitro diagnostic test that directly measures key biomarkers produced by the oocyte from multiple biological samples. By better selection and implanting a healthy egg, it is anticipated that the success rate in patients undergoing IVF treatment will be improved. Compelling evidence has been generated using a variety of clinical samples from healthy volunteers and patients with ovarian diseases. In addition, to assessing the quality of oocyte, this test may also be used to estimate the quantity of eggs available and to diagnose certain ovarian diseases such as endometriosis.



James Wright
XoCo

Exoskeletons promise to significantly improve the daily lives of the sufferers of paralysis, if they can be made easier to control. Spinal cord injuries are relatively rare in Australia, but they often occur to young people leading to lifelong disability. The direct costs to the healthcare system are consequently very high, estimated at more than \$10 billion for cases that occurred in this year alone (Access Economics “The economic cost of spinal cord injury and traumatic brain injury in Australia”).

The indirect costs to families and caregivers are even higher. XoCo is developing a closed loop neuroprosthetic controller for a lower body exoskeleton, to assist with balance and gait coordination during operation by spinal cord injured users.



Mohamed 'Haroon' Kasim
Health.ly – a digital integrated healthcare platform

With an ageing population and a growing number of people living with chronic or complex health conditions, people's health needs are changing and demands on the health system are increasing. health.ly, a digital integrated healthcare platform, creates better connected models of healthcare that improves outcomes for health consumers by making it possible to access high quality care - anytime anywhere. health.ly improves health outcomes by providing patients with a more convenient and personalised service through informing, educating, and supporting treatment adherence. It helps with sharing of clinical information between hospitals, specialists and general practitioners, and reduces unnecessary duplication of pathology and radiology tests.

The technology also allows patients access to high quality cost efficient healthcare at home by using digital communication such as e-visits, e-prescriptions and two-way remote monitoring. As a result more patients can be cared for in the community with a reduction in avoidable hospitalisations and emergency department attendances. The patient experience is improved by enabling the right care to the right patient at the right time – each time and every time.



Nicky Agahari ***InConfidence***

Incontinence affects over 5 million Australians with one in three women and one in four men over the age of 50 suffering from loss of urinary and/or faecal control. Within the ageing population, incontinence is highly prevalent affecting up to 70% of all geriatric patients in residential age care and in-home community care. The problem of incontinence is not limited to the symptoms of urgency, frequency and night time waking to relieve urinary and faecal urges. It is often the loss of dignity patients feel when they are forced into managing their incontinence with adult diapers. Pharmaceutical options are often unsuitable due to polypharmacy interaction and side effects. Surgical treatment is invasive and comes with significant risk.

InConfidence is a discreet, non-invasive, wearable medical device worn around the ankle for twenty minutes a day. It works through transcutaneous electrical stimulation of the posterior tibial nerve found on the ankle. The posterior tibial nerve is a peripheral nerve of the sacral plexus which innervates both the bladder and bowel. Stimulation of this nerve normalises the neural communication between bladder/bowel and the brain. Just like a phone call on a clear line, the brain is able to 'hear' exactly what the bladder and bowel are trying to communicate and restore normal continent function in the patient.



Sankar Arumugam ***RO-TrackerSuite***

Modern radiotherapy techniques allow highly conformal radiation dose delivery to cancer. Accurate positioning of patient/tumour during the delivery of treatment is paramount to ensure the correct dose is delivered to kill the cancer cells and avoid damage to nearby normal tissues. However, the tumour position during radiation delivery can be affected by patients' involuntary movement and the motion of internal organs. Real time tumour position monitoring ensures the accurate positioning of the tumour during radiotherapy delivery. General purpose linear accelerators (radiotherapy machines) do not have this functionality.

RO-TrackerSuite is a software system that enables the real time tumour position monitoring functionality in a general purpose linear accelerator that comes with standard x-ray imaging capability. With RO-TrackerSuite, real time tumour position monitoring can be performed for the majority of treatment sites such as prostate, liver, pancreas, lung, brain and spine. RO-TrackerSuite has the functionality to perform real time position monitoring based on the radiopaque markers implanted in or in the vicinity of tumour. In the treatment sites where implants are difficult or not possible, RO-TrackerSuite has the functionality to perform real time position monitoring based on the internal anatomical surrogates that are closer to tumour.



Maryam Parviz **PC Diagnostics**

More than 10 % of men experience prostate cancer in their lifetime. The prostate-specific antigen (PSA) test is the current golden standard method of prostate cancer detection. However, more than half of PSA tests produce false-positive results which cause stress and anxiety in patients as well unnecessary biopsy examinations.

PC Diagnostics aims to revolutionise the way that prostate cancer detection and therapy are managed by introducing a urine test for the detection of the disease. This technology will avoid many unnecessary biopsy examinations by presenting more accurate results. This is important to reduce the psychological pressure on men who are screened for prostate cancer as well as avoiding unnecessary costs of biopsy tests. Development of this technology will also promote more regular check ups by men and may lead to earlier detection of cancer promoting more active surveillance. Solutions for more advanced prostate cancer are such as radiotherapy and surgery cause such as urinary incontinence and sexual dysfunction. The application of the PC Diagnostics technology will utilise simple urine tests for prostate cancer detection and will promote regular and more accurate prostate cancer screening.



Saber Mostafavian **Sooma**

According to the World Health Organisation's Vision 2020 report, there are approximately 300 million visually impaired people in the world. In Australia alone, there are more than 2 million visually impaired people with non-refractive eye conditions. These conditions obstruct the view, create blind spots or loss-in-detail at different locations of the eye. Due to the complex anatomy of the eye, the nervous system and how they interact together, an effective medical treatment has not yet been developed. However, technological advancement can offer an alternative pathway for people suffering from visual impairment.

SOOMA is an electronic vision enhancement device developed specifically for legally blind people who suffer from visual impairment. SOOMA is designed as a modular electronic eyewear capable of producing individually customisable images. Live videos are captured by cameras mounted in the eyewear which, through a novel near real-time image processing procedure, is then displayed in front of the eyes. This is a practical solution for addressing non-refractive eye conditions to meet the needs of individuals from childhood to adulthood.



Jonathan Arthur
Kyyron

Patients who are granted access to the clinical notes prepared by their doctor during a consultation report a greater sense of control over their healthcare and a better understanding of their health. Kyyron offers people the ability to regain a sense of control of their healthcare by helping them to manage their health and medical data. Initially, the product is targeted at informed health consumers who either have chronic or complex health needs, or care for a person who does. The app will provide these individuals with the ability to keep track of, and prepare for, their multiple healthcare appointments, with multiple doctors and providers. It will also provide a place to make notes and collect the results associated with these appointments. This information will then be readily available to the individual, or a health care provider they share the information with, whenever and wherever it is needed.

Over time, the app will expand to become a personal, historical record of individual health, bringing together a personal copy of official medical records alongside the individual's own notes and insights, to create a single, centralised repository of an individual's health and medical data.



Nicole Cockayne
Saving young lives with a psychologist in your smartphone

One in four young people in Australia suffer from mental health disorders such as depression. Further, around half of all adult mental illnesses emerge by the age of 15. Failing to address these issues in adolescence is associated with more severe clinical presentation throughout life, as well as poor academic performance, social dysfunction, substance abuse and suicidal thinking. As the human, social and economic consequence of this can be devastating, mental health is one of the greatest challenges of the 21st century. While there is considerable evidence to demonstrate that early intervention can dramatically change the course of an individual's mental health trajectory, up to 60% of young people will not seek help. The stigma associated with mental illness prevents many from reaching out, along with accessibility and cost of existing best practice treatment - face-to-face psychological therapy.

Delivering early intervention strategies to young people using technology will remove these barriers. Smartphone use is ubiquitous with more than 80% of young people owning their own phone. As such, the Black Dog Institute developed an app that delivers best practice psychological therapy. The app focuses on sleep problems, a common precursor to the development of depression, which is less stigmatising and more appealing to young people. By utilising gaming technology to engage young people in treatment, the app overcomes existing barriers to help-seeking and ensures support is available 24/7. With young people preferring the privacy, anonymity and interactivity that this technology allows, this app will be key in preventing the emergence of mental health symptoms during the critical adolescent period.



Ashkan Javadzadegan

Condicion

Heart disease kills one Australian every 27 minutes. Heart attack as an endpoint of heart disease is unpredictable. During a heart attack, heart muscle is damaged as it is deprived of its normal blood supply. The extent of damage depends on severity of heart attack as well as the time between the attack and treatment.

Condicion is a non-invasive medical device that exercises the heart and stimulates the release of endogenous substances into the bloodstream that reach the heart to exert heart-protective effects. This may prevent damage to the heart muscle, or limit the extent of the damage during a heart attack.

The device can be used at home while sitting or lying down to prevent heart attacks. It can also be used in ambulance during patient transport to hospital to reduce the extent of heart damage following a heart attack. Another application of Condicion is in pre- and post-operative care of patients undergoing a heart procedure.



Chelsie O'Connor

MRI-Linac

Currently CT scans are used to design and deliver radiotherapy treatments for cancer. However, MRI scanners provide more superior tumour and normal tissue imaging. Being able to use MR images in radiotherapy treatment and planning will allow the delivery of more targeted radiotherapy to cancers while reducing the impact on normal tissue. The technology required to combine a linear accelerator radiotherapy machine and an MRI scanner is complex and challenging.

MRI-Linac technology is working on a prototype combining a linear accelerator radiotherapy machine and an MRI scanner in order to deliver more targeted radiotherapy to cancers while sparing normal structures nearby. With \$27 million of grant funding and world class research MRI-Linac technology is well placed to contribute to the future of radiotherapy treatment and transform the lives of cancer patients.



Alistair McEwan
Nutritech

Over half of NSW adults are overweight or obese and this is now the second leading risk factor of disease in NSW, ahead of smoking. Malnutrition is also a major concern in requiring regular monitoring as it increases healing times, costs and readmissions.

This device provides an accurate measurement of percentage body fat in an instrument which is much smaller, safer and easier to use than comparably accurate devices that are much less practical.

Using IP developed at the University of Sydney and support from the Bill and Melinda Gates Foundation, the device has been validated against gold standards in over 650 participants. This device and service will aid dietitians, fitness instructors, nurses, and medical practitioners to address the clinical conditions of obesity, overweight and underweight.

The motivational way in which information is presented will increase adherence by participants and allow caregivers to track and provide quantified information on nutrition and exercise management. This will allow improved management of obesity and other clinical nutritional issues where optimised nutrition is desired including cancer care, paediatrics, aged care, intensive care, pregnancy, and eating disorders. Through better management quality of life will be improved and health costs reduced by reducing hospital readmissions and chronic disease.

