



centre of excellence

**treatable traits**

Annual Report 2022-2023

## Message from the Directors

Our second annual report has landed and what a year it's been! We have seen a shift from online only communication to hybrid style meetings, and now we are back to many face to face gatherings. How great they have been! Reconnecting with colleagues and friends in dynamic, exciting science and social environments has been a highlight over the last 12 months, and the outputs and achievements of the centre have certainly reflected this.



So, what have been some of our highlights? How about the Medical Research Futures Fund issuing a targeted call for Treatable Traits research! Can't tell you how thrilled we were to find that announcement in our inboxes. As many of you will know we also had some success in this round, these grants are highlighted in this report. The same call is currently open for 2023, we know many are working away on submissions for this year. It is a real achievement of all the Treatable Traits researchers, and a reflection on the impact of our work to have the government direct targeted funding towards Treatable Traits research.

To support applications to our national funding bodies we held an inaugural Science Development meeting in February. This was a great opportunity to bring together TT researchers to further develop and refine ideas for future applications. This was a fantastic day of science discussion and has led to several new projects under development for funding applications this year. The meeting met a number of our key objectives including, new knowledge, collaboration, and training and development.

Another of our objectives is translating research into practice. What better way to reflect our success here than highlighting the launch of the Asthma and Pregnancy Toolkit! Congratulations to everyone involved in this and particularly to the Asthma and Pregnancy CRE theme for your leadership. As an offspring of the Severe Asthma Toolkit launched in 2018, the Asthma and Pregnancy toolkit provides clinicians and researchers with evidence-based treatment recommendations, education, and resources at their fingertips! Our next goal in this space is the Vocal Cord Dysfunction toolkit... stay tuned!

We also held two very successful Roundtable discussions to aid translation to practice and new research. These were in Vocal Cord Dysfunction, and Landscape Fires and Asthma. Reports of these meetings will be published soon.

There are so many other achievements that are outlined in this report. However, working with the fabulous teams of people across the country and globe as part of the centre in our pursuit revolutionise the management of chronic airway disease, and working with patients with these conditions to improve their lives is the greatest highlight. It is a privilege, and we are grateful to everyone involved in the centre for your collegiality and commitment.

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## About Us

### Who are we?

We are a consortium of world-renowned clinicians, researchers and peak respiratory organisations who are collaborating to improve healthcare outcomes for people with airway diseases.

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*Our mission is to revolutionise the management of chronic airway disease by testing and implementing "Treatable Traits" approaches - A new paradigm for personalised medicine.*

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### Why are we doing this?

The crisis point is now for people with lung disease. In Australia at least one person dies every day from asthma, and 19 people die per day from COPD. Additionally, asthma deaths are on the rise in developed countries.

The improvements in asthma outcomes that were achieved in the late 20th Century are being lost. This is extremely alarming because asthma and COPD are treatable diseases.

A feature of asthma and COPD is the variability, or heterogeneity of presentation. Heterogeneity assumes that within and between individuals, the clinical, biological, and functional presentation of diseases vary.

While current management approaches have led to significant improvements in outcomes, they are unable to sufficiently address this heterogeneity. Personalised medicine is a novel approach to disease management that is delivering considerable improvements in disease related outcomes and health related quality of life in many areas of medicine, including cancer and other respiratory diseases. Personalised medicine accounts for heterogeneity by targeting to the needs of individuals based on distinguishing genetic, biological, phenotypic, or psychological characteristics.

The variability of clinical presentation and treatment response is recognised among clinicians who manage chronic lung diseases; however, this variability is not routinely addressed.

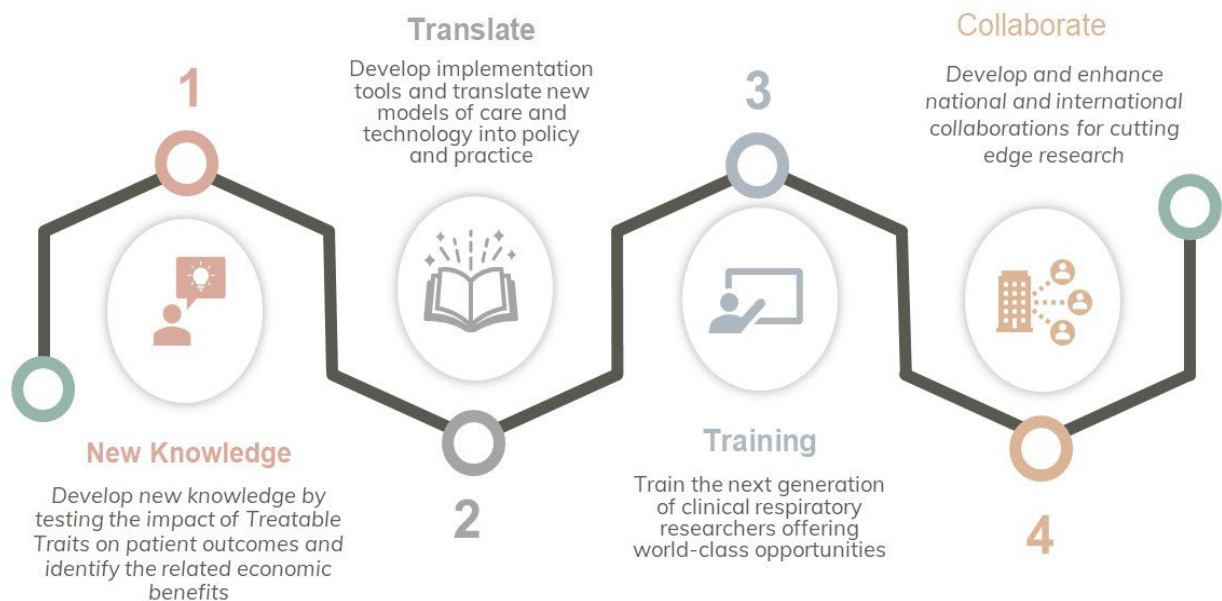
A proposed solution to address the excessive disease burden faced by people with asthma and COPD is a personalised-medicine based strategy called-

***"Treatable Traits."***

## Our Aims

We aim to revolutionise the management of chronic lung diseases by testing and implementing the “Treatable Traits” approach. Whilst doing this we will train the next generation of clinicians and researchers, increase global collaboration, and ensure improved outcomes for people with chronic lung diseases into the future.

The Centre of Excellence -Treatable Traits will generate new knowledge to support the Treatable Traits approach and ensure translation into practice through our innovative research and education programmes.



## Annual Progress Snapshot

We have been very productive over the past year. Below is a brief snapshot of our progress.



## Our People

### Directors

Professor Vanessa McDonald  
Professor Peter Gibson

### Chief Investigators

Professor Richard Beasley  
Professor Andrew Searles  
Associate Professor Vanessa Murphy  
Professor Philip Bardin  
Professor Anne Holland  
Professor Ian Pavord  
Professor John Upham  
Professor Michael Peek



### Associate Investigators

Professor Alvar Agusti  
Associate Professor Celso Carvalho  
Mr Gregory Archbold  
Mr Anthony Flynn

### Research Fellows

Dr Rebecca McLoughlin (University of Newcastle, NSW, Australia)  
Dr Paul Leong (Monash Health, VIC, Australia)  
Dr Dennis Thomas (University of Newcastle, NSW, Australia)  
Dr Hayley Lewthwaite (University of Newcastle, NSW, Australia)  
Dr Tesfalidet Beyene (University of Newcastle, NSW, Australia)  
Dr Janine Mahony (LaTrobe University, Melbourne, VIC, Australia)  
Dr Arwel Jones (Monash Health, Melbourne, VIC, Australia)  
Dr Alex Gordon (University of Newcastle, NSW, Australia)  
Dr Christian Osadnik (Monash Health, Melbourne, VIC, Australia)  
Dr Eve Denton (The Alfred, Melbourne, VIC, Australia)  
Ms Janet Bondarenko (The Alfred, Melbourne, VIC, Australia)  
Dr Jenny Sparks (MRINZ, Wellington, New Zealand)  
Dr Joy Lee (The Alfred, Melbourne, VIC, Australia)  
Dr Eleanor Majellano (University of Newcastle, NSW, Australia)  
Dr Donna-Marie Palakiko (University of Hawaii, Manoa, USA)  
Dr Esha Joshi (University of Newcastle, NSW, Australia)  
Dr Elissa Elvidge (University of Newcastle, NSW, Australia)  
Dr Annelies Robijn (University of Newcastle, NSW, Australia)  
Mrs Jordan Jeffery (HNELCD John Hunter Hospital, Newcastle, NSW, Australia)



### Research and Education Affiliates

Emeritus Professor Jennifer Oates (La Trobe University, Melbourne, VIC, Australia)

Ms Adriana Avram (Monash Health, Melbourne, VIC, Australia)

Dr Debbie Phyland (Monash University, Melbourne, VIC, Australia)

Dr Joo Koh (Monash Health, Melbourne, VIC, Australia)

Mr Laurance Ruane (Monash Health, Melbourne, VIC, Australia)

Ms Elizabeth Leahy (Monash Health, Melbourne, VIC, Australia)

Mr Malcolm Baxter (Monash Health, Melbourne, VIC, Australia)

A/Professor Woo-Jung Song (University of Ulsan, Seoul, Korea)

### PhD Students

Ms Paola Urroz (University of Newcastle, NSW, Australia)

Dr Esha Joshi (University of Newcastle, NSW, Australia)

### Centre Staff

Dr Vanessa Clark – Centre Research Manager

Ms Amy Cashmore – Centre Administration Officer

Ms Olivia Lewis – Communications and Marketing Officer

### Centre Executive

The Centre executive is comprised of our two directors, Professor Vanessa McDonald & Professor Peter Gibson, the Centre Research Manager Dr Vanessa Clark, and the Centre Administration Officer, Ms Amy Cashmore.



## People of the Centre: Dr Dennis Thomas

*Dennis is a post-doctoral research fellow in the Centre of Excellence in Treatable Traits.*

[dennis.thomas@newcastle.edu.au](mailto:dennis.thomas@newcastle.edu.au)

Phone: (02) 4042 0199



**Current Research:** Dr Thomas' current research focuses on digital asthma care and asthma remission. Dr Thomas is currently coordinating an RCT comparing the acceptability and effectiveness of a Virtual Model of Antenatal Asthma care to a face-to-face model of care. He is also coordinating the development and evaluation of a comprehensive, national, digital asthma care program in collaboration with Asthma Australia (funded by the MRFF Clinical Trials Activity scheme). Dr Thomas was instrumental in conceptualising and advancing the remission concept in severe asthma. He led the pioneering review in this area, which provided insights into how remission can be achieved in the current scenario. Dr Thomas' research also proved that remission could be achieved in severe asthma using biologics and azithromycin.

**Why do we need to implement treatable traits?** The treatable traits model of care raises the hope for asthma remission as a therapeutic goal by ensuring the right treatment for the right patient at the right time.

**What inspires you?** Advances in medicine.

**What is the best advice you have ever been given in regard to your career?** The visionaries change the world. Imagination is the root of innovation. Dream big, be tenacious, and let your dream pave the way for a brighter future.

### Asthma Remission

**What is asthma remission?**

A high level of disease control – the absence of signs and symptoms of asthma for  $\geq 12$  months

Types of asthma remission	
Types	Either on or off treatment:
Clinical remission	<ul style="list-style-type: none"> <li>• No symptoms</li> <li>• No attacks</li> <li>• Optimisation of lung function</li> </ul>
Complete remission	<ul style="list-style-type: none"> <li>• Clinical remission plus normalisation of underlying pathology</li> </ul>

**Prevalence**

Spontaneous remission in adult asthma patients 2-52%

**Potential treatments to induce remission**

**Biologics**

- Highly effective in eosinophilic asthma

**Macrolides**

- Treat eosinophilic and non-eosinophilic asthma

**Treatable traits approach**

- Many underlying treatable traits contribute to the multifaceted aetiology of asthma
  - Identifying and treating all underlying traits may improve asthma outcomes

**Early intervention**

- People accumulate health and psychological issues over time, including iatrogenic issues.
- Timely targeted intervention might halt asthma progression

## Our Research

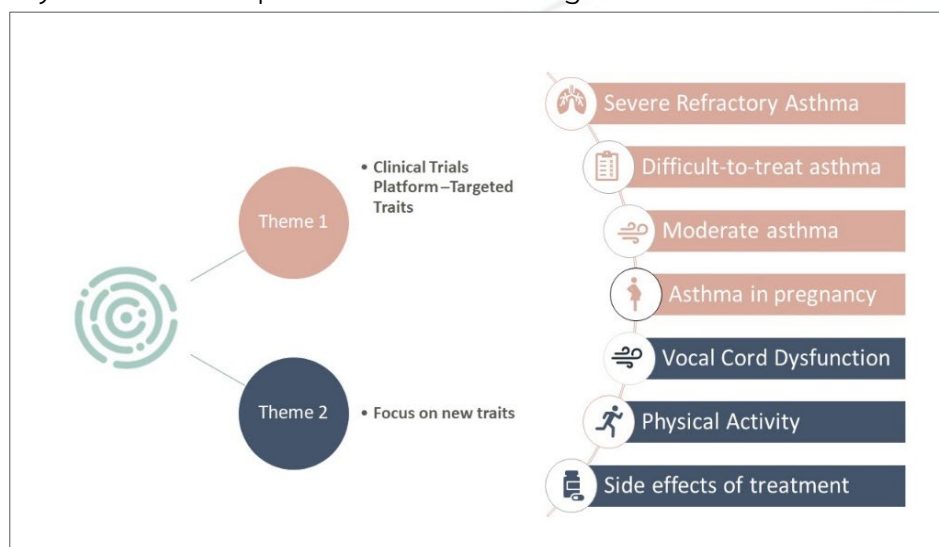
*The Centre has two overarching research themes which will generate new knowledge, translate it to practice and build a new generation of researchers in this area.*

The Centre has made some major progress on our aim of generating new knowledge across our research priorities. With our first theme focused on developing the knowledge of the Treatable Traits approach using clinical trials, we have been successful in receiving category one funding, and are currently in the process of planning two clinical trials. These studies align to our Centre's priority of reducing the side effects of treatment, as well as determining an optimal model of care for the management of asthma. Our asthma in pregnancy research programme has also had some major gains in the past year as you will read throughout this report.

We have also completed two trials, one is an implementation trial to evaluate the uptake of a virtual model of care for pregnant women with asthma. The second is a feasibility study led by Dr James Fingleton. This study was conducted in Wellington, NZ and Newcastle, Australia and sought to assess the feasibility of an algorithm based treatable traits intervention. The investigators are now preparing these studies for publication.

The second theme is developing the knowledge around new traits. In addition to reducing the side effects of treatment, these new traits are vocal cord dysfunction, and physical inactivity. We have improved our knowledge on both of these traits,

including making progress in standardising and improving diagnostics for vocal cord dysfunction, scaling the clinical capacity for the treatment of vocal cord dysfunction, and developing new knowledge for



effective treatments. Our physical activity research programme is also ramping up with the publication of a systematic review and a dedicated PhD student who is undertaking a clinical trial to improve sedentary time in people with asthma.

## Highlighted Research

Dr Eleanor Majellano is a research fellow in the Centre of Excellence in Treatable Traits.



**Project title:** Developing a Patient Reported Outcome Measure in Severe Asthma

**What is the problem?** Patient reported outcome measures (PROM) are patient-completed self-reported questionnaires that assess symptoms, functional status, health related quality of life, social and psychological well-being.

In research and clinical contexts, they are used to assess and monitor disease development, treatment response, and adverse events. The Asthma Control Questionnaire (ACQ) and Asthma Quality of Life Questionnaire (AQLQ) are the most widely used PROMs in severe asthma. These questionnaires have good validity and reliability in the general population, but do not effectively capture the experience of people with severe asthma.

**Who is the study aimed at?** Adult people with severe asthma.

**What do we plan to do?** A specific severe asthma patient reported outcome measure is important to facilitate tailored disease care. We aim to develop and test the validity of a tool that measures the quality of life in severe asthma.

**Collaborators:** Professor Vanessa McDonald, Professor Janelle Yorke, Professor Peter Gibson, Dr Leanne Holmes, Dr Vanessa Clark, Dr Sarah Hiles and Ms Amber Smith.

*Who do we contact if we want to know more?*

[eleanor.majellano@newcastle.edu.au](mailto:eleanor.majellano@newcastle.edu.au) Phone: (02) 4042 0650

## Highlighted Research

Dr Arwel Jones is a research fellow in the Centre of Excellence in Treatable Traits.



**Current Research:** *Use of corticosteroid in asthma: consumer survey.*

As part of World Asthma Day 2022, the Centre for Research Excellence in Treatable Traits, Monash University, Asthma Australia, and Asthma WA ran a survey about the use of oral corticosteroid in people living asthma in Australia. This survey is part of a wider ongoing program of work from the CRE on oral corticosteroids stewardship for asthma. A manuscript with the full results of the survey is currently being prepared for submission for publication later this year.

*Why do we need to implement treatable traits?* There are many clinical signs and symptoms that are shared across many lung conditions and other long-term conditions. People living with more than one of these conditions often have multiple appointments with various health care professionals. Treatable traits offers an approach where a comprehensive assessment can take place and people can receive more personalised treatments for them. In doing so I feel that there is much to gain in outcomes of lung conditions from treatments that are already out there as opposed to constantly driving for new treatments.

*Who/what inspires you?* I want better outcomes for people living with long-term lung conditions. It's the conversations that I have with them that really inspires what I research and how I go about it.

*What the best advice you have ever been given in regard to your career?* Don't worry about the things you can't control. An academic career has a lot of ups and downs. Celebrate the wins when you can and don't take the losses too personally!

*Who do we contact if we want to know more?*

[arwel.jones@monash.edu](mailto:arwel.jones@monash.edu) Phone: (03) 9903 0842

## Our Knowledge Exchange

### Annual Research Meeting 2022

In May of 2022 we held our first Annual Research Meeting. This meeting was attended by 57 delegates from across the Australia and abroad. It was a two-day multidisciplinary meeting consisting of a range of national and international speakers. The topics covered included focused research, science activation, creativity in research, implementation research, new research as well as several capacity development sessions. The average rating of the value of the meeting was 9.3/10.



### Vocal Cord Dysfunction Roundtable

The Centre hosted a vocal cord dysfunction Roundtable in June of 2022. This hybrid meeting gathered approximately 30 experts from around the globe with the aim of determining the optimal approach to Vocal Cord Dysfunction / Inducible Laryngeal Obstruction diagnosis and management. The aim of the roundtable was to 1) frame a consistent approach to vocal cord dysfunction diagnosis 2) outline management and a structure for models of care and 3) delineate the research questions. A report of this meeting is currently under review.



## Landscape Fire Roundtable

On the 4th of November, the Centre held a Roundtable on Landscape fires and smoke exposure. The objective of the roundtable discussion was to convene a group of experts to discuss the health impact of prolonged landscape fire smoke exposure on people with asthma and to develop a research and implementation plan.



The meeting was extremely productive and has resulted in some recommendations for the mitigation of smoke exposure people with asthma, which will be launched later this year.

## Thoracic Society of Australia and New Zealand Education Hub



In October of 2022 the Thoracic Society of Australia and New Zealand hosted their first Education Hub. This was the first major face to face meeting of the Thoracic Society since 2019. The two-day face to face event was well attended with over 300 delegates. There was a diverse range of content including short courses on career development and a course that was convened by the Centre

on “Managing Complex Asthma throughout the Lifespan”. The Centre of Excellence in Treatable Traits was well represented with many of our members speaking and chairing sessions across the two days.

## Science Committee Meeting



The Science Committee of the Centre facilitates the gathering together of key opinion leaders to discuss the themes and projects of the Centre.

On the 10th of February the Centre hosted a Science Research meeting with the purpose of “Developing Treatable Traits: Filling the gaps in evidence, knowledge and implementation via collaboration”. The first session focused on what are the best outcome measures for Treatable Traits which was followed by how to answer complex research questions through complicated research designs. The final session focused on pitching new Treatable Traits related research ideas. The group worked together to improve and critique these ideas. The day generated a lot of great discussion and gained positive feedback. We look forward to furthering the Treatable Traits research agenda.



## TSANZSRS Annual Scientific Meeting 2023

The Australia & New Zealand Society of Respiratory Science and The TSANZ held their annual scientific meeting in Christchurch, New Zealand. This was the first time the Annual Scientific meeting has been held face to face since 2019 and what a return it was!

Many members of the Centre spoke across the five-day programme generating a vast amount of discussion and interest and ended in some inspiring moves on the dance floor at the Gala dinner!

The Centre took the opportunity to have a face-to-face meeting with all our Centre members to discuss our mid-point report card and plan future priorities for the second half of the Centre. Below is a summary of some of our achievements so far.

## Mid-Point report card 2021-2023

### Translation

- 10 Infographics
- Treatable Traits Website
- Asthma in pregnancy toolkit
- OCS Position paper and related programme of work
- Government submission for Long Covid
- Lung learning framework submission for OCS
- VCD roundtable and report (under review)

### New Knowledge

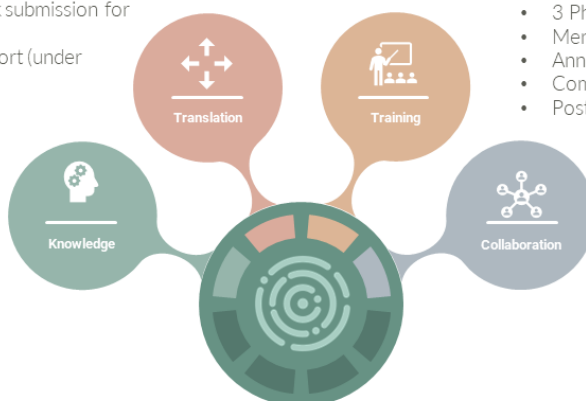
- 174 publications
- Completed data collection for mild-moderate and severe asthma for breathlessness
- Asthma in pregnancy research programme
- Physical activity research programme
- VCD research programme
- Oral corticosteroid/side effects of treatment research programme
- New CAT 1 funding

### Training

- 9 Webinars
- Website content
- Asthma in pregnancy toolkit
- International Journal Club
- 3 Innovate workshops
- Research Meetings
- 19 Fellows
- 3 PhD students
- Mentoring programme
- Annual Scientific programme
- Complex asthma course
- Post graduate workshop

### Collaboration

- Multiple continent collaboration
- Twitter engagement
- Annual scientific meetings
- 4 international visitors
- Successful cross discipline grants-including- medicine, nursing, allied health, health economics, statistics, health behavior, exercise physiology, general practice and consumers
- VCD roundtable
- Bushfire Roundtable



As part of the TSANZ Annual Scientific meeting the Centre proposed a plenary symposium

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“Personalised medicine: A solution to overcome disparities in asthma care”

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The symposium was based around the premise that asthma is a chronic respiratory illness which is pervasive regardless of culture, economic status, or geographic location. Throughout the symposium personalised approaches were proposed as a mechanism to allow for the provision of effective personalised care to ensure the best outcomes regardless of these potential disparities.

The symposium was chaired by Professor Peter Wark and Assistant Professor Donna-Marie Palakiko. There were four talks including Professor Vanessa McDonald, presenting on “The application of Treatable Traits in disparate settings and populations”; Professor Hillary Pinnock, “Telemedicine and virtual respiratory care: A solution to access of healthcare”; Dr Sandra Hotu, “Using cultural safety to address disparities in clinical care” and finally Professor Richard Beasley presented on “Personalised medicine with anti-inflammatory reliever therapy”. The symposium concluded with an innovative discussion panel.



## Our Capacity Development

### INNOVATE Workshops

The Centre held two **IN**vesting in **NO**vel **A**cademic **T**raining **E**xcellence (INNOVATE) workshops in 2022. The purpose of the INNOVATE workshops is to build capacity in research for early-mid career researchers (EMCRs), to facilitate the development of collaborations and to promote research excellence through the development of inter and multidisciplinary research teams.

EMCRs were invited to submit expressions of interest. Selected researchers were tasked with proposing a clinically important research question and developing a project to address the research question each workshop. Audience members were selected based on expertise and interest and included researchers with a range of expertise from a range of disciplines, including mentors, expert clinicians, biostatisticians, health economists, methodologists, discovery scientists and other key stakeholders.

The audience members participated in the discussion to help support the researchers in developing their ideas. The discussion that ensued within the workshops enabled further development of the proposed project and facilitated the assembly of a collaborative team who will work with and support the researcher in the execution of the proposed research.

Our first workshop held in October was centred on breathlessness. Two projects in this round were successfully awarded funding. The details of these projects are below.

#### *Targeted treatment for dysfunctional breathing in difficult asthma*

Dr Janet Bondarenko (The Alfred, Melbourne) presented "*Targeted treatment for dysfunctional breathing in difficult asthma*". Janet's project aims to develop and achieve consensus on a multidimensional treatment for dysfunctional breathing that will be tested in a feasibility clinical trial.



*Lab vs life: Understanding the multidimensional breathlessness experience of people with severe asthma during physical exertion in different contexts*

Dr Hayley Lewthwaite (The University of Newcastle) also presented her pitch “*Lab vs life: Understanding the multidimensional breathlessness experience of people with severe asthma during physical exertion in different contexts*”.

Hayley’s study aims to gain a better understanding of the multidimensional breathlessness experience of people with severe asthma during physical exertion and compare how people with severe asthma report their breathlessness experience using laboratory vs real-life assessment approaches.



Our second workshop held in November had an indigenous focus, two applicants from this workshop were awarded funding.

*Addressing asthma inequities among Aboriginal and Torres Strait Islander People*



Assistant Professor Donna Marie Palakiko (University of Hawai'i, Fulbright Fellow) presented “Addressing asthma inequities among Aboriginal and Torres Strait Islander People”.

Donna’s project aims to determine the prevalence of Treatable Traits among Aboriginal and Torres Strait Islander populations with asthma. Her qualitative research aims to gain an understanding of the role and influence of cultural beliefs, values, practices, and the environment on asthma diagnosis, risk factors, prevention, management, and control among adult Aboriginal and Torres Strait Islanders. Using these data, she will work with Aboriginal and Torres Strait peoples to co-design culturally appropriate enhancements of existing asthma education materials focused on asthma awareness, prevention, management, and control.

*Breathe for Bub: A culturally safe framework for the clinical care of Aboriginal women with asthma during pregnancy*

Dr Elissa Elvidge presented “*Breathe for Bub: A culturally safe framework for the clinical care of Aboriginal women with asthma during pregnancy*”.

Dr Elvidge will use culturally appropriate qualitative research methods to explore Aboriginal women’s experiences of asthma care during pregnancy and develop a culturally responsive model of asthma care based on these experiences.



We congratulate all our INNOVATE winners on their success and look forward to the outcome of their research.

## Journal Club



The aims of our journal club are to build capacity among early career researchers so that they can develop skills in critical appraisal of research and practice, identify interesting articles that represent the best evidence to inform clinical practice, and to highlight new research related to any of our research themes.

We have had 5 papers presented in our Journal Club throughout 2022-2023.

### Papers presented

Couillard, S., Shrimanker, R., Chaudhuri, R., Mansur, A.H., McGarvey, L.P., Heaney, L.G., Fowler, S.J., Bradding, P. and Pavord, I.D., 2021. Fractional Exhaled Nitric Oxide Nonsuppression Identifies Corticosteroid-Resistant Type 2 Signaling in Severe Asthma. *American journal of respiratory and critical care medicine*. 2021. **Presented by Dr Simon Couillard.**

Couillard, S., Laugerud, A., Jabeen, M., Ramakrishnan, S., Melhorn, J., Hinks, T. and Pavord, I., Derivation of a prototype asthma attack risk scale centred on blood eosinophils and exhaled nitric oxide. *Thorax*. 2021. **Presented by Dr Simon Couillard.**

Schäfer S, Wang K, Sundling F, Yang J, Liu A, Nanan R Modelling maternal and perinatal risk factors to predict poorly controlled childhood asthma. *PLoS One*. May 2021. **Presented by Professor Ralph Nanan.**

Vaes AW, Spruit MA, Koolen EH, Antons JC, de Man M, Djamin RS, van Hees HWH, van 't Hul AJ. "Can Do, Do Do" Quadrants and 6-Year All-Cause Mortality in Patients With COPD. *Chest*. 2022. **Presented by Ms. Paola Urroz.**

Aucoin R, Lewthwaite H, Ekström M, von Leupoldt A, Jensen D. Impact of trigeminal nerve and/or olfactory nerve stimulation on activity of human brain regions involved in the perception of breathlessness. *Respir Physiol Neurobiol*. 2023. **Presented by Dr Hayley Lewthwaite.**

## Webinars

### ***Difficult to manage chronic rhinosinusitis and asthma: Two strangers in the same city.***

#### **Webinar**

**Professor Vibeke Backer**

Difficult to manage chronic rhinosinusitis and asthma: Two strangers in the same city

Chaired by  
Conjoint Professor  
Peter Gibson



In February 2023, the Centre hosted an international scholar Professor Vibeke Backer. During her stay Vibeke presented a webinar on the topic difficult to manage chronic rhinosinusitis and asthma. The session was chaired by Professor Peter Gibson at Hunter Medical Research Institute (HMRI), Newcastle. This webinar, and our other webinars are available on our website <https://treatabletraits.org.au/webinars/>.

Look out for many more Centre webinars throughout 2023 and beyond!

## Our Resources

### Asthma in Pregnancy Toolkit

The [asthmapregnancytoolkit.org.au](https://asthmapregnancytoolkit.org.au) was launched on the evening of the 1st of December with a presentation at HMRI and a live Zoom screening.

Associate Professor Vanessa Murphy led the project, with Professors Vanessa McDonald and Peter Gibson. Dr Janet Bristow provided the project management for the resource development. The Toolkit was designed and developed to ensure that health care professionals and families have access to the most up to date evidence-based treatments for pregnant women with asthma. The work was initiated in 2021, and developed in collaboration with over 50 national and international experts bringing together over 20 years of discoveries in the field of asthma in pregnancy research. The Toolkit was developed in partnership with the Centre of Excellence in Treatable Traits and supported by funds from the Clive and Vera Ramaciotti Foundation. Asthma Australia and the Society of Obstetric Medicine of Australia and New Zealand have endorsed this resource.

Topics covered in the toolkit include an overview of asthma in pregnancy, medication use, Treatable Traits, maternity care, and air-quality. The toolkit has resources for women who are pregnant and have asthma, their families and for healthcare professionals.

In the six months since its launch the Asthma in Pregnancy toolkit has been viewed 5,570 times across 48 countries.



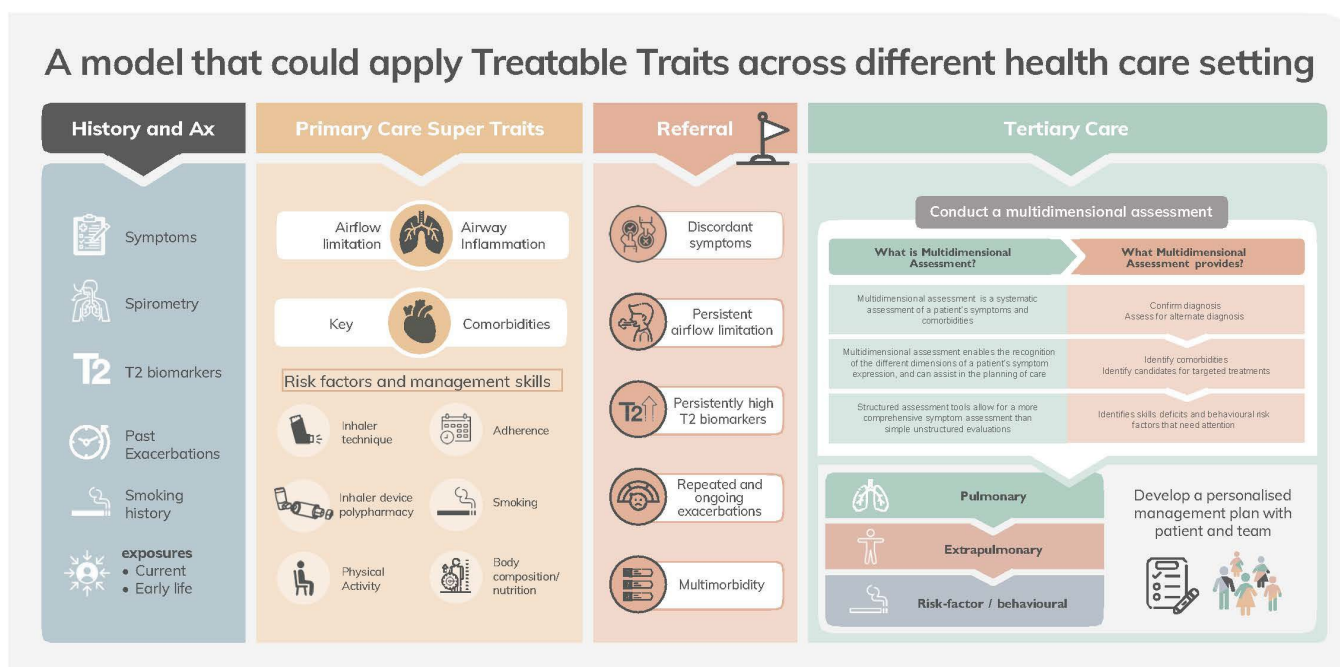


## Infographics

The Centre develops infographics to help people understand some of the key concepts of Treatable Traits. In the past few months, we have developed the following infographics:

- A model that could apply Treatable Traits across different health care settings
- Stress and asthma
- Our award-winning Chronic Breathlessness Syndrome infographic.

Downloadable copies of all of our infographics can be found under the resources section of our website <https://treatabletraits.org.au/resources/>



# Stress and Asthma

Stress is the reaction to a potentially threatening or demanding situation, which can be acute or chronic

Does stress cause asthma attacks?

Many people report that stress triggers their asthma and this has been linked to poor asthma prognosis



Who is most affected?

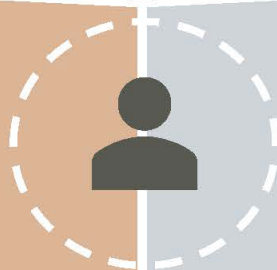
People with co-existing asthma and mental health problems, and people with severe asthma



Some symptoms of breathlessness from stress may overlap with asthma-induced breathlessness

## Stress Symptoms

Breathlessness  
Fast heart rate  
Muscle tension  
Headaches  
Sweating  
Chest tightness



## Asthma Symptoms

Wheeze  
Breathlessness  
Dyspnoea  
Chest tightness  
Cough  
Night waking

Comorbid conditions may result in confusion as to the cause of symptoms. Panic attacks and asthma attacks require different management approaches

Questionnaires and clinical assessments can be used to identify stress levels and asthma control

Use a combination of strategies to reduce stress



Enhance coping skills (cognitive behavioural therapy or mindfulness-based stress reduction)



Finding calm during a stressful event (through breathing and relaxation techniques)



Address comorbidities that affect stress-induced asthma

@traitsCRE

[www.treatabletraits.org.au](http://www.treatabletraits.org.au)

[Treatabletraits@newcastle.edu.au](mailto:Treatabletraits@newcastle.edu.au)



centre of excellence

**treatable traits**

## Website

Since its launch in 2021 our website has amassed over 23 thousand views across 105 Countries, including Australia, the U.S, the U.K, Brazil, and the Netherlands.

<https://www.treatabletraits.org.au/>

Our website is a centralised platform to facilitate learning more about the Treatable Traits approach, give insight into the research we are conducting throughout the Centre and communicate our impact. Additionally, it is a place to access our free resources, including infographics and webinars, be notified of upcoming events and learn more about opportunities within the Centre.

## Social Media

In November 2020 we launched our twitter handle @traitsCRE. In the 18 months following, our tweets have been seen 337,000 times and we have amassed 869 followers. We use our twitter platform to share our knowledge about the Treatable Traits. Features include “trait of the month”, which includes a series of resources and information about a certain trait, and Article Alert Wednesday. We also share the latest treatable trait related literature and provide updates of what we are doing here at the Centre.



## Award and Achievement Highlights

We celebrate the achievements and prestigious accolades of our centre investigators and members:

**Professor Vanessa McDonald** has been appointed to the Board of the Thoracic Society of Australia & New Zealand. The Board of Directors are responsible for determining strategic directions of the Society with an aim to improve lung health of communities. Professor McDonald is also the first nurse appointed to the board, which is a huge milestone.

**Professor Peter Gibson** was announced as one of the Australian Lung Foundation's Lung Health Legends! These awards recognise individuals who have contributed over a substantial period to advancing Lung Foundation Australia's mission and vision. Professor Gibson's contribution has been recognised by his peers and the organisation's Board of Directors as having made a positive impact on the lives of Australians living with or impacted by lung disease or lung cancer.

**Professor Anne Holland** president of Thoracic Society of Australia and New Zealand: In April 2022 Professor Anne Holland was elected to the position of President Elect for the Thoracic Society of Australia and New Zealand. Professor Holland officially stepped in the presidential role at the TSANZSRS meeting, which was held in Christchurch in March 2023. She is the first allied health professional to be elected in this role. Professor Holland was also awarded the European Respiratory Society Mid-Career Gold Medal for Allied Health Professionals.

At our last Annual Research Meeting a number of career development awards were presented. These included three PhD candidate career development awards presented to **Ms Paola Urroz**, **Dr Joy Lee**, and **Janine Mahoney**. Early career researcher awards were presented to **Dr Rebecca McLoughlin** and **Dr Eleanor Majellano**.

## Highlighted Grants 2022-2023

The Investigators of the Centre received three large grants from the Medical Research Future Fund in the most recently announced rounds. These were:

### **\$1,813,800 awarded to Professor Vanessa McDonald and a team to minimise oral corticosteroid use in asthma using 'Treatable Traits'.**

**Team:** Professor Vanessa McDonald, Conjoint Professor Peter Gibson, Doctor Rebecca McLoughlin, Prof Philip Bardin, Doctor Dennis Thomas, Associate Professor John Blakey, Professor John Upham, Professor Liz Holliday, Professor Alvar Agusti, Professor Richard Beasley, Conjoint Associate Professor Anne Vertigan, Professor Ian Pavord, Penny Reeves, Professor Luke Wolfenden, Associate Professor John Blakey, Doctor John Fardy.

The team will test the effectiveness of a Treatable Traits approach in reducing the oral corticosteroid burden in asthma. The acceptability of this approach, and cost effectiveness will also be measured.

### **\$2,415,561 awarded to Professor Peter Gibson and a team to revolutionise asthma treatments.**

**Team:** Conjoint Professor Peter Gibson, Professor Vanessa McDonald, Doctor Dennis Thomas, Professor Liz Holliday, Doctor Rebecca McLoughlin, Doctor Rebecca Wyse, Mr Simon Deeming, Doctor John Fardy, Associate Professor Mohan Karunanithi.

This world-first study will evaluate the effectiveness of a comprehensive, national digital asthma care program involving video consultations and text messages compared to usual care in achieving asthma control.

### **\$2,000,000 awarded Professor Tamera Corte, Professor Anne Holland and colleagues for Trialling a digital self-management package for people with Interstitial Lung Disease**

**Team:** Professor Tamera Corte, Professor Anne Holland, Professor Daniel Chambers, Professor Andrew Palmer, Associate Professor Ian Glaspole, Professor Yuben Moodley, Professor Anthony Keech, Doctor Liliana Laranjo, Associate Professor Luke Knibbs, Associate Professor Lauren Troy, Doctor Narelle Cox, Doctor Ingrid Cox, Associate Professor Nicole Goh.

Anne Holland is an investigator on this project which will address a major unmet need identified by people with interstitial lung disease, for disease-specific self-management and support. They will test the efficacy and cost-effectiveness of a self-management program delivered via our smartphone application in a randomised clinical trial (REBUILD-SM trial). REBUILD-SM is anticipated to

improve quality of life for people living with ILD, through better self-efficacy and reduced symptom burden and anxiety.

Some other additional highlights in funding success are:

**\$264,160 awarded to Associate Professor Vanessa Murphy from the Healthy Canberra Grant 'Breathe Life for You and Your Baby'**

**Team:** Associate Professor Vanessa Murphy, Professor Michael Peek

Associate Professor Vanessa Murphy was recently awarded a 2-year Healthy Canberra Grant 'Breathe Life for You and Your Baby', to promote asthma in pregnancy management messages in a public awareness campaign across the ACT in partnership with Asthma Australia and Professor Michael Peek from the Centenary Hospital for Women and Children in Canberra. The Asthma in Pregnancy Toolkit will be a key resource for the campaign, with the website promoted to health professionals and women/families as a trusted source of information on this topic.

**\$200,000 Asthma Australia fellowship was awarded to Dr Rebecca McLoughlin awarded for 'Treatable Traits- shared decision-making in severe asthma'.**

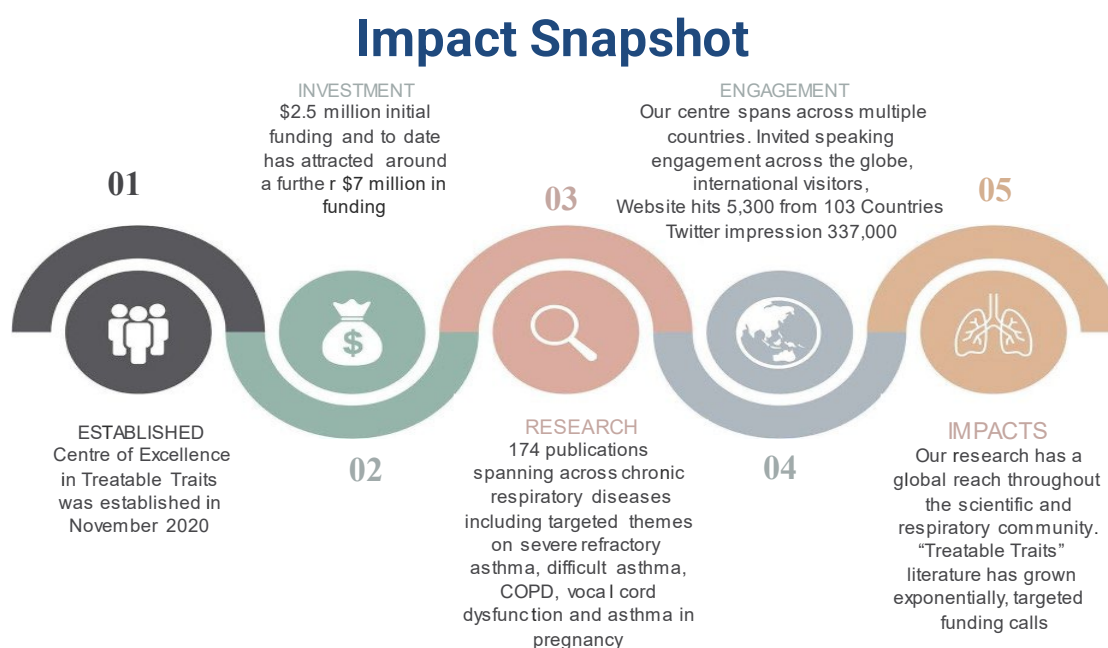
**Team:** Doctor Rebecca McLoughlin, Professor Vanessa McDonald, Doctor Dennis Thomas, Doctor Vanessa Clark, Conjoint Professor Peter Gibson

Dr McLoughlin's fellowship will involve working with people with severe asthma and their physicians (end-users) to co-design a Treatable Traits Shared Decision Making and priority-setting toolkit. This will consist of a digital patient decision aid, a digital clinician decision aid, as well as a strategy to support the use of these aids in clinical practice.

## Our Impact

NHMRC defines the impact of research as the verifiable outcomes that research makes to knowledge, health, the economy and/or society, and not the prospective or anticipated effects of the research. Impact is the effect of the research after it has been adopted, adapted for use, or used to inform further research.

Many measures can be used to assess impact including traditional research metrics such as publication citations and presentations. However, measurement of impact can also expand to non-academic outcomes such as improved health outcomes, cost savings and the integration of research into policy.

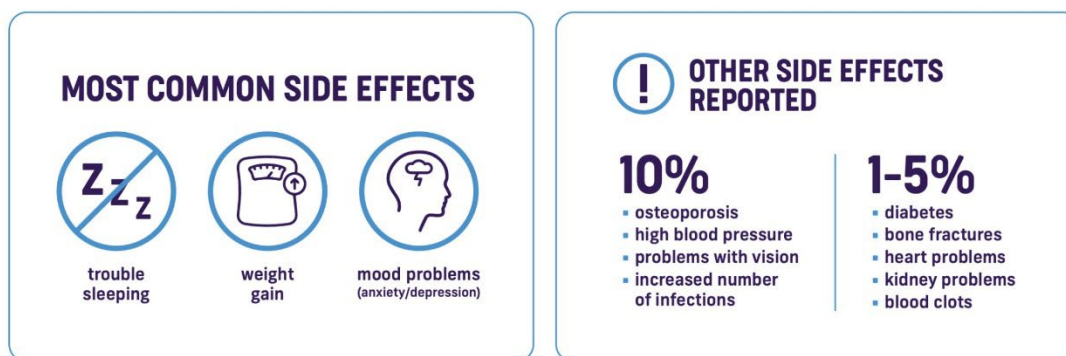


## Our Collaborations

### Highlighted Collaborations: Asthma Australia – Oral Corticosteroid survey

On World Asthma Day 2022 in collaboration with Asthma Australia, The Thoracic Society of Australia and New Zealand and Asthma Australia WA, we launched a survey to help improve care for people with asthma. Around 1800 people responded sharing their experiences with oral corticosteroids use. These data are Australia's biggest collection of consumer experience on Oral Corticosteroid use in asthma and will help us understand the needs of people with asthma so that we can deliver improved care.

Some key results are in the following infographics from Asthma Australia.





## International visitors

As travel restrictions eased over the past year the Centre welcomed several international visitors. We have been fortunate enough to host two PhD students Ms Joice Mara de Oliveira and Dr Anne Vejen Hansen.

Joice is a physiotherapist from Brazil who specialises in Respiratory Physiotherapy. She is undertaking a PhD in Rehabilitation Sciences at the Pitágoras-Unopar University and is a member of the Laboratory of Research in Respiratory Physiotherapy (LFIP) at State University of Londrina (UEL). Joice's interests are in the clinical and physical aspects of adults with asthma and COPD. Her PhD project focuses on improving physical activity and reducing sedentary behaviour of people with asthma. We are fortunate to have Joice join our Centre for a period of 10 months.



Dr Hansen is a medical doctor from Denmark, who has conducted respiratory research for many years. Anne is 2 years into her PhD project at the University of Copenhagen and is member of the Respiratory Research Unit at the Pulmonary Department at Hvidovre Hospital, Denmark. Her research interests involved asthma, infertility and pregnancy. Anne's PhD project focuses on female asthma and infertility, for women who are undergoing fertility treatment focusing on reducing the time to falling pregnant of women with asthma. Anne will be collaborating with the Centre in Newcastle for 3 months.



Additionally, we have been fortunate to host three visiting Professors. Professor Vibeke Backer from Denmark joined us in early February.

Also, in February we were joined by Professor Janelle Yorke. Janelle joined us for a two-day research retreat where we discussed breathlessness. We also planned some new and exciting projects, which we will look forward to sharing with you all soon.

Finally at the Thoracic Society of Australia and New Zealand Annual Scientific Meeting the Centre sponsored Professor Hillary Pinnock (*pictured below third from the left*) to attend and speak in our symposium. Hilary is a world-renowned researcher and General Practitioner with a research focus on the delivery of respiratory care within the 'real-life' primary care setting.



## Our Publications 2022-2023

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## Our partners



## Contacts

If you would like to contact us, please reach out at:

 [www.treatabletraits.org.au](http://www.treatabletraits.org.au)

 [treatabletraits@newcastle.edu.au](mailto:treatabletraits@newcastle.edu.au)

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